FUELCELL ENERGY INC
Form 10-K
January 14, 2011

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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, 2010

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	**06-0853042**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
3 Great Pasture Road Danbury, Connecticut	**06813**
(Address of principal executive offices)	(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 o 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	Smaller reporting company o

(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No þ

As of April 30, 2010, the aggregate market value of the registrant s common stock held by non-affiliates of the registrant was $198,393,984 based on the closing sale price of $2.75 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 13, 2011
Common Stock, $.0001 par value per share	123,191,914 shares

DOCUMENTS INCORPORATED BY REFERENCE

Document	Parts Into Which Incorporated
Annual Report to Shareholders for the Fiscal Year Ended October 31, 2010 (Annual Report)	Parts I, II, and IV
Proxy Statement for the Annual Meeting of Shareholders to be held March 24, 2011 (Proxy Statement)	Part III

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Part IV

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Forward-Looking Statement Disclaimer

When used in this report, the words expects , anticipates , estimates , should , will , could , would , may 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) 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 (typically 50 megawatts or less) electric generation power plants (combustion-based such as engines and turbines as well as non-combustion-based such as fuel cells) located at or near the end user. This is contrasted with central generation that we define as large power plants (typically hundreds of megawatts to 1,000 megawatts or larger) that deliver electricity to end users through a comprehensive transmission and distribution system.

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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°F to 60°F at a specified constant pressure.

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

Additional Technical Terms and Definitions

Alternating Current (AC) Electric current where the magnitude and direction of the current varies cyclically, as opposed to ***Direct Current (DC)***, where the direction of the current stays constant. The usual waveform in an AC power circuit is a sine wave, as this results in the most efficient transmission of energy. AC refers to the form in which energy is delivered to businesses and residences.

Anaerobic Digester Gas or 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 waste water treatment facilities, food or beverage processing or agricultural waste.

Anode An active fuel cell component functioning as a negative electrode, where oxidation of fuel occurs. Also referred to as *fuel electrode*.

Availability An industry standard (IEEE (The Institute of Electrical and Electronics Engineers) 762, Definitions for Use in Reporting Electric Generating Unit Reliability, Availability and Productivity) used to compute total period hours less the amount of time a power plant is not producing electricity due to planned or unplanned maintenance. *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.

Balance of Plant (BOP) Consists of the remaining systems, components, and structures that comprise a complete power plant or energy system that are not included in the fuel cell stack module. We manufacture the fuel cell stack module and procure the BOP (items such as fuel handling, processing equipment and electrical interface equipment such as inverters to convert the fuel cell stack module s DC electricity output to AC) from third parties.

Baseload Consistent power generation that is available to meet minimum electricity demands around-the-clock. This differs from peak or peaking power generation or load-following generation that is designed to be turned on or off quickly to meet sudden changes in electricity demand.

Cathode An active fuel cell component functioning as a positive (electrically) electrode, where reduction of oxidant occurs. Also referred to as *oxidant electrode.*

Co-generation Configuration A power plant configuration featuring simultaneous onsite generation of electricity and recovery of waste heat to produce process steam or hot water, or to use heat for space heating.

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Humid Flue Gas Exhaust gas from fuel cell and other power plants or a furnace. The gas typically contains humidity (moisture).

Metallic Bipolar Plates The conductive plates used in a fuel cell stack to provide electrical continuity from active components of one cell to those in an adjacent cell. The plates also provide isolation of fuel and air fed to the fuel cell.

Microturbine A gas turbine with typical power output ranges of 30 kW to 350 kW. Microturbines are characterized by low-pressure ratios (less than 5) and high-speed alternators.

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, 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 Portfolio Standards (RPS) States seeking to secure cleaner energy sources are setting standards that require utilities to provide a certain amount of their electricity from renewable sources such as solar, wind or other biomass-fueled technologies, including fuel cells. These standards are referred to as Renewable Portfolio Standards. Also referred to as ***Renewable Energy Standard (RES)*** when referring to clean energy standards mandated by the U.S. government and South Korean government.

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.

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.

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Item 1. BUSINESS

We are a world leader in the development and production of stationary fuel cells for commercial, industrial, government and utility customers. Our ultra-clean, high efficiency Direct FuelCell® (DFC®) power plants are generating power at over 50 locations worldwide. Our products have generated over 650 million kWh of power using a variety of fuels including renewable wastewater gas, food and beverage waste, natural gas and other hydrocarbon fuels.

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 of the world.

Our Company was founded in Connecticut in 1969 and reincorporated in Delaware in 1999. Our core fuel cell products (Direct FuelCell® or DFC® Power Plants) offer highly efficient stationary power generation for customers. In addition to our commercial products, we continue to develop our carbonate fuel cells, planar solid oxide fuel cell (SOFC) technology and other fuel cell technology with our own and government research and development funds.

Our proprietary carbonate DFC Power Plants electrochemically (without combustion) produce electricity directly from readily available hydrocarbon fuels such as natural gas and biogas in a highly efficient process. The primary byproducts of the fuel cell process are heat and water. Due to the lack of combustion, our fuel cells emit virtually zero pollutants such as NOx, SOx or particulate matter.

Our fuel cells operate 24 hours per day seven days per week providing reliable 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 base load power. Our power plants can also work in conjunction with intermittent power, such as solar or wind, or less efficient combustion-based equipment that provide peaking and load following energy. Our products are also well suited for meeting the needs of utility grid-support applications.

Higher fuel efficiency results in lower emissions of carbon dioxide (CO2), a major 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 CO2 per unit of power production compared to the average U.S. fossil fuel power plant. 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 combined heat and power applications.

A fuel cell power plant includes the fuel cell stack module that produces the electricity, and balance-of-plant (BOP). The mechanical balance-of-plant processes the incoming fuel such as 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 fuel cells operate on a variety of hydrocarbon fuels, including natural gas, renewable biogas, propane, methanol, coal gas, and coal mine methane.

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Compared to other power generation technologies, our products offer significant advantages including:

- Near-zero pollutants;
- High efficiency;
- Ability to site units locally as distributed power generation;
- Potentially lower cost power generation;
- Byproduct heat ideal for cogeneration applications;
- High efficiency and cogeneration reduce carbon emissions
- Reliable around-the-clock base load power;
- Quiet operation; and
- Fuel flexibility.

Typical customers for our products include universities, manufacturers, mission critical institutions such as correction facilities and government installations, hotels, natural gas letdown stations and customers who can use renewable biogas for fuel such as municipal water treatment facilities, breweries, and food processors. Our MW-class products are also used to supplement the grid for utility customers. With increasing demand for renewable and ultra-clean power options and increased volatility in electric markets, our products offer our customers greater control over power generation economics, reliability, and emissions.

Our DFC Power Plants are protected by 61 U.S. and 66 international patents. We currently have 30 U.S. and 130 international patents under application.

2010 Update

Our strategy is focused on continuing to reduce our product costs while expanding in our key geographic and vertical markets to grow sales volume. We believe that the combination of these two activities will drive our path to profitability.

Order flow of 16.4 MW in 2010 illustrates the growing recognition of the need for baseload renewable power and the need to use abundant and affordable supplies of natural gas in the U.S. as cleanly and efficiently as possible. As renewable technologies like wind and solar are deployed more widely, the need for clean baseload technology that complements these intermittent sources becomes more acute, particularly baseload power that utilizes renewable biogas. The ability of DFC Power Plants to utilize renewable biogas to efficiently produce clean electricity in a reliable manner was a primary driver of order flow during the fourth quarter of 2010. 11.0 MW of the orders received will operate on renewable biogas while the remaining 5.4 MW will operate on natural gas.

Fuel cells operating on natural gas are attractive for customers that value the clean power and distributed generation attributes of fuel cells. The virtual lack of pollutants emitted by fuel cells is important in areas with strict clean air permitting regulations such as certain regions of California. Providing reliable on-site power generation that reduces reliance on the transmission grid is also an important attribute of fuel cells that contributed to order activity in 2010.

During 2010, we received our first direct utility purchase in the U.S. from a major utility in California under a rate base model. Domestic orders received in 2010 also included two 2.8 MW DFC3000 power plants, which will be our first installations of this product in the U.S. Prior to these two orders, the DFC3000 had only been sold in South Korea.

For several of these projects, we saw a variety of financing structures used, including traditional project financing, bonds, grants and tax credits as well as new partners with their own sources of capital. Our power plant projects typically cost multiple millions of dollars, have lead times that exceed one year and have project lives that may span five years or longer. The improved availability of capital was instrumental in closing these orders and potentially

supports future order activity.

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The 16.4 MW of orders received during 2010 were concentrated in the second half of the year, with 12.7 MW received in the fourth quarter. Orders were primarily from U.S. customers in 2010 compared to order activity in 2009 and 2008 that included orders from POSCO Power, which we expect in 2011. Customers, primarily POSCO Power, ordered 32.8 MW of fuel cells in fiscal 2009 and 32.3 MW in fiscal 2008. We ended fiscal 2010 with 33.5 MW in backlog with 92 percent of the backlog representing multi-megawatt products, modules and module kits and 8 percent of the backlog representing sub-megawatt products. Product and service backlog totaled $154.3 million at the end of 2010, the highest backlog ever achieved. Comparable backlog was $90.7 million in 2009 and $87.6 million in 2008.

Legislation favorable to fuel cells was passed in March, 2010 by the National Assembly of the Republic of Korea with the adoption of a Renewable Portfolio Standard (RPS) requiring 4 percent clean energy generation by 2015 and 10 percent by 2022. Today, only about one percent of Korea s electricity comes from renewable resources. The South Korean government desires clean distributed generation power sources to support their growing power needs while minimizing additional investment and congestion of the transmission grid. Fuel cells address these needs and are designated as an economic driver due to their ultra-clean emissions, high efficiency and reliable distributed generation capabilities, which will help the Country achieve its RPS and electricity generation goals.

The highly efficient Direct FuelCell-Energy Recovery Generation (DFC -ERG®) power plant, a joint project with Enbridge Inc., (NYSE: ENB), completed its first year of operation during 2010. The DFC-ERG plant generated very favorable operating results in the first year, having attained an average electrical efficiency of 62.5 percent and equipment up-time of 93 percent. Although its average electrical efficiency of 62.5 percent compares favorably to a typical conventional fossil fuel generation of about 35 to 40 percent, the plant s peak electrical efficiency topped 70 percent in some of the scenarios under which it was evaluated. The system s high electrical efficiency allowed it to reduce greenhouse gas emissions by up to 45 percent compared to a conventional natural gas power plant.

The continued growth in our backlog and our production run rate is a key part of our ongoing product cost reduction strategy. To date, our cost reduction program has successfully reduced the unit cost of our megawatt-class products by more than 60 percent. Increased volume enables several areas of continued cost reduction, including expansion of our global sourcing program, larger volume purchases, more competition among our suppliers, increased utilization of our factory capacity, and increased productivity and automation in our facilities and supply chain. As a result of product cost reductions, we believe sales volume of 75 MW to 125 MW will drive the Company to profitability with the lower end of the range reflecting a sales mix oriented towards complete power plants and the upper end of the range oriented towards fuel cell components.

In response to the increased level of domestic orders received in 2010 and anticipating additional orders from POSCO Power, we increased our production run rate to 35 megawatts per year during the fourth quarter of fiscal year 2010. Actual production in fiscal 2010 was approximately 22 MW compared to approximately 30 MW in 2009 and approximately 22 MW in 2008.

Our overall manufacturing process (module manufacturing, final assembly, testing and conditioning) has a production capacity of 70 MW per year. We are expecting to continue to increase production volume based on continued order flow. By investing $5 million to $7 million for upgrades and maintenance of production assets, maximizing existing assets, operating at full capacity (e.g multiple shifts 24 hours per day, up to 7 days a week) and making other improvements, we estimate that we can increase capacity from 70 MW to 90 MW of annual production. Depending on product mix, which would include full power plants, we may be able to reach profitability at 80 to 90 MW of annual production.

With increasing order flow, our plan has been to expand production capacity to 150 MW within our existing Torrington facility. This expansion would require the addition of equipment (e.g. furnaces, tapecasting and other equipment) to increase the capacity of certain 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 the expansion to 150 MW will require additional capital investments of $35 to $45 million although, this expansion may occur in stages depending on the level of market demand.

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Markets

The market for alternative energy power generation continues to grow both in the U.S. and abroad and we expect to continue to benefit from this momentum. Driving this growth are concerns about pollutants and green house gas emissions along with the limited supply and rising cost of fossil fuels. More than 66 percent of the world s electric power is generated from carbon-based fossil fuels, and this is forecasted to continue to increase for some time. With the primary source of electric generation still driven by fossil fuels, we believe markets need new power generation products like our fuel cells that are not only more efficient and environmentally superior, but also cost effective and reliable.

On-Site Power

Stationary fuel cell power plants can be an economical alternative to utility-provided power and other distributed generation products. Wastewater treatment facilities and brewery companies, for instance, can use methane, a renewable byproduct of their own processes, to operate fuel cell power plants. This allows them to eliminate gas flaring and the use of conventional combustion-based power generation equipment, both of which emit pollutants such as NOx, SOx and particulate matter. These facilities also reduce their operating costs because our fuel cell power plants can be up to 90 percent efficient when operated in combined heat and power (CHP) mode and produce significantly more high-value electricity than competing technologies. Customers also gain the added benefits of quiet operation and improved power reliability that on-site power generation provides.

Utility or RPS

DFC power plants are well suited for utility grid-support due to their distributed generation attributes. A utility can site the power plant near where power is needed, connecting to the existing transmission grid. By producing power locally in the distribution system, our fuel cells can ease grid constraints and also help to enable the smart grid by producing power at the point of use. South Korea has adopted this utility-model and in 2010, a large California utility purchased two DFC power plants.

The South Korean government desires clean distributed generation power sources to support their growing power needs while minimizing additional investment and congestion of the transmission grid. To meet these needs, the Government enacted a Renewable Portfolio Standard (RPS) to promote the adoption of renewable power generation by the Nation s utilities. This utility-model promotes clean distributed generation that supports the existing transmission and distribution system. Fuel cells address these needs and are designated as an economic driver due to their ultra-clean emissions, high efficiency and reliable distributed generation capabilities.

A Renewable Portfolio Standard (RPS) is a mechanism designed to increase the use of renewable power generation sources. 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. The purpose of an RPS is to provide a market-based mechanism that provides a competitive marketplace for providing renewable energy at the lowest possible cost while allowing clean renewable power to compete with cheaper fossil fuels. An RPS may even 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 24 hours per day seven days per week. 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 clean and highly efficient power generation process of fuel cells. Fuel cells can balance other forms of intermittent power generation such as wind and solar as fuel cells can be incorporated into the electric grid infrastructure. Increased use of wind, solar and traditional generation requires upgrades to the transmission and distribution system, whereas our fuel cells fit into the existing grid, augmenting power where needed.

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Individual States in the U.S. seeking to secure cleaner energy sources, higher efficiency and greater energy independence are establishing renewable portfolio standards that require utilities to provide a certain amount of their electricity from renewable sources such as solar, wind, biomass-fueled technologies, and fuel cells. There are currently 27 states and the District of Columbia that have instituted RPS mandates and 5 states that have adopted non-binding renewable energy goals. These markets represent a potential for an estimated 76,750 MW of renewable power by 2025, according to the Union for Concerned Scientists. Fuel cells using biogas fuels qualify as renewable power generation technology in all of the RPS states, with nine states specifying that fuel cells operating on natural gas are also eligible for these initiatives.

Business Strategy

Our business strategy is to expand our leadership position in key markets, build renewable portfolio standards markets and continue to reduce the cost of our products. We believe a production mix more heavily weighted with MW-class products is our fastest path to achieve profitability. Our focus continues to be:

Build on our leadership position in geographic and vertical markets

Increased orders from our target markets will drive us to profitability. In many regions around the world, there is growing adoption of clean, low carbon technologies. Countries are also looking to green technologies as a way to grow their economies. This attention to clean energy technologies is driving policy in South Korea, Europe and the U.S.

South Korea*:* The South Korean Government passed a Renewable Portfolio Standard (RPS) in March 2010 that requires 4 percent clean energy generation by 2015 and 10 percent by 2022. The program becomes effective in 2012 and will mandate 350 MW of additional renewable energy per year through 2016, and 700 MW per year through 2022. At present, only about 1 percent of South Korea s electricity comes from renewable resources. Fuel cells operating on natural gas and bio gas fully qualify under the mandates of the program.

High efficiency fuel cells are an excellent green energy solution for South Korea due to the high cost of imported fuel and the poor wind and solar profiles of the Korean Peninsula. The South Korean government desires clean distributed generation power sources to support their growing power needs while minimizing additional investment and congestion of the transmission grid. Fuel cells address these needs and are designated as an economic driver 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.

POSCO Power, a subsidiary of South Korean based POSCO, one of the world s largest steel manufacturers, produces fuel cell stack modules from cells and components provided by us under a Stack Technology Transfer and License Agreement signed in 2009. This agreement is part of our strategy to localize certain power plant manufacturing. Locating final assembly closer to end users reduces costs and ensures products meet the needs of individual markets.

POSCO built a 100 MW manufacturing facility in 2008 that produces balance-of-plant systems. Demonstrating their long-term commitment to fuel cell technology and to our partnership, POSCO began construction in April 2010 of an additional facility to assemble and manufacture fuel cell modules with an annual capacity of 100 MW. The fuel cell stack module assembly plant is expected to begin production in early 2011 using fuel cell components shipped from the United States. Local capacity in South Korea effectively increases worldwide capacity for our DFC Power Plants and demonstrates the commitment of POSCO to the DFC product line.

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The fuel cell market in South Korea is a utility-model with fuel cell power plants supporting the electric grid and byproduct heat generally used to create steam for heating and cooling of nearby buildings. POSCO Power is constructing the world s largest fuel cell power plant in Daegu Metropolitan City, South Korea. The plant will generate 11.2 MW when completed, utilizing four DFC3000 power plants.

In an effort to expand the market for fuel cells in South Korea, POSCO Power is funding, under a joint development agreement with the Company that was announced subsequent to the fiscal year ended October 31, 2010, the development of a small-scale Direct FuelCell power plant targeted at the commercial/apartment building market in Asia. The $5.8 million program will be funded in stages as performance milestones are reached.

California: Clean energy deployment remains a focus in California with 15.2 MW of orders received in fiscal year 2010. These orders will utilize a variety of fuels, including renewable biogas, directed biogas and natural gas:

6.5 MW of power plants will be located at wastewater treatment facilities and will utilize renewable biogas for fuel. These orders included a repeat customer as a municipal water district chose to utilize DFC power plants at another one of their wastewater treatment plants following an initial purchase in 2007.

4.5 MW of power plants will operate on directed biogas in San Diego, California including locations at the University of California, a city-owned pump station and a wastewater treatment plant. Renewable biogas generated from the wastewater treatment process will be cleaned and injected into an existing gas pipeline to fuel the power plants.

4.2 MW of power plants will operate on natural gas including two power plants sold to Pacific Gas and Electric, a major utility that will site the power plants at California universities. A 1.4 MW power plant will be located at a municipal-owned pump station and will operate on natural gas. The favorable economic profile of the DFC plant combined with the ability to meet current and future clean air regulations drove the purchasing decision.

As renewable technologies like wind and solar are deployed more widely, the need for clean baseload technology that complements these intermittent sources becomes more acute, particularly baseload power that utilizes renewable biogas. Municipal water treatment operations are an attractive market opportunity as the renewable baseload power attributes of fuel cells meet their need for clean power around-the-clock and help to solve pollutant emission challenges. Clean air permitting is a significant hurdle in some regions of California. Due to the electrochemical reaction that replaces combustion, virtually no pollutants are emitted by the fuel cell, simplifying and accelerating the clean air permitting process.

During fiscal year 2010, the 2.8 MW DFC3000 received certification under the California Air Resources Board s distributed generation standards demonstrating the ability of the plant to meet challenging clean air standards. The DFC3000 is the only multi-MW fuel cell to achieve this certification. The DFC1500 and DFC300 are already certified, affirming the ultra-clean emission profile of all FuelCell Energy products. The California Air Quality Management Districts oversee the toughest clean air standards in the nation.

The Self-Generation Incentive Program (SGIP) adopted by the State of California demonstrates the State s commitment to reducing greenhouse gases and encouraging clean distributed generation. Under this Program, qualifying fuel cell projects of up to 3 MW are eligible for incentives of up to $4,500 per kilowatt when operating on renewable biogas and up to $2,500 per kilowatt when operating on natural gas. The SGIP expires at the end of 2015.

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A feed-in tariff (FiT) is a power-supply oriented policy designed to encourage the adoption of renewable energy by guaranteeing a payment based on the kilowatt hours of electricity produced for a specific period of time from the regional utility. A FiT could make it more economically attractive to generate power using fuel cells and lead to wider deployment. The California legislature passed bills creating two feed-in tariff programs. One bill, AB1613 passed in 2007, created a feed-in tariff for combined heat and power projects under which our fuel cell projects qualify. A second bill, SB32 passed in 2009, created a separate feed-in-tariff for units operated on renewable biogas. Once the feed-in-tariffs are fully implemented by the California Public Utilities Commission (CPUC), they could enable fuel cell customers to sell excess electricity to the grid. The CPUC is currently working to set pricing for these tariffs and we expect a final ruling in 2011.

To date, our focus has been on capturing certain geographic markets. The South Korean market uses fuel cells for grid support, the California market uses fuel cells for onsite distributed generation, and Connecticut has approved the use of fuel cells to satisfy its RPS requirements of clean distributed generation. We expect to continue to expand geographically in the US, Canada and Europe. As a result of success in the initial geographical markets, several FuelCell Energy products are attracting vertical markets. Fuel cells operating on biogas are attracting worldwide interest with their low cost fuel and ability to provide renewable baseload power.

Wastewater Treatment / Biogas The municipal wastewater treatment market, which utilizes renewable biogas, has immediate global potential. In California, over 50 percent of our installed base and backlog utilize biogas produced by the wastewater treatment process or food processing. Our units virtually eliminate pollutants, reduce CO2 and decrease costs. The heat from our power plants is used in the anaerobic digester so in addition to saving on electricity costs, customers save on fuel costs. This type of combined heat and power configuration can yield efficiency up to 90 percent, depending on the application.

Utilities / Universities Pacific Gas and Electric, one of the largest utilities in the United States ordered two 1.4 MW DFC1500 power plants in 2010 for installation at two university campuses in California. The order follows an approval from the California Public Utilities Commission (CPUC) in April 2010 for two California based utilities to purchase fuel cells for installation at four California universities. The CPUC and the State are leaders in the adoption of alternative energy to reduce greenhouse gases and pollution while encouraging the utilization of distributed generation solutions that generate power at the point of use. The CPUC approval noted the important role that fuel cells will play in the State s future energy mix.

An order received in 2010 included a 2.8 MW DFC3000 operating on directed biogas that will be installed at a California university. Renewable biogas generated from a wastewater treatment plant will be processed and injected into an existing gas pipeline to be used as fuel for the DFC3000.

Universities are attracted to fuel cell generated power due to the high efficiency, reliable baseload power and lack of pollutants that support sustainability goals. Universities can utilize the byproduct heat to generate steam for facility heating, increasing the overall efficiency of the power plant. Some universities incorporate fuel cell technology into their curriculum.

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Build Renewable Portfolio Standards Markets

RPS programs mandate that a certain percentage of electricity be generated from renewable and ultra-clean resources. Our multi-MW products, which are scalable to utility sized installations and our natural gas pipeline applications, are well suited to address these markets.

Connecticut Connecticut s RPS requires utilities to purchase 20 percent of their peak electricity needs, or about 1,000 MW, from clean power sources by 2020. During 2009, Connecticut s Department of Public Utility Control (DPUC) finalized the selection of 27.3 MW of projects incorporating our power plants, bringing the total approved projects to 43.5 MW. All of the projects utilize our 2.8 MW DFC3000 power plants either alone or in combination with turbines.

Each of these projects has executed power purchase agreements with utilities. We are in active discussions with private and government financing sources for the 43.5 MW of fuel cell projects selected and approved by the DPUC. Additionally, Congress is seeking solutions to address environmental problems that could result in a federal energy bill beneficial for fuel cells. Its actions could result in a national renewable energy standard a federal RPS and longer term, the implementation of cap and trade policies. The Environmental Protection Agency (EPA) has recently signaled its intent to issue new CO2 regulations. This heightened attention to the need for clean energy solutions should prove beneficial given our products high efficiency, low CO2 emissions and near-zero regulated emissions.

Canada: Our DFC-ERG system, developed 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 this energy from the letdown process that is otherwise lost. In its first full year of operation, the DFC-ERG plant attained an average electrical efficiency of 62.5 percent, peak electrical efficiency above 70 percent, power availability of 93 percent and reduction in greenhouse gas emissions of up to 45 percent.

Our first DFC-ERG power plant went into operation in Toronto in 2008 and four DFC-ERG power plants were approved by the Connecticut Department of Public Utility Control. The potential market size has been estimated at 250 to 350 MW in just the Northeastern U.S., northern California and Toronto, Canada.

In September 2009, the Ontario government ruled that gas distribution companies, such as Enbridge, may own and operate power plants that generate both electricity and heat, including fuel cells operating on natural gas, up to 10 MW per facility. This is an essential step toward the deployment of the DFC-ERG for pipeline applications in the province. The Ontario government is also expected to establish a revised feed-in-tariff to encourage the installation of clean energy generation that would include stationary fuel cells.

Continue to Reduce Product Costs

Cost reductions are essential for us to more fully penetrate the market for our fuel cell products and attain profitability. Cost reductions will also reduce or eliminate the need for incentive funding programs which currently allow us to price our products to compete with grid-delivered power and other distributed generation technologies. Product cost reductions come from several areas such as:

- engineering improvements;
- technology advances;
- supply chain management;
- production volume; and
- manufacturing process improvements.

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Since 2003, we have made significant progress in reducing the total life cycle costs (manufactured cost and service costs) of our power plants primarily through value engineering our products, manufacturing process improvements, technology improvements, and global sourcing.

2010 was the first full year of production of our lower-cost, higher-output DFC1500 and DFC3000 models incorporating 350 kW stacks, an increase from the prior 300 kW stacks. By producing more power in a power plant, additional revenue can be attained without a commensurate increase in production costs. As a result our products are gross margin profitable on a per unit basis. We believe that with sufficient sales volume, production of these lower cost MW-class power plants will move our Company to profitability. We are also developing and expect to bring to market products with a stack life longer than five-years. Extending stack life increases the sales value of the product and reduces service costs.

We sell complete power plants, fuel cell modules and fuel cell module kits (components). Based on the current backlog, we expect the mix of production to be composed of a mix of fuel cell module kits and megawatt-class power plants including the DFC1500 and DFC3000 in 2011. To date, our cost reduction program has successfully reduced the unit cost of our megawatt-class products by more than 60 percent. Increased volume enables several areas of continued cost reduction, including expansion of our global sourcing program, larger volume purchases, more competition among our suppliers, increased utilization of our factory capacity, and increased productivity and automation in our facilities and supply chain. As a result of product cost reductions, sales volume of 75 to 125 MWs will drive the Company to profitability. The low end of this ranges require sustained annual production primarily of our DFC3000 power plants and fuel cell modules and the high end of the range includes a mix of fuel cell components and our DFC1500 and DFC300 power plants. Actual results will depend on product mix, volume, mix of full power plants vs. modules only, future service costs, and market pricing.

Products

Our core DFC Power Plant products are the 300 kW DFC300, the 1.4 MW DFC1500, and the 2.8 MW DFC3000. Our 2.8 MW product is scalable to utility sized applications. We also manufacture and install multi-megawatt DFC-ERG 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.

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The following table shows industry estimates of the electrical efficiency, operating temperature, expected capacity range and byproduct heat use of the principal types of fuel cells being developed for commercial applications:

Fuel Cell Type	Electrolyte	Electrical Efficiency Percentage	Electrical Efficiency With Bottom Cycle Percentage	Operating Temperature ºF	Expected Capacity Range	Byproduct Heat Use
PEM	Polymer Membrane	30-35	NA	180	5 kW to 250 kW	Warm Water
Phosphoric Acid	Phosphoric Acid	35-40	NA	400	50 kW to 400 kW	Hot Water
Carbonate (Direct FuelCell®)	**Potassium/Lithium Carbonate**	**45-50**	**58 70**	**1,200**	**300 kW to 2.8 MW and larger**	**Hot water or High Pressure Steam**
Solid Oxide	Stabilized Zirconium dioxide Ceramic	45-50	58 70	1,400-1,800	3 kW to 1 MW and larger	Hot water or High Pressure Steam

Our carbonate fuel cell, known as the Direct FuelCell, operates at approximately 1,200°F. This temperature avoids 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 higher temperature fuel cells, such as tubular solid oxide. As a result, we are able to use less expensive catalysts and readily available metals in our designs. In addition, our 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.

Our Direct FuelCell is so named because of its ability to generate electricity directly from a hydrocarbon fuel, such as natural gas or anaerobic digester gas, 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. External reforming fuel cells, such as PEM and phosphoric acid, generally use complex, external fuel processing equipment to convert the fuel into hydrogen. This external equipment increases capital cost and reduces electrical efficiency. Additionally, natural gas and anaerobic digester gas have infrastructures that are already established. Consequently, our products are not dependent on the development of a hydrogen delivery infrastructure.

We have established a leading position in the sale of fuel cell power plants and strengthened our position by continuing to improve our products performance and availability, reducing costs for our products, and expanding repeatable markets for our products. Our cumulative fleet availability starting with the first commercial installation in 2003 is approximately 90 percent. Availability percentage is calculated as the percentage that the 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.

Markets and Applications

The worldwide market for alternative energy power generation is growing and we expect to continue to benefit from this momentum. More than 66 percent of the world s electric power is generated from carbon-based fossil fuels, and this is forecasted to continue to increase for some time. Countries, states, provinces, cities and towns are looking for better solutions that use these fuels more efficiently, economically and at the same time, cleanly. With the primary source of electric generation still driven by fossil fuels, markets need new power generation products like DFC fuel cells that are not only more efficient and environmentally superior, but also cost effective and reliable.

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Governments around the world, including the U.S., South Korean and many European governments, have tied the support of green energy programs to economic growth. In the U.S., the federal investment tax credit (ITC) is available for fuel cells in an amount up to $3,000 per kW or 30 percent, whichever is less. Recipients can choose a tax credit or a grant, with the tax credit option expiring December 31, 2016 and the tax grant option recently extended by the U.S. Congress expiring December 31, 2011. This ITC grant program potentially improves the financial returns of fuel cell projects, which is beneficial for our customers and attractive for potential customers.

In South Korea, the Ministry of Knowledge Economy designated fuel cells as a key economic driver for the country under President Lee Myung-bak s green growth plan. The efficient production of electricity has important economic benefits for South Korea since it imports its fossil fuels. Ultra-clean, highly efficient fuel cell power plants meet South Korea s need for increased production of clean power with green technologies that contribute to increased domestic employment as well as its mandate for clean energy generation. Additionally, the country s clean energy program requires lean electricity to be directed first to the utility grid, encouraging the deployment of MW-class systems.

In the U.S., states seeking to secure cleaner energy sources and greater energy independence are setting RPS mandates that require utilities to provide a certain amount of their electricity from renewable sources such as solar, wind, biomass-fueled technologies, and fuel cells. There are currently 27 states and the District of Columbia that have instituted RPS mandates and 5 states that have adopted non-binding renewable energy goals. These markets represent an estimated 76,750 MW by 2025. Fuel cells using biogas fuels qualify as renewable power generation technology in all of the RPS states, with some states and the District of Columbia specifying that fuel cells operating on natural gas are also eligible for these initiatives.

Fuel cells can play a critical role in meeting RPS clean power mandates by generating highly efficient, electric power around-the-clock that also balances other forms of intermittent power generation such as wind and solar as they are incorporated into the electric grid infrastructure. Increased use of wind, solar and traditional generation requires upgrades to the transmission and distribution system, whereas our fuel cells fit into the existing grid, augmenting power where needed without requiring transmission and distribution equipment upgrades. By producing base load power locally in the distribution system, our fuel cells can ease grid constraints, making room for additional central wind or solar power generation in the system. This distributed generation aspect of fuel cells also helps to enable the smart grid due to the lack of reliance on the transmission grid.

The wastewater treatment market continues to be among our strongest because our fuel cells are particularly economical and efficient for these customers. Since our fuel cells operate on the renewable biogas produced by the wastewater treatment process and their byproduct heat is used in the treatment process, the efficiency of these installations can be as much as 90 percent. Fuel cells operating on biogas qualify for incentives in all 27 RPS states and the District of Columbia and in all 5 states with non-binding renewable energy goals.

There are currently 21 MW of our DFC Power Plants installed or in backlog for municipal water treatment / biogas applications. Based on our installed base, market support for our products, and our marketing focus in this area, we expect municipal water treatment facilities to continue to be a strong market for our products.

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Distributed Generation Markets and Applications

We compete in the distributed generation marketplace. We believe distributed generation can be a more cost-effective solution than traditional grid-delivered electricity for the following reasons:

Provides better economics Distributed generation avoids transmission and distribution system investment by using the existing infrastructure close to the end user. Distributed generation allows customers to use the heat byproduct from on-site power generation (combined heat and power or CHP) boosting efficiency and lowering energy costs. Distributed generation also offers the ability to control energy costs through fuel flexibility and efficiency. For example, wastewater treatment facilities and brewery companies can use methane, a byproduct of their own processes, to operate their fuel cell power plants. This allows for the elimination of gas flaring and the use of conventional combustion-based power generation equipment, both of which generate pollution. These facilities also reduce their operating costs because our DFC Power Plants can be up to 90 percent efficient when operated in CHP mode and produce significantly more high-value electricity than competing technologies. Customers also gain the added benefits of quiet operation and improved power reliability.

Increases reliability by locating power closer to the end user By locating smaller power plants on-site, power generation bypasses the congested transmission and distribution system and reduces dependence on a vulnerable centralized electrical infrastructure.

Eases congestion in the transmission and distribution system Each kW of on-site power generation removes the need for the same amount from the centralized transmission and distribution system, easing congestion that can cause power outages and hastening grid recovery after the resolution of electrical infrastructure problems. In addition, distributed generation provides added strength to the grid by opening up distribution capacity for central wind or solar generation.

Reduces the need for new large generation and associated transmission and distribution line investments and provides greater capacity utilization in less time On-site, distributed generation can be added in increments that more closely match expected demand in a shorter time frame (weeks to months) compared with traditional central power generation plants and transmission and distribution systems (often 36 months or longer) that require more extensive siting and right of way approvals. Siting distributed generation can defer or avoid massive transmission and distribution investment such as unpopular above ground high voltage lines or expensive underground high voltage lines.

Enables the use of more renewable fuel for power generation Distributed generation enables end-users to use renewable biogas to generate high-efficiency, clean power, and reduces the need for fossil fuels.

Promotes greater energy independence Distributed generation reduces dependence on foreign oil and on centralized power generation, giving customers more control over their power costs and supply. A byproduct of fuel cell power generation is high-temperature heat, which can be used for heating and air conditioning, reducing the need for heating oil.

Minimizes losses in the transmission and distribution grid An estimated 6.5 percent of central generated power is lost in the transmission and distribution grid according to the U.S. Department of Energy. Distributed generation minimizes transmission losses, promoting efficient power generation.

Our fuel cell products are competitive in the marketplace because of superior product attributes including higher operational efficiency, virtually no pollutants, lower carbon emissions particularly when configured for combined heat and power and distributed generation. Our fuel cells are unique among power generation technologies (including other fuel cell technologies) in that they provide these attributes at a scale suitable to distributed generation. The only other commercial power generation technology with electrical efficiency comparable to our products combined cycle

power plants achieves that efficiency only in sizes above 20 MWs. The fact that fuel cells provide their high efficiency at small sizes as well as in multi-megawatt class applications, combined with the ultra-clean and quiet operating characteristics, makes them an ideal power generation technology for distributed generation. While most small-scale technologies suffer from high emissions or low efficiency, our direct fuel cells provide the efficiency of a large combined cycle power plant in a size small enough to be located near the end user. This avoids the need to add transmission or distribution capacity, and provides a mechanism to strengthen the existing distribution system.

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As we reduce our product costs, we are able to price our products competitively in the markets in which we compete. In California, for instance, factoring in the value of the heat used for cogeneration, government incentives, and possible offsets due to emissions credits, the net cost to the end user of our products is approximately $0.10 to $0.12/kWh, depending on location and application, which is a level competitive with grid-delivered electricity and other distributed generation products in our target markets. Tougher emission standards increase the cost of competing products and as our costs continue to come down, we become increasingly competitive in more markets.

Strategic Alliances and Market Development Agreements

Our original equipment manufacturer (OEM) and energy service company (ESCO) partners have extensive experience in designing, manufacturing, distributing, selling and servicing energy products worldwide. We believe our strength in the development of fuel cell products coupled with their understanding of sophisticated commercial and industrial customers, products and services will enhance the sales, service and product development of our products. Our strategic business partners include:

POSCO Power 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 2,400 MW of power plants, equivalent to 3.7 percent of South Korea s national capacity. POSCO built a 100 MW fuel cell BOP manufacturing facility in Pohang and began manufacturing operations in 2009.

In October 2009, we entered into the 2009 License Agreement allowing POSCO to manufacture fuel cell stack modules from cell and module components provided by us. These fuel cell modules will be combined with BOP manufactured in South Korea to complete electricity-producing fuel cell power plants for sale in South Korea.

In response to the RPS, POSCO Power is investing in local fuel cell production capacity in South Korea including a 100 MW balance of plant facility already in operation and a 100 MW fuel cell stack module assembly plant that is expected to begin production in early 2011 using fuel cell components shipped from the United States. This localization strategy allows FuelCell Energy to reduce costs, and ensure that products meet the needs of individual markets.

We have also partnered with POSCO Power to expand the market for fuel cells in South Korea, through development of a small-scale Direct FuelCell power plant targeted at the commercial/apartment building market in Asia. POSCO Power will fund the development under a joint development agreement announced subsequent to the fiscal year ended October 31, 2010. The $5.8 million program will be funded in stages as performance milestones are reached.

Enbridge, Inc. We have partnered with Enbridge, a global leader in energy transportation and distribution that includes the DFC-ERG power plant that they co-developed with us. A 2.2 MW DFC-ERG unit was installed at Enbridge s headquarters in Toronto in 2008 and we were awarded contracts under Connecticut s Project 150 to install 18.8 MW of DFC-ERG power plants at four natural gas distribution stations, including a 9 MW DFC-ERG installation at a natural gas letdown station in Milford, Connecticut.

Marubeni Corporation We are ending our alliance and distribution agreement with Marubeni at the end of its term in June 2011. Since 2001**,** we have installed one 4.75 MW DFC Power Plant with Marubeni in the Japanese market. In 2010, we entered into an agreement with Marubeni Corporation to resolve open contractual issues and repurchase surplus inventory items previously sold to Marubeni.

Energy Service Company Partners We also partner with energy service companies that have expertise in the markets where we compete. These companies market our products. Partners include: Alliance Power, Inc., Chevron Energy Solutions, Logan Energy Corp, BioFuels Energy,

UTS Bioenergy, and G3 Powersystems.

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Competition

We compete on the basis of our products reliability, fuel efficiency, environmental considerations, and cost. We believe that our DFC carbonate fuel cells offer competitive and environmental advantages over other fuel cell designs and combustion-based technologies for stationary base load power generation.

Our DFC Power Plants specifically provide the following attributes that provide an advantage over other distributed technologies of similar size:

Higher overall efficiency and lower carbon dioxide Our DFC Power Plants are designed to achieve an electrical efficiency of 47 percent and overall energy efficiency up to 90 percent when operated in CHP mode. The higher the electrical efficiency, the more power generated with the least fuel, which results in lower CO2. DFC Power Plants generate only half the CO2 of the average U.S. fossil fuel plant and near-zero NOX, SOX and particulate matter, compared with other technologies their size. Thus when operated in CHP applications, DFC fuel cells reduce CO2 by roughly the same amount as other distributed generation technologies but they far surpass these technologies in reduction of NOX, SOX and particulate matter.

Lower emissions Our DFC Power Plant installations emit less CO2, and near zero SOX, NOX and particulate matter. They have been designated ultra-clean by the California Air Resources Board (CARB), and our products are certified to CARB 2007 emissions standards. Emissions of DFC Power Plants versus traditional combustion-based power plants are:

	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	.008	0.09	1,596	520 680
Small Gas Turbine	1.15	.008	0.08	1,494	520 680
DFC Power Plant	0.01	0.0001	0.00002	940	520 680

Fuel flexibility Our DFC Power Plants can use a variety of hydro-carbon based fuel sources, such as natural gas, renewable biogas from wastewater treatment facilities, food processors and breweries, and coal gas (escaping gas from active and abandoned coal mines as well as synthesis gas processed from coal). This enhances independence from imported oil and gives customers fuel flexibility, allowing them to choose the least expensive alternative.

Provide end users with greater control of their energy costs The high efficiency of our DFC Power Plants and around-the-clock 24/7 operation gives customers predictability and savings on energy costs. The cost of utility-provided power continues to rise and is subject to significant volatility. Generating on-site power with known generating costs from a DFC Power Plant gives customers a predictable component of their operations that can be budgeted and controlled.

Several companies in the U.S. are involved 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 companies developing them) include PEM fuel cells (Ballard Power Systems, Inc.; United Technologies Corp. or UTC Power; and Plug Power), phosphoric acid fuel cells (UTC Power and Samsung Everland) and solid oxide fuel cells (Siemens Westinghouse Electric Company, General Electric, Delphi, Rolls Royce, Bloom Energy, and Acumentrics). Each of these competitors has the potential to capture market share in our target markets.

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There are other potential carbonate fuel cell competitors internationally. In Europe, Ansaldo Fuel Cells in Italy is actively engaged in carbonate fuel cell development and is a potential competitor. 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 such companies as Caterpillar, Cummins, Wartsilla, MTU Friedrichshafen GmbH (MTU), Mitsubishi Heavy Industries and Detroit Diesel, which manufacture more mature combustion-based 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. Significant competition may also come from gas turbine companies like General Electric, Ingersoll Rand, Solar Turbines and Kawasaki, which have recently made progress in improving efficiency and reducing pollution in large-size combined cycle natural gas fueled generators. These companies have also made efforts to extend these advantages to smaller sizes.

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.

Molten carbonate fuel cells offer attributes that can not be completely matched by any individual competitor, including ultra-clean power generation generated in a highly efficient manner at the point of use. Conventional fossil fuel power plants generate electricity by combustion of hydrocarbon fuels, such as coal, oil, or natural gas. With reciprocating engines, fuel combustion takes place within the engine that drives a generator that produces electricity. In a gas turbine combined cycle plant, fuels, such as natural gas, are burned in the gas turbine, which drives a generator. The exhaust heat from the gas turbine is used to boil water, which converts to high-pressure steam and used to rotate a steam turbine generating additional electricity. The combustion process typically creates emissions of SOX, NOX, CO2, carbon monoxide, particulates and other air pollutants.

Manufacturing

Manufacturing Process

We have a 65,000 square foot manufacturing facility in Torrington, Connecticut where we produce our repeating fuel cell components: the anode and cathode electrodes, metallic bipolar plates and the electrolyte matrix. These stack components are combined and assembled into fuel cell modules. The completed modules are then transported to our test and conditioning facilities in Danbury, Connecticut and then shipped to customer sites for installation with the BOP that has been shipped separately.

Our manufacturing strategy is to commit our capital to manufacturing the critical core fuel cell components. The components of the BOP are either purchased directly from suppliers or the manufacturing is outsourced based on our designs and specifications.

Capacity and Production Ramp-up

Our overall manufacturing process (module manufacturing, final assembly, testing and conditioning) has a production capacity of 70 MW per year. We are expecting to continue to increase production volume based on continued order flow. By investing $5 million to $7 million for upgrades and maintenance of production assets, maximizing existing assets, operating at full capacity (e.g multiple shifts 24 hours per day, up to 7 days a week) and making other improvements, we estimate that we can increase capacity from 70 MW to 90 MW of annual production.

With increasing order flow, our plan has been to expand production capacity to 150 MW within our existing Torrington facility. This expansion would require the addition of equipment (e.g. furnaces, tapecasting and other equipment) to increase the capacity of certain 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 the expansion to 150 MW will require additional capital investments of $35 to $45 million although, this expansion may occur in stages depending on the level of market demand.

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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 BOP and mechanical BOP are assembled by and procured from several key suppliers. All of our suppliers must undergo a qualification process, which generally takes from four to twelve months. We continually evaluate new suppliers and are currently qualifying several new suppliers.

Service and Warranty Agreements

We offer comprehensive service and maintenance programs including total fleet management, refurbishment and recycling services and complete product support including spare parts inventory. In addition to the standard product warranty of one year, we also offer customers long-term service agreements (LTSA) for fuel cell 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 costs.

Customer service is supported by our Global Technical Assistance Center (GTAC), located at the Company s Danbury, Connecticut headquarters. From this state-of-the-art facility, trained technicians remotely monitor DFC power plants around the world. GTAC technicians are available 24 hours a day seven days per week, 365 days per year to respond to customer inquiries, order replacement parts, or schedule a service call from one of our regional service teams. We have also established parts warehouses that include spare fuel cell stacks in Connecticut, California and Asia. We have fully equipped regional field service teams, stack repair/refurbishment centers located in Connecticut and South Korea, and testing and conditioning facilities located in Connecticut. All personnel complete an operator and maintenance technician training program and work closely with the engineering and technology support organizations to service our products in the field. This infrastructure has enabled us to diagnose issues quickly, maintain high product availability and ensure customer satisfaction.

Under the standard provisions of the LTSAs, we provide services to maintain, monitor, and repair customer power plants to meet minimum operating levels. Should the power plant not meet the minimum operating levels, we may be required to replace the fuel cell stack with a new or used replacement or pay performance penalties. Our contractual liability under LTSAs is limited to amount of service fees payable under the contract. This can often times be less than the cost of a new stack replacement. However, in order to continue to meet customer expectations, we may incur costs in excess of our contractual liabilities.

Power Purchase Agreements

Power purchase agreements (PPAs) are a common arrangement in the energy industry, whereby a customer purchases power from an owner and operator of the power generation equipment. A number of our partners such as Alliance Power, BioFuels Energy or UTS Bioenergy enter into PPAs with end users in the U.S. After purchasing DFC Power Plants from us, they own and operate the units.

When we began installing our early version power plants, we seeded the market with a few PPAs to penetrate key target markets and develop operational and transactional experience. To date, we funded the development and construction of certain fuel cell power plants sited near customers in California, and own and operate 2.5 MW of assets through joint ventures in which we have an 80 percent ownership interest. As we enter into multi-megawatt projects in RPS markets with the benefit of the federal ITC and accelerated depreciation, we believe future PPAs will attract third party financing and ownership. This has begun to happen as three different transactions totaling 8.7 MW were closed in October 2010 that involved PPA s with third party ownership. In each project, we sold our power plants to a third party that will own and operate the plants and sell the electricity under long term PPA s to the power user.

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Research and Development

We perform both customer-sponsored and company-funded research and development projects. The goal of our research and development efforts is to improve our core products and expand our technology portfolio in complementary high temperature fuel cell systems. In addition, we are conducting development work on advanced applications for other fuel cell technologies, including SOFC and PEM.

The cost of customer sponsored research and development is classified as cost of research and development contracts in our consolidated financial statements. 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. Company-funded research and development is included in research and development expenses in our consolidated financial statements. For the fiscal years ended 2010, 2009, and 2008, total customer-sponsored and company-funded research and development costs and expenses were $28.9 million, $30.2 million, and $39.5 million, respectively.

Government Research & Development Contracts

Since 1975, we have worked on the development of our DFC technology 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 Advance Research Projects Agency (DARPA) and the National Aeronautics and Space Administration (NASA). Government funding, principally from the DOE, provided 15 percent, 16 percent, and 17 percent of our revenue for the fiscal years ended 2010, 2009, and 2008, respectively. From the inception of our carbonate fuel cell development program in the mid-1970s to date, more than $550 million has been invested relating to government programs in support of the development of our DFC and related technologies.

Research and development programs are building on the versatility of our fuel cell power plants and contributing to the development of potentially new end markets. Our power plants can provide three value streams including clean electricity, high quality usable heat and hydrogen. The hydrogen can be used for vehicle refueling or industrial purposes. Significant research and development programs we are currently working on include:

Co-production of Hydrogen and Electricity using DFC Power Plants Our high temperature DFC power plant generates electricity directly from a hydrocarbon fuel by reforming the fuel inside the fuel cell to supply hydrogen for the fuel cell 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. It also provides a technology bridge to the hydrogen infrastructure under development by the DOE in our nation s bid for greater energy independence.

Advanced Hydrogen Programs: The demonstration DFC-H2 power plant generates ultra-clean electricity and hydrogen for industrial and transportation uses.

A DFC300-H2 power plant is operating at a wastewater treatment facility in Los Angeles, California to supply 1) hydrogen for use in fuel cell vehicle refueling, 2) clean electricity, and 3) high quality heat for the wastewater treatment process. The plant began operating on natural gas during the fourth quarter of 2010 and is expected to be operational on renewable biogas by early 2011. The demonstration is being performed under sub-contract to Air Products (NYSE: APD) with the majority of funding provided by the DOE.

In 2010, we were awarded approximately $2.8 million by the DOE to demonstrate the hydrogen production capacity of a 300 kilowatt DFC300 fuel cell for use by the metal processing industry. A DFC300-H2 will be configured to generate three value streams including: 1) hydrogen for use in a heat treating process, 2) clean electricity, and 3) high quality heat. Over 600 companies operate in the metal processing industry in the USA, representing a significant potential market for this demonstration product.

The DOE awarded us approximately $2.0 million in 2010 to further develop and demonstrate a highly efficient and reliable method for compressing hydrogen utilizing our solid-state Electrochemical Hydrogen Compressor (EHC) technology. The EHC technology can be utilized to compress hydrogen for storage, transport and subsequent use for vehicle refueling or other industrial applications.

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SECA and Large Scale Hybrid Programs We are currently participating in Phase II of the DOE s Solid State Energy Conversion Alliance (SECA) Large Scale Hybrid Program. The goal of the program is to develop a multi-MW, highly efficient, central generation SOFC power plant operating on coal syngas. Phase I of the program was a two-year, $32.3 million cost-shared program. Phase II, awarded in fiscal 2009 is a $30.2 million program which began in January 2009 and is nearing completion. We have submitted a bid for approximately $34 million to the DOE for Phase III and expect a decision in early 2011.

We utilize the cell and stack design of our technology team partner, Versa Power Systems Inc. (Versa), for our SOFC development programs. We currently own approximately 39% of Versa. Versa has been engaged in SOFC development since 1997 and is considered a world leader in SOFC cell and stack technology. We have been a prime contractor in the SECA program since 2003.

The FuelCell Energy/Versa team has met cost and performance objectives for a minimum 25 kW fuel cell stack in Phase II of the program. The full scale advanced fuel cell system to be demonstrated in Phase III is expected to incorporate an SOFC module with an output of up to 250 kW of ultra-clean grid electrical power. Accomplishing these Phase III goals will require selection by DOE for SECA Phase III, along with continued availability of DOE and cost-share funding.

The goal of this multi-phased program is to develop an advanced fuel cell system with overall efficiency of at least 50 percent in converting energy contained in coal to ultra-clean grid electrical power. In contrast, today s average U.S. coal-based power plant has an electrical efficiency of approximately 33 percent. In addition, the envisioned SOFC-hybrid system is expected to separate 90 percent or more of the system s CO2 emissions for capture and environmentally safe disposal while being cost competitive with other base load power generating technologies.

Government Regulation

Our Company and its products 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. Emissions of SOX and NOX from our power plants are much lower than conventional combustion-based generating stations, and are well within 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 CO2 in per kW hour amounts 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. Lastly, as with any use of hydrocarbon fuel, the discharge of emissions must meet emissions standards. 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.

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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 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.

Proprietary Rights and Licensed Technology

To compete in the marketplace, align effectively with business partners, and protect our proprietary rights, we rely primarily on a combination of trade secrets, patents, confidentiality procedures and agreements, and patent assignment agreements. We have 61 current U.S. patents (including one allowed in September 2010 by the U.S. Patent and Trademark Office for which issue is pending) and 66 international patents covering our fuel cell technology (in certain cases covering the same technology in multiple jurisdictions). Fifty-nine of our U.S. patents relate to our Direct FuelCell technology and two patents relate to PEM fuel cell technology. We also have submitted 30 U.S. and 130 international patent applications.

Our patents will expire between 2011 and 2029, and the current average remaining life of our patents is approximately 11.2 years. During 2010, six new U.S patents were issued or allowed (including the patent allowed in September 2010) and three U.S. and 16 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 34 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 DOE programs. U.S. patents that 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.

We have also entered into certain license agreements through which we have obtained the rights to use technology developed under joint projects. Through these agreements, we must make certain royalty payments on the sales of products that contain the licensed technology, subject to certain milestones and limitations.

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Significant Customers and Backlog

We contract with a small number of customers for the sale of our products and for research and development contracts. For the fiscal years ended October 31, 2010, 2009 and 2008, our top three customers, POSCO, which is a related party and owns approximately 10 percent of the outstanding common shares of the Company, the U.S. government (primarily the Department of Energy) and Pacific Gas and Electric, accounted for 83 percent, 80 percent and 62 percent, respectively of our total annual consolidated revenue. Our largest strategic partner, POSCO, accounted for 58 percent, 64 percent and 46 percent of total revenues, the U.S. government accounted for 15 percent, 16 percent and 17 percent of total revenues and Pacific Gas and Electric accounted for 10 percent of total revenues for the fiscal year ended October 31, 2010. There was no revenue from Pacific Gas and Electric in 2009 or 2008.

There can be no assurance that we will continue to achieve historical levels 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 affect on our business, financial condition and results of operations.

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:

Total product sales and service backlog was $154.3 million at October 31, 2010 compared to $90.7 million as of October 31, 2009. Product order backlog was $87.2 million and $66.4 million as of October 31, 2010 and 2009, respectively, representing 33.5 MW and 43.7 MW as of October 31, 2010 and October 31, 2009, respectively. Product orders represent 55 percent of our total funded backlog as of October 31, 2010. Backlog for long-term service agreements was $67.1 million and $24.3 million as of October 31, 2010 and 2009, respectively. 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 was $9.7 million and $14.2 million as of October 31, 2010 and 2009, respectively. The unfunded portion of our research and development contracts amounted to $4.4 million and $10.9 million as of October 31, 2010 and 2009, 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, 2010 we had contracts for power plants totaling 2.5 MW under PPAs ranging from five to ten years. Revenue under these agreements is recognized as electricity is produced. This revenue is not included in backlog described above.

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Employees

As of October 31, 2010 we had 441 full-time employees, of whom 181 were located at the Torrington, Connecticut manufacturing plant, and 260 were located at the Danbury, Connecticut facility or various field offices. None of our employees is represented by a labor union or covered by a collective bargaining agreement.

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.

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Executive Officers of the Registrant

NAME	AGE	PRINCIPAL OCCUPATION
R. Daniel Brdar President, Chief Executive Officer and Chairman of the Board of Directors	51	Mr. Brdar has been Chairman of the Board of Directors since January 2007, Chief Executive Officer since January 2006 and President since August 2005. Mr. Brdar, previously FuelCell Energy s Executive Vice President and Chief Operating Officer, joined the Company in 2000. Mr. Brdar held management positions at General Electric Power Systems from 1997 to 2000 where he focused on new product introduction programs and was product manager for its gas turbine technology. Mr. Brdar was Associate Director, Office of Power Systems Product Management at the U.S. Department of Energy where he held a variety of positions from 1988 to 1997 including directing the research, development and demonstration of advanced power systems including gas turbines, gasification systems and fuel cells. Mr. Brdar received a B.S. in Engineering from the University of Pittsburgh in 1981.
Christopher R. Bentley Executive Vice President, Government R&D Operations, Strategic Manufacturing Development	68	Mr. Bentley has been responsible for Government Research and Development Operations and Strategic Manufacturing Development since January of 2005. He joined the Company in 1990 to develop manufacturing and operations capabilities in support of the DFC commercialization initiative. He served on the Board of Directors from 1993 to 2004. Prior to joining the Company, he was Director of Manufacturing (1985), Vice-President and General Manager (1985-1988) and President (1989) of the Turbine Airfoils Division of Chromalloy Gas Turbine Corporation, a major manufacturer of gas turbine hardware. From 1960 to 1985 he was with the General Electric Company. Mr. Bentley received a B.S. in Mechanical Engineering from Tufts University in 1966.
Joseph G. Mahler Senior Vice President, Chief Financial Officer, Corporate Secretary, Treasurer, Corporate Strategy	58	Mr. Mahler joined the Company in October 1998 as Vice President, Chief Financial Officer, Corporate Secretary, and Treasurer. Mr. Mahler s responsibilities include finance, accounting, corporate governance, strategy, treasury, information systems and human resources. Mr. Mahler was Vice President-Chief Financial Officer at Earthgro, Inc. from 1993 to 1998 and worked at Ernst & Young in the New York and Hartford offices from 1974 to 1992. Mr. Mahler was a partner in the Hartford office s Entrepreneurial Services Group. Mr. Mahler received a B.S. in Accounting from Boston College in 1974 and is a CPA.

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NAME	AGE	PRINCIPAL OCCUPATION
Anthony F. Rauseo Senior Vice President, Chief Operating Officer	51	Mr. Rauseo was appointed to 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 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 Science Mechanical Engineering from Rutgers University in 1983 and received a Masters Science Mechanical Engineering from Rensselaer Polytechnic Institute in 1987.
Arthur A. Bottone Senior Vice President, Chief Commercial Officer	50	Mr. Bottone joined FuelCell Energy in February 2010 as Senior Vice President and Chief Commercial Officer. Mr. Bottone s focus is to accelerate profitable revenue growth by capitalizing on heightened demand by the world s industrialized and emerging nations for clean and renewable energy. He is also responsible for developing and implementing strategies to further expand the company s market opportunities and growth potential. Mr. Bottone s qualifications include 25 years of experience at Ingersoll Rand Company, a diversified global industrial concern. 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.

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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 and manufacturer. 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 flow 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 the price of our common stock, the current global economic crisis 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 a significant increase 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 would have a material adverse effect on our commercialization plans and, therefore, our business prospects, 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 hydrocarbon 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.

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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 been impacted by a credit crisis which may have a material adverse impact on our Company, our customers and our suppliers.

Financial markets have been impacted by a credit crisis worldwide, affecting both debt and equity markets. This has substantially limited 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 how long this crisis will last or how it will be resolved and it may have a materially adverse affect 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. The worldwide credit crisis 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;

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, coupled with the failure of several large financial institutions, has caused significant uncertainty and resulted in an increase in the return required by investors in relation to the risk of such projects. This in turn has increased the cost of capital to the point where new projects or projects in the early or planning stages may not receive funding or may have project delays or cancellations.

If we, or our customers and suppliers, cannot obtain financing under favorable terms during the current financial crisis or should the financial crisis worsen, 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.

Revenues from fuel cell product sales contracts are recognized proportionally as costs are incurred and assigned to a customer contract by comparing the estimated total manufacture and installation costs for each contract to the total contract value. Prior to fiscal 2010, we have not provided for a contract loss reserve on product sales contracts as products were in their early stages of development and market acceptance, and the total costs to produce, install and commission these units could not be reasonably estimated. As a result of a consistent production rate over the past two fiscal years and installation and commissioning experience for our major product lines, management now believes that it has sufficient product cost history to reasonably estimate the total costs of our fuel cell product sales contracts. Accordingly, effective November 1, 2009, contract loss reserves are recognized at the time we become aware that estimated total costs are expected to exceed the contract sales price. Actual results could vary from initial estimates and reserve estimates will be updated as we gain further manufacturing and operating experience.

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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. 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 and further losses on service contracts.

Under the terms of our Power purchase agreements (PPAs), customers agree to purchase power from our fuel cell power plants at negotiated rates, generally for periods of five to ten years. Electricity rates are generally a function of the customer s current and future electricity pricing available from the grid. Revenues are earned and collected under these PPAs as power is produced. As owner of the power plants, we are responsible for all operating costs necessary to maintain, monitor and repair the power plants. Under certain agreements, we are also responsible for procuring fuel, generally natural gas, to run the power plants. Should electricity rates decrease or operating costs increase from our original estimates, our results of operations could be negatively impacted. We have qualified for incentive funding for these projects in California under the states SGIP and from other government programs. Funds are payable upon commercial installation and demonstration of the plant and may require return of the funds for failure of certain performance requirements. Revenue related to these incentive funds is recognized ratably over the performance period. We are not required to produce minimum amounts of power under our PPA agreements and we have the right to terminate PPA agreements 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 which could reduce sales of those products or result in claims against us.

We develop complex and evolving products. Despite 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 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.

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We currently face and will continue to face significant competition.

We compete on the basis of our products reliability, fuel 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 in the U.S. 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.; United Technologies Corp. or UTC Power; and Plug Power), phosphoric acid fuel cells (UTC Power and Samsung Everland) and solid oxide fuel cells (Siemens Westinghouse Electric Company, General Electric, 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 carbonate fuel cell competitors internationally. In Europe, a company in Italy, Ansaldo Fuel Cells, is actively engaged in carbonate fuel cell development and is a potential competitor. 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 such companies as Caterpillar, Cummins, Wartsilla, MTU, Mitsubishi Heavy Industries and Detroit Diesel, which 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 like General Electric, Ingersoll Rand, Solar Turbines and Kawasaki, which have recently made progress in improving fuel efficiency and reducing pollution in large-size combined cycle natural gas fueled generators. These companies have also made efforts to extend these advantages to smaller sizes.

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

POSCO Power currently owns approximately 10 percent of our outstanding common stock, which could make it difficult for a third party to acquire our common stock. POSCO Power 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. Our overall manufacturing process has a production capacity of 70 MW per year. 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.

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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 meet our product commercialization schedule or to satisfy the requirements of our customers. Additionally, we cannot be sure that we will be able to continue to develop efficient, low-cost manufacturing capabilities and processes (including automation) that will enable us to meet our cost goals and profitability projections. 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;

the future costs of natural gas and other fuels used by our fuel cell products;

customer reluctance to try a new product;

perceptions of the safety of our fuel cell products;

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 commercialize 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.

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We are substantially dependent on a small 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 small number of customers for the sale of our products and for research and development contracts. For the fiscal years ended October 31, 2010, 2009 and 2008, our top three customers, POSCO Power, which is a related party and owns approximately 10 percent of the outstanding common shares of the Company, the U.S. Government (primarily the Department of Energy) and Pacific Gas and Electric, accounted for 83 percent, 80 percent and 62 percent, respectively of our total annual consolidated revenue. Our largest strategic partner, POSCO Power, accounted for 58 percent, 64 percent and 46 percent of total revenues, and the U.S. Government accounted for 15 percent, 16 percent and 17 percent of total revenues and Pacific Gas and Electric, accounted for 10 percent of total revenues for the fiscal year ended October 31, 2010 and there was no revenue from Pacific Gas and Electric for the fiscal years ended 2009 and 2008.

There can be no assurance that we will continue to achieve historical levels 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 government 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 U.S. 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.

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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. Eleven 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, our DOE-funded research and development agreements also require 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. Accordingly, we could lose some or all of the value of these patents.

A failure to qualify as a small business could adversely affect our rights to own future patents under DOE-funded contracts.

Qualifying as a small business under DOE contracts allows us to own the patents that we develop under DOE contracts. A small business under applicable government regulations generally consists of no more than 500 employees averaged over a one year period. If we continue to grow, we will no longer qualify as a small business and no longer own future patents we develop under future contracts, grants or cooperative agreements funded by the DOE based on such certification, 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. As of October 31, 2010, we had a total of 441 full-time employees; however, we cannot assure you that we will continue to qualify as a small business in the future.

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

We cannot assure you that we will enter into distributor relationships 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 distributors with which we form relationships will focus adequate resources on selling our products or will be successful in selling them. Some of these distributor arrangements have or will require that we grant exclusive distribution 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 distributor 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 distributor arrangements include, and some future distributor arrangements may also include, the issuance of equity and warrants to purchase our equity, which may have an adverse affect on our stock price. To the extent we enter into distributor relationships, the failure of these distributors to assist us with the marketing and distribution of our products may adversely affect our results of operations and financial condition.

We cannot be sure that our original equipment manufacturers (OEMs) will manufacture or package products using our Direct FuelCell components. Our success will largely depend upon our ability to make our products compatible with the power plant products of OEMs and the ability of these OEMs to sell their products containing our products. In addition, some OEMs may need to redesign or modify their existing power plant products to fully incorporate our products. Accordingly, any integration, design, manufacturing or marketing problems encountered by OEMs could adversely affect the market for our products and, therefore, our business prospects, 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 when or whether we will secure long-term supply relationships with any of our suppliers 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. As of October 31, 2010, we had 61 current U.S. patents and 66 international patents covering our fuel cell technology. These patents will expire between 2011 and 2029 and have an average remaining life of approximately 11.2 years.

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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 R. Daniel Brdar, our Chief Executive Officer and Chairman of the Board of Directors. The loss of the services of any executive officer, including Mr. Brdar, or other key management, engineering, scientific, manufacturing and operating personnel, could materially adversely affect our business. Our ability to achieve our development and 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.

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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 could impose customer fees or interconnection requirements on our customers that could make our products less desirable.

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 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.

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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. accounted for 59 percent, 65 percent and 50 percent of our consolidated revenue in fiscal 2010, 2009 and 2008, respectively. 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.

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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 and distribution 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.

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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 FuelCell.
The terms of the Series 1 preferred shares issued by FuelCell Energy, Ltd. (FCE), our wholly-owned, indirect subsidiary, provide rights to the holder, Enbridge Inc. (Enbridge), which could negatively impact us. Quarterly dividends of Cdn.$312,500 accrue on the Series 1 preferred shares (subject to possible reduction pursuant to the terms of the Series 1 preferred shares). We have agreed to pay a minimum of Cdn.$500,000 in cash or common stock annually to Enbridge, as long as Enbridge holds these shares. Interest accrues on cumulative unpaid dividends at an annual rate of 9 percent, compounded quarterly. All cumulative unpaid dividends originally had to be paid by December 31, 2010. Using an exchange rate of Cdn.$1.0 to U.S.$1.00 (approximate exchange rate on December 31, 2010), cumulative unpaid dividends and accrued interest on the Series 1 Preferred Shares was $12.5 million as of December 31, 2010. The Company and Enbridge have been in negotiations to modify certain terms of the Series 1 preferred share agreement, and have agreed to extend the payment deadline to January 31, 2011 to continue these negotiations. Under the existing terms, FCE Ltd. has the option of meeting this obligation through a cash payment or with unregistered shares of FuelCell Energy, Inc. common stock. We are a guarantor of FCE Ltd s obligations to Enbridge. In the current negotiations, Enbridge is seeking terms that, as proposed, may require payments in excess of those we believe we are obligated to pay. While we intend to achieve the most favorable outcome in light of our obligations under the Series 1 preferred shares, we can not presently predict the final terms of any agreement with Enbridge. Subsequent to 2010, FCE will be required to pay an annual dividend of Cdn.$1.25 million so long as the Series 1 Preferred Shares remain outstanding. The Company has guaranteed FCE s dividend obligations under the Series 1 preferred shares under a Guarantee Agreement.

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 $1.14 (our common stock closing price on October 31, 2010) and an exchange rate of Cdn.$0.98 to U.S.$1.00 (exchange rate on October 31, 2010) at the time of conversion, we would be required to issue approximately 22,633,617 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.

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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 of our Annual Report on Form 10-K for the year ended October 31, 2010. 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 losses, service agreements, warranty, 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.

Health Care Reform Acts

In March 2010, the President of the United States signed the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act of 2010 (collectively the 2010 Acts). The 2010 Acts will have a substantial impact on health care providers, insurers, employers and individuals. The 2010 Acts will impact employers and businesses differently depending on the size of the organization and the specific impacts on a company s employees. Certain provisions of the 2010 Acts became effective during our open enrollment period (November 1, 2010) while other provisions of the 2010 Acts will be effective in future years. The 2010 Acts could require, among other things, changes to our current employee benefit plans, our information technology infrastructure, and in our administrative and accounting processes. The ultimate extent and cost of these changes cannot be determined at this time and are being evaluated and updated as related regulations and interpretations of the 2010 Acts become available.

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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

Item 3. LEGAL PROCEEDINGS

None.

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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 06, 2011)	$ 2.41	$ 1.12
Year Ended October 31, 2010		
First Quarter	$ 4.02	$ 2.76
Second Quarter	$ 3.40	$ 2.57
Third Quarter	$ 2.95	$ 1.02
Fourth Quarter	$ 1.42	