FUELCELL ENERGY INC
Form 10-K
January 15, 2013

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K

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

For the fiscal year ended October 31, 2012
OR

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

For the transition period from to
Commission file number: 1-14204
FUELCELL ENERGY, INC.
(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	06-0853042 (I.R.S. Employer Identification No.)
3 Great Pasture Road Danbury, Connecticut (Address of principal executive offices)	06813 (Zip Code)

Registrant's telephone number, including area code: (203) 825-6000
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $.0001 par value per share	The Nasdaq Stock Market LLC (Nasdaq Global Market)

Securities registered pursuant to Section 12(g) of the Act: None
Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No þ
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes o No þ

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes þ No o
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes þ No o
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o
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 o	Accelerated filer þ	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No þ
As of April 30, 2012, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was $188,490,430 based on the closing sale price of $1.24 as reported on the NASDAQ Global Market.
Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date.

Class	Outstanding at January 7, 2013
Common Stock, $.0001 par value per share	189,481,834 shares

DOCUMENTS INCORPORATED BY REFERENCE

Document	Parts Into Which Incorporated
Annual Report to Shareholders for the Fiscal Year Ended October 31, 2012 (Annual Report)	Parts I, II, and IV
Proxy Statement for the Annual Meeting of Shareholders to be held March 28, 2013 (Proxy Statement)	Part III

FUELCELL ENERGY, INC.

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Item 1. BUSINESS

Forward-Looking Statement Disclaimer

When used in this report, the words “expects”, “anticipates”, “estimates”, “should”, “will”, “could”, “would”, “may”, and simil expressions are intended to identify forward-looking statements. Such statements relate to the development and commercialization of FuelCell Energy, Inc’s. and its subsidiaries (“FuelCell Energy”, “Company”, “we”, “us” and “our”) fuel c technology and products, future funding under government research and development contracts, future financing for projects including publicly issued bonds, equity and debt investments by investors and commercial bank financing, the expected cost competitiveness of our technology, and our ability to achieve our sales plans and cost reduction targets. These and other forward-looking statements contained in this report are subject to risks and uncertainties, known and unknown, that could cause actual results to differ materially from those forward-looking statements, including, without limitation, general risks associated with product development and manufacturing, changes in the utility regulatory environment, potential volatility of energy prices, government appropriations, the ability of the government to terminate its development contracts at any time, rapid technological change, competition and changes in accounting policies or practices adopted voluntarily or as required by accounting principles generally accepted in the United States, as well as other risks contained under Item 1A — Risk Factors of this report. We cannot assure you that we will be able to meet any of our development or commercialization schedules, that the government will appropriate the funds anticipated by us under our government contracts, that the government will not exercise its right to terminate any or all of our government contracts, that any of our new products or technology, once developed, will be commercially successful, that our existing DFC power plants will remain commercially successful, or that we will be able to achieve any other result anticipated in any other forward-looking statement contained herein. The forward-looking statements contained herein speak only as of the date of this report. Except for ongoing obligations to disclose material information under the federal securities laws, we expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any such statement to reflect any change in our expectations or any change in events, conditions or circumstances on which any such statement is based.

Background

Information contained in this report concerning the electric power supply industry and the distributed generation market, our general expectations concerning this industry and this market, and our position within this industry are based on market research, industry publications, other publicly available information and on assumptions made by us based on this information and our knowledge of this industry and this market, which we believe to be reasonable. Although we believe that the market research, industry publications and other publicly available information are reliable, including the sources that we cite in this report, they have not been independently verified by us and, accordingly, we cannot assure you that such information is accurate in all material respects. Our estimates, particularly as they relate to our general expectations concerning the electric power supply industry and the distributed generation market, involve risks and uncertainties and are subject to change based on various factors, including those discussed under Item 1A - Risk Factors of this report.

We define distributed generation as small to mid-size (typically 75 megawatts or less) electric generation power plants located at or near the end user. This is contrasted with central generation that we define as large power plants (typically hundreds of megawatts or larger) that deliver electricity to end users through a comprehensive transmission and distribution system.

As used in this report, all degrees refer to Fahrenheit (“F”); kilowatt (“kW”) and megawatt (“MW”) numbers designate nominal or rated capacity of the referenced power plant; “efficiency” or “electrical efficiency” means the ratio of the electrical energy generated in the conversion of a fuel to the total energy contained in the fuel (lower heating value, the standard for power plant generation, assumes the water in the product is in vapor form; as opposed to higher heating value, which assumes the water in the product is in liquid form, net of parasitic load); “overall energy

efficiency" refers to efficiency based on the electrical output plus useful heat output of the power plant; kW means 1,000 watts; MW means 1,000,000 watts; "kilowatt hour" ("kWh") is equal to 1kW of power supplied to or taken from an electric circuit steadily for one hour; and one British Thermal Unit ("Btu") is equal to the amount of heat necessary to raise one pound of pure water from 59^{o}F to 60^{o}F at a specified constant pressure.

All dollar amounts are in U.S. dollars unless otherwise noted.

Additional Technical Terms and Definitions
Availability - A measure of the amount of time a system is available to operate, as a fraction of total calendar time. For power generation equipment, an industry standard (IEEE (The Institute of Electrical and Electronics Engineers) 762, "Definitions for Use in Reporting Electric Generating Unit Reliability, Availability and Productivity") is used to compute availability. "Availability

percentage" is calculated as total period hours since commercial acceptance date (mutually agreed upon time period when our Direct FuelCell (DFC) power plants have operated at a specific output level for a specified period of time) less hours not producing electricity due to planned and unplanned maintenance divided by total period hours. Grid disturbances, force majeure events and site specific issues such as a lack of available fuel supply or customer infrastructure repair do not penalize the calculation of availability according to this standard.

Baseload - Consistent power generation that is available to meet electricity demands around-the-clock. This differs from peak or peaking power generation that is designed to be turned on or off quickly to meet sudden changes in electricity demand, or intermittent power generation such as solar or wind.

Carbonate Fuel Cell (CFC) - Carbonate fuel cells, such as the fuel cell power plants produced and sold by FuelCell Energy, are high-temperature fuel cells that use an electrolyte composed of a molten carbonate salt mixture suspended in a porous, chemically inert ceramic-based matrix. CFC's operate at high temperatures, enabling the use of a nickel-based catalyst, a lower cost alternative to precious metal catalysts used in some other fuel cell technologies.

Combined Heat & Power (CHP) - A power plant configuration or mode of operation featuring simultaneous on-site generation from the same unit of fuel of both electricity and heat with the byproduct heat used to produce steam, hot water or heated air for both heating and cooling applications.

Direct FuelCell® (DFC®) - Trademarked product name of FuelCell Energy commercial carbonate fuel cell plants that references the internal reforming process within the fuel cell of a hydrogen-rich fuel source such as natural gas.

Distributed Generation (DG) - Electric power that is generated where it is needed (distributed throughout the power grid) rather than from a central location. Centrally generated power requires extensive transmission networks that require maintenance and experience efficiency losses during transmission while distributed generation does not.

Nitrogen Oxides (NOx) - Generic term for a group of highly reactive gases, all of which contain nitrogen and oxygen in varying amounts. Many of the NOx are colorless and odorless; however they are a major precursor to smog production and acid rain. However, one common pollutant, Nitrogen Dioxide (NO2), along with particles in the air, can often be seen as a reddish-brown layer over many urban areas. NOx form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NOx are motor vehicles, electric utilities, and other industrial, commercial and residential sources that burn fuels.

Particulate Matter - Solid or liquid particles emitted into the air that is generally caused by the combustion of materials or dust generating activities. Particulate matter caused by combustion can be harmful to humans as the fine particles of chemicals, acids and metals may get lodged in lung tissue.

Reforming - Catalytic conversion of hydrocarbon fuel (such as pipeline natural gas or digester gas) to hydrogen-rich gas. The hydrogen-rich gas serves as a fuel for the electrochemical reaction.

Renewable Biogas - Biogas produced in biomass digesters employing bacteria in a heated and controlled oxygen environment. The biogas can be used as a renewable fuel source for Direct FuelCells. Biomass may be generated from municipal wastewater treatment facilities, food or beverage processing, landfills or agricultural waste.

Solid Oxide Fuel Cell (SOFC) -Solid oxide fuel cells (SOFC) use a hard, non-porous ceramic compound as the electrolyte. Solid oxide fuel cells operate at very high temperatures eliminating the need for costly precious-metal catalysts, thereby reducing cost. The high temperature enables internal reforming of the hydrogen rich fuel source.

Sulfur Oxide (SOx) - Sulfur oxide refers to any one of the following: sulfur monoxide, sulfur dioxide (SO2) and sulfur trioxide. SO2 is a byproduct of various industrial processes. Coal and petroleum contain sulfur compounds, and generate SO2 when burned. Sox compounds are particulate and acid rain precursors.

Synthesis Gas - A gas mixture of hydrogen and carbon monoxide generally derived from gasification of coal or other biomass. It can serve as a fuel for the fuel cell after any required fuel clean up.

Item 1. BUSINESS

Overview

We are a leading integrated fuel cell company with a growing global presence. We design, manufacture, sell, install, operate and service ultra-clean, highly efficient stationary fuel cell power plants for distributed baseload power generation. Our power plants offer scalable on-site power and utility grid support, helping customers solve their energy, environmental and business challenges. Initially a research company, FuelCell Energy was founded in Connecticut in 1969 and became a publicly traded company in 1992. We reincorporated in Delaware in 1999 and began selling commercialized fuel cell power plants in 2003.

Our Company vision is to provide ultra-clean, highly efficient, reliable distributed generation baseload power at a cost per kilowatt hour that is less than the cost of grid-delivered electricity. Our power plants provide electricity that is priced competitively to grid-delivered electricity in certain high cost regions and our strategy is to continue to reduce costs, which is expected to lead to wider adoption of our power plants.

With fully commercialized ultra-clean fuel cell power plants and decades of experience in the industry, we are well positioned to grow our installed base of power plants. Our plants are operating in more than 50 locations worldwide and have generated more than 1.5 billion kilowatt hours (kWh) of electricity, which is equivalent to powering more than 135,000 average size U.S. homes for one year. Our installed base and steadily growing backlog exceeds 300 megawatts (MW).

Our customer base includes electric utility companies, municipalities, universities, government entities and businesses in a variety of commercial and industrial enterprises. Our leading geographic markets are South Korea and the United States and we are pursuing expanding opportunities in Asia, Europe, and Canada.

Our Direct FuelCell® (DFC®) power plants use a variety of available fuels to produce electricity electrochemically – without combustion – in a process that is highly efficient, quiet and produces virtually no pollutants. DFC power plants generate more power and fewer emissions for a given unit of fuel than combustion-based power generation of a similar size, making them economical and environmentally responsible power generation solutions. In addition to electricity, our DFC power plants produce high quality heat that can be used for heating, cooling and other purposes; when used in Combined Heat and Power (CHP) configurations, system efficiencies can reach up to 90 percent, depending on the application. Unlike intermittent solar and wind power, our DFC power plants operate continuously regardless of geography, weather or time of day.

We service two primary markets: ultra-clean power (fuel cells operating on clean natural gas) and renewable power (fuel cells operating on renewable biogas). Our strategy is to expand globally in the 11 distinct vertical submarkets we have identified and further penetrate our key geographic markets while continuing to reduce product costs and expand our services business created by our increasing installed base of customers. The sale of higher volumes of our products will further reduce costs and increase margins.

Our backlog expanded significantly in fiscal 2012 and our geographic presence broadened substantially, including expansion in Asia and the establishment of a European presence. Our current annual production rate is 56 MW's. We forecast company profitability at an annual production volume in the range of 80 to 90 megawatts. This forecast is based on the expected sales mix between complete power plants and fuel cell kits. The annual production capacity of our manufacturing facility is up to 90 megawatts with full utilization under its current configuration. To achieve profitability, demand for our products needs to continue to increase, our installed fleet needs to operate reliably, and product costs need to continue to decline.

Products

Overview

Our core fuel cell products (Direct FuelCell® or DFC® power plants) offer ultra-clean, highly efficient baseload power generation for customers. Our DFC product line includes the 2.8 MW DFC3000®, the 1.4 MW DFC1500® and the 300 kW DFC300®. Our stationary power plants are scalable for multi-megawatt utility scale applications or on-site power generation for large institutions and industrial applications. We also market multi-megawatt DFC-ERG® (Direct FuelCell Energy Recovery Generation™) power plants for use in natural gas pipeline applications and DFC/Turbine™ power plants for large-load users. The DFC-ERG and DFC/Turbine power plants are our highest-efficiency products and are nearly twice as efficient as the average U.S. central generation fossil fuel power plant. Our entire DFC product line is based on one core carbonate fuel cell technology enabling volume based cost reduction and optimal resource utilization.

Our DFC power plants operate 24 hours per day, seven days per week providing continuous power to both on-site customers and grid-support applications. Our DFC power plants can be part of a total on-site power generation solution with our high efficiency products providing continuous baseload power. Our power plants also complement intermittent power generation, such as solar or wind, or less efficient combustion-based equipment that provides peaking or load following power.

For power plants operating on natural gas, higher fuel efficiency results in lower emissions of carbon dioxide (CO_2), a greenhouse gas, and also results in less fuel needed per kWh of electricity generated and Btu of heat produced. The high efficiency of the DFC power plant results in significantly less CO_2 per unit of power production compared to the average U.S. fossil fuel power plant. Many government agencies and regulatory bodies classify DFC power plants operating on biogas as carbon neutral due to the renewable nature of the fuel source. Greater efficiency reduces customers' exposure to volatile fuel costs, minimizes operating costs, and provides maximum electrical output from a finite fuel source. DFC power plants achieve electrical efficiencies of 47 percent to 60 percent or higher depending on configuration, location, and application, and up to 90 percent total efficiency in a CHP configuration, depending on the application.

A DFC power plant includes the fuel cell stack module that produces the electricity and the balance-of-plant (BOP). The mechanical balance-of-plant processes the incoming fuel such as clean natural gas or renewable biogas and includes various fuel handling and processing equipment such as pipes and blowers. The electrical balance-of-plant processes the power generated for use by the customer and includes electrical interface equipment such as inverters.

Our power plants offer many advantages:

Distributed generation: The unique characteristics of our DFC power plants combine to make them an ideal form of distributed generation. Generating power near the point of use lessens the need for costly and difficult-to-site generation, transmission and distribution infrastructure.

Ultra-clean: Our DFC power plants produce electricity electrochemically – without combustion – directly from readily available fuels such as clean natural gas and renewable biogas in a highly efficient process. This process also produces high quality useful heat and water. Due to the absence of combustion, our power plants emit virtually no pollutants such as nitrogen oxide (NOx), sulfur oxide (SOx) or particulate matter (i.e. PM-10). The virtual absence of pollutants facilitates siting the power plants in regions with clean air permitting regulations and is an important public health benefit.

High efficiency: Fuel cells are the most efficient baseload power generation option in their size class, providing the most power from a given unit of fuel. Their high efficiency also reduces carbon emissions compared to less efficient combustion-based power generation.

Combined heat and power: Our power plants provide both electricity and usable high quality heat/steam from the same unit of fuel. The heat can be used for facility heating and cooling or further enhancing the electrical efficiency of the power plant in a combined cycle configuration. When used in Combined Heat and Power (CHP) configurations, system efficiencies can reach up to 90 percent, depending on the application.

Reliability / continuous operation: Our DFC power plants improve power reliability and energy security by lessening reliance on transmission and distribution infrastructure of the electric grid. Unlike solar and wind power, fuel cells operate continuously regardless of geography or weather.

Fuel flexibility: Our DFC power plants operate on a variety of existing and readily available fuels including clean natural gas and renewable biogas.

Scalability: Our DFC power plants are scalable, providing a cost-effective solution to adding power incrementally as demand grows, such as multi-megawatt fuel cell parks supporting the electric grid.

Quiet operation: Because they produce power without combustion and contain very few moving parts, our DFC power plants operate quietly and without vibrations.

Easy to site: Our DFC power plants are relatively easy to site by virtue of their ultra-clean emissions profile, modest space requirements and quiet operation. These characteristics allow multi-megawatt fuel cell parks to be sited in urban locations.

Fuel cell Overview & Emissions Profile

Fuel cells are devices that directly convert chemical energy (fuel) into electricity, heat and water. Because fuel cells generate power electrochemically, rather than by combusting (burning) fuels, they are more efficient in extracting energy from fuels and produce far fewer emissions and pollutants than combustion-type power generation. The following table illustrates the favorable emissions profile of our DFC power plants compared to combustion-based power generation.

	Emissions (Lbs. Per MWh)				
	NOX	SO_2	PM_{10}	CO_2	CO_2 with CHP
Average U.S. Fossil Fuel Plant	5.06	11.6	0.27	2,031	NA
Microturbine (60 kW)	0.44	0.008	0.09	1,596	520 - 680
Small Gas Turbine	1.15	0.008	0.08	1,494	520 - 680
DFC Power Plant	0.01	0.0001	0.00002	940	520 - 680

Direct FuelCell Technology

Our Direct FuelCell is so named because of its ability to generate electricity directly from a fuel, such as clean natural gas or renewable biogas, by reforming the fuel inside the fuel cell to produce hydrogen. This “one-step” reforming process results in a simpler, more efficient, and cost-effective energy conversion system compared with external reforming fuel cells. Additionally, clean natural gas has an established infrastructure so our products are not dependent on the development of a hydrogen delivery infrastructure.

Our Direct FuelCell operates at approximately 1,200° Fahrenheit. An advantage of high temperature fuel cells is that they do not require the use of precious metal electrodes required by lower temperature fuel cells, such as proton exchange membrane (PEM) and phosphoric acid, and the more expensive metals and ceramic materials required by these lower temperature fuel cells. As a result, we are able to use less expensive catalysts and readily available metals for our power plants. In addition, our DFC fuel cell produces high quality byproduct heat energy (700°F) that can be harnessed for CHP applications using hot water, steam or chiller water to heat or cool buildings.

Fuel cell technologies are classified according to the electrolyte used by each fuel cell type. Our DFC technology utilizes a carbonate electrolyte. Carbonate-based fuel cells offer a number of advantages over other types of fuel cells designed for megawatt-class commercial applications. These advantages include carbonate fuel cells' ability to generate electricity directly from readily available fuels such as clean natural gas or renewable biogas, lower raw material costs as the high temperature of the fuel cell allows for the use of commodity metals rather than precious metals, and high-quality heat suitable for CHP applications. Other fuel cell types that may be used for commercial applications include: 1) phosphoric acid (PAFC), 2) proton exchange membrane (PEM), and 3) solid oxide (SOFC). The following table illustrates industry estimates of the electrical efficiency, operating temperature, expected capacity range and byproduct heat use of the four principal types of fuel cells as well as highlights typical market applications:

Markets

Global power demand is increasing in response to growing populations, greater urban density, and lifestyles that increasingly revolve around power consuming devices. Central generation and its associated transmission and distribution grid is difficult to site and costly. Some types of power generation that were widely adopted in the past such as nuclear power or coal-fired power plants are no longer welcome in certain regions of the world. The cost and impact to public health and the environment of pollutants and greenhouse gas emissions impacts the siting of new power generation. The attributes of DFC power plants address these challenges by providing virtually emission-free power and heat at the point of use in a highly efficient process.

Primary Markets

We have two primary markets for our products. The first is Ultra-Clean Power. This market consists of our DFC power plants operating on clean natural gas across seven distinct and diversified vertical markets. The second primary market is Renewable Power. This market is comprised of our DFC power plants operating on renewable biogas across four distinct and diversified vertical markets.

Ultra-Clean Power: Seven distinct and diversified vertical markets which we define as:
1) Electric Utilities and IPPs (Independent Power Producers)
2) Education and Healthcare
3) Gas Transmission
4) Industrial
5) Commercial and Hospitality
6) Oil Production and Refining
7) Government

The electric utilities and IPPs are currently our largest vertical market. The majority of our installed base is in South Korea where our DFC power plants are generating ultra-clean power primarily for the nation's electric grid, with the fuel cells' heat typically being used to heat and cool nearby buildings. Our partner in South Korea is POSCO Energy Co, LTD. (POSCO), a subsidiary of South Korean-based POSCO, one of the world's largest steel manufacturers. To date, POSCO has ordered more than 260 megawatts of DFC power plants, modules and components.

Within the Education and Healthcare vertical market, universities are an especially strong market for our DFC power plants. These institutions desire efficient, ultra-clean baseload power to reduce operating expenses, reduce greenhouse gas emissions, and meet their sustainability goals and desire for secure and reliable on-site power.

In other Ultra-Clean Power vertical markets, our DFC power plants are producing power for a variety of commercial, industrial, municipal and government customers including food processing plants, government buildings, hotels and military installations.

Renewable Power: Four distinct and diversified vertical markets which we define as:
1) Wastewater
2) Food and Beverage
3) Agriculture
4) Landfill Gas

Wastewater treatment facilities, food and beverage processors and some agricultural operations produce large quantities of harmful biogas as a byproduct of their operations. Disposing of this greenhouse gas can be harmful to the environment if released into the atmosphere or flared. Our DFC power plants excel at converting this biogas into electricity and heat efficiently and economically. By doing so, they transform waste disposal problems into clean energy solutions for our customers that generate biogas.

The Wastewater vertical market continues to be an attractive segment for our DFC power plants as a result of a strong value proposition. Since our fuel cells operate on the renewable biogas produced by the wastewater treatment process and their heat is used to support daily operations at the wastewater treatment facility, the overall thermal efficiency of these installations can be as high as 90 percent, depending on the application.

In other Renewable Power vertical markets, our DFC power plants are using renewable biogas to produce ultra-clean power for food and beverage processing plants while agriculture and landfill gas represent potential markets for our power generation solutions.

Ownership models
There are three different ownership models utilized by our customer base. First, the end-user of the power may purchase the power plant directly, such as electric utilities or industrial companies. In December 2012, a 14.9 megawatt fuel cell park in Bridgeport, Connecticut was purchased by one of the largest electric utilities in the USA. The second alternative is for an intermediary to own the plant and sell the power and heat to the end user under a long term power purchase agreement (PPA). We have sold a number of power plants to intermediaries that own the plants and sell the power under PPA's to the end user with end users including municipal water treatment facilities and universities. These intermediaries are financial investors interested in attractive long term project finance returns or project developers that raise capital to fund the purchase of the power plants. The third ownership model is the rate-based model with electric utilities owning the power plants and including the plants in their rate base. We have sold power plants to two different electric utilities in California who have sited the plants on university campuses and incorporated the plants into their rate base. The utility sells the power to the university while providing the heat for free as an incentive for locating the utility-owned plant on university property. Typical customers in South Korea are independent power producers who sell power into the grid electricity markets at prices determined by the renewable portfolio standard (RPS) pricing mechanisms. These customers often produce heat for sale to local heat users in addition to the power supplied to the grid.

Distributed Generation
We compete in the growing marketplace for distributed generation. Our DFC power plants are ideal distributed generation solutions that are equally well suited to generating power 1) “on-site” for a variety of customers including commercial and industrial enterprises, municipalities and government entities, where the power plant is installed and the electricity and heat used at the customer's own facilities, and 2) for utility companies in a grid-support role, where the power plant is installed in any suitable location from which it can supply power to the utility's power grid.

On-Site Power: Our DFC power plants generate power efficiently, cleanly and reliably for on-site applications using either clean natural gas or renewable biogas. Customers benefit from improved power reliability and energy security as installing DFC plants reduces reliance on the electric grid. Utilization of the high quality heat produced by the fuel cell in a combined heat and power (CHP) configuration supports economics and sustainability goals by reducing

reliance on combustion-based boilers for heat. On-site DFC power plants also help solve waste disposal problems for operations that generate biogas, a greenhouse gas. Wastewater treatment facilities and food and beverage processors use methane, a byproduct of their own processes, to operate fuel cell power plants. This allows them to avoid the release of this greenhouse gas into the atmosphere or to eliminate gas flaring and the use of conventional combustion-based power generation equipment, both of which emit pollutants.

Utility Grid Support: Our DFC power plants are well suited for utility grid-support applications due to their high efficiency, reliability and distributed generation attributes. Our plants are scalable making fuel cell parks practical and economical, such as the previously referenced 14.9 MW fuel cell park in Bridgeport, Connecticut that is under construction, fully operational 10.4 MW and an 11.2 MW fuel cell parks in South Korea that are providing power to the electric grid, and a 59 MW fuel cell park under construction in Hwasung City, South Korea. Fuel cell parks enable electric utilities to add power generation when and where it is needed. Our products are generating power for electric utilities in South Korea and the United States.

Utilities can site our DFC power plants near where power is needed, connecting to the existing distribution network. By producing power near where the power is used, our fuel cells help to ease congestion of the electric grid and can also enable the smart grid via distributed generation combined with the continuous monitoring and operation by our service team. Thus, our products can help reduce investment in new central generation and transmission infrastructure which is costly, difficult to site and expensive to maintain. Deploying our DFC power plants throughout a service territory can also help utility companies comply with government-mandated clean energy regulations and meet air quality standards.

As renewable technologies like wind and solar power are deployed more widely, the need for a clean baseload technology that complements these intermittent sources becomes greater. Our installed base includes a number of locations where our customers use DFC plants for meeting baseload power needs that complements their intermittent wind and/or solar power generation.

Renewable Portfolio Standards (RPSs)

Renewable Portfolio Standards (RPSs) are one market enabler for demand of our DFC power plants, such as the RPS in South Korea.

An RPS is a mechanism designed to promote the adoption of renewable power generation. The RPS may be voluntary or mandated through legislation and generally places the obligation on the suppliers of electricity to generate a specified percentage of their electricity from renewable power sources. Countries (in the case of South Korea) and States (in certain parts of the United States) may also provide incentives or other economic mechanisms to encourage the deployment of qualified technologies under RPS programs which creates a competitive marketplace whereby renewable energy costs are levelized and competitive with cheaper fossil fuel based generation. An RPS may also be structured to promote economic growth through adoption of renewable power generation.

Fuel cells can play a role in meeting RPS clean power mandates by generating highly efficient, clean electricity continuously. Fuel cells operating on renewable biogas meet the requirements of typical RPS programs and many RPS programs include fuel cells operating on natural gas due to the near zero emissions and highly efficient power generation process of fuel cells.

Geographic Markets

We target geographic markets with high energy costs that value clean distributed generation and have regulatory and legislative support for distributed generation along with economic incentives to support the adoption of clean and renewable power generation.

South Korea: The RPS in South Korea took effect at the beginning of 2012, requiring an increase of new and renewable power generation to 10 percent by 2022 from 2 percent in 2012. The program mandates the addition of 0.5 percent of renewable power generation per year through 2016, which equates to approximately 350 megawatts, increasing to 1.0 percent per year through 2022 or approximately 700 megawatts per year. Fuel cells operating on natural gas and biogas qualify under the mandates of the program.

High efficiency fuel cells are an excellent green energy solution for South Korea due to the need to import fuels for power generation, ease of siting in populated areas, and the poor wind and solar profiles of the Korean Peninsula. The South Korean government has made clean distributed generation power sources a priority to support their growing power needs while minimizing additional investment and congestion of the transmission grid. Fuel cells address these needs and have been designated a key economic driver for the country due to their ultra-clean emissions, high efficiency and reliable distributed generation capabilities which will help South Korea achieve its RPS and electricity

generation goals.

United States: Individual states in the U.S. seeking to secure cleaner energy sources, higher efficiency and greater energy independence are establishing RPSs that require utilities to provide a certain amount of their electricity from renewable sources such as solar, wind, biomass-fueled technologies and fuel cells. RPS requirements or goals have been established in 33 states plus the District of Columbia.

These markets represent a potential for an estimated 76,750 megawatts of renewable power by 2025, according to the Union of Concerned Scientists. Fuel cells using biogas qualify as renewable power generation technology in all of the RPS states in the U.S., and nine states specify that fuel cells operating on natural gas are also eligible for these initiatives in recognition of the high efficiency of fuel cells.

Most of our installed base in the U.S. is located in California and Connecticut, both of which have enacted RPS programs. California enacted legislation in 2010 that increases the clean energy requirement of its state RPS from 20 percent to 33 percent and is

developing plans to deploy 12,000 megawatts of distributed generation by 2020. Connecticut's RPS requires utilities to purchase 20 percent of their peak electricity needs, or about 1,000 megawatts, from clean power sources by 2020.

California: In some regions in California, clean air permitting is a significant hurdle to the installation of combustion-based power generation. The low emissions and near-zero pollutant profile of our products facilitates the clean air permitting process. All three of our DFC power plants, including the 2.8 MW DFC3000, 1.4 MW DFC1500 and 300 kW DFC300 have received certification under the California Air Resources Board's distributed generation standards when operating on natural gas and both the DFC1500 and DFC300 are certified for operation on renewable biogas. In the State of California, the CARB 2007 certification allows the local Air Quality Management District to exempt the fuel cell installation from the clean air permitting process which accelerates the approval process. Outside of California, the CARB 2007 certification independently validates the clean air profile of DFC plants.

Programs which benefit fuel cells in California are the Self-Generation Incentive Program (SGIP), a renewable feed in tariff (FIT) program, and a CHP feed-in tariff (CHP FiT) program which were enacted to reduce greenhouse gases and encourage clean distributed generation. Under the SGIP program, qualifying fuel cell projects of up to three megawatts are eligible for incentives of up to $4,250 per kilowatt when operating on renewable biogas and up to $2,250 per kilowatt when operating on clean natural gas. The SGIP program is funded through 2014. Under both FIT programs, excess electricity not used on-site can be sold at a price higher than the normal wholesale power rate. These feed-in tariffs may improve the economics of some fuel cell projects. California's carbon reduction cap and trade program under Assembly Bill AB32 also provides preferential treatment for fuel cells.

The State of California enacted AB32 in late 2012, which is a cap-and-trade program designed to minimize the emission of greenhouse gases. Fuel cells are treated favorably under the program as they are excluded from the compliance obligations of the program , both for fuel cells operating on clean natural gas or renewable biogas. This legislation is expected to drive demand for fuel cell power plants as facilities with combustion based power generation, heating and/or cooling can reduce or eliminate their compliance costs by deploying fuel cells. The first carbon auction under this program occurred in late 2012 and valued carbon credits at approximately $10/ton, a level that attracts attention as it is high enough to favorably impact project economies.

Connecticut: Connecticut has adopted a comprehensive clean energy policy, including a state RPS, designed to increase energy efficiency and expand renewable power and a long-term renewable energy credit (REC) program funded with $300 million over 20 years. The REC program is expected to be more effective in fostering the near-term adoption of clean distributed generation than prior legislation. The State also passed legislation that allows each of the Connecticut electric utilities to own up to 10 MW of renewable power generation, including fuel cells. Prior to this legislation, the utilities owned only transmission and distribution as they were not permitted to own both power generation assets and transmission and distribution.

Our DFC power plants are providing power for food processors, a university, an insurance company data center and government facilities in the state as well as the previously mentioned 14.9 MW fuel Cell park to support the electric grid. As we grow, our company is contributing to the state economy, creating sustainable and good paying jobs in the manufacturing sector as well as research, engineering and administrative jobs.

Canada: Our DFC-ERG (Direct FuelCell Energy Recovery Generation^{TM}) system, deployed with our partner Enbridge, Inc., is specifically designed for natural gas pressure letdown stations. Natural gas is piped under high pressure over long distances and the pressure must be reduced at letdown stations before it can be distributed locally. Our fuel cell power plant is coupled with a turbo expander to harness energy from the letdown process that is otherwise lost. Our first DFC-ERG power plant went into operation in Toronto in 2008. The DFC-ERG plant attained an average electrical efficiency of 62.5 percent, peak electrical efficiency above 70 percent and reduction in greenhouse gas emissions of up to 45 percent. We see further market opportunities for this application on natural gas

pipelines in Canada.

Europe: The European power generation market values efficiency and low emissions and represents significant opportunity for stationary fuel cell power plants. Two markets with recent opportunities include Germany as they transition away from nuclear power generation and the United Kingdom as they work to achieve aggressive carbon reduction goals. We are utilizing a multi-channel approach in Europe to develop the market for stationary fuel cell power plants. During fiscal year 2012, we announced two strategic partnerships with European-based partners and the formation of a German-based joint venture.

In fiscal year 2012, we announced a partnership with the German-based Fraunhofer Institute for Ceramic Technologies and Systems IKTS (Fraunhofer IKTS) which subsequently led to the formation of a joint venture, FuelCell Energy Solutions, GmbH (FCES). FuelCell Energy Solutions is a German-based joint venture that is 75 percent owned by FuelCell Energy, Inc. and 25 percent

owned by Fraunhofer IKTS. Fraunhofer IKTS focuses on the development of new energy supply systems using ceramic system components, including fuel cells. As discussed in greater detail below, Fraunhofer IKTS has expertise in fuel cell technology and is assisting with the development of the European market for our products. FCES sold a DFC power plant to the developer of a government office complex in Berlin, Germany that will house a Federal Ministry and sold a DFC power plant to the developer of an office tower in London, England. Both installations are high-visibility locations that are expected to increase awareness of the attributes and benefits of clean distributed generation fuel cell power plants.

In fiscal year 2012, we announced a partnership with Spanish-based Abengoa to develop the market in Spain and Latin America with a focus on renewable fuels including both gaseous and liquid biofuels. Abengoa operates in more than 80 countries, including the development and ownership of power generation and electrical transmission projects in Spain, Latin America and the USA. Business partner selection is critical to success and the Abengoa partnership discussed in greater detail below is with an organization that has sufficient scale and reach to develop and grow a fuel cell market in the targeted geographies, particularly renewable biogas opportunities in Spain and other select European countries as well as liquid biofuel opportunities such as sugar cane ethanol in Brazil. Abengoa has purchased a DFC module for installation at their headquarters in Seville, Spain.

Geographic data is reported in Note 13 to the consolidated financial statements in Part II, Item 8, “Consolidated Financial Statements And Supplementary Data” of the Form 10-K Report.

Strategic Alliances

We leverage our core capabilities by forging strategic alliances with carefully selected business partners. Our partners typically have extensive experience in developing, selling and servicing power generation products. We believe our strength in the development of fuel cell products; coupled with our partners' understanding of sophisticated commercial and industrial customers, products and services; enhances the sales, service and development of our products. Our business partners include:

POSCO: We partner with POSCO, an Independent Power Producer (IPP) with annual revenues of approximately $1.8 billion and a subsidiary of South Korean-based POSCO, one of the world's largest steel manufacturers (NYSE: PKX). POSCO owns 30.8 million of our common shares or approximately 16 percent of outstanding shares. In February 2007, we signed a 10-year manufacturing and distribution agreement with POSCO to distribute and package DFC power plants in South Korea. POSCO has extensive experience in power plant project development, having built over 3,300 megawatts of power plants, equivalent to 4.3 percent of South Korea's national capacity.

In October 2009, we entered into a Stack Technology Transfer and License Agreement allowing POSCO Energy to assemble fuel cell stack modules from cell and module components provided by us. These fuel cell modules are combined with BOP manufactured in South Korea to complete the fuel cell power plants for sale in South Korea or export to Asian markets.

In October 2012, we entered into a Cell Technology Transfer and License Agreement, which provides the intellectual property and rights for POSCO to manufacture DFC fuel cell components in South Korea. With the execution of this agreement, POSCO has the rights to manufacture the entire DFC power plant in South Korea. This relationship with POSCO illustrates our strategy of executing locally for economic development, while leveraging our global expertise and infrastructure.

POSCO has 100 megawatts of local balance of plant manufacturing capacity and fuel cell module assembly and conditioning capacity, and is constructing a DFC fuel cell component production facility with annual capacity up to 140 megawatts. An integrated global supply chain is closely managed by FuelCell Energy and will be used for

supplying both the new POSCO facility in Pohang, South Korea as well as the FuelCell Energy production facility. Greater purchasing volume and consistent production levels help to reduce product costs. Local capacity in South Korea provides a second source of supply for DFC fuel cell stacks, which is valued by some prospective customers and project investors should a supply disruption occur at the FuelCell Energy production facility in Connecticut, USA. Locating final assembly of our DFC power plants closer to end users reduces costs and ensures our products meet the needs of individual markets. POSCO fulfills South Korean energy policy objectives and creates local employment. POSCO is also marketing power plants regionally, beginning with markets in Indonesia.

We have also partnered with POSCO to expand the market for fuel cells in South Korea through development of a 100 kW DFC power plant with CHP capabilities that is targeted at the commercial / apartment building market in Asia. POSCO designed the BOP for these small-scale power plants and installed two demonstration units in Seoul City that have been operating since late 2011.

Fraunhofer IKTS: We announced a partnership with The Fraunhofer Institute for Ceramic Technologies and Systems IKTS during fiscal year 2012. The Fraunhofer IKTS with its staff of approximately 400 engineers, scientists and technicians is a world leading institute in the field of advanced ceramics for high tech applications, including fuel cells. The parent organization,

Fraunhofer, was founded in 1949 and is Europe's largest application-oriented research organization with an annual research budget of €1.8 billion (approximately $2.3 billion) and more than 18,000 staff, primarily scientists and engineers. Fraunhofer has research centers and representative offices in Europe, USA, Asia and the Middle East, and more than 80 research units, including 60 Fraunhofer Institutes, at different locations in Germany.

Fraunhofer IKTS has proprietary carbonate fuel cell technology and patents that has been contributed to FCES, the German-based joint venture that is 75 percent owned by FuelCell Energy, Inc. and 25 percent by Fraunhofer IKTS. In addition, Fraunhofer IKTS is contributing their expertise and extensive research and development capabilities with fuel cells and materials science as well as sharing their industry and government relationships. Within six months of the initial partnership announcement between FuelCell Energy, Inc. and Fraunhofer IKTS, the first sale was announced by FCES for the installation of a DFC power plant at the new Federal Ministry of Education and Research government complex in Berlin, Germany, and was closely followed by the sale of a DFC power plant to the 20 Fenchurch office tower in London, England.

Enbridge, Inc.: We have a market development relationship with Canada-based Enbridge (NYSE: ENB), a global leader in energy transportation and distribution for the market development and deployment of the Direct FuelCell - Energy Recovery Generation (DFC-ERG®) power plant. A 2.2 MW DFC-ERG unit is installed at Enbridge's headquarters in Toronto. Enbridge is a holder of Series 1 preferred shares in our Canadian subsidiary, FCE Ltd.

Abengoa: We announced a partnership in fiscal year 2012 with Spanish-based Abengoa (MCE: ABG), a multi-national company focused on renewable power generation, desalination and recycling. Under the partnership, Abengoa will develop, manufacture and market stationary fuel cell power plants using fuel cell modules provided by us. Target markets are in Europe and Latin America for megawatt-class DFC power plants, including municipalities, large industrial power users and facilities that generate renewable biogas. In addition, the parties are cooperating to enhance the capability and market opportunities for DFC power plants operating on liquid biofuels, such as sugar cane ethanol produced in Brazil.

Other: We have aligned ourselves with project developers to develop power generation projects using our power plants. These project developers target specific applications or markets.

Business Strategy

Our business strategy is to grow revenues by expanding in our key geographic and vertical markets while continuing to reduce product costs. Our DFC power plants are gross margin profitable and we believe that with sufficient volume we can achieve net income profitability. Our vision is to provide ultra-clean, highly efficient, reliable distributed generation baseload power at a cost per kilowatt hour that is less than the cost of grid-delivered electricity. Our power plants provide electricity that is priced competitively to grid-delivered electricity in certain high cost regions. We plan to achieve our vision by focusing on three Strategic Priorities: 1) Driving Growth, 2) Operational Excellence, and 3) Customer Satisfaction.

Driving Growth is our Strategic Priority aimed at growing our geographic and vertical markets and increasing revenues. Initiatives designed to accomplish this objective include; building markets that are based on our core fuel cell technology, broadening the penetration of our key market segments and expanding into new markets.

We are focused on markets that combine elements that we believe are essential for rapid and sustained growth. These are markets in where the cost of grid-delivered electricity is high, the market values clean and efficient power sources and the regulatory environment is supportive of fuel cell technology and distributed generation.

Geographic markets that meet these criteria and where we are already well established include South Korea, California and Connecticut. During 2012, we created a strong foundation for growth in Europe through our joint venture, FuelCell Energy Solutions, GmbH. Vertical markets contributing to our growth include utility grid support, universities, wastewater treatment and food and beverage processing. Through a joint development agreement with our South Korean partner, we also have two demonstration power plants targeting the commercial building market in South Korea.

Revenue diversification is a strategic priority including diversification by geography, by market and by revenue source. As an illustration, Services revenue represents a stable and consistent source of revenue and remains a growth focus for the Company. We are also pursuing opportunities to target adjacent markets that leverage our existing fuel cell applications expertise and Services infrastructure.

Operational Excellence is our Strategic Priority aimed at achieving operational excellence in every aspect of our business. Initiatives designed to accomplish this objective include enhancing the performance of our DFC power plant fleet, extending the

lifecycle of our products while simultaneously reducing the cost of our products, and fully leveraging our engineering, manufacturing and other resources.

Our ongoing cost reduction program involves every aspect of our business, from engineering, procurement and manufacturing through installation and services. Close coordination with customers, suppliers and partners are key elements of the program. Since they were first commercialized in 2003, we have reduced the product cost of our megawatt-class power plants by more than 60 percent.

Customer Satisfaction is our Strategic Priority aimed at ensuring that our customers are delighted with the performance of our products and the ongoing services we provide. We have executed long-term service agreements with primarily all of our customers. These service agreements help us partner more closely with customers to deliver the value they expect and they create opportunities for us to provide additional services. Service agreements generate predictable and stable recurring revenue; as our installed base continues to grow they will generate sustainable revenue and contribute to profitability.

In December, 2012, the Company acquired Versa Power Systems, Inc. (Versa), a leading global developer of solid oxide fuel cell technology (SOFC). Prior to this action, we owned approximately 39 percent of Versa Power and partnered with Versa under the U.S. Department of Energy Solid State Energy Conversion Alliance (SECA) coal-based systems program. Under this program, we are currently testing a 60 kilowatt SOFC stack at our Danbury, Connecticut facility with expectations to demonstrate a 250 kW SOFC power plant should certain performance milestones be reached. The Versa SOFC technology is incorporated in programs involving a broad range of leading global companies including the Boeing Company. The potential market opportunity for the SOFC technology is with sub-megawatt applications for customers that need on-site power generation in either combined heat and power or electric-only configurations. The DFC® product line utilizes carbonate technology and is well-suited for the megawatt class market as the technology and the economics scale very well with greater size. SOFC technology is complementary and will target adjacent market opportunities in the sub-megawatt market, such as commercial buildings and high rise residential complexes. FuelCell Energy is currently in discussion with several potential global partners to commercialize the SOFC technology.

The transaction resulted in the Company exchanging approximately 3.5 million shares of its common stock for the remaining 61% of outstanding Versa shares held by the four Versa shareholders.

Versa's primary sources of revenue are from research contracts with the U.S. Department of Energy Solid State Energy Conversion Alliance (SECA) coal-based systems program and a research contract with The Boeing Company. Revenue and associated costs will be recognized under Research and development contracts in the consolidated financial statements of FuelCell Energy, Inc.

We intend to collaborate with a partner or multiple partners to commercialize the SOFC technology.

Versa has research facilities in Littleton, Colorado, USA and Calgary, Canada with 41 employees. Both facilities are leased. Research and development is being closely coordinated with existing FuelCell Energy research and development resources in Danbury, Connecticut, USA and administrative functions have been assumed by existing resources at FuelCell Energy facilities in Connecticut.

Manufacturing

Manufacturing Process

We have a 65,000 square-foot manufacturing facility in Torrington, Connecticut where we produce the DFC cell packages which are assembled into modules. The completed modules are then transported to our test and conditioning facilities in Danbury, Connecticut for the final step in the manufacturing process and then shipped to customer sites. For the South Korean marketplace, the DFC components are currently manufactured in the USA and then shipped to South Korea for local stacking and conditioning.

Our South Korean partner, POSCO, is developing a local manufacturing facility with capacity up to 140 megawatts of carbonate fuel cell components. Production is expected to begin in early 2015 at a level of up to 70 megawatts with production increasing thereafter as demand supports.

We have a 20,000 square-foot manufacturing facility in Ottobrun, Germany that has the capability to produce up to 30 megawatts per year of sub-megawatt DFC power plants. The facility will become operational as demand for DFC plants in Europe supports.

We design and manufacture the core DFC fuel cell components. The Balance of Plant (BOP) components are either purchased directly from suppliers or the manufacturing is outsourced based on our designs and specifications. This strategy allows us to leverage our manufacturing capacity, focusing on the critical aspects of the power plant where we have specialized knowledge and expertise. Localizing the BOP ensures designs meet local power needs, minimizes our inventory investment, reduces shipping costs and offers the potential for partners to manufacture BOP and create local jobs. BOP components are shipped directly to a customer's site and are assembled, with the fuel cell module, into a complete power plant.

Capacity and Production Increase

Our overall DFC manufacturing process in the USA (module manufacturing, final assembly, testing and conditioning) has a production capacity of up to 90 MW per year, with full utilization under its current configuration. In conjunction with the 2012 license agreement POSCO began designing and will construct a cell manufacturing facility in South Korea capacity capable of producing up to 140 MW of product annually for sale in the Asian market.
If demand develops beyond the combined capacity of the Company and POSCO, we have the ability to further expand production capacity at our Torrington facility to approximately 150 MW. This expansion would require the addition of equipment (e.g. furnaces, tape casting and other equipment) to increase the capacity of certain manufacturing operations. Due to the economies of scale and equipment required, we believe it is more cost effective to add capacity in large blocks. We estimate that an expansion of the Company's Torrington facility to 150 MW would require additional capital investments of $30 to $40 million, although this expansion may occur in stages depending on the level of market demand. We currently do not have plans to expand this facility.

In 2012, POSCO placed a 121.8 MW order with monthly delivery of DFC fuel cell kits through October 2016. This order provides a base level of production for raw materials purchases and other operational considerations for a four-year period and is helping to further reduce costs through manufacturing and purchasing efficiencies.

Raw Materials and Supplier Relationships

We use various raw materials and components to construct a fuel cell module, including nickel and stainless steel which are critical to our manufacturing process. Our fuel cell stack raw materials are sourced from multiple vendors and are not considered precious metals. In addition to manufacturing the fuel cell module in our Torrington facility, the electrical and mechanical BOP are assembled by and procured from several suppliers. All of our suppliers must undergo a qualification process. We continually evaluate new suppliers and are currently qualifying several new suppliers.

Advanced Technology Programs (Third Party Funded Research and Development)

We perform both public and privately -funded research and development to expand the markets for our DFC power plants, reduce costs and expand our technology portfolio in complementary high-temperature fuel cell systems. This research builds on the versatility of our fuel cell power plants and contributes to the development of potentially new end markets. Our power plants provide various value streams including clean electricity, high quality usable heat and hydrogen, suitable for vehicle fueling or industrial purposes. Our Advanced Technology Programs are focused on three strategic areas that have strong prospects for commercialization within a reasonable timeframe: solid oxide fuel cell (SOFC) development and commercialization, hydrogen production, compression and storage, and carbon capture.

The revenue and associated costs from government and third party sponsored research and development is classified as Revenue of research and development contracts and Cost of research and development contracts, respectively, in our consolidated financial statements.

Since 1975, we have worked with various U.S. government departments and agencies, including the Department of Energy (DOE), the Department of Defense (DOD), the Environmental Protection Agency (EPA), the Defense Advanced Research Projects Agency (DARPA), Office of Naval Research (ONR), and the National Aeronautics and Space Administration (NASA) on technology development. Government funding, principally from the DOE, provided 6 percent, 6 percent, and 15 percent of our revenue for the fiscal years ended 2012, 2011, and 2010, respectively.

Significant research and development programs on which we are currently working include:

Solid oxide fuel cell (SOFC) development and commercialization; We have been a prime contractor in the DOE's Solid State Energy Conversion Alliance (“SECA”) since 2003 and are currently participating in Phase III of the Large Scale Hybrid Program. The goal of this cost-share program is to develop a multi-megawatt, highly efficient, central generation SOFC power plant operating

on coal synthesis gas. We are currently in Phase III of the program and the objective for this phase is to operate an SOFC module with output of 60 kW. This will accelerate the development of affordable SOFC modules with enhanced performance and endurance. The 60 kW SOFC module is currently operating at our facility in Danbury, Connecticut.

We were awarded a $3.8 million contract by the U.S. Navy Office of Naval Research (ONR) to develop and test a Hybrid SOFC-Battery power system for large displacement undersea vehicle propulsion. The objective of the project is to develop a refuelable power system, with high energy density, that is suitable for undertaking long duration underwater missions of unmanned submersibles. The Hybrid SOFC-Battery system will be capable of generating 1,800 kilowatt hours of electricity during a 70 day mission with no exhaust discharged outside of the vehicle at any time. It will use liquid fuel and be self-contained with no reliance on external air.

Versa is a supplier to The Boeing Co. under a U.S. Defense Advanced Research Projects Agency (DARPA) program to develop and fly a very long endurance unmanned aircraft. Versa's specialized solid state SOFC technology is paired with solar equipment to provide an on-board source of power for propulsion and communication equipment.

Hydrogen production, compression and storage - Our high temperature DFC power plant generates electricity directly from a fuel by reforming the fuel inside the fuel cell to supply hydrogen for the electrical generation process. We capture the excess hydrogen that is not used in the electrical generation process. Gas separation technology can then be added to capture hydrogen that is not used by the electrical generation process, and we term this configuration DFC-H2. This value-added proposition may be compelling for industrial users of hydrogen or for vehicle fueling. A DFC300-H2 power plant has been operating for over one year at the Orange County Wastewater Treatment Facility in Irvine, California to supply 1) hydrogen for use in fuel cell vehicle fueling, 2) clean renewable electricity, and 3) high quality heat for the wastewater treatment process. The demonstration is being performed under sub-contract to Air Products (NYSE: APD) with the majority of funding provided by the DOE.

Carbon Capture - Coal is an abundant, low cost, domestic resource which is widely used to generate electricity, but with a significant carbon footprint. Cost effective and efficient carbon capture from coal-fired power plants potentially represents a large global market because it could enable clean use of this domestic fuel. Our carbonate fuel cell technology separates and concentrates carbon dioxide (CO_2) as a side reaction during the power generation process. DFC carbon capture research conducted by us has demonstrated that this is a viable technology for the efficient separation of CO_2. We are currently in the second phase of a DOE program to evaluate the use of Direct FuelCell technology to efficiently and cost effectively separate CO_2 from the emissions of existing coal fired power plants and industrial flue gases.

Research and Development (Company Funded Research and Development)
In addition to research and development performed under government contracts, we also fund our own research and development projects including extending module life, increasing the power output of our modules and reducing the cost of our products. Initiatives include increasing the power output of the fuel cell stacks to 375 kW from 350 kW currently, and extending the stack life to seven years from five years currently. Greater power output and improved longevity will lead to improved profitability on a unit basis for each power plant sold and improved profitability of service contracts, which will support expanding margins for the Company. Company-funded research and development is included in research and development expenses (operating expenses) in our consolidated financial statements.

The total research and development expenditures in the consolidated statement of operations including third party and company funded are as follows:

	Years Ended October 31,

	2012	2011	2012
Research and development contracts	$7,237	$7,830	$10,370
Cost of research and development contracts	14,354	16,768	18,562
Total research and development	$21,591	$24,598	$28,932

Competition

The electric generation market is competitive with continually evolving participants. Our DFC power plants compete in the marketplace for distributed generation. In addition to different types of stationary fuel cells, some other technologies that compete in this marketplace include micro-turbines and reciprocating gas engines.

Several companies in the U.S. are engaged in fuel cell development, although we believe we are the only domestic company engaged in significant manufacturing and commercialization of stationary carbonate fuel cells. Emerging fuel cell technologies (and the companies developing them) include PEM fuel cells (Ballard Power Systems, Plug Power and ClearEdge Power), phosphoric acid fuel cells (UTC Power/ClearEdge Power) and solid oxide fuel cells (Delphi, Rolls Royce, Bloom Energy, and Acumentrics). Each of these competitors has the potential to capture market share in our target markets.

There are other potential fuel cell competitors internationally. In Japan, Fuji Electric has been involved with both PEM and phosphoric acid fuel cells. In Korea, Doosan Corporation is engaged in carbonate fuel cell development and LG Electronics is engaged in SOFC development with its partner, Rolls Royce. In the United Kingdom, AFC Energy is engaged in alkaline fuel cell development. In Germany and Austria, Ceramic Fuel Cells is engaged in PEM fuel cell development for micro-CHP applications.

Other than fuel cell developers, we also compete with companies such as Caterpillar, Cummins, Wartsilla, MTU Friedrichshafen GmbH (MTU), Mitsubishi Heavy Industries and Detroit Diesel, which manufacture more mature combustion-based distributed power generation equipment, including various engines and turbines, and have well-established manufacturing and distribution operations along with product operating and cost features. Electrical efficiency of these products can be competitive with our DFC power plants in certain applications. Competition on larger MW projects may also come from gas turbine companies like General Electric, Solar Turbines and Kawasaki.

We also compete against the electric grid with utilities that generate power in large central generation locations and then use transmission lines to transport the electricity to the point of use.

Services and Warranty Agreements

We offer a comprehensive portfolio of services including: engineering installation, performance contracts, long-term maintenance programs, refurbishment and complete product support including trained technicians that remotely monitor and operate the plants around the world 24 hours a day and 365 days a year. We employ field technicians to service the power plants and maintain service centers near our customers to ensure high availability of our plants. In addition to the standard product warranty of one year, we also offer customers service agreements (LTSA) for Direct FuelCell (DFC) power plants ranging from one to 20 years. Our standard LTSA term is five years and may be renewed if the parties mutually agree on future pricing. Pricing for service contracts is based upon the markets in which we compete, as well as estimates of future maintenance and stack replacement costs.

While the electrical and mechanical balance of plant (BOP) in our DFC power plants is designed to last over 20 years, the fuel cell “stacks” must currently be replaced approximately every five years.

Under the typical provisions of the LTSAs, we provide services to monitor, operate and maintain customer power plants to meet performance levels. Should the power plant not meet the minimum performance levels, we may be required to replace the fuel cell stack with a new or used replacement or pay performance penalties.

Government Regulation

Our Company and its products are subject to various federal, provincial, state and local laws and regulations relating to, among other things, land use, safe working conditions, handling and disposal of hazardous and potentially hazardous substances and emissions of pollutants into the atmosphere. Negligible emissions of SOx and NOx from our power plants are substantially lower than conventional combustion-based generating stations, and are far below existing and proposed regulatory limits. The primary emissions from our power plants, assuming no cogeneration application, are humid flue gas that is discharged at temperatures of 700-800°F, water that is discharged at temperatures of 10-20°F above ambient air temperatures, and CO_2 in per kW hour amounts that are much less than

conventional fossil fuel central generation power plants. In light of the high temperature of the gas emissions, we are required to site or configure our power plants in a way that will allow the gas to be vented at acceptable and safe distances. The discharge of water from our power plants requires permits that depend on whether the water is to be discharged into a storm drain or into the local wastewater system. While our products have very low carbon monoxide emissions, there could be additional permitting requirements in smog non-attainment areas with respect to carbon monoxide if a number of our units are aggregated together.

We are also subject to federal, state, provincial or local regulation with respect to, among other things, emissions and siting. In addition, utility companies and several states in the USA have created and adopted or are in the process of creating interconnection regulations covering both technical and financial requirements for interconnection of fuel cell power plants to utility grids. Our power plants are designed to meet all applicable laws, regulations and industry standards for use in their markets.

We are committed to providing a safe and healthy environment for our employees. All of our employees are required to obey all applicable health, safety and environmental laws and regulations and must observe the proper safety rules and environmental practices in work situations. We are dedicated to seeing that safety and health hazards are adequately addressed through appropriate work practices, training and procedures.

Proprietary Rights and Licensed Technology

Our company was founded as a research company in 1969 and began focusing on high-temperature carbonate fuel cells in the 1980s. After a multi-year period of research and development including installation and operation of demonstration carbonate fuel cell power plants, we began selling fully commercialized Direct FuelCell (DFC) power plants in 2003. Our extensive experience, trade secrets, proprietary processes and patents combine to safeguard our intellectual property rights and act as a significant barrier to entry for potential competitors.

We have 78 current U.S. patents and 50 international patents covering our fuel cell technology (in certain cases covering the same technology in multiple jurisdictions). 74 of our U.S. patents relate to our Direct FuelCell technology, 1 patent relates to SOFC technology and 3 patents relate to PEM fuel cell technology. We also have submitted 20 U.S. and 84 international patent applications.

Our patents will expire between 2013 and 2031, and the current average remaining life of our patents is approximately 11 years. During 2012, 12 new U.S patents were issued or allowed and no U.S. and 10 international patents expired or were abandoned. The expiration of these patents has no material impact on our current or anticipated operations. We also have approximately 22 invention disclosures in process with our patent counsel that may result in additional patent applications.

Many of our U.S. patents are the result of government-funded research and development programs, including our Department of Energy (DOE) programs. U.S. patents we own that resulted from government-funded research are subject to the government exercising “march-in” rights. We believe that the likelihood of the U.S. government exercising these rights is remote and would only occur if we ceased our commercialization efforts and there was a compelling national need to use the patents.

Significant Customers and Backlog

We contract with a concentrated number of customers for the sale of our products and for research and development contracts. For the fiscal years ended October 31, 2012, 2011 and 2010, our top five customers, POSCO (which is a related party and owns approximately 16 percent of the outstanding common shares of the Company), Department of Energy, BioFuels Fuel Cells, LLC, UTS BioEnergy, LLC, and Pacific Gas and Electric Company, accounted for 86 percent, 71 percent and 68 percent, respectively, of our total annual consolidated revenue. Revenue percentage by major customer for the last three fiscal years is as follows:

	2012		2011		2010	
POSCO	76	%	44	%	58	%
Department of Energy	7	%	—	%	—	%
BioFuels Fuel Cells, LLC	—	%	12	%	—	%
UTS BioEnergy, LLC	2	%	10	%	—	%
Pacific Gas and Electric Company	1	%	5	%	10	%
Total	86	%	71	%	68	%

See Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 8 - Consolidated Financial Statements and Supplementary Data for further information regarding our revenue and revenue recognition policies.

Backlog refers to the aggregate revenues remaining to be earned at a specified date under contracts we have entered into. Revenue backlog is as follows:

Product sales and service backlog totaled $306.6 million as of October 31, 2012 compared to $209.9 million as of October 31, 2011. Product backlog was $228.1 million or 150.7 MW as of October 31, 2012 and $131.8 million or 72.9 MW as of October 31, 2011. Service agreement backlog was $78.5 million and $78.1 million as of October 31, 2012 and 2011, respectively. The 14.9 MW Bridgeport fuel cell park project that was closed subsequent to fiscal year end 2012 will increase product and service backlog in the first quarter of 2013 by approximately $125 million, including approximately $56 million for product backlog and $69 million for service backlog. Although backlog reflects business that is considered firm, cancellations or scope adjustments may occur and will be reflected in our backlog when known.

- For research and development contracts, we include the total contract value including any unfunded portion of the total contract value in backlog. Research and development contract backlog totaled $12.2 million as of October 31, 2012 compared to $15.8 million as of October 31, 2011. The unfunded portion of our research and development contracts amounted to $4.7 million and $6.8 million as of October 31, 2012 and 2011, respectively. Due to the long-term nature of these contracts, fluctuations from year to year are not an indication of any future trend.
- As of October 31, 2012 we had contracts for power plants totaling 1.5 MW under PPAs ranging from five to seven years. Revenue under these agreements is recognized as electricity is produced. This revenue is not included in backlog described above.

Employees

As of October 31, 2012, we had 484 full-time employees, of whom 226 were located at the Torrington, Connecticut manufacturing plant, 243 were located at the Danbury, Connecticut facility or various field offices, and 15 were located at our foreign locations. In addition, as of October 31, 2012, the Company had 16 temporary workers, with the majority located at the Torrington manufacturing plant. None of our employees are represented by a labor union or covered by a collective bargaining agreement.

The Versa acquisition adds an additional 41 full-time employees, 10 located in Littleton, CO and 31 located in Calgary, Canada.

Available Information

Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports will be made available free of charge through the Investor Relations section of the Company’s Internet website (http://www.fuelcellenergy.com) as soon as practicable after such material is electronically filed with, or furnished to, the Securities and Exchange Commission (“SEC”). Material contained on our website is not incorporated by reference in this report. Our executive offices are located at 3 Great Pasture Road, Danbury, CT 06813.

The public may also read and copy any materials that we file with the SEC at the SEC’s Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports and other information regarding issuers that file electronically with the SEC located at http://www.sec.gov .

Executive Officers of the Registrant

NAME	AGE	PRINCIPAL OCCUPATION
Arthur A. Bottone President and Chief Executive Officer	52	Mr. Bottone joined FuelCell Energy in February 2010 as Senior Vice President and Chief Commercial Officer and was promoted to President and Chief Executive Officer in February 2011. Mr. Bottone's focus is to accelerate and diversify global revenue growth to achieve profitability by capitalizing on heightened global demand for clean and renewable energy. Mr. Bottone has broad experience in the power generation field including traditional central generation and alternative energy. Prior to joining FuelCell Energy, Mr. Bottone spent 25 years at Ingersoll Rand, a diversified global industrial company, including President of the Energy Systems business. Mr. Bottone's qualifications include extensive global business development, technology commercialization, power generation project development as well as acquisition and integration experience. Mr. Bottone received an undergraduate degree in Mechanical Engineering from Georgia Institute of Technology in 1983, and received a Certificate of Professional Development from The Wharton School, University of Pennsylvania in 2004.
Michael Bishop Senior Vice President, Chief Financial Officer, Treasurer and Corporate Secretary	44	Mr. Bishop was appointed Vice President, Chief Financial Officer, Corporate Secretary, and Treasurer in June 2011. He nearly 20 years of experience in financial operations and management with public high growth technology companies with a focus on capital raising, project finance, debt/treasury management, acquisition integration, strategic planning, internal controls, and organizational development. Since joining the Company in 2003, Mr. Bishop has held a succession of financial leadership roles including Assistant Controller, Corporate Controller and Vice President and Controller. Prior to joining FuelCell Energy, Inc., Mr. Bishop held finance and accounting positions at TranSwitch Corporation, Cyberian Outpost, Inc. and United Technologies, Inc. He is a certified public accountant and began his professional career at McGladrey and Pullen, LLP. Mr. Bishop also served four years in the United States Marine Corps. Mr. Bishop received a Bachelor of Science in Accounting from Boston University in 1993 and a MBA from the University of Connecticut in 1999.
Anthony F. Rauseo Senior Vice President, Chief Operating Officer	53	Mr. Rauseo was appointed Chief Operating Officer in July 2010. In this position, Mr. Rauseo has responsibility for closely integrating the manufacturing operations with the supply chain, product development and quality initiatives. Mr. Rauseo is an organizational leader with a strong record of achievement in product development, business development, manufacturing, operations, and customer support. Mr. Rauseo joined the Company in 2005 as Vice President of Engineering and Chief Engineer. Prior to joining Fuel Cell Energy, Mr. Rauseo held a variety of key management positions in manufacturing, quality and engineering including five years with CiDRA Corporation. Prior to joining CiDRA,

Mr. Rauseo was with Pratt and Whitney for 17 years where he held various leadership positions in product development, production and customer support of aircraft turbines.

Mr. Rauseo received a Bachelor of Science in Mechanical Engineering from Rutgers University in 1983 and received a Masters of Science in Mechanical Engineering from Rensselaer Polytechnic Institute in 1987.

Item 1A. RISK FACTORS

You should carefully consider the following risk factors before making an investment decision. If any of the following risks actually occur, our business, financial condition, or results of operations could be materially and adversely affected. In such cases, the trading price of our common stock could decline, and you may lose all or part of your investment.

We have incurred losses and anticipate continued losses and negative cash flow.

We have been transitioning from a contract research and development company to a commercial products developer, manufacturer and services provider. As such, we have not been profitable since our fiscal year ended October 31, 1997. We expect to continue to incur net losses and generate negative cash flows until we can produce sufficient revenues to cover our costs. We may never become profitable. Even if we do achieve profitability, we may be unable to sustain or increase our profitability in the future. For the reasons discussed in more detail below, there are substantial uncertainties associated with our achieving and sustaining profitability. We have, from time to time, sought financing in the public markets in order to fund operations. Our future ability to obtain such financing, if required, could be impaired by a variety of factors, including, but not limited to, the price of our common stock and general market conditions.

Our cost reduction strategy may not succeed or may be significantly delayed, which may result in our inability to offer our products at competitive prices and may adversely affect our sales.

Our cost reduction strategy is based on the assumption that continued increases in production will result in economies of scale. In addition, our cost reduction strategy relies on advancements in our manufacturing process, global competitive sourcing, engineering design and technology improvements (including stack life and projected power output). Failure to achieve our cost reduction targets could have a material adverse effect on our results of operations and financial condition.

Our products compete with products using other energy sources, and if the prices of the alternative sources are lower than energy sources used by our products, sales of our products will be adversely affected. Volatility of electricity prices may impact sales of our products in the markets in which we compete.

Our DFC Power Plants operate using a variety of fuels, including natural gas, methanol, diesel, biogas, coal gas, coal mine methane, and propane. If these fuels are not readily available or if their prices increase such that electricity produced by our products costs more than electricity provided by other generation sources, our products would be less economically attractive to potential customers. In addition, we have no control over the prices of several types of competitive energy sources such as oil, gas or coal as well as local utility electricity costs. Significant decreases (or short term increases) in the price of these fuels or grid delivered prices for electricity could also have a material adverse effect on our business because other generation sources could be more economically attractive to consumers than our products.

The reduction or elimination of government subsidies and economic incentives for alternative energy technologies, including our fuel cell power plants, could reduce demand for our products, lead to a reduction in our revenues and adversely impact our operating results.

We believe that the near-term growth of alternative energy technologies, including our fuel cells, relies on the availability and size of government and economic incentives (including, but not limited to, the U.S. Federal ITC, the incentive programs in South Korea and the state of California and state RPS programs). Many of these government incentives expire, phase out over time, exhaust the allocated funding, or require renewal by the applicable authority. In addition, these incentive programs could be challenged by utility companies, or for other reasons found to be unconstitutional, and/or could be reduced or discontinued for other reasons. The reduction, elimination, or expiration of government subsidies and economic incentives may result in the diminished economic competitiveness of our power plants to our customers and could materially and adversely affect the growth of alternative energy technologies,

including our fuel cells, as well as our future operating results.

Financial markets worldwide have experienced increased volatility and instability which may have a material adverse impact on our Company, our customers and our suppliers.

Financial market volatility and instability affects both debt and equity markets. This may impact the amount of financing available to all companies, including companies with substantially greater resources, better credit ratings and more successful operating histories than ours. It is impossible to predict future financial market volatility and instability and the impact on our Company and it may have a materially adverse effect on us for a number of reasons, such as:

- The long term nature of our sales cycle often requires long lead times between order booking and product fulfillment. For this, we often require substantial cash down payments in advance of delivery. Our growth strategy assumes that financing will be available for our customers to provide for such down payments and to pay for our products. Financial market issues may delay, cancel or restrict the construction budgets and funds available to our customers that we expect to be the ultimate purchasers of our products and services.

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Projects using our products are, in part, financed by equity investors interested in tax benefits as well as by the commercial and governmental debt markets. The significant volatility in the U.S. and international stock markets since 2008, has caused significant uncertainty and may result in an increase in the return required by investors in relation to the risk of such projects.

If we, or our customers and suppliers, cannot obtain financing under favorable terms, our business may be negatively impacted.

We have signed product sales contracts, long-term service agreements and power purchase agreements with customers subject to technology and operating risks as well as market conditions that may affect our operating results.

The Company applies the percentage of completion revenue recognition method to certain contracts which are subject to estimates. On a quarterly basis, the Company performs a review process to help ensure that total estimated contract costs include estimates of costs to complete that are based on the most recent available information. The percentage of completion for the customer contract based on this cost analysis is then applied to the total customer contract value to determine the total revenue to be recognized to date.

We have contracted under long-term service agreements with certain customers to provide service on our products over terms ranging from one to 20 years. Under the provisions of these contracts, we provide services to maintain, monitor, and repair customer power plants to meet minimum operating levels. Pricing for service contracts is based upon estimates of future costs including future stack replacements. While we have conducted tests to determine the overall life of our products, we have not 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 to their expected useful life, which could result in warranty claims, performance penalties, maintenance and stack replacement costs in excess of our estimates and losses on service contracts.

The Company has one customer who purchases power under a Power purchase agreement (“PPA”), whereby the customer agrees to purchase power from our fuel cell power plants at negotiated rates. Electricity rates are generally a function of the customer's current and future electricity pricing available from the grid. Should electricity rates

decrease or operating costs increase from our original estimates, our results of operations could be negatively impacted. We are not required to produce minimum amounts of power under this PPA agreement. We provide termination rights by giving written notice to the customer, subject to certain exit costs.

We extend product warranties, which could affect our operating results.
We warranty our products for a specific period of time against manufacturing or performance defects. We accrue for warranty costs based on historical warranty claim experience, however actual future warranty expenses may be greater than we've assumed in our estimates. As a result, operating results could be negatively impacted should there be product manufacturing or performance defects in excess of our estimates.

Our products are complex and could contain defects and may not operate at expected performance levels which could impact sales and market adoption of our products or result in claims against us.

We develop complex and evolving products. Our initial installations were demonstration power plants intended to test the technology in real-world applications. We learned extensively from these demonstration installations, enhancing the technology and improving the operation of the power plants. Our first commercial Direct FuelCell power plant installation in 2003 had a rated power output of 250 kW and a 3 year stack life. Most of these 250 kW installations were terminated at contract conclusion or earlier as the costs were too high to justify continuation and the customer's power needs did not support a megawatt-class power plant. Certain of these early product designs did not meet our expectations resulting in mixed performance history, impacting the adoption rate of our products. Costs are lower for our newer megawatt-class plants compared to sub-megawatt plants due to scale. With the growing expertise gained from an expanding installed base, we continue to advance the capabilities of the fuel cell stacks and are now producing stacks with a rated power output of 350 kW and an expected five year life.

We have limited field operating experience on our products, and despite experience gained from our growing installed base and testing by us, our customers and our suppliers, issues may be found in existing or new products. This could result in a delay in recognition or loss of revenues, loss of market share or failure to achieve broad market acceptance. The occurrence of defects could also cause us to incur significant warranty, support and repair costs, could divert the attention of our engineering personnel from our product development efforts, and could harm our relationships with our customers. The occurrence of these problems could result in the delay or loss of market acceptance of our products and would likely harm our business. Defects or performance problems with our products could result in financial or other damages to our customers. From time to time, we have been involved in disputes regarding product warranty issues. Although we seek to limit our liability, a product liability claim brought against us, even if unsuccessful, would likely be time consuming and could be costly to defend. Our customers could also seek and obtain damages from us for their losses. We have reserved for potential damages related to performance problems, however actual results may be different than the assumptions used in our reserve calculations.

We currently face and will continue to face significant competition.

We compete on the basis of our products' reliability, efficiency, environmental considerations and cost. Technological advances in alternative energy products or improvements in the electric grid or other sources of power generation, or other fuel cell technologies may negatively affect the development or sale of some or all of our products or make our products non-competitive or obsolete prior to commercialization or afterwards. Other companies, some of which have substantially greater resources than ours, are currently engaged in the development of products and technologies that are similar to, or may be competitive with, our products and technologies.

Several companies are involved in fuel cell development, although we believe we are the only domestic company engaged in significant manufacturing and commercialization of carbonate fuel cells. Emerging fuel cell technologies (and companies developing them) include PEM fuel cells (Ballard Power Systems, Inc. and Plug Power), phosphoric acid fuel cells (UTC Power/ClearEdge Power) and solid oxide fuel cells (Delphi, Rolls Royce, LG, Bloom Energy, and Acumentrics). Each of these competitors has the potential to capture market share in our target markets. There are also other potential fuel cell competitors internationally that could capture market share. In Japan, Fuji Electric has been involved with both PEM and phosphoric acid fuel cells. In Korea, Doosan Corporation is engaged in carbonate fuel cell development.

Other than fuel cell developers, we must also compete with companies that manufacture more mature combustion-based equipment, including various engines and turbines, and have well-established manufacturing, distribution, and operating and cost features. Electrical efficiency of these products can be competitive with our DFC Power Plants in certain applications. Significant competition may also come from gas turbine companies.

We have a large and influential stockholder, which may make it difficult for a third party to acquire our common stock.

POSCO currently owns approximately 16 percent of our outstanding common stock, which could make it difficult for a third party to acquire our common stock. POSCO is also a licensee of our technology and purchaser of our products. Therefore, it may be in their interests to possess substantial influence over matters concerning our overall strategy and technological and commercial development.

We have limited experience manufacturing our products on a commercial basis, which may adversely affect our planned increases in production capacity and our ability to satisfy customer requirements.

Our first commercial power plant installation was in 2003 so we have limited experience manufacturing our products on a commercial basis. With full utilization under its current configuration, our overall manufacturing process has a production capacity of 90 MW per year depending on product mix and other factors. We expect that we will further increase our manufacturing capacity based on market demand. We cannot be sure that we will be able to achieve any planned increases in

production capacity. Also, as we scale up our production capacity, we cannot be sure that unplanned failures or other technical problems relating to the manufacturing process will not occur.

Even if we are successful in achieving our planned increases in production capacity, we cannot be sure that we will do so in time to satisfy the requirements of our customers. Our failure to develop advanced manufacturing capabilities and processes, or meet our cost goals, could have a material adverse effect on our business prospects, results of operations and financial condition.

Unanticipated increases or decreases in business growth may result in adverse financial consequences for us.
If our business grows more quickly than we anticipate, our existing and planned manufacturing facilities may become inadequate and we may need to seek out new or additional space, at considerable cost to us. If our business does not grow as quickly as we expect, our existing and planned manufacturing facilities would, in part, represent excess capacity for which we may not recover the cost; in that circumstance, our revenues may be inadequate to support our committed costs and our planned growth, and our gross margins, and business strategy would be adversely affected.

Our plans are dependent on market acceptance of our products.
Our plans are dependent upon market acceptance of, as well as enhancements to, our products. Fuel cell systems represent an emerging market, and we cannot be sure that potential customers will accept fuel cells as a replacement for traditional power sources. As is typical in a rapidly evolving industry, demand and market acceptance for recently introduced products and services are subject to a high level of uncertainty and risk. Since the distributed generation market is still evolving, it is difficult to predict with certainty the size of the market and its growth rate. The development of a market for our products may be affected by many factors that are out of our control, including:

- the cost competitiveness of our fuel cell products including availability and output expectations and total cost of ownership;
- the future costs of natural gas and other fuels used by our fuel cell products;
- customer reluctance to try a new product;
- the market for distributed generation;
- local permitting and environmental requirements; and
- the emergence of newer, more competitive technologies and products.

If a sufficient market fails to develop or develops more slowly than we anticipate, we may be unable to recover the losses we will have incurred in the development of our products and may never achieve profitability.

As we continue to expand markets for our products, we intend to continue to develop warranties, power production guarantees and other terms and conditions relating to our products that will be acceptable to the marketplace, and continue to develop a service organization that will aid in servicing our products and obtain self-regulatory certifications, if available, with respect to our products. Failure to achieve any of these objectives may also slow the development of a sufficient market for our products and, therefore, have a material adverse effect on our results of operations and financial condition.

We are substantially dependent on a concentrated number of customers and the loss of any one of these customers could adversely affect our business, financial condition and results of operations.

We contract with a concentrated number of customers for the sale of products and for research and development contracts. Significant revenue from individual customers is included in Note 1 of Notes to Consolidated Financial Statements. This includes revenues from POSCO, which is a related party and owns approximately 16 percent of the outstanding common shares of the Company.

There can be no assurance that we will continue to achieve the current level of sales of our products to our largest customers. Even though our customer base is expected to increase and our revenue streams to diversify, a substantial portion of net revenues could continue to depend on sales to a limited number of customers. Our agreements with these customers may be

cancelled if we fail to meet certain product specifications or materially breach the agreement, and our customers may seek to renegotiate the terms of current agreements or renewals. The loss of, or a reduction in sales to, one or more of our larger customers could have a material adverse effect on our business, financial condition and results of operations.

Our research and development contracts are subject to the risk of termination by the contracting party and we may not realize the full amounts allocated under the contracts due to the lack of Congressional appropriations.
A portion of our fuel cell revenues have been derived from long-term cooperative agreements and other contracts with the U.S. Department of Energy, the U.S. Department of Defense, the U.S. Navy, and other U.S. government agencies. These agreements are important to the continued development of our technology and our products.

Generally, our government research and development contracts are subject to the risk of termination at the convenience of the contracting agency. Furthermore, these contracts, irrespective of the amounts allocated by the contracting agency, are subject to annual Congressional appropriations and the results of government or agency sponsored reviews and audits of our cost reduction projections and efforts. We can only receive funds under these contracts ultimately made available to us annually by Congress as a result of the appropriations process. Accordingly, we cannot be sure whether we will receive the full amounts awarded under our government research and development or other contracts. Failure to receive the full amounts under any of our government research and development contracts could materially and adversely affect our business prospects, results of operations and financial condition.

A negative government audit could result in an adverse adjustment of our revenue and costs and could result in civil and criminal penalties.
Government agencies, such as the Defense Contract Audit Agency, routinely audit and investigate government contractors. These agencies review a contractor's performance under its contracts, cost structure, and compliance with applicable laws, regulations, and standards. If the agencies determine through these audits or reviews that we improperly allocated costs to specific contracts, they will not reimburse us for these costs. Therefore, an audit could result in adjustments to our revenue and costs.

Further, although we have internal controls in place to oversee our government contracts, no assurance can be given that these controls are sufficient to prevent isolated violations of applicable laws, regulations and standards. If the agencies determine that we or one of our subcontractors engaged in improper conduct, we may be subject to civil or criminal penalties and administrative sanctions, payments, fines, and suspension or prohibition from doing business with the government, any of which could materially affect our results of operations and financial condition.

The U.S. government has certain rights relating to our intellectual property, including restricting or taking title to certain patents.
Many of our U.S. patents relating to our fuel cell technology are the result of government-funded research and development programs. We own all patents resulting from research funded by our DOE contracts awarded to date, based on our “small business” status when each contract was awarded. Under current regulations, patents resulting from research funded by government agencies other than the DOE are owned by us, whether or not we are a “small business.”

Nine U.S. patents that we own have resulted from government-funded research and are subject to the risk of exercise of “march-in” rights by the government. March-in rights refer to the right of the U.S. government or a government agency to exercise its non-exclusive, royalty-free, irrevocable worldwide license to any technology developed under contracts funded by the government if the contractor fails to continue to develop the technology. These “march-in” rights permit the U.S. government to take title to these patents and license the patented technology to third parties if the contractor fails to utilize the patents. In addition, one of our DOE-funded research and development agreements also required us to agree that we will not provide to a foreign entity any fuel cell technology subject to that agreement unless the fuel cell technology will be substantially manufactured in the U.S.

We now qualify as a “Large Business”, which could adversely affect our rights to own future patents under DOE-funded contracts.

This year, we qualify as a “large business” under DOE contracts. This allows us to own the patents that we develop under new DOE contracts if we obtain a waiver from DOE. A “large business” under applicable government regulations generally consists of more than 500 employees averaged over a one year period. We will no longer own future patents we develop under new contracts, grants or cooperative agreements funded by the DOE, unless we obtain a patent waiver from the DOE. Should we not obtain a patent waiver and outright ownership, we would nevertheless retain exclusive rights to any such patents, so long as we continue to commercialize the technology covered by the patents.

Our future success and growth is dependent on our market strategy.

We cannot assure you that we will enter into partnerships that are consistent with, or sufficient to support, our commercialization plans, and our growth strategy or that these relationships will be on terms favorable to us. Even if we enter into these types of relationships, we cannot assure you that the partners with which we form relationships will focus adequate resources on selling our products or will be successful in selling them. Some of these arrangements have or will require that we grant exclusive rights to companies in defined territories. These exclusive arrangements could result in our being unable to enter into other arrangements at a time when the partner with which we form a relationship is not successful in selling our products or has reduced its commitment to marketing our products. In addition, certain arrangements include, and some future arrangements may also include, the issuance of equity and warrants to purchase our equity, which may have an adverse effect on our stock price. To the extent we enter into partnerships or relationships, the failure of these partners to assist us with the deployment of our products may adversely affect our results of operations and financial condition.

We depend on third party suppliers for the development and supply of key raw materials and components for our products.

We use various raw materials and components to construct a fuel cell module, including nickel and stainless steel which are critical to our manufacturing process. We also rely on third-party suppliers for the balance-of-plant components in our products. Suppliers must undergo a qualification process, which takes four to twelve months. We continually evaluate new suppliers and we are currently qualifying several new suppliers. There are a limited number of suppliers for some of the key components of products. A supplier's failure to develop and supply components in a timely manner, supply components that meet our quality, quantity or cost requirements, technical specifications, or our inability to obtain alternative sources of these components on a timely basis or on terms acceptable to us could harm our ability to manufacture our Direct FuelCell products. In addition, to the extent the processes that our suppliers use to manufacture components are proprietary; we may be unable to obtain comparable components from alternative suppliers.

We do not know whether we will be able to maintain long-term supply relationships with our critical suppliers, or secure new long-term supply relationships, 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 long-term relationships with entities that will supply the required components for our Direct FuelCell products.

We depend on our intellectual property, and our failure to protect that intellectual property could adversely affect our future growth and success.

Failure to protect our existing intellectual property rights may result in the loss of our exclusivity or the right to use our technologies. If we do not adequately ensure our freedom to use certain technology, we may have to pay others for rights to use their intellectual property, pay damages for infringement or misappropriation, or be enjoined from using such intellectual property. We rely on patent, trade secret, trademark and copyright law to protect our intellectual property. In addition, we have licensed much of our intellectual property to carefully selected third parties, and we depend on those third parties to also protect our intellectual property rights. As of October 31, 2012, we had 78 current U.S. patents and 50 international patents covering our fuel cell technology. These patents will expire between 2013 and 2031 and have an average remaining life of approximately 11 years.

Some of our intellectual property is not covered by any patent or patent application and includes trade secrets and other know-how that is not able to be patented, particularly as it relates to our manufacturing processes and engineering design. In addition, some of our intellectual property includes technologies and processes that may be similar to the patented technologies and processes of third parties. If we are found to be infringing third-party patents, we do not know whether we will be able to obtain licenses to use such patents on acceptable terms, if at all. Our patent position is subject to complex factual and legal issues that may give rise to uncertainty as to the validity, scope, and enforceability of a particular patent.

We cannot assure you that any of the U.S. or international patents owned by us or other patents that third parties license to us will not be invalidated, circumvented, challenged, rendered unenforceable or licensed to others, or any of our pending or future patent applications will be issued with the breadth of claim coverage sought by us, if issued at all. In addition, effective patent, trademark, copyright and trade secret protection may be unavailable, limited or not applied for in certain foreign countries.

We also seek to protect our proprietary intellectual property, including intellectual property that may not be patented or able to be patented, in part by confidentiality agreements and, if applicable, inventors' rights agreements with our subcontractors, vendors, suppliers, consultants, strategic partners and employees. We cannot assure you that these agreements will not be breached, that we will have adequate remedies for any breach or that such persons or institutions will not assert rights to intellectual property arising out of these relationships. Certain of our intellectual property have been licensed to us on a non-exclusive basis from third parties that may also license such intellectual property to others, including our competitors. If our licensors are found to be infringing third-party patents, we do not know whether we will be able to obtain licenses to use the intellectual property licensed to us on acceptable terms, if at all.

If necessary or desirable, we may seek extensions of existing licenses or further licenses under the patents or other intellectual property rights of others. However, we can give no assurances that we will obtain such extensions or further licenses or that the terms of any offered licenses will be acceptable to us. The failure to obtain a license from a third party for intellectual property that we use at present could cause us to incur substantial liabilities, and to suspend the manufacture or shipment of products or our use of processes requiring the use of that intellectual property.

While we are not currently engaged in any intellectual property litigation, we could become subject to lawsuits in which it is alleged that we have infringed the intellectual property rights of others or commence lawsuits against others who we believe are infringing upon our rights. Our involvement in intellectual property litigation could result in significant expense to us, adversely affecting the development of sales of the challenged product or intellectual property and diverting the efforts of our technical and management personnel, whether or not that litigation is resolved in our favor.

Our future success will depend on our ability to attract and retain qualified management and technical personnel.
Our future success is substantially dependent on the continued services and on the performance of our executive officers and other key management, engineering, scientific, manufacturing and operating personnel, particularly Arthur Bottone, our Chief Executive Officer. The loss of the services of any executive officer, including Mr. Bottone, or other key management, engineering, scientific, manufacturing and operating personnel, could materially adversely affect our business. Our ability to achieve our commercialization plans will also depend on our ability to attract and retain additional qualified management and technical personnel. Recruiting personnel for the fuel cell industry is competitive. We do not know whether we will be able to attract or retain additional qualified management and technical personnel. Our inability to attract and retain additional qualified management and technical personnel, or the departure of key employees, could materially and adversely affect our development and commercialization plans and, therefore, our business prospects, results of operations and financial condition.

Our management may be unable to manage rapid growth effectively.
We may rapidly expand our manufacturing capabilities, accelerate the commercialization of our products and enter a period of rapid growth, which will place a significant strain on our senior management team and our financial and other resources. Any expansion may expose us to increased competition, greater overhead, marketing and support costs and other risks associated with the commercialization of a new product. Our ability to manage rapid growth effectively will require us to continue to improve our operations, to improve our financial and management information systems and to train, motivate and manage our employees. Difficulties in effectively managing issues presented by such a rapid expansion could harm our business prospects, results of operations and financial condition.

We may be affected by environmental and other governmental regulation.
We are subject to various federal, state and local laws and regulations relating to, among other things, land use, safe working conditions, handling and disposal of hazardous and potentially hazardous substances and emissions of pollutants into the atmosphere. In addition, it is possible that industry-specific laws and regulations will be adopted covering matters such as transmission scheduling, distribution, and the characteristics and quality of our products, including installation and servicing. These regulations could limit the growth in the use of carbonate fuel cell products, decrease the acceptance of fuel cells as a commercial product and increase our costs and, therefore, the price of our products. Accordingly, compliance with existing or future laws and regulations could have a material adverse effect on our business prospects, results of operations and financial condition.

Utility companies may resist the adoption of distributed generation and could impose customer fees or interconnection requirements on our customers that could make our products less desirable.
Investor-owned electric utilities may resist adoption of distributed generation fuel cell plants as the power plants are disruptive to the utility business model that primarily utilizes large central generation power plants and associated

transmission and distribution. On-site distributed generation that is on the customer-side of the electric meter competes with the utility. Distributed generation on the utility-side of the meter generally has power output that is significantly less than central generation power plants and may be perceived by the utility as too small to materially impact their business, limiting their interest. Additionally, perceived technology risk may limit utility interest in stationary fuel cell power plants.

Utility companies commonly charge fees to larger, industrial customers for disconnecting from the electric grid or for having the capacity to use power from the electric grid for back up purposes. These fees could increase the cost to our customers of using our Direct FuelCell products and could make our products less desirable, thereby harming our business prospects, results of operations and financial condition.

Several U.S. states have created and adopted, or are in the process of creating, their own interconnection regulations covering both technical and financial requirements for interconnection to utility grids. Depending on the complexities of the

requirements, installation of our systems may become burdened with additional costs that might have a negative impact on our ability to sell systems. The Institute of Electrical and Electronics Engineers has been working to create an interconnection standard addressing the technical requirements for distributed generation to interconnect to utility grids. Many parties are hopeful that this standard will be adopted nationally to help reduce the barriers to deployment of distributed generation such as fuel cells; however this standard may not be adopted nationally thereby limiting the commercial prospects and profitability of our fuel cell systems.

We could be liable for environmental damages resulting from our research, development or manufacturing operations.

Our business exposes us to the risk of harmful substances escaping into the environment, resulting in personal injury or loss of life, damage to or destruction of property, and natural resource damage. Depending on the nature of the claim, our current insurance policies may not adequately reimburse us for costs incurred in settling environmental damage claims, and in some instances, we may not be reimbursed at all. Our business is subject to numerous federal, state, and local laws and regulations that govern environmental protection and human health and safety. We believe that our businesses are operating in compliance in all material respects with applicable environmental laws, however these laws and regulations have changed frequently in the past and it is reasonable to expect additional and more stringent changes in the future.

Our operations may not comply with future laws and regulations and we may be required to make significant unanticipated capital and operating expenditures. If we fail to comply with applicable environmental laws and regulations, governmental authorities may seek to impose fines and penalties on us or to revoke or deny the issuance or renewal of operating permits and private parties may seek damages from us. Under those circumstances, we might be required to curtail or cease operations, conduct site remediation or other corrective action, or pay substantial damage claims.

Our products use inherently dangerous, flammable fuels, operate at high temperatures and use corrosive carbonate material, each of which could subject our business to product liability claims.
Our business exposes us to potential product liability claims that are inherent in products that use hydrogen. Our products utilize fuels such as natural gas and convert these fuels internally to hydrogen that is used by our products to generate electricity. The fuels we use are combustible and may be toxic. In addition, our Direct FuelCell products operate at high temperatures and use corrosive carbonate material, which could expose us to potential liability claims. Although we have incorporated a robust design and redundant safety features in our power plants and have established and comprehensive safety, maintenance, and training programs in place, and follow third-party certification protocols, codes and standards, we cannot guarantee there will not be accidents. Any accidents involving our products or other hydrogen-using products could materially impede widespread market acceptance and demand for our products. In addition, we might be held responsible for damages beyond the scope of our insurance coverage. We also cannot predict whether we will be able to maintain adequate insurance coverage on acceptable terms.

We are subject to risks inherent in international operations.
Since we market our products both inside and outside the U.S., our success depends in part, on our ability to secure international customers and our ability to manufacture products that meet foreign regulatory and commercial requirements in target markets. Sales to customers located outside the U.S. accounts for a significant portion of our consolidated revenue. Sales to customers in South Korea represent the majority of our international sales. We have limited experience developing and manufacturing our products to comply with the commercial and legal requirements of international markets. In addition, we are subject to tariff regulations and requirements for export licenses, particularly with respect to the export of some of our technologies. We face numerous challenges in our international expansion, including unexpected changes in regulatory requirements, potential conflicts or disputes that countries may have to deal with, fluctuations in currency exchange rates, longer accounts receivable requirements and collections, difficulties in managing international operations, potentially adverse tax consequences, restrictions on repatriation of

earnings and the burdens of complying with a wide variety of international laws. Any of these factors could adversely affect our results of operations and financial condition.

Our stock price has been and could remain volatile.

The market price for our common stock has been and may continue to be volatile and subject to extreme price and volume fluctuations in response to market and other factors, including the following, some of which are beyond our control:

- failure to meet our product development and commercialization milestones;
- variations in our quarterly operating results from the expectations of securities analysts or investors;
- downward revisions in securities analysts' estimates or changes in general market conditions;
- announcements of technological innovations or new products or services by us or our competitors;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- additions or departures of key personnel;
- investor perception of our industry or our prospects;
- insider selling or buying;
- demand for our common stock; and
- general technological or economic trends.

In the past, following periods of volatility in the market price of their stock, many companies have been the subjects of securities class action litigation. If we became involved in securities class action litigation in the future, it 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.

Provisions of Delaware and Connecticut law and of our charter and by-laws may make a takeover more difficult.

Provisions in our certificate of incorporation and by-laws and in Delaware and Connecticut corporate law may make it difficult and expensive for a third-party to pursue a tender offer, change in control or takeover attempt that is opposed by our management and board of directors. Public stockholders who might desire to participate in such a transaction may not have an opportunity to do so. These anti-takeover provisions could substantially impede the ability of public stockholders to benefit from a change in control or change in our management and board of directors.

We depend on relationships with strategic partners, and the terms and enforceability of many of these relationships are not certain.

We have entered into relationships with strategic partners for design, product development, sale and service of our existing products, and products under development, some of which may not have been documented by a definitive agreement. The terms and conditions of many of these agreements allow for termination by the partners. Termination of any of these agreements could adversely affect our ability to design, develop and distribute these products to the marketplace. We cannot assure you that we will be able to successfully negotiate and execute definitive agreements with any of these partners, and failure to do so may effectively terminate the relevant relationship.

Future sales of substantial amounts of our common stock could affect the market price of our common stock.

Future sales of substantial amounts of our common stock, or securities convertible or exchangeable into shares of our common stock, into the public market, including shares of our common stock issued upon exercise of options and warrants, or perceptions that those sales could occur, could adversely affect the prevailing market price of our common stock and our ability to raise capital in the future.

The rights of the Series 1 preferred shares and Series B preferred stock could negatively impact our cash flows.
The terms of the Series 1 preferred shares issued by FCE FuelCell Energy, Ltd. ("FCE Ltd."), our wholly-owned, indirect subsidiary, provide rights to the holder, Enbridge Inc. ("Enbridge"), which could negatively impact us.

On March 31, 2011, the Company entered into an agreement with Enbridge to modify the provisions of the Class A Cumulative Redeemable Exchangeable Preferred Shares (the "Series 1 Preferred Shares") of FCE Ltd. Enbridge is the sole holder of the Series 1 Preferred Shares. Consistent with the previous Series 1 preferred share agreement FuelCell Energy, Inc. continues to guarantee the return of principal and dividend obligations of FCE Ltd. to the Series 1 preferred shareholders under the modified agreement.

Under the original Series 1 Preferred Shares provisions, FCE Ltd. was to make annual dividend payments totaling Cdn. $1,250,000. The modified terms of the Series 1 Preferred Shares adjust these payments to (i) annual dividend payments of Cdn. $500,000 and (ii) annual return of capital payments of Cdn. $750,000. These payments commenced on March 31, 2011 and will end on December 31, 2020. Additional dividends accrue on cumulative unpaid dividends at a 1.25 percent quarterly rate, compounded quarterly, until payment thereof. On December 31, 2020 the amount of all accrued and unpaid dividends on the Series 1 Preferred Shares of Cdn. $21.1 million and the balance of the principal redemption price of Cdn. $4.4 million shall be paid to the holders of the Series 1 Preferred Shares. FCE Ltd. has the option of making dividend payments in the form of common stock or cash under the Series 1 Preferred Shares provisions.

We are also required to issue common stock to the holder of the Series 1 preferred shares if and when the holder exercises its conversion rights. The number of shares of common stock that we may issue upon conversion could be significant and dilutive to our existing stockholders. For example, assuming the holder of the Series 1 preferred shares exercises its conversion rights after July 31, 2020 and assuming our common stock price is $0.93 (our common stock closing price on October 31, 2012) and an exchange rate of Cdn. $1.00 to U.S.$1.00 at the time of conversion, we would be required to issue approximately 5,030,891 shares of our common stock.

The terms of the Series B preferred stock also provide rights to their holders that could negatively impact us. Holders of the Series B preferred stock are entitled to receive cumulative dividends at the rate of $50 per share per year, payable either in cash or in shares of our common stock. To the extent the dividend is paid in shares, additional issuances could be dilutive to our existing stockholders and the sale of those shares could have a negative impact on the price of our common stock. A share of our Series B preferred stock may be converted at any time, at the option of the holder, into 85.1064 shares of our common stock (which is equivalent to an initial conversion price of $11.75 per share), plus cash in lieu of fractional shares. Furthermore, the conversion rate applicable to the Series B preferred stock is subject to adjustment upon the occurrence of certain events.

If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results or prevent fraud, which could harm our brand and operating results.
Effective internal controls are necessary for us to provide reliable and accurate financial reports and effectively prevent fraud. We have devoted significant resources and time to comply with the internal control over financial reporting requirements of the Sarbanes-Oxley Act of 2002. In addition, Section 404 under the Sarbanes-Oxley Act of 2002 requires that we assess, and that our auditors attest to, the design and operating effectiveness of our controls over financial reporting. Our compliance with the annual internal control report requirement for each fiscal year will depend on the effectiveness of our financial reporting and data systems and controls. Inferior internal controls could cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our stock and our access to capital.

Our results of operations could vary as a result of methods, estimates and judgments we use in applying our accounting policies.

The methods, estimates and judgments we use in applying our accounting policies have a significant impact on our results of operations (see “Critical Accounting Policies and Estimates” in Part II, Item 7). Such methods, estimates and judgments are, by their nature, subject to substantial risks, uncertainties and assumptions, and factors may arise over time that could lead us to reevaluate our methods, estimates and judgments.

As we gain experience in future periods, management will continue to reevaluate its estimates for contract margins, service agreements, warranty, performance guarantees, liquidated damages and inventory reserves. Changes in those estimates and judgments could significantly affect our results of operations and financial condition. We may also adopt changes required by the Financial Accounting Standards Board and the Securities and Exchange Commission.

Item 1B. UNRESOLVED STAFF COMMENTS
None

Item 2. PROPERTIES
The following is a summary of our offices and locations:

Location	Business Use	Square Footage	Lease Expiration Dates
Danbury, Connecticut	Corporate Headquarters, Research and Development, Sales, Marketing, Purchasing and Administration and administrative	72,000	Company owned
Torrington, Connecticut	Manufacturing and administrative	65,000	December-2015
Danbury, Connecticut	Manufacturing and Operations	38,000	October-2014
Ottobrunn, Germany	Manufacturing and administrative	20,000	June-2014

The acquisition of Versa adds an additional square footage of 70,684. This includes a leased property in Littleton, CO of approximately 18,464 square footage with a lease that expires on August 1, 2018 and a leased property in Calgary, Canada of approximately 52,220 square feet with a lease that expires on January 31, 2014.

Item 3. LEGAL PROCEEDINGS
None

PART II

Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

FuelCell Common Stock

Our common stock has been publicly traded since June 25, 1992. From September 21, 1994 through February 25, 1997, it was quoted on the NASDAQ National Market, and from February 26, 1997 through June 6, 2000 it was traded on the American Stock Exchange. Our common stock trades under the symbol "FCEL" on the Nasdaq Global Market. The following table sets forth the high and low sale prices for our common stock for the fiscal periods indicated as reported by the Nasdaq Global Market during the indicated quarters.

	Common Stock Price	
	High	Low
First quarter (through January 7, 2013)	$1.18	$0.83
Year Ended October 31, 2012		
First Quarter	$1.12	$0.83
Second Quarter	$1.95	$0.97
Third Quarter	$1.39	$0.92
Fourth Quarter	$1.10	$0.85
Year Ended October 31, 2011		
First Quarter	$2.41	$1.12
Second Quarter	$2.23	$1.55
Third Quarter	$1.97	$1.25
Fourth Quarter	$1.42	$0.80

On January 7, 2013, the closing price of our common stock on the Nasdaq Global Market was $1.06 per share. As of January 7, 2013, there were 546 holders of record of our common stock. This does not include the number of persons whose stock is in nominee or "street" name accounts through brokers.

We have never paid a cash dividend on our common stock and do not anticipate paying any cash dividends on common stock in the foreseeable future. In addition, the terms of our Series B preferred shares prohibit the payment of dividends on our common stock unless all dividends on the Series B preferred stock have been paid in full.

Unregistered Sales of Equity Securities

On December 20, 2012, the Company sold 3,526,764 shares of common stock to four shareholders in an offering not registered under the Securities Act of 1933, as amended, in reliance upon Section 4(2) thereof in consideration for shares of Versa Power Systems, Inc.

Performance Graph

The following graph compares the annual change in the Company's cumulative total stockholder return on its Common Stock for the five fiscal years ended October 31, 2012 with the cumulative stockholder total return on the Russell 2000 Index and a peer group consisting of Standard Industry Classification ("SIC") Group Code 369 companies listed on The American Stock Exchange, Nasdaq Global Market and New York Stock Exchange for that period ("Peer Index"). It assumes $100 invested on November 1, 2008 with dividends reinvested.

Series 1 Preferred Shares

We have 1,000,000 Series 1 Preferred Shares issued and outstanding. The Series 1 Preferred Shares were issued by FCE Ltd., one of our wholly-owned subsidiaries. We have guaranteed the obligations of FCE Ltd. under the Series 1 Preferred Shares.

On March 31, 2011, the Company entered into an agreement with Enbridge to modify the provisions of the Series 1 Preferred Shares of FCE Ltd. as previously described. Enbridge is the sole holder of the Series 1 Preferred Shares. Consistent with the previous Series 1 preferred share agreement, FuelCell Energy, Inc. continues to guarantee the return of principal and dividend obligations of FCE Ltd. to the Series 1 preferred shareholders under the modified agreement.

Under the original Series 1 Preferred Shares provisions, FCE Ltd. had an accrued and unpaid dividend obligation of approximately Cdn. $12.5 million representing the deferral of dividends plus additional dividends thereon. Payment was originally due to Enbridge as of December 31, 2010. Under the modified share provisions, the Company is required to make (i) equal quarterly return of capital cash payments to the holders of the Series 1 Preferred Shares on the last day of each calendar quarter starting on March 31, 2011 and ending on December 31, 2011 and (ii) additional return of capital cash payments, as consideration for the one-year deferral, calculated at a 9.8 percent rate per annum on the unpaid Cdn. $12.5 million obligation, which additional payments will also be made to the holders of the Series 1 Preferred Shares on the last day of each calendar quarter starting on March 31, 2011 and ending on December 31, 2011.

Under the original Series 1 Preferred Shares provisions, FCE Ltd. was to make annual dividend payments totaling Cdn. $1,250,000. The modified terms of the Series 1 Preferred Shares adjust these payments to (i) annual dividend payments of Cdn$500,000 and

(ii) annual return of capital payments of Cdn. $750,000. These payments commenced on March 31, 2011 and will end on December 31, 2020. Dividends accrue at a 1.25% quarterly rate on the unpaid principal balance, and additional dividends will accrue on the cumulative unpaid dividends (inclusive of the Cdn$12.5 million unpaid dividend balance as of the modification date) at a rate of 1.25% per quarter, compounded quarterly. On December 31, 2020 the amount of all accrued and unpaid dividends on the Series 1 Preferred Shares of Cdn$21.1 million and the balance of the principal redemption price of Cdn$4.4 million shall be paid to the holders of the Series 1 Preferred Shares. FCE Ltd. has the option of making dividend payments in the form of common stock or cash under the Series 1 Preferred Shares provisions.

A holder of Series 1 Preferred Shares has the right to convert such shares into fully paid and non-assessable common stock of the Company at the following conversion prices:

- Cdn$129.46 per share of our common stock after July 31, 2010 until July 31, 2015;
- Cdn$138.71 per share of our common stock after July 31, 2015 until July 31, 2020; and
- at any time after July 31, 2020, at a price equal to 95 percent of the then current market price (in Cdn.$) of shares of our common stock at the time of conversion.

The foregoing conversion prices are subject to adjustment for certain subsequent events.

For example, assuming the holder of the Series 1 preferred shares exercises its conversion rights after July 31, 2020 and assuming our common stock price is $0.93 (our common stock closing price on October 31, 2012) and an exchange rate of Cdn.$1.00 to U.S.$1.00 (exchange rate on October 31, 2012) at the time of conversion, we would be required to issue approximately 5,030,890 shares of our common stock.

The Series 1 Preferred Shares are redeemable by FCE for Cdn.$25 per share less all amounts paid on or before the redemption date as a return of capital, plus all unpaid dividends and accrued interest. Holders of the Series 1 Preferred Shares do not have any mandatory or conditional redemption rights.

In the event of the liquidation or dissolution of FCE, the holders of Series 1 Preferred Shares will be entitled to receive Cdn.$25 per share less all amounts paid on or before the liquidation or dissolution event, plus all unpaid dividends and accrued interest before any amount will be paid or any of FCE’s property or assets will be distributed to the holders of FCE’s common stock. After payment to the holders of the Series 1 Preferred Shares of the amounts payable to them, the holders of the Series 1 Preferred Shares will not be entitled to any other distribution of FCE’s property or assets.

Series B Preferred Shares

We have 250,000 shares of our 5 percent Series B Cumulative Convertible Perpetual Preferred Stock (Liquidation Preference $1,000) (“Series B Preferred Stock”) authorized for issuance. At each of October 31, 2012 and 2011, there were 64,020 shares of Series B Preferred Stock issued and outstanding. The shares of our Series B Preferred Stock and the shares of our common stock issuable upon conversion of the shares of our Series B Preferred Stock are covered by a registration rights agreement. The following is a summary of certain provisions of our Series B Preferred Stock.

Ranking

Shares of Series B Preferred Stock rank with respect to dividend rights and rights upon our liquidation, winding up or dissolution:

- senior to shares of our common stock;
- junior to our debt obligations; and
- effectively junior to our subsidiaries’ (i) existing and future liabilities and (ii) capital stock held by others.

Dividends

The Series B Preferred Stock pays cumulative annual dividends of $50 per share which are payable quarterly in arrears on February 15, May 15, August 15 and November 15. Unpaid accumulated dividends do not bear interest. The dividend rate is subject to upward adjustment as set forth in the Certificate of Designation if we fail to pay, or to set apart funds to pay, any quarterly dividend. The dividend rate is also subject to upward adjustment as set forth in the Registration Rights Agreement entered into with the Initial Purchasers if we fail to satisfy our registration obligations with respect to the Series B Preferred Stock (or the underlying common shares) under the Registration Rights Agreement.

No dividends or other distributions may be paid or set apart for payment on our common shares (other than a dividend payable solely in shares of a like or junior ranking) unless all accumulated and unpaid Series B Preferred Stock dividends have been paid or funds or shares of common stock have been set aside for payment of accumulated and unpaid Series B Preferred Stock dividends.

The dividend on the Series B Preferred Stock may be paid in cash; or at the option of the holder, in shares of our common stock, which will be registered pursuant to a registration statement to allow for the immediate sale of these common shares in the public market. Dividends of $3.2 million were paid in each of the years ended October 31, 2012, 2011 and 2010. There were no cumulative unpaid dividends at October 31, 2012 and 2011.

Liquidation

The Series B Preferred Stock stockholders are entitled to receive, in the event that we are liquidated, dissolved or wound up, whether voluntary or involuntary, $1,000 per share plus all accumulated and unpaid dividends to the date of that liquidation, dissolution, or winding up ("Liquidation Preference"). Until the holders of Series B Preferred Stock receive their Liquidation Preference in full, no payment will be made on any junior shares, including shares of our common stock. After the Liquidation Preference is paid in full, holders of the Series B Preferred Stock will not be entitled to receive any further distribution of our assets. At October 31, 2012 and 2011, the Series B Preferred Stock had a Liquidation Preference of $64.0 million.

Conversion Rights

Each Series B Preferred Stock share may be converted at any time, at the option of the holder, into 85.1064 shares of our common stock (which is equivalent to an initial conversion price of $11.75 per share) plus cash in lieu of fractional shares. The conversion rate is subject to adjustment upon the occurrence of certain events, as described in the Certificate of Designation, but will not be adjusted for accumulated and unpaid dividends. If converted, holders of Series B Preferred Stock do not receive a cash payment for all accumulated and unpaid dividends; rather, all accumulated and unpaid dividends are cancelled.

We may, at our option, cause shares of Series B Preferred Stock to be automatically converted into that number of shares of our common stock that are issuable at the then prevailing conversion rate. We may exercise our conversion right only if the closing price of our common stock exceeds 150 percent of the then prevailing conversion price ($11.75 at October 31, 2012) for 20 trading days during any consecutive 30 trading day period, as described in the Certificate of Designation.

Redemption

We do not have the option to redeem the shares of Series B Preferred Stock. However, holders of the Series B Preferred Stock can require us to redeem all or part of their shares at a redemption price equal to the Liquidation Preference of the shares to be redeemed in the case of a "fundamental change" (as described in the Certificate of Designation).

We may, at our option, elect to pay the redemption price in cash or, in shares of our common stock valued at a discount of 5 percent from the market price of shares of our common stock, or any combination thereof. Notwithstanding the foregoing, we may only pay such redemption price in shares of our common stock that are registered under the Securities Act of 1933 and eligible for immediate sale in the public market by non-affiliates of the Company.

Voting Rights

Holders of Series B Preferred Stock currently have no voting rights; however, holders may receive certain voting rights, as described in the Certificate of Designation, if (1) dividends on any shares of Series B Preferred Stock, or any other class or series of stock ranking on a parity with the Series B Preferred Stock with respect to the payment of dividends, shall be in arrears for dividend periods, whether or not consecutive, for six calendar quarters or (2) we fail to pay the redemption price, plus accrued and unpaid dividends, if any, on the redemption date for shares of Series B Preferred Stock following a fundamental change.

So long as any shares of Series B Preferred Stock remain outstanding, we will not, without the consent of the holders of at least two-thirds of the shares of Series B Preferred Stock outstanding at the time (voting separately as a class with all other series of preferred stock, if any, on parity with our Series B Preferred Stock upon which like voting rights have been conferred and are exercisable) issue or increase the authorized amount of any class or series of shares ranking senior to the outstanding shares of the Series B Preferred Stock as to dividends or upon liquidation. In addition, we will not, subject to certain conditions, amend, alter or repeal provisions of our certificate of incorporation, including the Certificate of Designation relating to the Series B Preferred Stock, whether by merger, consolidation or otherwise, so as to adversely amend, alter or affect any power, preference or special right of the

outstanding shares of Series B Preferred Stock or the holders thereof without the affirmative vote of not less than two-thirds of the issued and outstanding Series B Preferred Stock shares.

Equity Compensation Plan Information

See Part III, Item 12 for information regarding securities authorized for issuance under our equity compensation plans.

Item 6. SELECTED FINANCIAL DATA

The selected consolidated financial data presented below as of the end of each of the years in the five-year period ended October 31, 2012 have been derived from our audited consolidated financial statements together with the notes thereto included elsewhere in this annual report on Form 10-K. The data set forth below is qualified by reference to, and should be read in conjunction with our consolidated financial statements and their notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this annual report on Form 10-K.

Consolidated Statement of Operations Data:
(Amounts presented in thousands, except for per share amounts)

	2012	2011	2010	2009	2008
Revenues:					
Product sales and revenues	$113,133	$115,104	$59,226	$73,804	$82,748
Research and development contracts	7,470	7,466	10,551	14,212	17,987
Total revenues	120,603	122,570	69,777	88,016	100,735
Costs and expenses:					
Cost of product sales and revenues	112,921	127,350	78,060	107,033	134,038
Cost of research and development contracts	7,237	7,830	10,370	10,994	16,059
Total cost of revenues	120,158	135,180	88,430	118,027	150,097
Gross profit (loss)	445	(12,610)	(18,653)	(30,011)	(49,362)
Operating expenses:					
Administrative and selling expenses	18,220	16,299	17,150	17,194	19,968
Research and development costs	14,354	16,768	18,562	19,160	23,471
Total costs and expenses	32,574	33,067	35,712	36,354	43,439
Loss from operations	(32,129)	(45,677)	(54,365)	(66,365)	(92,801)
Interest expense	(2,304)	(2,578)	(127)	(265)	(100)
(Loss)/income from equity investments	(645)	58	(730)	(812)	(1,867)
Impairment of equity investment	(3,602)	—	—	—	—
License fee and royalty income	1,599	1,718	1,561	146	34
Other income (expense), net	1,244	1,047	(254)	714	3,234
Redeemable minority interest	—	(525)	(2,367)	(2,092)	(1,857)
Provision for income tax	(69)	(17)	(44)	—	—
Net loss	(35,906)	(45,974)	(56,326)	(68,674)	(93,357)
Net loss attributable to noncontrolling interest	411	261			