

FUELCELL ENERGY INC

Form 424B5

January 12, 2011

Table of Contents

Filed Pursuant to Rule 424(b)(5)
Registration No. 333-164412

PROSPECTUS SUPPLEMENT

(To Prospectus dated September 21, 2010)

FUELCELL ENERGY, INC.**10,160,428 Shares of Common Stock**

Warrants to purchase up to 10,160,428 Shares of Common Stock
and up to 10,000,000 shares to be issued upon exercise of an Additional Sale Option

We are offering up to 10,160,428 shares of our common stock and warrants to purchase up to 10,160,428 shares of our common stock. The common stock and the warrants will be sold in units, with each unit consisting of one share of common stock and a warrant to purchase one share of common stock. The warrants can be exercised beginning six months after issuance and will expire 21 months after issuance and may be exercised at a price of \$2.29 per share. Each unit will be sold at a negotiated price of \$1.87 per unit. Units will not be issued or certificated. The shares of common stock and warrants are immediately separable and will be issued separately. Additionally, we have obtained an option from the purchaser of these securities which allows us to require the purchaser to purchase up to a maximum of 10,000,000 additional shares of our common stock from us in approximately nine months. The sale price for the additional shares will be based on a fixed ten percent discount to a volume weighted average price (VWAP) measurement at the time FuelCell Energy exercises the option. FuelCell Energy cannot require the investor to purchase more than \$20 million of additional shares (referred to in this prospectus as the additional sale option). This additional sale option shall automatically be deemed to be exercised by us, subject to certain conditions, unless we provide contrary notice to the holder. The shares of common stock, warrants, shares of common stock exercisable under the warrant and the additional shares of common stock that may be purchased by the purchaser pursuant to the additional sale option of the Company are sometimes collectively referred to herein as the securities.

Our common stock is listed on The NASDAQ Global Market under the symbol FCEL. On January 7, 2011, the last reported sale price of our common stock was \$2.08 per share.

We are offering these shares of common stock, warrants to purchase common stock and the shares of common stock issuable upon exercise of the additional sale option, if any, on a best efforts basis to an institutional investor. We have retained Lazard Capital Markets LLC to act as the exclusive placement agent in connection with this offering.

Investing in our common stock involves significant risks. See Risk Factors beginning on page S-12 of this prospectus supplement and page 3 of the accompanying prospectus.

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

	Per Share	Total
Offering Price ¹	\$ 1.87	\$ 19,000,000
Placement Agent's Fee	\$.09	\$ 950,000
Proceeds to FuelCell (before expenses) ¹	\$ 1.78	\$ 18,050,000

Table of Contents

¹ Does not include shares of common stock which may be issued upon the exercise of the warrants or upon the exercise of our additional share option. The placement agent will be paid a placement fee of 5% on any shares purchased through any exercise of the Company's additional share option.

We estimate the total expenses of this offering, excluding the placement agent's fees, will be approximately \$300,000. Because there is no minimum offering amount required as a condition to closing in this offering, the actual offering amount, the placement agent's fees and net proceeds to us, if any, in this offering may be substantially less than the total maximum offering amounts set forth above. We are not required to sell any specific number or dollar amount of the units offered in this offering, but the placement agent will use its best efforts to arrange for the sale of all of the units offered.

We anticipate that delivery of the shares will be made on or about January 13, 2011, subject to customary closing conditions.

Lazard Capital Markets

Prospectus supplement dated January 10, 2011.

S-2

TABLE OF CONTENTS

	Page
Prospectus Supplement	
<u>About this prospectus supplement</u>	S-4
<u>Prospectus Supplement Summary</u>	S-5
<u>FuelCell Energy, Inc.</u>	S-5
<u>The Offering</u>	S-10
<u>Risk Factors</u>	S-12
<u>Forward-Looking Statements</u>	S-23
<u>Selected Financial Data</u>	S-24
<u>Use of Proceeds</u>	S-24
<u>Description of Capital Stock</u>	S-24
<u>Dilution</u>	S-27
<u>Plan of Distribution</u>	S-28
<u>Legal Matters</u>	S-29
<u>Where you can find additional information</u>	S-29
<u>Incorporation of Certain Information by Reference</u>	S-29
Prospectus	
Forward-Looking Statements	3
About This Prospectus	3
FuelCell Energy, Inc.	3
Risk Factors	5
Ratio of Earnings to Combined Fixed Charges and Preferred Dividends	18
Use of Proceeds	18
Description of Debt Securities	18
Description of Capital Stock	26
Description of Warrants	35
Plan of Distribution	37
Disclosure of Commission Position on Indemnification for Securities Act Liabilities	38
Legal Matters	38
Experts	39
Where You Can Find More Information	39
Incorporation Of Certain Information by Reference	39
S-3	

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is the prospectus supplement, which describes the specific terms of the securities we are offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. This prospectus supplement and the accompanying prospectus and the documents incorporated by reference herein and therein are part of a shelf registration statement that we filed with the Securities and Exchange Commission. Under the shelf registration process, we may offer from time to time shares of our common stock and other securities up to an original aggregate amount of \$150,000,000. This prospectus supplement and the accompanying prospectus and the documents incorporated by reference herein and therein include important information about us, our securities being offered and other information you should know before investing. You should read this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus and any related free writing prospectus that we authorized to be delivered to you, as well as the additional information described under "Where You Can Find Additional Information" on page S-29 of this prospectus supplement and "Incorporation of Certain Information by Reference" on page S-29 of this prospectus supplement before investing in our securities.

To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference that was filed with the SEC before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus supplement or the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in this prospectus supplement, the accompanying prospectus, any related free writing prospectus that we authorized to be distributed to you and the documents incorporated by reference herein and therein. We have not, and the placement agents have not, authorized anyone to provide you with information that is different. If anyone provides you with different or inconsistent information, you should not rely on it. We are offering to sell and seeking offers to buy shares of our common stock only in jurisdictions where offers and sales are permitted. We are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information contained in this prospectus supplement, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus and any related free writing prospectus that we have authorized to be delivered to you is accurate only as of their respective dates, regardless of the time of delivery of such documents or of any sale of securities. Our business, financial condition, results of operations and prospects may have changed since those dates. You should not consider this prospectus supplement or the accompanying prospectus to be an offer or solicitation relating to the securities in any jurisdiction in which such an offer or solicitation relating to the securities is not authorized. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus outside the United States. Furthermore, you should not consider this prospectus supplement or the accompanying prospectus to be an offer or solicitation relating to the securities if the person making the offer or solicitation is not qualified to do so, or if it is unlawful for you to receive such an offer or solicitation.

Unless the context requires otherwise, in this prospectus supplement and the accompanying prospectus the terms FuelCell, the Company, we, us, our and similar names refer to FuelCell Energy, Inc. and its subsidiaries.

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and information appearing elsewhere in this prospectus supplement and in the accompanying prospectus and in the documents we incorporate by reference. This summary is not complete and does not contain all of the information that you should consider before investing in shares of our common stock. The following summary is qualified in its entirety by, and should be read in conjunction with, the more detailed information and financial statements and notes thereto appearing elsewhere in this prospectus supplement and the accompanying prospectus and incorporated by reference herein and therein. Before you decide to invest in shares of our common stock, to fully understand this offering and its consequences to you, you should carefully read the entire prospectus supplement and the accompanying prospectus carefully, including the risk factors beginning on page S-12 of this prospectus supplement and beginning on page 5 of the accompanying prospectus, and the consolidated financial statements and related notes included in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein.

FuelCell Energy, Inc.

Overview

We are a 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, 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.

Table of Contents

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.

Our executive offices are located at 3 Great Pasture Road, Danbury, Connecticut 06813. Our telephone number is (203) 825-6000. We maintain a web site at the following Internet address: www.fuelcellenergy.com. The information on our web site is not part of this prospectus.

As used in this prospectus, all degrees refer to Fahrenheit (F), and kilowatt and megawatt numbers designate nominal or rated capacity of the referenced power plant. As used in this prospectus, kilowatt (kW) means 1,000 watts; megawatt (MW) means 1,000,000 watts; and kilowatt hour (kWh) is equal to 1 kW of power supplied to or taken from an electric circuit steadily for one hour. All dollar amounts are in U.S. dollars unless otherwise noted.

Recent Developments

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.

We received order flow of 16.4 MW in 2010 which 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. 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.

S-6

Table of Contents

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 distribution 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.

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. Market updates for the fiscal year were as follows:

Commercial Products:

California: Clean energy deployment remains a focus in California with 15.2 MW of orders received during fiscal 2010. The State and its Public Utilities Commission are driving clean energy deployment to reduce greenhouse gases and pollution while encouraging the utilization of distributed generation. Fiscal 2010 California 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 its 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.

South Korea: 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 program, which will become effective in 2012, will mandate 350 MW of additional renewable energy per year through 2016, and 700 megawatts per year through 2022. Carrying forward the policy introduced in 2006 under Korea's feed-in tariff program, the government has elected to designate fuel cells operating on natural gas and biogas as New and Renewable Energy, fully qualifying under the new program.

In response to the new South Korean RPS, POSCO Power began construction of a 100 MW fuel cell stack assembly plant in South Korea in April 2010 with production expected to begin in early 2011. For this facility, POSCO Power procured fuel cell stack module assembly and conditioning equipment through us, which will be used to assemble and condition fuel cell stacks in South Korea using fuel cell components supplied by us.

In 2010, POSCO Power also ordered a 300 kilowatt DFC 300MA fuel cell power plant to develop market applications that target grid support combined with the ability to provide emergency power for installations requiring

an uninterrupted supply of power. In the event of temporary interruption of power from the transmission grid, the fuel cell power plant would then switch and provide power to the installation. The South Korean Government is providing financial support for the purchase of this fuel cell power plant and associated development activities.

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. POSCO Power will fund the

S-7

Table of Contents

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.

Connecticut: We continue active discussions with private and government financing sources for the 43.5 MW of fuel cell projects selected and approved by the Connecticut Department of Utility Control. We also received 0.9 MW of orders in Connecticut during fiscal 2010.

Canada: 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.

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.

Government Research and Development Contracts

Advanced Hydrogen Programs:

A DFC300-H2 power plant has been installed 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 with the majority of funding provided by the U.S. Department of Energy (DOE).

We were awarded approximately \$2.8 million during the fourth quarter of 2010 by the DOE to demonstrate the hydrogen production capacity of a DFC power plant 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.

Hydrogen Compression: We were awarded approximately \$2.0 million during the fourth quarter of 2010 by the DOE to further develop and demonstrate a highly efficient and reliable method for compressing hydrogen utilizing its 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.

Solid Oxide Fuel Cell Development: We continue to partner with Versa Power Systems Inc. (Versa), for the development of a Large Scale Coal-Based Solid Oxide Fuel Cell under the U.S. Department of Energy Solid State Energy Conversion Alliance (SECA) Program. The FuelCell Energy/Versa team 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 to efficiently convert the energy contained in coal to ultra-clean grid electrical power. We have submitted a bid for approximately \$34 million to the DOE for Phase III and expect a decision in early 2011.

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.

S-8

Table of Contents

In response to the increased level of domestic orders received in 2010 with anticipated 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.

Backlog

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.

Series 1 Preferred Share Obligation

As previously disclosed, our wholly owned subsidiary (FCE Ltd) had a \$12.5 million obligation originally due to Enbridge on 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.

Table of Contents

This obligation relates to dividends accrued on the series 1 preferred stock acquired in the 2003 acquisition of Global Thermoelectric, Inc (GTI). This obligation has been reported in temporary equity on the balance sheet as redeemable preferred stock of subsidiary. We acquired Global Thermoelectric due to its expertise in solid oxide fuel cell technology. At the time of the acquisition, Enbridge owned preferred shares in GTI.

Revolving Credit Facility

In January 2011, we entered into a \$5.0 million revolving credit facility with JPMorgan Chase Bank, N.A. and the Export-Import Bank of the United States. The credit facility is to be used for working capital to finance the manufacture and production and subsequent export sale of our products or services. The agreement has a one year term with renewal provisions. The outstanding principal balance of the facility will bear interest, at our option, of either the one-month LIBOR plus 1.5 percent or the prime rate of JPMorgan Chase. The facility is secured by certain working capital assets and general intangibles, up to the amount of the outstanding facility balance.

The Offering

Issuer	FuelCell Energy, Inc.
Common Stock offered by us	10,160,428 shares
Warrants offered by us	Warrants to purchase 10,160,428 shares of common stock. The warrants will be exercisable during the period commencing six months after the date of original issuance and ending twenty one months from the date of such issuance at an exercise price of \$2.29 per share of common stock. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the warrants.
Company's additional sale option	Subject to the satisfaction of the terms and conditions set forth in the subscription agreement between us and the purchaser, including approval by our shareholders of an amendment to our certificate of incorporation to increase the number of authorized shares of common stock, at any time during the eleven (11) trading days ending on the nine (9) month anniversary of the offering, the Company will have the right and will exercise such right to require the purchaser to purchase up to an additional 10,000,000 shares of Common Stock at a price of equal to 90% of the lesser of (i) the average of the volume weighted average price for the ten consecutive trading days ending on the date of exercise, or (ii) the volume weighted average price on the date of exercise. We cannot require the investor to purchase more than \$20 million of additional shares. The Company's additional sale option may only be exercised once.
Common stock to be outstanding after this offering	123,191,486 shares
Use of proceeds	We intend to use the net proceeds from this offering for market and product development, project financing, expansion of manufacturing capacity and general corporate purposes. Pending use of the net proceeds, we intend to invest the net proceeds temporarily in investment grade money-market funds or U.S. Treasury securities until we use them for their stated purpose. See Use of Proceeds on page S-24 of this prospectus supplement.
Risk factors	See Risk Factors beginning on page S-12 of this prospectus supplement and on page 5 of the accompanying prospectus for a discussion of factors you should

consider carefully when making a decision to invest in our common stock.

NASDAQ Global Market
symbol

FCEL

S-10

Table of Contents

The number of shares of our common stock to be outstanding immediately after this offering as shown above assumes that all of the shares offered hereby are sold and is based on 113,031,486 shares outstanding as of January 3, 2011, and does not include 10,160,428 shares issuable upon the exercise of the warrants offered hereby or up to 10,000,000 shares issuable upon the exercise, if any, by the Company of its additional sale option and also excludes the following:

5,448,512 shares of our common stock issuable upon conversion of 64,020 shares of our 5% Series B Cumulative Convertible Perpetual Preferred Stock outstanding;

193,110 shares of our common stock issuable upon conversion of 1,000,000 Series 1 preferred shares issued by FuelCell Energy, Ltd, our wholly-owned Canadian subsidiary (formerly known as FCE Canada, Inc.) at the current conversion price under the terms of the agreement;

Approximately 7,482,703 shares of our common stock issuable upon payment of an accrued dividend obligation under the Series 1 preferred shares issued by FuelCell Energy, Ltd, our wholly-owned Canadian subsidiary (formerly known as FCE Canada, Inc.). The Company has the option of paying this obligation in cash or shares of common stock;

4,788,067 shares of our common stock issuable upon the exercise of options outstanding at January 3, 2011 under our equity plans;

1,957,358 shares of our common stock available as of January 3, 2011, for future issuance under our equity plans;

67,671 shares of our common stock available as of January 3, 2011, for future issuance under our employee stock purchase plan;

shares of our common stock and other securities up to an aggregate amount of \$150,000,000 pursuant to a shelf registration statement that we have filed with the SEC;

966,178 shares of our common stock available for employee bonuses; and

6,000,000 shares of our common stock available for future sale.

S-11

Table of Contents

RISK FACTORS

Investing in our common stock involves a high degree of risk. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties that we are unaware of, or that we currently deem immaterial, also may become important factors that affect us. Before purchasing our common stock, you should carefully consider the following risk factors, as well as all other information contained in this prospectus supplement and the accompanying prospectus and incorporated by reference, including our consolidated financial statements and the related notes. 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.

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.

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

Table of Contents

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.

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.

Table of Contents

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.

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

S-14

Table of Contents

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.

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.

S-15

Table of Contents

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.

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.

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.

S-16

Table of Contents

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.

Our future success and growth is dependent on our distribution 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

S-17

Table of Contents

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.

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,

S-18

Table of Contents

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.

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.

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.

S-19

Table of Contents

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.

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.

S-20

Table of Contents

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.

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. We are in negotiations with Enbridge 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 obligation 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. We have 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.

S-21

Table of Contents

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

Effective internal controls 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. 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.

Risks Related to this Offering

Management will have broad discretion as to the use of the proceeds of this offering.

We have not designated the amount of net proceeds we will receive from this offering for any particular purpose. Accordingly, our management will have broad discretion as to the application of these net proceeds and could use them for purposes other than those contemplated at the time of this offering. Our stockholders may not agree with the manner in which our management chooses to allocate and spend the net proceeds.

The Investor in this offering will pay a much higher price than the book value of our common stock.

You will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering because the price per share of our common stock being offered hereby is substantially higher than the book value per share of our common stock. Based on a public offering price of \$1.87 per share in this offering (the last reported price of our common stock on The NASDAQ Global Market on January 7, 2011), if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of \$1.08 per share in the net tangible book value of the common stock. See *Dilution* on page S-27 of this prospectus supplement for a more detailed discussion of the dilution you will incur in this offering.

Table of Contents

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.

We may not be able to exercise our additional sale option.

Our ability to exercise our additional sale option to require the investor to purchase up to 10,000,000 additional shares of common stock is subject to certain conditions, including approval by our stockholders of an amendment to our certificate of incorporation to increase the number of our authorized shares of common stock. If we are not able to satisfy such conditions, we will not be able to require the investor to purchase the additional shares and will receive no proceeds therefrom.

FORWARD-LOOKING STATEMENTS

Some of the statements contained in this prospectus supplement or incorporated by reference into this prospectus supplement are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and are subject to the safe harbor created by the Securities Litigation Reform Act of 1995. We have based these forward-looking statements largely on our expectations and projections about future events and financial trends affecting the financial condition and/or operating results of our business. Words such as anticipates, expects, intends, plans, believes, seeks, estimates, the negative of these words, or similar expressions are intended to identify such forward-looking statements. These statements are not guarantees of future performance and are subject to certain risks, uncertainties and assumptions that are difficult to predict; therefore, actual results may differ materially from those expressed or forecasted in any forward-looking statements. The risks and uncertainties include those noted under the heading Risk Factors above, in the filings incorporated herein by reference and in the accompanying prospectus. There are important factors that could cause actual results to be substantially different from the results expressed or implied by these forward-looking statements including, among other things:

our ability to become profitable and attain positive cash flow;

our ability to successfully implement our cost reduction strategy and increase our production;

our ability to increase manufacturing production;

the impact of competition and technological change on our business;

the effect of market conditions on our long-term power purchase and service agreements with our customers;

our ability to successfully market and commercialize our Direct FuelCell® products and our other products and product candidates;

our dependence on government research and development contracts and the effect that a negative government audit could have on our business;

our dependence on a limited number of third-party suppliers for our Direct FuelCell® products;

our dependence on our intellectual property and ability to protect our proprietary rights and operate our business without conflicting with the rights of others;

the effect that any intellectual property litigation or product liability claims may have on our business and operating and financial performance;

our ability to attract and retain key, qualified management and technical personnel;

the negative effect of the imposition of customer fees or interconnection requirements on our customers by utility companies;

the effect that environmental litigation or remediation requirements may have on our business and operating and financial performance;

S-23

Table of Contents

our ability to satisfy the equity conditions and other conditions related to our additional sale option;
and

other factors set forth above under Risk Factors and in the accompanying prospectus, as well as in all filings incorporated by reference into this prospectus supplement.

We do not intend to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Past financial or operating performance is not necessarily a reliable indicator of future performance, and you should not use our historical performance to anticipate results or future period trends.

SELECTED FINANCIAL DATA

Financial data from our filings with the SEC has been incorporated by reference.

Our Quarterly Reports on Form 10-Q for the fiscal periods ended January 31, 2010, April 30, 2010, and July 31, 2010 were filed with the SEC on March 12, 2010, June 9, 2010, and September 9, 2010, respectively.

USE OF PROCEEDS

We estimate that the net proceeds to us from this offering, after deducting the placement agent's fees related to the offering of the units and estimated offering expenses payable by us and excluding any exercise of the warrants by the holder thereof and any exercise of additional sale option, will be approximately \$17.8 million.

We currently intend to use the net proceeds of this offering (including any resulting from the exercise of the warrant or our additional sale option) for market and product development, project financing, expansion of manufacturing capacity and general corporate purposes. General corporate purposes may include capital expenditures, repayment of debt, payment of dividends and any other purposes. While we have estimated the particular uses for the net proceeds of this offering, we have not determined the amounts we plan to spend on any of the areas listed above or the timing of these expenditures. As a result, our management will have broad discretion to allocate the net proceeds from this offering for any purpose, and investors will be relying on the judgment of our management with regard to the use of these net proceeds. Pending use of the net proceeds as described above, we intend to invest the net proceeds in money-market funds or U.S. treasuries until we use them for their stated purpose.

DESCRIPTION OF CAPITAL STOCK

In this offering, we are offering a maximum of 10,160,428 units, consisting of an aggregate of 10,160,428 share of common stock and warrants to purchase up to 10,160,428 shares of common stock. Each unit consists of one share of common stock and a warrant to purchase one share of common stock at an exercise price of \$2.29 per share. Units will not be issued or certificated. The shares of common stock and warrants are immediately separable and will be issued separately. This prospectus also relates to the offering of shares of our common stock upon exercise, if any, of the warrants and the offering of the shares of our common stock upon exercise, if any, of our additional sale option.

All of the specific terms and conditions of the shares of common stock, warrants, the additional sale option and the shares of common stock issuable upon exercise, if any, of the warrant and the additional sale option are included in the subscription agreement and warrant attached to our current report on Form 8-K filed with the commission on January 10, 2011, and are incorporated by reference in the registration statement from which these securities are being offered.

Our Additional Sale Option

The shares of common stock related to our additional sale option will be issued if exercised by us pursuant to a subscription agreement between the purchaser and us. You should review a copy of the form of subscription agreement, which will be filed by us as an exhibit to a Current Report on Form 8-K filed with the Securities and Exchange Commission in connection with this offering, for a complete description of the

S-24

Table of Contents

terms and conditions applicable to our additional sale option. The following is a brief summary of the material terms of our additional sale option and is subject in all respects to the provisions contained in the subscription agreement. The purchaser is obligated, pursuant to our additional sale option, to purchase one time up to an additional 10,000,000 shares of our common stock at a price equal to 90% of the lesser of (1) the volume weighted average price (VWAP) on the date of determination of the number of shares to be purchased, or (2) the VWAP for the ten prior consecutive trading days. The purchase pursuant to the additional sale option will take place, if at all, within the eleven trading days ending on the nine month anniversary of the closing of this offering, or if the nine month anniversary of the closing of this offering is not a trading day, then the eleven trading days ending on the last trading day prior to the nine month anniversary of the closing of the original sale of shares of common stock to the purchaser in this offering. In no event, however, shall the purchaser be required to purchase shares in excess of \$20,000,000. We may cancel at any time the obligation of the purchaser to purchase these shares.

The obligation of the purchaser under the additional sale option is conditioned upon the Company amending its Certificate of Incorporation to increase its number of authorized common shares to allow the Company to sell the common shares pursuant to the additional sale option. Furthermore, if the average price of the common shares for the 25 trading days with the lowest VWAPs during the 30 trading days prior to the sale of common stock pursuant to the additional sale option is less than \$1.00, or if the average daily trading volume of the common shares for the 25 trading days with the lowest daily trading volumes during the 30 trading days prior to the sale of common stock pursuant to the additional sale option is less than 1,000,000 shares, the number of shares subject to the additional sale option may be reduced or eliminated, all as set forth in the subscription agreement. The exercise of the additional sale option is subject to certain other conditions set forth in the subscription agreement. Any shares of common stock purchased pursuant to the additional sale option, will be electronically delivered to the purchaser through the facilities of the depository trust company.

Common Stock

The material terms and provisions of our common stock are described under the caption Description of Common Stock starting on page 26 of the accompanying prospectus. Our authorized capital stock consists of 150,000,000 shares of common stock, par value \$.0001 per share. After taking into account the offering of the shares and the reservation of shares for the issuance upon exercise of the warrants, the Company will have outstanding 133,352,342 shares of common stock. In addition, the Company has also reserved shares of common stock for issuance under equity and compensation plans and upon conversion of preferred stock or payment of dividends totaling 20,903,599. Accordingly, before our additional share option can be exercised, we will be required to obtain stockholder approval to an amendment to our certificate of incorporation to increase the number of our authorized shares. There can be no assurance that we will obtain such approval on a timely basis.

Warrants

The warrants offered in this offering will be issued pursuant to a subscription agreement between the purchaser and us. You should review a copy of the form of subscription agreement and the form of warrant, each of which will be filed by us as an exhibit to a Current Report on Form 8-K filed with the Securities and Exchange Commission in connection with this offering, for a complete description of the terms and conditions applicable to the warrants. The following is a brief summary of the material terms of the warrants and is subject in all respects to the provisions contained in the warrants.

Exercisability. Holders may exercise the warrants beginning on the date that is six months and one day after the date of original issuance and at any time up to the date that is twenty-one months after such date of issuance. The warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). Unless otherwise specified in the applicable warrant, except upon at least 61 days prior notice from the holder to us, the holder will not have the right to exercise any portion of the warrant if the holder (together with its affiliates) would beneficially own in excess of 9.9% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrants.

Cashless Exercise. If at any time during the warrant exercisability period either (x) a registration statement covering the shares of common stock issuable upon exercise of the warrant that are the subject of such exercise notice (the Unavailable Warrant Shares), or an exemption from registration, is not available for the resale of such Unavailable Warrant Shares and the warrant holder so elects or (y) an

S-25

Table of Contents

exercise notice is delivered during a cashless exercise period, then in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the aggregate exercise price, elect instead to receive upon such exercise the net number of shares of common stock determined according to a formula set forth in the subscription agreement.

Exercise Price. The exercise price per share of common stock purchasable upon exercise of the warrants is \$2.29 per share of common stock being purchased. The exercise price is subject to appropriate adjustment in the event of stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock.

Transferability. Subjects to applicable laws and the restriction on transfer set forth in the subscription agreements, the warrants may be transferred at the option of the holders upon surrender of the warrants to us together with the appropriate instruments of transfer.

Insufficient Authorized Shares. If at any time from and after the one hundred and eightieth (180th) day following the warrant issuance date and while any of the warrants remain outstanding the Company does not have a sufficient number of authorized and unreserved shares of common stock to satisfy its obligation to reserve for issuance upon exercise of the warrant at least 100% of the maximum number of shares of common stock as shall from time to time be necessary to effect the exercise of all of the warrants then outstanding (without regard to any limitations on exercise) (the Required Reserve Amount), then the Company shall immediately deliver a notice to the warrant holder specifying the number of shares unavailable to satisfy its obligations under the warrant and shall take all action necessary to increase the Company's authorized shares of common stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for the warrants then outstanding. In the event that at the time of exercise of the warrant there are insufficient shares of common stock issuable under such warrant, then the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In the event that upon any exercise of the warrant at any time from and after the 180th day following the warrant issuance date, the Company does not have sufficient authorized shares to deliver in satisfaction of such exercise, then unless the warrant holder elects to void such exercise, the Company shall pay to the warrant holder within three (3) trading days of the applicable exercise, cash in an amount equal to the product of (i) the number of warrant shares that the Company is unable to deliver and (ii) the value of such portion of the warrant relating to such warrant shares based on the Black Scholes Option Pricing Model obtained from the σ OV function on Bloomberg determined as of the day prior to the date of the applicable exercise notice and reflecting (x) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of this warrant as of the applicable date of determination, (y) an expected volatility equal to 100%, and (z) a 360-day annualization factor.

Exchange Listing. We do not plan on making an application to list the warrants on The NASDAQ Global Market, any national securities exchange or other nationally recognized trading system.

Fundamental Transactions. In the event of any fundamental transaction, as described in the warrants and generally including any merger with or into another entity, sale of all or substantially all of our assets, tender offer or exchange offer, or reclassification of our common stock, then upon any subsequent exercise of a warrant, the holder shall have the right to receive as alternative consideration, for each share of our common stock that would have been issuable upon such exercise immediately prior to the occurrence of such fundamental transaction, the number of shares of common stock of the successor or acquiring corporation or of FuelCell, if it is the surviving corporation, and any additional consideration receivable upon or as a result of such transaction by a holder of the number of shares of our common stock for which the warrant is exercisable immediately prior to such event. In addition, in the event of a fundamental transaction in which the amount of the alternate consideration is less than the exercise price of the warrant, then we or any successor entity shall pay at the holder's option, exercisable at any time concurrently with or within thirty (30) days after the consummation of the fundamental transaction, an amount of cash equal to the value of the warrant as determined in accordance with the Black Scholes option pricing model.

Rights as a Stockholder. Except as otherwise provided in the warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their warrants.

Waivers and Amendments. Any term of the warrants may be amended or waived with our written consent and the written consent of the holders of warrants representing at least two-thirds of the number of shares of our common stock then subject to outstanding warrants,

S-26

Table of Contents

provided that such amendment or waiver applies to all warrants in the same fashion. However, in no event may the exercise price of or the number of shares of our common stock subject to any warrant be amended, nor may the right to exercise that warrant be waived, without the written consent of the holder of that warrant.

DILUTION

If you purchase any of the shares of common stock offered by this prospectus supplement, you will experience dilution to the extent of the difference between the offering price per share of common stock you pay in this offering and the net tangible book value per share of our common stock immediately after this offering. Our unaudited net tangible book value as of October 31, 2010, was approximately \$84.4 million, or \$0.71 per share of common stock. Net tangible book value per share is equal to our total tangible assets minus total liabilities, all divided by the number of shares of common stock outstanding. This calculation is on an as converted basis assuming conversion of preferred stock to common stock.

After giving effect to the sale of 10,160,428 shares of common stock in this offering at the public offering price of \$1.87 per share, and after deducting the placement agent's fee and our estimated offering expenses relating to the sale of the units, but excluding any potential exercise of the warrants or of the put right, our as adjusted net tangible book value as of January 7, 2011, would have been approximately \$102.2 million, or approximately \$0.79 per share of common stock. This represents an immediate increase in net tangible book value of approximately \$0.08 per share to existing stockholders and an immediate dilution of approximately \$1.08 per share to new investors. The following table illustrates this calculation on a per share basis:

Offering price per share	\$1.87
Net tangible book value per share as of October 31, 2010	\$0.71
Increase per share attributable to this offering	\$0.08
As adjusted net tangible book value per share after this offering	\$0.79
Dilution per share to new investors participating in this offering	\$1.08

The number of shares of common stock outstanding used for existing stockholders in both the table and calculations above is based on 113,031,486 shares outstanding as of January 3, 2011. The information above excludes the 10,160,428 shares of common stock issuable upon exercise of the warrants, and up to 10,000,000 shares issuable upon exercise of our additional sale option offered hereby and also excludes the following:

5,448,512 shares of our common stock issuable upon conversion of 64,020 shares of our 5% Series B Cumulative Convertible Perpetual Preferred Stock outstanding;

193,110 shares of our common stock issuable upon conversion of 1,000,000 Series 1 preferred shares issued by FuelCell Energy, Ltd., our wholly-owned Canadian subsidiary (formerly known as FCE Canada, Inc.) at the current conversion price under the terms of the agreement;

Approximately 7,482,703 shares of our common stock issuable upon payment of an accrued dividend obligation under the Series 1 preferred shares issued by FuelCell Energy, Ltd., our wholly-owned Canadian subsidiary (formerly known as FCE Canada, Inc.). The Company has the option of paying this obligation in cash or shares of common stock;

4,788,062 shares of our common stock issuable upon the exercise of options outstanding at January 3, 2011 under our equity plans;

1,957,358 shares of our common stock available as of January 3, 2011, for future issuance under our equity plans;

67,621 shares of our common stock available as of January 3, 2011, for future issuance under our employee stock purchase plan;

shares of our common stock and other securities up to an aggregate amount of \$150,000,000 pursuant to a shelf registration statement that we have filed with the SEC;

966,178 shares of our common stock available for employee bonuses; and

6,000,000 shares of our common stock available for future sale.

S-27

Table of Contents

To the extent that outstanding options are exercised, you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our shareholders.

PLAN OF DISTRIBUTION

We are offering the units through a placement agent, with each unit consisting of one share of common stock and warrants to purchase one share of common stock. Subject to the terms and conditions contained in the placement agent agreement, dated January 10, 2011, Lazard Capital Markets LLC has agreed to act as the placement agent for the sale of up to an aggregate of 10,160,428 units. The placement agent is not purchasing or selling any shares of common stock or warrants by this prospectus supplement or the accompanying prospectus, nor is it required to arrange for the purchase or sale of any specific number or dollar amount of units, but has agreed to use its commercially reasonable efforts to arrange for the sale of all units.

The placement agent agreement provides that the obligations of the placement agent and the investors are subject to certain conditions precedent, including the absence of any material adverse change in our business and the receipt of customary legal opinions, letters and certificates.

Confirmations and definitive prospectuses will be distributed or made available to all investors who agree to purchase the units, informing investors of the closing date as to such units. We currently anticipate that closing of the sale of units will take place on or about January 13, 2011. Investors will also be informed of the date and manner in which they must transmit the purchase price for their units.

On the scheduled closing date, the following will occur:

we will receive funds in the amount of the aggregate purchase price for the units we sell; and

Lazard Capital Markets LLC will receive the placement agent's fee in accordance with the terms of the placement agent agreement.

We will pay the placement agent an aggregate cash commission equal to 5% of the gross proceeds of the sale of units. We will also pay the placement agent an aggregate cash commission equal to 5% of the gross proceeds received from the exercise from any shares of common stock we sell to the investor pursuant to our additional sale right. We will also reimburse the placement agent for legal expenses incurred by it in connection with this offering. In no event will the total amount of compensation paid to the placement agent and other securities brokers and dealers upon completion of this offering exceed 8% of the gross proceeds of this offering. The estimated offering expenses payable by us, in addition to the placement agent's fee related to the sale of the units of \$0.9 million, are approximately \$0.3 million, which includes legal, accounting and printing costs and various other fees associated with registering and listing the common stock. After deducting certain fees due to the placement agent and our estimated offering expenses related to the sale of the units, we expect the net proceeds from such sale to be approximately \$17.8 million.

The relationship between Lazard Frères & Co. LLC and Lazard Capital Markets LLC is governed by a business alliance agreement between their respective parent companies. Pursuant to such agreement, Lazard Frères & Co. LLC referred this offering to Lazard Capital Markets LLC and will receive a referral fee from Lazard Capital Markets LLC in connection therewith; however, such referral fee is not in addition to the fee paid by us to Lazard Capital Markets LLC described above. We have agreed to indemnify the placement agent and Lazard Frères & Co. LLC against certain liabilities, including liabilities under the Securities Act of 1933, as amended, and liabilities arising from breaches of representations and warranties contained in the placement agent agreement. We have also agreed to contribute to payments the placement agent and Lazard Frères & Co. LLC may be required to make in respect of such liabilities.

We, along with our executive officers and directors, have agreed to certain lock-up provisions with regard to future sales of our common stock and other securities convertible into or exercisable or exchangeable for common stock for a period of ninety (90) days after the offering as set forth in the placement agent agreement.

S-28

Table of Contents

The placement agent agreement is included as an exhibit to our Current Report on Form 8-K that we will file with the SEC in connection with the consummation of this offering.

The transfer agent for our shares of common stock to be issued in this offering is American Stock Transfer & Trust Company.

Our common stock is traded on The NASDAQ Global Market under the symbol FCEL.

LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by Robinson & Cole LLP, Stamford, Connecticut. Certain matters will be passed upon for the placement agent by Proskauer Rose LLP, New York, New York.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934 and, therefore, we file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission (SEC). Our SEC filings are available to the public over the Internet at the SEC's website at www.sec.gov. The SEC's website contains reports, proxy and information statements and other information regarding issuers, such as us, that file electronically with the SEC. You may also read and copy any document we file with the SEC at the SEC's public Reference Room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549 and the web site of the SEC at www.sec.gov. You may also obtain copies of these documents at prescribed rates by writing to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of its Public Reference Room. Our common stock is quoted on The Nasdaq Global Market, and you may also inspect and copy our SEC filings at the offices of the National Association of Securities Dealers, Inc. located at 1735 K Street, N.W., Washington, D.C. 20006. The SEC maintains an Internet web site that contains reports, proxy and information statements and other information regarding issuers, including us, that file electronically with the SEC.

You should rely only on the information provided in, and incorporated by reference in, this prospectus supplement and the prospectus and the registration statement. We have not authorized anyone else to provide you with different information. Our securities are not being offered in any state where the offer is not permitted. You should assume that the information in this prospectus supplement is accurate only as of the dates of those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference information that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus supplement. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus, while information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference into this registration statement and prospectus the documents listed below, and any future filings we will make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934:

Our Annual Report on Form 10-K for the fiscal year ended October 31, 2009, filed with the SEC on January 14, 2010;

Our definitive proxy statement on Schedule 14A, filed with the SEC on February 12, 2010;

Our Quarterly Reports on Form 10-Q for the fiscal periods ended January 31, 2010, April 30, 2010 and July 31, 2010, filed with the SEC on March 12, 2010, June 9, 2010, and September 9, 2010, respectively;

Our current reports on Form 8-K, as filed with the SEC on November 2, 2009, December 11, 2009, February 3, 11, and 17, March 12, 19 and 29, April 13, June 8 and 25, July 8 and 28, September 2, December 15, 2010 and January 10, 2011; and

Table of Contents

The description of our common stock set forth in our registration statement on Form 8-A, filed with the SEC on June 6, 2000, including any amendments or reports filed for the purposes of updating this description.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to FuelCell Energy, Inc., Attention: Corporate Secretary, 3 Great Pasture Road, Danbury, Connecticut 06813, telephone: (203) 825-6000.

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to our securities offered hereby. This prospectus supplement, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules filed therewith. We have omitted certain parts of the registration statement as permitted by the rules and regulations of the SEC. For further information about us and our securities offered hereby, reference is made to the registration statement and the exhibits and schedules filed therewith. Statements contained in this prospectus supplement regarding the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and each such statement is qualified in all respects by reference to the full text of such contract or other document filed as an exhibit to the registration statement.

S-30

Table of Contents

THE INFORMATION CONTAINED IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. THESE SECURITIES MAY NOT BE SOLD UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IT IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

SUBJECT TO COMPLETION, DATED SEPTEMBER 10, 2010

PROSPECTUS

\$150,000,000
Debt Securities
Preferred Stock
Warrants
Common Stock

We may from time to time offer and sell any combination of debt securities, preferred stock, warrants and/or common stock described in this prospectus in one or more offerings. The aggregate initial offering price of all securities sold under this prospectus will not exceed \$150,000,000.

The securities may be offered to or through underwriters, through agents or dealers, directly to one or more purchasers or through a combination of such methods. See Plan of Distribution.

This prospectus provides a general description of the securities we may offer. Each time we sell securities, we will provide specific terms of the securities offered in a supplement to this prospectus. The prospectus supplement may also add, update or change information contained in this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest in any securities. This prospectus may not be used to consummate a sale of securities unless accompanied by the applicable prospectus supplement.

We will use the net proceeds received from the sale of the securities by the Company for general corporate purposes.

Our common stock is quoted on the Nasdaq Global Market under the symbol FCEL. No public market currently exists for the other securities offered hereby. The applicable prospectus supplement will contain information, where applicable, as to any other listing on any securities exchange of the securities covered by the prospectus supplement.

Our principal executive offices are located at 3 Great Pasture Road, Danbury, Connecticut 06813, and our telephone number is (203) 825-6000.

Investing in our securities involves risks that are described in the Risk Factors section beginning on page 5 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2010.

TABLE OF CONTENTS

	Page
<u>FORWARD-LOOKING STATEMENTS</u>	3
<u>ABOUT THIS PROSPECTUS</u>	3
<u>FUELCELL ENERGY, INC.</u>	3
<u>RISK FACTORS</u>	5
<u>RATIO OF EARNINGS TO COMBINED FIXED CHARGES AND PREFERRED DIVIDENDS</u>	18
<u>USE OF PROCEEDS</u>	18
<u>DESCRIPTION OF DEBT SECURITIES</u>	18
<u>DESCRIPTION OF CAPITAL STOCK</u>	26
<u>DESCRIPTION OF WARRANTS</u>	35
<u>PLAN OF DISTRIBUTION</u>	37
<u>DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES</u>	38
<u>LEGAL MATTERS</u>	38
<u>EXPERTS</u>	39
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	39
<u>INCORPORATION BY REFERENCE</u>	39

Table of Contents

FORWARD-LOOKING STATEMENTS

When used in this prospectus, 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, 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 prospectus 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, and 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 7 Management's Discussion and Analysis of Financial Condition and Results of Operations Factors That May Affect Future Results of our Annual Report on Form 10-K for the year ended October 31, 2009. 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 products or technology, once developed, will be 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 prospectus. 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.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission (SEC) utilizing a shelf registration process. Under this shelf registration process, we may sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$150,000,000. This prospectus provides you with a general description of the securities that we may offer. Each time we sell securities under this shelf registration, we will provide a prospectus supplement that will contain specific information about the terms of the offering. The prospectus supplement may also add, update or change information contained in this prospectus. If there is any inconsistency between the information in this prospectus and any prospectus supplement, you should rely on the information in that prospectus supplement. You should carefully read both this prospectus and any prospectus supplement, including documents incorporated by reference herein, together with the additional information described in the section entitled *Where You Can Find More Information*.

We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and the accompanying supplement to this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or the accompanying prospectus supplement. This prospectus and the accompanying supplement to this prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus and the accompanying supplement to this prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus and the accompanying prospectus supplement is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus and any accompanying prospectus supplement is delivered or securities sold on a later date.

FUELCELL ENERGY, INC.

FuelCell Energy, Inc. (FuelCell Energy, Company, we or us) is 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® power plants are generating power at over 50 locations worldwide. Our products have generated over 550 million kWh of power using a variety of fuels including renewable wastewater gas, food and beverage waste, natural gas and other hydrocarbon fuels.

Table of Contents

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 higher efficiency 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 executive offices are located at 3 Great Pasture Road, Danbury, Connecticut 06813. Our telephone number is (203) 825-6000. We maintain a web site at the following Internet address: *www.fuelcellenergy.com*. The information on our web site is not part of this prospectus.

Our proprietary carbonate DFC Power Plants electrochemically (without combustion) produce electricity directly from readily available hydrocarbon fuels such as natural gas and biogas. Customers buy fuel cells to reduce cost and pollution, and improve power reliability. Electric generation without combustion significantly reduces harmful pollutants such as NOX, SOX and particulates. 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. Greater efficiency reduces customers' exposure to volatile fuel costs and minimizes operating costs. Our fuel cells operate 24/7 providing reliable power to both on-site customers and for grid-support applications.

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

Near-zero toxic emissions;

High fuel efficiency;

Ability to site units locally as distributed power generation;

Potentially lower cost power generation;

By product heat ideal for cogeneration applications;

Reliable 24/7 base load power;

Quiet operation; and

Fuel flexibility.

Typical customers for our products include manufacturers, mission critical institutions such as correction facilities and government installations, hotels, natural gas letdown stations and customers who can use renewable gas for fuel such as breweries, food processors, and wastewater treatment facilities. 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 customers gain control of power generation economics, reliability, and emissions.

Our DFC Power Plants are protected by 62 U.S. and 67 international patents. We currently have 33 U.S. and 171 international patents under application.

As used in this prospectus, all degrees refer to Fahrenheit (°F), and kilowatt and megawatt numbers designate nominal or rated capacity of the referenced power plant. As used in this prospectus, kilowatt (kW) means 1,000 watts; megawatt (MW) means 1,000,000 watts; and kilowatt hour (kWh) is equal to 1 kW of power supplied to or taken from an electric circuit steadily for one hour. All dollar amounts are in U.S. dollars unless otherwise noted.

Table of Contents

RISK FACTORS

Investing in our common stock involves a high degree of risk. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties that we are unaware of, or that we currently deem immaterial, also may become important factors that affect us. Before purchasing our securities, you should carefully consider the following risk factors, as well as all other information contained in this prospectus and incorporated by reference, including our consolidated financial statements and the related notes. 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 securities could decline, and you may lose all or part of your investment.

Risks Related to Our Business

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.

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 investment tax credit, the incentive programs in South Korea and the state of California and state renewable

Table of Contents

portfolio standards 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, 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. Volatility in the U.S. and international stock markets, 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. Revenues earned are subject to accounting estimates and technology and operating risks as well as market conditions that may affect our operating results.

Revenue from sales of our power plants and modules are recognized under the percentage of completion method of accounting. Revenues are recognized proportionally as costs are incurred and assigned to a customer contract by comparing total expected costs for each contract to the total contract value. Prior to fiscal 2010, we did not provide 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, a contract loss reserve on product sales contracts is 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. For component and spare parts sales, revenue is recognized upon shipment under the terms of the customer contract.

Revenue earned by performing routine monitoring and maintenance under long term service agreements (LTSAs) is recognized ratably over the term of the contract. Costs for performing maintenance are recognized as incurred. For service contracts that include a minimum operating output over the course of the contract, a portion of the contract revenue is deferred until such time as it is earned through power plant performance.

Table of Contents

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 in these PPA entities, 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 state's 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 and enter into long-term service agreements which are subject to accounting estimates. Future technology and operating risks as may affect our operating results.

We warranty our products for a specific period of time against manufacturing or performance defects. Our warranty is limited to a term of generally 15 months after shipment or 12 months after installation of our products. We reserve for estimated future warranty costs based on historical experience. Given our limited operating experience, particularly for newer product designs, actual results could vary from initial estimates. Estimates used to record warranty reserves are updated as we gain further operating experience.

In addition to the standard product warranty, we have entered into LTSAs with certain customers to provide monitoring, maintenance and repair services for fuel cell power plants ranging from one to 13 years. Our standard service agreement term is five years. Under the terms of our LTSAs, the power plant must meet a minimum operating output during the term. If minimum output falls below the contract requirement, we may replace the customer's fuel cell stack with a new or used unit. Our contractual liability under LTSAs is limited to the amount of service fees payable under the contract. This can often times be less than the cost of a new stack replacement. In order to continue to meet customer expectations on early product designs, at our election we have often incurred costs in excess of our contractual liabilities.

While we currently expect that LTSA's for power plants that have our newer five-year stack design should not require a stack change to continue to meet minimum operating levels during the initial five-year term of the contract, we have limited operating experience with these products. The Company will continue to monitor performance and life of these stacks based on actual performance at customer sites. Stack replacements for new agreements which include the five-year stack design are expected to only be required upon renewal of the service agreement. Accordingly, five-year LTSAs with our five-year stack design have not required a contract loss reserve. We expect the replacement of older stacks produced prior to the five-year stack design to continue over the next several years, and, as a result, we may continue to incur losses in order to maintain power plants to the extent costs exceed our contract loss reserves on these legacy service agreements. Future costs for maintaining legacy service agreements will be determined by a number of factors, including the estimated life of the stack, used replacement stacks available, our limit of liability on service agreements and future operating plans for the power plant. If our expectations are incorrect for our five-year stack design, we could 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.

Our products are complex and could contain defects which could reduce sales of our 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. Our customers could also seek and obtain damages from us for their losses. 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.

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

Table of Contents

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 proton exchange membrane 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 (POSCO) owns, as of July 31, 2010, approximately 10 percent of our outstanding common stock, which could make it difficult for a third party to acquire our common stock. POSCO is also a licensee of our technology and purchaser of our products. Therefore, it may be in POSCO 's interest 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.

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.

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 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,

Table of Contents

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.

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 nine months ended July 31, 2010 our top three customers (Posco Power, Pacific Gas and Electric Company and the U.S. Department of Energy and other governmental agencies) accounted for 84 percent of our total annual consolidated revenue. For the fiscal years ended October 31, 2009, 2008 and 2007, our top two customers, POSCO Power and the U.S. Department of Energy and other governmental agencies, accounted for 80 percent, 62 percent and 45 percent, respectively of our total annual consolidated revenue. Our largest strategic partner, POSCO Power, accounted for 64 percent, 46 percent and 13 percent of total revenues, and the DOE and other governmental agencies accounted for 16 percent, 17 percent and 31 percent of total revenues for the fiscal years ended October 31, 2009, 2008 and 2007, respectively.

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.

Table of Contents

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.

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.

Table of Contents

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 July 31, 2010, we had a total of 449 full-time employees; however, we cannot assure you that we will continue to qualify as a small business in the future.

Our future success and growth is dependent on our distribution 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 and 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.

Table of Contents

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 July 31, 2010, we had 62 current U.S. patents and 67 international patents covering our fuel cell technology. These patents will expire between 2010 and 2028 and have an average remaining life of 11 years.

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

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

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

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

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

Our future success will depend on our ability to attract and retain qualified management and technical personnel.

Our future success is substantially dependent on the continued services and 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

Table of Contents

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.

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.

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

Table of Contents

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 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 65 percent, 50 percent and 34 percent of our consolidated revenue in fiscal 2009, 2008 and 2007, respectively. Sales to customers in Asia 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 war, insurrection, civil unrest, strikes and other political risks, renegotiation of contracts with governmental entities, unexpected changes in regulatory requirements, fluctuations in currency restrictions and 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. Our international operations may also be adversely affected by laws and policies of the United States affecting foreign policy, foreign trade, taxation and the possible inability to subject foreign persons to the jurisdiction of the courts in the United States. Any of these factors could adversely affect our results of operations and financial condition.

Potential Regulations regarding climate change could alter the way we conduct our business.

Governments around the world are beginning to address climate change matters. This may result in new environmental regulations that may unfavorably impact us, our suppliers and our customers. The cost of meeting these requirements may have an adverse impact on our financial condition, results of operations and cash flows.

Table of Contents

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.

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 sales 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.

The rights of the Series 1 preferred shares and Series B preferred stock could negatively impact FuelCell and our Stockholders.

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, 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

Table of Contents

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 must be paid by December 31, 2010. Dividend and accrued interest payments can be made in cash or common stock at the option of the FCE, and such shares issued may be unregistered. Using an exchange rate of Cdn.\$0.9592 to U.S.\$1.00 (exchange rate on September 9, 2010), cumulative unpaid dividends and accrued interest on the Series 1 Preferred Shares was \$10.6 million as of September 9, 2010. 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. We have guaranteed FCE's dividend obligations under the Series 1 preferred shares.

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 \$1.11 (our common stock closing price on September 9, 2010) and an exchange rate of Cdn.\$0.9592 to U.S.\$1.00 (exchange rate on September 9, 2010) at the time of conversion, we would be required to issue approximately 23,730,507 shares of our common stock.

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

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

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

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

The methods, estimates and judgments we use in applying our accounting policies have a significant impact on our results of operations (see "Critical Accounting Policies and Estimates" in Part II, Item 7 of our Annual Report on Form 10-K for the year ended October 31, 2009 and Note 1 of Notes to Consolidated Financial Statements of our Form 10-Q for the nine months ended July 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, warranty 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.

Table of Contents

Risks Related to this Offering

Management will have broad discretion as to the use of the proceeds of this offering.

We have not designated the amount of net proceeds we will receive from this offering for any particular purpose. Accordingly, our management will have broad discretion as to the application of these net proceeds and could use them for purposes other than those contemplated at the time of this offering. Our stockholders may not agree with the manner in which our management chooses to allocate and spend the net proceeds.

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.

Table of Contents**RATIO OF EARNINGS TO COMBINED FIXED CHARGES AND PREFERRED DIVIDENDS**

The ratio of our earnings to fixed charges are set forth below for each of the periods indicated.

	Nine Months Ended July 31,		Fiscal Year Ended October 31,				
	2010(1)	2009(2)	2008 (2)	2007 (2)	2006 (2)	2005 (2)	2004 (2)
Ratio of earnings to fixed charges and preference dividends	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) For the nine months ended July 31, 2010, our earnings were insufficient to cover fixed charges. The coverage deficiency was \$43.6 million.

(2) For the fiscal years ended October 31, 2009, 2008, 2007, 2006, 2005 and 2004, our earnings were insufficient to cover fixed charges. The coverage deficiencies were \$68.6 million, \$92.9 million, \$68.9 million, \$83.3 million, \$71.5 million and \$88.2 million, respectively.

For purposes of calculating the ratios of earnings to fixed charges, (i) fixed charges consist of interest on debt, amortization of discount on debt, capitalized interest, and preferred dividends and (ii) earnings consist of pre-tax income from operations and fixed charges (excluding capitalized interest) and include the amortization of capitalized

interest.

USE OF PROCEEDS

Except as may be provided in an applicable prospectus supplement, we will use the net proceeds from the sale of the debt securities, preferred stock, warrants and/or common stock for market and product development, project financing and general corporate purposes. General corporate purposes may include capital expenditures, repayment of debt, payment of dividends and any other purposes that we may specify in any prospectus supplement. We may invest the net proceeds temporarily until we use them for their stated purpose.

DESCRIPTION OF DEBT SECURITIES

We may from time to time offer and sell debt securities consisting of debentures, notes and/or other unsecured evidences of indebtedness (the Debt Securities). The following description of Debt Securities will apply to the Debt Securities offered by this prospectus unless we provide otherwise in the applicable prospectus supplement. The applicable prospectus supplement for a

Table of Contents

particular series of Debt Securities may specify different or additional terms.

The Debt Securities will be either our unsecured senior debt securities (the Senior Debt Securities) or our unsecured subordinated debt securities (the Subordinated Debt Securities). The Senior Debt Securities may be issued under an Indenture (the Senior Indenture) between us and a trustee that will be identified in a prospectus supplement (the Senior Trustee). The Senior Debt Securities will be our direct, unsecured obligations and will rank equally with all of our outstanding unsecured senior indebtedness. The Subordinated Debt Securities may be issued under a second indenture (the Subordinated Indenture) between us and a trustee that will be identified in a prospectus supplement (the Subordinated Trustee), which may be the same as the Senior Trustee. The Subordinated Debt Securities will be our

direct, unsecured obligations and, unless otherwise specified in the prospectus supplement relating to a particular series of Subordinated Debt Securities offered by such prospectus supplement, will be subject to the subordination provisions set forth under the heading Subordination of the Subordinated Debt Securities below. The Senior Indenture and the Subordinated Indenture are together called the Indentures and the Senior Trustee and the Subordinated Trustee are together called the Trustee.

The following summary of certain provisions of the Indentures is not complete. You should refer to the form of each Indenture, copies of which will be filed as exhibits to the registration statement of which this prospectus is a part.

The following section describes certain general terms and provisions of the Debt Securities. The Debt Securities may be issued from time to time in one or more series. The particular terms of each series of Debt Securities offered by any prospectus supplement will be described in that prospectus supplement.

General. An Indenture will not limit the aggregate principal amount of Debt Securities that we may issue. Each Indenture may provide that Debt Securities of any series may be issued under it up to the aggregate principal amount authorized from time to time by us and may be denominated in any currency or currency unit that we designate. We will determine the terms and conditions of each series of Debt Securities, including the maturity, principal and interest, but those terms must be consistent with the Indenture. Unless set forth in the applicable prospectus supplement, neither the Indentures nor the Debt Securities will limit or otherwise restrict the amount of other indebtedness that we may incur or the other securities that we may issue.

The prospectus supplement relating to each series of Debt Securities being offered will specify the particular terms of those Debt Securities. The terms may include:

- the title of the Debt Securities and whether they are Senior Debt Securities or Subordinated Debt Securities;

- any limit on the aggregate principal amount of the Debt Securities;

- the priority of payment of the Debt Securities, including any subordination provisions;

- the price or prices (which may be expressed as a percentage of the aggregate principal amount thereof) at which the Debt Securities will be issued;

- the date or dates on which the principal and premium, if any, of the Debt Securities are payable;

- the interest rate or rates (which may be fixed or variable) of the Debt Securities, if any;

- the interest payment date or dates, if any, or the method or methods by which such dates may be determined, if any, the date or dates on which payment of interest, if any, will commence, the date or dates from which interest will accrue and the regular record dates for such interest payment dates;

- the extent to which any of the Debt Securities will be issuable in temporary or permanent global form, or the manner in which any interest payable on a temporary or permanent Global Security (as defined herein) will be paid;

each office or agency where, subject to the terms of the applicable Indenture, the Debt Securities may be presented for registration of transfer or exchange;

Table of Contents

the place or places where, subject to the terms of the applicable Indenture, the principal (and premium, if any) and interest, if any, on the Debt Securities will be payable;

the terms and conditions on which we may redeem any Debt Securities, if at all;

any obligation to redeem or purchase any Debt Securities and the terms and conditions on which we must do so;

the denomination or denominations in which the Debt Securities will be issuable if other than \$1,000 and integral multiples thereof;

the currency, currencies or units based on or related to currencies for which the Debt Securities may be purchased and the currency, currencies or currency units in which the principal of, premium, if any, and any interest on such Debt Securities may be payable;

whether the Debt Securities will be convertible into shares of our common stock or preferred stock, or other securities or property, and, if so, the terms of such conversion;

any index used to determine the amount of payments of principal of, premium, if any, and interest on the Debt Securities;

the payment of any additional amounts with respect to the Debt Securities;

whether any of the Debt Securities will be issued as Original Issue Discount Securities (as defined below) and the terms and provisions relating to these securities;

information with respect to book-entry procedures relating to Global Securities, if any;

if applicable, that the Debt Securities are defeasible;

any additional covenants or Events of Default not set forth in the applicable Indenture or changes in the covenants or Events of Default set forth in the applicable Indenture; and

any other terms of the Debt Securities not inconsistent with the provisions of the applicable Indenture.

Debt Securities may be issued as original issue discount Debt Securities (bearing no interest or interest at a rate that at the time of issuance is below market rates) (Original Issue Discount Securities), to be sold at a substantial discount below their stated principal amount. There may not be any periodic payments of interest on Original Issue Discount Securities. In the event of an acceleration of the maturity of any Original Issue Discount Security, the amount payable to the holder of such Original Issue Discount Security upon such acceleration will be set forth in the prospectus supplement and determined in accordance with the terms of such security and the applicable Indenture, but will be an amount less than the amount payable at the maturity of the principal of such Original Issue Discount Security. The federal income tax considerations with respect to Original Issue Discount Securities will be explained in the prospectus supplement we prepare for the Original Issue Discount Securities.

Conversion and Exchange Rights. The prospectus supplement will describe, if applicable, the terms on which you may convert Debt Securities into or exchange them for our common stock, our preferred stock or other securities or property. The conversion or exchange may be mandatory or may be at your option. We will describe how the number of shares of our common stock, our preferred stock or other securities or property to be received upon conversion or exchange would be calculated.

Form, Exchange and Transfer. We will issue Debt Securities only in fully registered form, without coupons, and, unless otherwise specified in the prospectus supplement, only in denominations of \$1,000 and integral multiples

thereof.

The holder of a Debt Security may elect, subject to the terms of the applicable Indenture and the limitations applicable to Global Securities, to exchange them for other Debt Securities of the same series of any authorized denomination and of a like tenor and aggregate principal amount.

20

Table of Contents

Holders of Debt Securities may present them for exchange as provided above or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed, at the office of the transfer agent we designate for the purpose. We will not impose a service charge for any registration of transfer or exchange of Debt Securities, but we may require a payment sufficient to cover any tax or other governmental charge payable in connection with the transfer exchange. We will name the transfer agent in the prospectus supplement. We may designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, but we must maintain a transfer agent in each place of payment for the Debt Securities.

If we redeem the Debt Securities, we will not be required to issue, register the transfer of or exchange any Debt Security during a specified period prior to mailing a notice of redemption. We are not required to register the transfer of or exchange any Debt Security selected for redemption, except the unredeemed portion of the Debt Security being redeemed.

Payment and Paying Agents. Unless otherwise stated in the prospectus supplement, we will pay principal and any premium or interest on a Debt Security to the person in whose name the Debt Security is registered at the close of business on the regular record date for such interest.

Unless otherwise stated in the prospectus supplement, we will pay principal and any premium or interest on the Debt Securities at the office of our designated paying agent, except we may pay interest by check mailed to the address of the person entitled to the payment. Unless we state otherwise in the prospectus supplement, the corporate trust office of the Trustee will be the paying agent for the Debt Securities.

Any other paying agents we designate for the Debt Securities of a particular series will be named in the prospectus supplement. We may designate additional paying agents, rescind the designation of any paying agent or approve a change in the office through which any paying agent acts, but we must maintain a paying agent in each place of payment for the Debt Securities.

The paying agent will return to us all money we pay to it for the payment of the principal, premium or interest on any Debt Security that remains unclaimed for a specified period. The holder thereafter may look only to us for payment.

Global Securities. The Debt Securities of any series may be represented by one or more global securities (each, a Global Security and, together, the Global Securities) that will have an aggregate principal amount equal to that of the Debt Securities of that series. Each Global Security will be registered in the name of a depositary identified in the prospectus supplement. We will deposit the Global Security with the depositary or a custodian, and the Global Security will bear a legend regarding the restrictions on exchanges and registration of transfer.

No Global Security may be exchanged in whole or in part for Debt Securities registered, and no transfer of a Global Security in whole or in part may be registered, in the name of any person other than the depositary or any nominee of the depositary unless (1) the depositary has notified us that it is unwilling or unable to continue as depositary or (2) an event of default occurs and continues with respect to the Debt Securities. The depositary will determine how all securities issued in exchange for a Global Security will be registered.

As long as the depositary or its nominee is the registered holder of a Global Security, the depositary or the nominee will be considered the sole owner and holder of the Global Security and the underlying Debt Securities. Except as stated above, owners of beneficial interests in a Global Security will not be entitled to have the Global Security or any Debt Security registered in their names, will not receive physical delivery of certificated Debt Securities and will not be considered to be the owners or holders of the Global Security or underlying Debt Securities. We will make all payments of principal, premium and interest on a Global Security to the depositary or its nominee. The laws of some jurisdictions require that certain purchasers of securities take physical delivery of such securities in definitive form. These laws may prevent you from transferring your beneficial interests in a Global Security.

Only institutions that have accounts with the depositary or its nominee and persons that hold beneficial interests through the depositary or its nominee may own beneficial interests in a Global Security. The depositary will credit, on its book-entry registration and transfer system, the respective principal amounts of Debt Securities represented by the Global Security to the accounts of its participants. Ownership of beneficial interests in a Global Security will be shown only on, and the transfer of those ownership interests will be effected only through, records maintained by the depositary or any such participant.

Table of Contents

The policies and procedures of the depositary may govern payments, transfers, exchanges and other matters relating to beneficial interests in a Global Security. We and the Trustee assume no responsibility or liability for any aspect of the depositary's or any participant's records relating to, or for payments made on account of, beneficial interests in a Global Security.

The specific terms of the depositary arrangement with respect to any series of Debt Securities will be described in the applicable prospectus supplement.

Consolidation, Merger and Sale of Assets. Each Indenture may provide that we may, without the consent of the holders of any of the Debt Securities outstanding under the applicable Indenture, consolidate with, merge into or transfer our assets substantially as an entirety to any person, provided that:

any successor assumes our obligations on the applicable Debt Securities and under the applicable Indenture;

after giving effect to the transaction, there is no Default or Event of Default that is continuing; and

certain other conditions under the applicable Indenture are met.

Accordingly, such consolidation, merger or transfer of assets substantially as an entirety, which meets the conditions described above, would not create any Event of Default which would entitle holders of the Debt Securities, or the Trustee on their behalf, to take any of the actions described below under Events of Default.

Leveraged and Other Transactions. Unless otherwise specified in the applicable prospectus supplement, the Indentures and the Debt Securities will not contain, among other things, provisions that would protect holders of the Debt Securities in the event of a highly leveraged or other transaction involving us that could adversely affect the holders of Debt Securities.

Modification of the Indentures; Waiver. Each Indenture may provide that, with the consent of the holders of not less than a majority in aggregate principal amount of the outstanding Debt Securities of each affected series, modifications and alterations of such Indenture may be made that affect the rights of the holders of such Debt Securities. However, no such modification or alteration may be made without the consent of the holder of each Debt Security so affected which would, among other things:

change the maturity of the principal of, or of any installment of interest (or premium, if any) on, any Debt Security issued pursuant to such Indenture;

change the principal amount thereof, premium thereon, if any, or interest thereon;

change the method of calculation of interest or the currency of payment of principal or interest (or premium, if any) thereon;

reduce the minimum rate of interest thereon;

impair the right to bring suit for the enforcement of any such payment on or with respect to any such Debt Security;

reduce the amount of principal of an Original Issue Discount Security that would be due and payable upon an acceleration of the maturity thereof;

reduce the above-stated percentage in principal amount of outstanding Debt Securities of any series required to modify or alter such Indenture;

in the case of Subordinated Debt Securities, modify the subordination provisions in a manner materially adverse to their holders;

in the case of Debt Securities that are convertible or exchangeable into our other securities, adversely affect the right of holders to convert or exchange any of the Debt Securities;

reduce the percentage in principal amount of outstanding Debt Securities of any series necessary for waiver of compliance with certain provisions of an Indenture or for waiver of certain defaults;

Table of Contents

modify provisions with respect to modification and waiver; or

change our obligation to maintain an office or agency as required by the applicable Indenture.

The holders of a majority in aggregate principal amount of the outstanding Debt Securities of any series may waive, on behalf of the holders of all Debt Securities of that series, our compliance with certain restrictive provisions of any Indenture. Prior to the acceleration of the maturity of the Debt Securities of any series outstanding under an Indenture, the holders of a majority in aggregate principal amount of the outstanding Debt Securities of any series may waive any past default under an Indenture with respect to Debt Securities of that series, except a default (1) in the payment of principal, premium or interest on any Debt Security of that series or (2) in respect of a covenant or provision of an Indenture that cannot be amended without each holder's consent.

Except in certain limited circumstances, we may set any day as a record date for the purpose of determining the holders of outstanding Debt Securities of any series entitled to give or take any direction, notice, consent, waiver or other action under an Indenture. In certain limited circumstances, the Trustee may set a record date for action by holders. To be effective, the action must be taken by holders of the requisite principal amount of such Debt Securities within a specified period following the record date.

Events of Default. An Event of Default with respect to the Debt Securities of any series may be defined in an applicable Indenture as:

default in the payment of principal of or premium, if any, on any Debt Security of that series when due, whether or not, in the case of Subordinated Debt Securities, such payment is prohibited by the Subordinated Indenture;

default in the payment of interest on any Debt Security of that series when due, which continues for 30 days, whether or not, in the case of Subordinated Debt Securities, such payment is prohibited by the Subordinated Indenture;

failure to deposit any sinking fund payment, when due, in respect of any Debt Security of that series, whether or not, in the case of Subordinated Debt Securities, such payment is prohibited by the subordination provisions of the Subordinated Indenture;

default in the performance by us of any of our other covenants in the applicable Indenture with respect to the Debt Securities of such series, which continues for 90 days after written notice by the Trustee or the holders of at least 25% in aggregate principal amount of the Debt Securities of that series;

certain events of bankruptcy, insolvency or reorganization affecting us; and

any other event that may be specified in a prospectus supplement with respect to any series of Debt Securities.

If an Event of Default (other than an Event of Default relating to events of bankruptcy, insolvency or reorganization) with respect to any series of Debt Securities occurs and is continuing, either the Trustee or the holders of at least 25% in aggregate principal amount of the Debt Securities of such series outstanding may declare the principal amount (or if such Debt Securities are Original Issue Discount Securities, such portion of the principal amount as may be specified in the terms of that series) of all Debt Securities of that series to be immediately due and payable. If an Event of Default relating to events of bankruptcy, insolvency or reorganization with respect to the Debt Securities of any series at the time outstanding shall occur, the principal amount of all the Debt Securities of that series (or, in the case of any such Original Issue Discount Security, such specified amount) will automatically, and without any action by the applicable Trustee or any holder, become immediately due and payable. After any such acceleration, but before a judgment or decree based on acceleration, the holders of a majority in principal amount of the outstanding Debt Securities of that series may, under certain circumstances, rescind and annul such acceleration if all Events of Default, other than the non-payment of accelerated principal (or other specified amount), have been

cured or waived as provided in the applicable Indenture. For information as to waiver of defaults, see Modification of the Indentures; Waiver.

If an Event of Default occurs and is continuing, the Trustee may, in its discretion, and at the written request of holders of not less than a majority in aggregate principal amount of the Debt Securities of any series, and upon reasonable indemnity against the costs, expenses and liabilities to be incurred in compliance with such request and subject to certain other conditions set forth in the applicable Indenture will, proceed to protect the rights of the holders of all the Debt Securities of such series.

Table of Contents

The Indentures will provide that upon the occurrence of an Event of Default relating to payments of principal of, premium, if any, or interest on any Debt Security, we will, upon demand of the Trustee, pay to it, for the benefit of the holder of any such Debt Security, the whole amount then due and payable on such Debt Securities for principal, premium, if any, and interest. The Indentures will further provide that if we fail to pay such amount upon such demand, the Trustee may, among other things, institute a judicial proceeding for the collection of the amount due.

No holder of a Debt Security of any series may institute any proceeding with respect to an Indenture, or for the appointment of a receiver or a trustee, or for other remedy, unless (1) the holder has previously given the Trustee written notice of a continuing event of default, (2) the holders of at least 25% in aggregate principal amount of the outstanding Debt Securities of that series have made a written request, and the holders have offered reasonable indemnity to the Trustee to institute the proceeding, and (3) the Trustee has failed to institute the proceeding, and has not received a direction inconsistent with the request within 60 days of such notice. The Indenture may also provide that, notwithstanding any other provision of the applicable Indenture, the holder of any Debt Security of any series will have the right to institute suit for the enforcement of any payment of principal of, premium, if any, and interest on such Debt Securities when due and that such right will not be impaired without the consent of such holder.

We are required to file annually with the applicable Trustee a written statement as to the existence or non-existence of defaults under the Indentures or the Debt Securities.

Subordination of the Subordinated Debt Securities. The Subordinated Debt Securities will be our direct, unsecured obligations and, unless otherwise specified in the prospectus supplement relating to a particular series of Subordinated Debt Securities offered by such prospectus supplement, will be subject to the subordination provisions described in this section. Upon any distribution of our assets due to any dissolution, winding up, liquidation or reorganization, the payment of the principal of, premium, if any, and interest on the Subordinated Debt Securities is to be subordinated in right of payment to all Senior Indebtedness. In certain events of bankruptcy or insolvency, the payment of the principal of and interest on the Subordinated Debt Securities will, to the extent provided in a Subordinated Indenture, also be effectively subordinated in right of payment to all General Obligations (as defined below).

Upon any distribution of our assets due to any dissolution, winding up, liquidation or reorganization, the holders of Senior Indebtedness will first be entitled to receive payment in full of all amounts due or to become due before the holders of the Subordinated Debt Securities will be entitled to receive any payment in respect of the Subordinated Debt Securities. If upon any such payment or distribution of assets, after giving effect to such subordination provisions in favor of the holders of Senior Indebtedness, (i) there remain any amounts of cash, property or securities available for payment or distribution in respect of the Subordinated Debt Securities (Excess Proceeds) and (ii) if, at such time, any creditors in respect of General Obligations have not received payment in full of all amounts due or to become due on or in respect of such General Obligations, then such Excess Proceeds will first be applied to pay or provide for the payment in full of such General Obligations before any payment or distribution may be made in respect of the Subordinated Debt Securities.

In addition, no payment may be made on the Subordinated Debt Securities, or in respect of any redemption, retirement, purchase or other acquisition of any of the Subordinated Debt Securities, at any time in the event: there is a default in the payment of the principal of, premium, if any, interest on or otherwise in respect of any Senior Indebtedness; or

any event of default with respect to any Senior Indebtedness has occurred and is continuing or would occur as a result of such payment on the Subordinated Debt Securities or any redemption, retirement, purchase or other acquisition of any of the Subordinated Debt Securities, permitting the holders of such Senior Indebtedness to accelerate the maturity thereof.

Except as described above, our obligation to make payments of the principal of, premium, if any, or interest on the Subordinated Debt Securities will not be affected.

By reason of the subordination in favor of the holders of Senior Indebtedness, in the event of a distribution of assets upon any dissolution, winding up, liquidation or reorganization, our creditors who are not holders of Senior Indebtedness or the Subordinated Debt Securities may recover less, proportionately, than holders of Senior

Indebtedness and may recover more, proportionately, than holders of the Subordinated Debt Securities.

Table of Contents

Subject to payment in full of all Senior Indebtedness, the holders of Subordinated Debt Securities will be subrogated to the rights of the holders of Senior Indebtedness to receive payments or distributions of cash, property or our securities applicable to Senior Indebtedness. Subject to payment in full of all General Obligations, the holders of the Subordinated Debt Securities will be subrogated to the rights of the creditors in respect of General Obligations to receive payments or distributions of cash, property or our securities applicable to such creditors in respect of General Obligations.

Senior Indebtedness for purposes of a Subordinated Indenture is the principal of, premium, if any, and interest on:

all of our indebtedness for money borrowed (other than (i) the Subordinated Debt Securities and (ii) the Junior Subordinated Indebtedness (as defined below)) whether outstanding on the date of execution of the Subordinated Indenture or created, assumed or incurred after that date, except such indebtedness as is by its terms expressly stated to be not superior in right of payment to the Subordinated Debt Securities or to rank equally with the Subordinated Debt Securities; and

any deferrals, renewals or extensions of any such Senior Indebtedness.

The term indebtedness for money borrowed as used in this prospectus includes, without limitation, any obligation of, or any obligation guaranteed by us for the repayment of borrowed money, whether or not evidenced by bonds, debentures, notes or other written instruments, and any deferred obligation for the payment of the purchase price of property or assets. A Subordinated Indenture would not limit our issuance of additional Senior Indebtedness.

The Subordinated Debt Securities will rank senior in right of payment to our Junior Subordinated Indebtedness upon any distribution of our assets due to any dissolution, winding up, liquidation or reorganization, to the extent provided in the instruments creating our Junior Subordinated Indebtedness. Junior Subordinated Indebtedness is the principal of, premium, if any, and interest on:

all of our indebtedness for money borrowed whether outstanding on the date of the execution of a Subordinated Indenture or created, assumed or incurred after that date that is by its terms subordinated to the Subordinated Debt Securities; and

any deferrals, renewals or extensions of any of such Junior Subordinated Indebtedness.

Unless otherwise specified in the prospectus supplement relating to a particular series of Subordinated Debt Securities offered thereby, the term General Obligations means all obligations to make payment on account of claims in respect of derivative products such as interest and foreign exchange rate contracts, commodity contracts and similar arrangements, other than:

obligations on account of Senior Indebtedness;

obligations on account of indebtedness for money borrowed ranking equal with or subordinate to the Subordinated Debt Securities; and

obligations which by their terms are expressly stated not to be senior in right of payment to the Subordinated Debt Securities or to rank equally with the Subordinated Debt Securities.

Unless otherwise specified in the prospectus supplement relating to any series of Subordinated Debt Securities, payment of principal of the Subordinated Debt Securities may be accelerated only in case of the bankruptcy, insolvency or reorganization of our company.

Defeasance and Covenant Defeasance. To the extent stated in the prospectus supplement, we may elect to apply the provisions relating to defeasance and discharge of indebtedness, or to defeasance of certain restrictive covenants in the Indentures, to the Debt Securities of any series.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

General

The following is a summary of the rights of our common stock and preferred stock and related provisions of our certificate of incorporation and bylaws. For more detailed information, please see our certificate of incorporation and bylaws, as amended.

Authorized and Outstanding Capital Stock

Our authorized capital stock consists of 150,000,000 shares of common stock, par value \$.0001 per share, and 250,000 shares of preferred stock, par value \$.01 per share, issuable in one or more series designated by our board of directors, of which 105,875 shares of our preferred stock have been designated as 5% Series B Cumulative Convertible Perpetual Preferred Stock (Series B preferred stock). On July 31, 2010, 112,950,468 shares of our common stock were issued and outstanding and 64,020 shares of our Series B preferred stock were issued and outstanding. No other shares of our preferred stock are issued and outstanding. There are Series 1 preferred shares of our Canadian subsidiary, FuelCell Energy, Ltd., issued and outstanding and convertible into shares of FuelCell Energy, Inc. common stock.

In addition, as of July 31, 2010, there were outstanding options to purchase 5,238,101 shares of our common stock under our equity incentive plans, 1,947,222 shares of our common stock were available for future issuance under our equity incentive plans, and 127,703 shares of our common stock were available for future issuance under our employee stock purchase plan. In addition, as of July 31, 2010, we were obligated, if and when the holder exercises its conversion rights, to issue approximately 193,110 shares of our common stock upon conversion of the Series 1 preferred shares. As of July 31, 2010, there were 662 holders of record of our common stock.

Common Stock

Voting Rights

The holders of our common stock have one vote per share. Holders of our common stock are not entitled to vote cumulatively for the election of directors. Generally, all matters to be voted on by shareholders must be approved by a majority, or, in the case of the election of directors, by a plurality, of the votes entitled to be cast at a meeting at which a quorum is present by all shares of our common stock present in person or represented by proxy, voting together as a single class, subject to any voting rights granted to holders of any then outstanding preferred stock.

Dividends

Holders of our common stock will share ratably in any dividends declared by the board of directors, subject to the preferential rights of any of our preferred stock then outstanding. Dividends consisting of shares of our common stock may be paid to holders of shares of our common stock.

Other Rights

In the event of our liquidation, dissolution or winding up, after payment of liabilities and liquidation preferences on any of our preferred stock then outstanding, the holders of shares of our common stock are entitled to share ratably in all assets available for distribution. Holders of shares of our common stock have no preemptive rights or rights to convert their shares of our common stock into any other securities. There are no redemption or sinking fund provisions applicable to the common stock.

Preferred Stock

This section describes the general terms of our preferred stock, \$0.01 par value, to which any prospectus supplement may relate. Certain terms of any series of our preferred stock offered by any prospectus supplement will be described in such prospectus supplement. If so indicated in the prospectus supplement, the terms of that series may differ from the terms described below. The provisions of our preferred stock described below are not complete. You should refer to our certificate of incorporation and any certificate of amendment to our certificate of incorporation or certificate of designations filed with the SEC in connection with the offering of our preferred stock.

Table of Contents

Under our certificate of incorporation, our board of directors has the authority, without further shareholder action, to issue from time to time, preferred stock in one or more series and for such consideration as may be fixed from time to time by our board of directors. Our board also has the authority to fix and determine, in the manner provided by law, the relative rights and preferences of the shares of any series so established, such as dividend and voting rights. Our certificate of incorporation authorizes 250,000 shares of preferred stock. Prior to the issuance of each series of preferred stock, our board will adopt resolutions creating and designating the series as a series of preferred stock. The board of directors may, without shareholder approval, issue preferred stock with voting and other rights that could adversely affect the voting power and other rights of the holders of our common stock and could have anti-takeover effects.

Our preferred stock will have the dividend, liquidation, redemption, voting and conversion rights set forth below unless otherwise specified in the applicable prospectus supplement. You should read the prospectus supplement relating to the particular series of preferred stock offered thereby for specific terms, including:

the designation, stated value and liquidation preference of such preferred stock and the number of shares offered;

the initial public offering price at which the preferred stock will be issued;

the dividend rate or rates (or method of calculation), the dividend periods, the date on which dividends will be payable and whether such dividends will be cumulative or noncumulative and, if cumulative, the dates from which dividends will begin to cumulate;

any redemption or sinking fund provisions;

any conversion provisions; and

any additional rights, preferences, privileges, qualifications, limitations and restrictions of the preferred stock.

Unless otherwise specified in the applicable prospectus supplement, the shares of each series of preferred stock will upon issuance rank equally in all respects with each other then outstanding series of preferred stock.

Preferred stock could be issued quickly with terms that could delay or prevent a change of control or make the removal of management more difficult. Additionally, the issuance of preferred stock may decrease the market price of our common stock and may adversely affect the voting and other rights of the holders of our common stock.

Ranking

Any series of our preferred stock will, with respect to dividend rights and rights on liquidation, winding up or dissolution, rank:

senior to all classes of our common stock and to all equity securities issued by us, the terms of which specifically provide that the equity securities will rank junior to that preferred stock;

equally with all equity securities issued by us, the terms of which specifically provide that the equity securities will rank equally with that preferred stock; and

junior to all equity securities issued by us, the terms of which specifically provide that the equity securities will rank senior to that preferred stock.

Dividends

The holders of our preferred stock will be entitled to receive, when, as and if declared by our board of directors, dividends at such rates and on such dates as will be specified in the applicable prospectus supplement. Such rates may be fixed or variable or both. If variable, the formula used for determining the dividend rate for each dividend period will be specified in the applicable prospectus supplement. Dividends will be payable to the holders of record as they appear on our stock books on such record dates as will be fixed by our board. Dividends may be paid in the form of

cash, preferred stock (of the same or a different series) or our common stock, in each case as specified in the applicable prospectus supplement.

Table of Contents

Dividends on any series of our preferred stock may be cumulative or noncumulative, as specified in the applicable prospectus supplement. If the dividends on a series of our preferred stock are noncumulative (Noncumulative Preferred Stock), and our board of directors fails to declare a dividend payable on a dividend payment date, then the holders of such preferred stock will have no right to receive a dividend in respect to the dividend period relating to such dividend payment date, and we will not be obligated to pay the dividend accrued for such period, whether or not dividends on such preferred stock are declared or paid on any future dividend payment dates.

We will not declare or pay or set apart for payment any dividends on any series of our preferred stock that rank, as to dividends, on a parity with or junior to the outstanding preferred stock of any series unless (i) if such outstanding preferred stock has a cumulative dividend (Cumulative Preferred Stock), full cumulative dividends have been or contemporaneously are declared and paid or declared and a sum sufficient for the payment thereof set apart for such payment on such preferred stock for all dividend periods terminating on or prior to the date of payment of any such dividends on such other series of the preferred stock or (ii) if such outstanding preferred stock is Noncumulative Preferred Stock, full dividends for the then-current dividend period on such preferred stock have been or contemporaneously are declared and paid or declared and a sum sufficient for the payment thereof set apart for such payment.

Until full dividends are paid (or declared and payment is set aside) on our preferred stock ranking equal as to dividends, then:

we will declare any dividends pro rata among the preferred stock of each series and any preferred stock ranking equal to such preferred stock as to dividends (i.e., the dividends we declare per share on each series of such preferred stock will bear the same relationship to each other that the full accrued dividends per share on each such series of the preferred stock (which will not, if such preferred stock is Noncumulative Preferred Stock, include any accumulation in respect to unpaid dividends for prior dividend periods) bear to each other);

other than such pro rata dividends, we will not declare or pay any dividends or declare or make any distributions upon any security ranking junior to or equal with the preferred stock as to dividends or upon liquidation (except dividends on common stock payable in common stock, dividends or distributions paid for with securities ranking junior to the preferred stock as to dividends and upon liquidation and cash in lieu of fractional shares in connection with such dividends); and

we will not redeem, purchase or otherwise acquire (or set aside money for a sinking fund for) our common stock or any other securities ranking junior to or equal with the preferred stock as to dividends or upon liquidation (except by conversion into or exchange for stock junior to the preferred stock as to dividends and upon liquidation).

We will not owe any interest, or any money in lieu of interest, on any dividend payment on any series of the preferred stock that may be past due.

Redemption

A series of our preferred stock may be redeemable, in whole or in part, at our option, and may be subject to mandatory redemption pursuant to a sinking fund or otherwise, in each case upon terms, at the times and at the redemption prices specified in the applicable prospectus supplement. Redeemed shares of our preferred stock will become authorized but unissued shares of preferred stock that we may issue in the future.

The prospectus supplement relating to a series of our preferred stock that is subject to mandatory redemption will specify the number of shares of such preferred stock that we will redeem each year and the redemption price per share. If shares of our preferred stock are redeemed, we will pay all accrued and unpaid dividends thereon (which will not, if such preferred stock is Noncumulative Preferred Stock, include any accumulation in respect of unpaid dividends for prior dividend periods) up to but excluding the date of redemption. The redemption price may be payable in cash or other property, as specified in the applicable prospectus supplement. If the redemption price for our preferred stock of any series is payable only from the net proceeds of the issuance of our capital stock, the terms of such preferred stock may provide that, if no such capital stock will have been issued or to the extent the net proceeds

from any issuance are insufficient to pay in full the aggregate redemption price then due, such preferred stock will automatically and mandatorily be converted into shares of our applicable capital stock pursuant to conversion provisions specified in the applicable prospectus supplement.

If fewer than all the outstanding shares of our preferred stock of any series are to be redeemed, our board will determine the number of shares to be redeemed. We will redeem the shares pro rata from the holders of record of such shares in proportion to the number of such shares held by such holders (with adjustments to avoid redemption of fractional shares) or by lot or by any other method as may be determined by our board.

Table of Contents

Even though the terms of a series of the Cumulative Preferred Stock may permit redemption of such preferred stock in whole or in part, if any dividends, including accumulated dividends, on that series are past due:

we will not redeem any preferred stock of that series unless we simultaneously redeem all outstanding preferred stock of that series; and

we will not purchase or otherwise acquire any preferred stock of that series.

The prohibition discussed in the preceding sentence will not prohibit us from purchasing or acquiring preferred stock of that series pursuant to a purchase or exchange offer if we make the offer on the same terms to all holders of that series.

Conversion Rights

The prospectus supplement relating to a series of convertible preferred stock will describe the terms on which shares of such series are convertible into our common stock.

Rights Upon Liquidation

Unless the applicable prospectus supplement states otherwise, if we voluntarily or involuntarily liquidate, dissolve or wind up our business, the holders of our preferred stock will be entitled to receive out of our assets available for distribution to stockholders, before any distribution of assets is made to holders of our common stock or any other class or series of shares ranking junior to such preferred stock upon liquidation, liquidating distributions in the amount of the liquidation preference of such preferred stock plus accrued and unpaid dividends (which will not, if such preferred stock is Noncumulative Preferred Stock, include any accumulation in respect of unpaid dividends for prior dividend periods). If we voluntarily or involuntarily liquidate, dissolve or wind up our business and the amounts payable with respect to our preferred stock of any series and any of our other securities ranking equal as to any such distribution are not paid in full, the holders of such preferred stock and of such other shares will share ratably in any such distribution of our assets in proportion to the full respective preferential amounts to which they are entitled. After payment of the full amount of the liquidating distribution to which they are entitled, the holders of our preferred stock of any series will not be entitled to any further participation in any distribution of our assets.

Voting Rights

Except as described in this section or in the applicable prospectus supplement, or except as expressly required by applicable law, the holders of our preferred stock will not be entitled to vote. If the holders of a series of our preferred stock are entitled to vote and the applicable prospectus supplement does not state otherwise, each such share will be entitled to one vote on matters on which holders of such series of preferred stock are entitled to vote. For any series of our preferred stock having one vote per share, the voting power of such series, on matters on which holders of such series and holders of other series of our preferred stock are entitled to vote as a single class, will depend on the number of shares in such series, not the aggregate stated value, liquidation preference or initial offering price of the shares of such series of preferred stock.

Unless we receive the consent of the holders of an outstanding series of preferred stock and the outstanding shares of all other series of preferred stock which (i) rank equal with such series either as to dividends or the distribution of assets upon liquidation, dissolution or winding up of our business and (ii) have voting rights that are exercisable and that are similar to those of such series, we will not:

authorize, create or issue, or increase the authorized or issued amount of, any class or series of stock ranking prior to such outstanding preferred stock with respect to payment of dividends or the distribution of assets upon liquidation, dissolution or winding up of our business; or

amend, alter or repeal, whether by merger, consolidation or otherwise, the provisions of our certificate or of the resolutions contained in any certificate of designations creating such series of preferred stock so as to materially and adversely affect any right, preference privilege or voting power of such outstanding preferred stock.

Table of Contents

This consent must be given by the holders of a majority of all such outstanding preferred stock described in the preceding sentence, voting together as a single class. We will not be required to obtain this consent with respect to the actions listed in the second bullet point above, however, if we only (i) increase the amount of the authorized preferred stock, (ii) create and issue another series of preferred stock, or (iii) increase the amount of authorized shares of any series of preferred stock, if such preferred stock in each case ranks equal with or junior to the preferred stock with respect to the payment of dividends and the distribution of assets upon liquidation, dissolution or winding up of our business.

Series B Preferred Stock

On November 11, 2004, we entered into a purchase agreement with Citigroup Global Markets Inc., RBC Capital Markets Corporation, Adams Harkness, Inc., and Lazard Freres & Co., LLC (the Initial Purchasers) for the private placement under Rule 144A of up to 135,000 shares of our 5% Series B Cumulative Convertible Perpetual Preferred Stock (Liquidation Preference \$1,000). On November 17, 2004 and January 25, 2005, we closed on the sale of 100,000 shares and 5,875 shares, respectively, of Series B preferred stock to the Initial Purchasers.

At July 31, 2010, there were 250,000 preferred shares authorized of which 64,020 Series B preferred shares were issued and outstanding. The carrying value of the Series B preferred stock as of October 31, 2009, 2008 and 2007 represents the net proceeds to us of approximately \$60 million.

The following is a summary of certain provisions of our Series B preferred stock. The resale of the shares of our Series B preferred stock and the resale of the shares of our common stock issuable upon conversion of the shares of our Series B preferred stock are covered by a registration rights agreement.

Ranking

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

senior to shares of our common stock;

junior to our debt obligations; and

effectively junior to our subsidiaries (i) existing and future liabilities and (ii) capital stock held by others.

Dividends

The Series B preferred stock pays cumulative annual dividends of \$50 per share which are payable quarterly in arrears on February 15, May 15, August 15 and November 15, which commenced on February 15, 2005, when, as and if declared by the board of directors. Dividends will be paid on the basis of a 360-day year consisting of twelve 30-day months. Dividends on the shares of our Series B preferred stock will accumulate and be cumulative from the date of original issuance. Accumulated dividends on the shares of our Series B preferred stock will not bear any interest.

The dividend rate on the Series B preferred stock is subject to upward adjustment as set forth in the certificate of designation of the Series B preferred stock if we fail to pay, or to set apart funds to pay, dividends on the shares of our Series B preferred stock for any quarterly dividend period. The dividend rate on the Series B preferred stock is also subject to upward adjustment as set forth in the registration rights agreement entered into with the Initial Purchasers if we fail to satisfy our registration obligations with respect to the Series B preferred stock (or the underlying common shares) set forth in the registration rights agreement.

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

Table of Contents

We may pay dividends on the Series B preferred stock:
in cash; or

at the option of the holder, in shares of our common stock, which will be registered pursuant to a registration statement to allow for the immediate sale of these common shares in the public market.

Liquidation

The Series B preferred stock has a liquidation preference of \$1,000 per share. Upon any voluntary or involuntary liquidation, dissolution or winding up of FuelCell resulting in a distribution of assets to the holders of any class or series of our capital stock, each holder of shares of our Series B preferred stock will be entitled to payment out of our assets available for distribution of an amount equal to the liquidation preference per share of Series B preferred stock held by that holder, plus all accumulated and unpaid dividends on those shares to the date of that liquidation, dissolution, or winding up, before any distribution is made on any junior shares, including shares of our common stock, but after any distributions on any of our indebtedness or senior shares (if any). After payment in full of the liquidation preference and all accumulated and unpaid dividends to which holders of shares of our Series B preferred stock are entitled, holders of shares of our Series B preferred stock will not be entitled to any further participation in any distribution of our assets.

Conversion

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. The conversion rate is subject to adjustment upon the occurrence of certain events, as described below, but will not be adjusted for accumulated and unpaid dividends. Upon conversion, holders of Series B preferred stock will not receive a cash payment for any accumulated dividends. Instead accumulated dividends, if any, will be cancelled.

After November 20, 2009 we may, at our option, cause shares of our Series B preferred stock to be automatically converted into that number of shares of our common stock that are issuable at the then prevailing conversion rate. We may exercise our conversion right only if the closing price of our common stock exceeds 150% of the then prevailing conversion price for 20 trading days during any consecutive 30 trading day period, as described in the certificate of designation for the Series B preferred stock.

If holders of shares of our Series B preferred stock elect to convert their shares in connection with certain fundamental changes (as described below and in the certificate of designation), we will in certain circumstances discussed below increase the conversion rate by a number of additional shares of common stock upon conversion or, in lieu thereof, we may in certain circumstances elect to adjust the conversion rate and related conversion obligation so that shares of our Series B preferred stock are converted into shares of the acquiring or surviving company, in each case as described in the certificate of designation.

The adjustment of the conversion price of the Series B preferred stock is to prevent dilution of the interests of the holders of the Series B preferred stock, including on account of the following:

Issuances of common stock as a dividend or distribution to holders of our common stock;

Common stock share splits or share combinations;

Issuances to holders of our common stock of any rights, warrants or options to purchase our common stock for a period of less than 60 days; and

Distributions of assets, evidences of indebtedness or other property to holders of our common stock.

Shares of our Series B preferred stock will not be redeemable by us, except in the case of a fundamental change (as described below and in the certificate of designation) whereby holders may require us to purchase all or part of their shares at a redemption price equal to 100% of the liquidation preference of the shares of Series B preferred stock to be repurchased, plus accrued and unpaid dividends, if any. We may, at our option, elect to pay the redemption price in cash or, in shares of our common stock valued at a discount of 5% from the market price of shares of our common

stock, or any combination thereof. Notwithstanding the foregoing, we may only pay such redemption price in shares of our common stock that are registered under the Securities Act of 1933, as amended (the Securities Act) and eligible for immediate sale in the public market by non-affiliates of FuelCell.

Table of Contents

Redemption by holders of the Series B preferred stock can only occur upon a fundamental change, which we do not consider to be probable at this time. Accordingly, future adjustments of the redemption price will only be made if and when a fundamental change is considered probable.

A fundamental change will be deemed to have occurred if any of the following occurs:

- (1) any person or group is or becomes the beneficial owner, directly or indirectly, of 50% or more of the total voting power of all classes of our capital stock then outstanding and normally entitled to vote in the election of directors;
- (2) during any period of two consecutive years, individuals who at the beginning of such period constituted the Board of Directors (together with any new directors whose election by our Board of Directors or whose nomination for election by our shareholders was approved by a vote of two-thirds of our directors then still in office who were either directors at the beginning of such period or whose election or nomination for election was previously so approved) cease for any reason to constitute a majority of our directors then in office;
- (3) the termination of trading of our common stock on the Nasdaq Stock Market and such shares are not approved for trading or quoted on any other U.S. securities exchange; or
- (4) we consolidate with or merge with or into another person or another person merges with or into us or the sale, assignment, transfer, lease, conveyance or other disposition of all or substantially all of our assets and certain of our subsidiaries, taken as a whole, to another person and, in the case of any such merger or consolidation, our securities that are outstanding immediately prior to such transaction and which represent 100% of the aggregate voting power of our voting stock are changed into or exchanged for cash, securities or property, unless pursuant to the transaction such securities are changed into securities of the surviving person that represent, immediately after such transaction, at least a majority of the aggregate voting power of the voting stock of the surviving person.

Notwithstanding the foregoing, holders of shares of Series B preferred stock will not have the right to require us to repurchase their shares if either:

the last reported sale price of shares of our common stock for any five trading days within the 10 consecutive trading days ending immediately before the later of the fundamental change or its announcement equaled or exceeded 105% of the conversion price of the shares of Series B preferred stock immediately before the fundamental change or announcement;

at least 90% of the consideration, excluding cash payments for fractional shares and in respect of dissenters appraisal rights, in the transaction constituting the fundamental change consists of shares of capital stock traded on a U.S. national securities exchange or which will be so traded or quoted when issued or exchanged in connection with a fundamental change and as a result of the transaction, shares of Series B preferred stock become convertible into such publicly traded securities; or

in the case of number 4 above of a fundamental change event, the transaction is effected solely to change our jurisdiction of incorporation.

Voting

Holders of shares of our Series B preferred stock have no voting rights unless (1) dividends on any shares of our Series B preferred stock or any other class or series of stock ranking on a parity with the shares of our Series B preferred stock with respect to the payment of dividends shall be in arrears for dividend periods, whether or not consecutive, containing in the aggregate a number of days equivalent to six calendar quarters or (2) we fail to pay the repurchase price, plus accrued and unpaid dividends, if any, on the fundamental change repurchase date for shares of our Series B preferred stock following a fundamental change (as described in the certificate of designation for the Series B preferred stock). In each such case, the holders of shares of our Series B preferred stock (voting separately as a class with all other series of other preferred stock on parity with our Series B preferred stock upon which like voting rights have been conferred and are exercisable, if any) will be entitled to vote for the election of two directors in addition to those directors on the board of directors at such time at the next annual meeting of shareholders and each subsequent meeting until the repurchase price or all dividends accumulated on the shares of our Series B preferred stock have been fully paid or set aside for payment. The term of office of all directors elected by the holders of shares of our Series B preferred stock will terminate immediately upon the termination of the right of holders of shares of our

Series B preferred stock to vote for directors.

Table of Contents

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

Series 1 Preferred Shares

On August 4, 2003, we entered into a combination agreement with Global Thermoelectric Inc. (Global) to combine Global with us in a share-for-share exchange pursuant to a Plan of Arrangement subject to approval by the Court of Queen's Bench of Alberta, Canada. On October 31, 2003, our shareholders and the shareholders of Global approved the combination. On October 31, 2003, the Court of Queen's Bench of Alberta issued an order approving the combination. On November 3, 2003, the combination transaction was consummated. In the aggregate, we issued approximately 8.2 million shares of our common stock and exchangeable shares in the acquisition. Following our acquisition of Global, Global's Series 2 preferred shares remained outstanding in Global. At the time of the sale of our thermoelectric generator business, the holder of the Series 2 preferred shares exchanged them for Series 1 Class A cumulative redeemable exchangeable preferred shares (which were referred to as the Series 1 preferred shares) issued by FuelCell Energy, Ltd., one of our indirect, wholly-owned subsidiaries. We have guaranteed the obligations of FuelCell Energy, Ltd. under the Series 1 preferred shares.

The Series 1 preferred shares may be converted into shares of our common stock at the following conversion prices:

Cdn.\$129.46 per share of our common stock after July 31, 2010 until July 31, 2015;

Cdn.\$138.71 per share of our common stock after July 31, 2015 until July 31, 2020; and

at any time after July 31, 2020, the price equal to 95% of the then current market price (converted to Cdn.\$ at the time of such calculation) of shares of our common stock at the time of conversion.

The foregoing conversion prices are subject to adjustment for certain subsequent events. As illustrated below, the number of shares of our common stock issuable upon conversion of the Series 1 preferred shares after July 31, 2020 may be significantly greater than the number of shares issuable prior to that time.

The following examples illustrate the number of shares of our common stock that we will be required to issue to the holder(s) of the Series 1 preferred shares if and when the holder(s) exercise their conversion rights pursuant to the terms of the Series 1 preferred shares. The following examples are based upon Cdn.\$25.0 million of Series 1 preferred shares outstanding (which is the amount currently outstanding) and assume that all accrued dividends on the Series 1 preferred shares have been paid through the time of the conversion and, in the case of conversions occurring after July 31, 2020, that the exchange rate for conversion of Canadian dollars into US dollars is Cdn.\$1.04 for each U.S.\$1.00 (exchange rate on September 9, 2010) at the time of the conversion:

if the Series 1 preferred shares convert after July 31, 2010, but prior to July 31, 2015, we would be required to issue approximately 193,110 shares of our common stock;

if the Series 1 preferred shares convert after July 31, 2015, but prior to July 31, 2020, we would be required to issue approximately 180,232 shares of our common stock; and

Table of Contents

if the Series 1 preferred shares convert any time after July 31, 2020, assuming our common stock price is U.S. \$1.11 (our common stock closing price on September 9, 2010) at the time of conversion, we would be required to issue approximately 22,730,507 shares of our common stock.

Subject to the Business Corporations Act (Alberta), the holder of the Series 1 preferred shares is not entitled to receive notice of or to attend or vote at any meeting of the FuelCell Energy, Ltd. Common shareholders. At present, we own all of the FuelCell Energy, Ltd. common stock.

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 on account of increases in the price of our common stock). We have agreed to pay a minimum of Cdn.\$500,000 in cash or common stock annually to Enbridge, the sole current holder of the Series 1 preferred shares, as long as Enbridge holds the shares. Interest accrues on cumulative unpaid dividends at a 2.45% quarterly rate, compounded quarterly, until payment thereof. All cumulative unpaid dividends must be paid by December 31, 2010. Subsequent to 2010, FuelCell Energy, Ltd. would be required to pay annual dividend amounts totaling Cdn.\$1.25 million so long as the Series 1 preferred shares remain outstanding. Cumulative unpaid dividends and accrued interest of \$10.6 million on the Series 1 preferred shares were outstanding as of September 9, 2010. We have guaranteed the dividend obligations of FuelCell Energy, Ltd. to the Series 1 preferred shareholders.

Subject to the Business Corporations Act (Alberta), we may redeem the Series 1 preferred shares, in whole or part, at any time, if on the day that the notice of redemption is first given, the volume-weighted average price at which our common stock is traded on the applicable stock exchange during the 20 consecutive trading days ending on a date not earlier than the fifth preceding day on which the notice of redemption is given was not less than a 20% premium to the current conversion price on payment of Cdn.\$25.00 per Series 1 preferred share to be redeemed, together with an amount equal to all accrued and unpaid dividends to the date fixed for redemption. On or after July 31, 2010, the Series 1 preferred shares are redeemable by us at any time on payment of Cdn.\$25.00 per Series 1 preferred share to be redeemed together with an amount equal to all accrued and unpaid dividends to the date fixed for redemption. Holders of the Series 1 preferred shares do not have any mandatory or conditional redemption rights. There are currently 1,000,000 Series 1 preferred shares outstanding.

In the event of the liquidation, dissolution or winding up of FuelCell Energy, Ltd., whether voluntary or involuntary, or any other distribution of its assets among its shareholders for the purpose of winding up its affairs, the holder of the Series 1 preferred shares will be entitled to receive the amount paid on such Series 1 preferred shares (currently Cdn.\$25.0 million) together with an amount equal to all accrued and unpaid dividends thereon, before any amount will be paid or any of FuelCell Energy, Ltd.'s property or assets will be distributed to the holders of FuelCell Energy, Ltd.'s common stock. After payment to the holder of the Series 1 preferred shares of the amounts payable to them, the holder of the Series 1 preferred shares will not be entitled to share in any other distribution of FuelCell Energy, Ltd.'s property or assets. We have guaranteed the liquidation obligations of FuelCell Energy, Ltd. under the Series 1 preferred shares.

Anti-Takeover Provisions

Provisions of our Certificate of Incorporation and By-Laws

A number of provisions of our certificate of incorporation and by-laws concern matters of corporate governance and the rights of shareholders. Some of these provisions, including, but not limited to, the inability of shareholders to take action by unanimous written consent, supermajority voting provisions with respect to any amendment of voting rights provisions, the filling of vacancies on the board of directors by the affirmative vote of a majority of the remaining directors, and the ability of the board of directors to issue shares of preferred stock and to set the voting rights, preferences and other terms thereof, without further shareholder action, may be deemed to have anti-takeover effect and may discourage takeover attempts not first approved by the board of directors, including takeovers which shareholders may deem to be in their best interests. If takeover attempts are discouraged, temporary fluctuations in the market price of shares of our common stock, which may result from actual or rumored takeover attempts, may be inhibited. These provisions, together with the ability of the board of directors to issue preferred stock without further shareholder action, could also delay or frustrate the removal of incumbent directors or the assumption of control by shareholders, even if the removal or assumption would be beneficial to our shareholders. These provisions could also

discourage or inhibit a merger, tender offer or proxy contest, even if favorable to the interests of shareholders, and could depress the market price of our common stock. The board of directors believes these provisions are appropriate to protect our interests and the interests of our shareholders. The board of directors has no present plans to adopt any further measures or devices which may be deemed to have an anti-takeover effect.

Table of Contents

Delaware Anti-Takeover Provisions

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a publicly-held Delaware corporation from engaging in a business combination, except under certain circumstances, with an interested shareholder for a period of three years following the date such person became an interested shareholder unless:

before such person became an interested shareholder, the board of directors of the corporation approved either the business combination or the transaction that resulted in the interested shareholder becoming an interested shareholder;

upon the consummation of the transaction that resulted in the interested shareholder becoming an interested shareholder, the interested shareholder owned at least 85 percent of the voting stock of the corporation outstanding at the time the transaction commenced, excluding shares held by directors who are also officers of the corporation and shares held by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

at or following the time such person became an interested shareholder, the business combination is approved by the board of directors of the corporation and authorized at an annual or special meeting of shareholders (and not by written consent) by the affirmative vote of the holders of at least 66 2/3 percent of the outstanding voting stock of the corporation which is not owned by the interested shareholder.

The term interested shareholder generally is defined as a person who, together with affiliates and associates, owns, or, within the three years prior to the determination of interested shareholder status, owned, 15 percent or more of a corporation's outstanding voting stock. The term business combination includes mergers, asset or stock sales and other similar transactions resulting in a financial benefit to an interested shareholder. Section 203 makes it more difficult for an interested shareholder to effect various business combinations with a corporation for a three-year period. The existence of this provision would be expected to have an anti-takeover effect with respect to transactions not approved in advance by the board of directors, including discouraging attempts that might result in a premium over the market price for the shares of our common stock held by shareholders. A Delaware corporation may opt out of Section 203 with an express provision in its original certificate of incorporation or any amendment thereto. Our certificate of incorporation does not contain any such exclusion.

Listing on the Nasdaq Global Market

Our common stock is listed on the Nasdaq Global Market under the symbol FCEL .

Transfer Agent and Registrar

The transfer agent and registrar for our common stock and preferred stock is American Stock Transfer & Trust Company, New York, New York.

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of common stock, debt securities or other securities registered pursuant to this registration statement and described in this prospectus. We may issue warrants independently or together with other securities that may be attached to or separate from the warrants. We will issue each series of warrants under a separate warrant agreement that will be entered into between us and a bank or trust company, as warrant agent, and will be described in the prospectus supplement relating to the particular issue of warrants. The warrant agent will act solely as our agent in connection with the warrants of such series and will not assume any obligation or relationship of agency for or with holders or beneficial owners of warrants. The following describes certain general terms and provisions of debt warrants or common stock warrants we may offer. We will set forth further terms of the debt warrants, common stock warrants or warrants to purchase other securities and the applicable warrant agreement in the applicable prospectus supplement.

Table of Contents

Debt Warrants

The applicable prospectus supplement will describe the terms of any debt warrants, including the following:
the title of the debt warrants;

the offering price for the debt warrants;

the aggregate number of the debt warrants;

the designation and terms of the debt securities purchasable upon exercise of such debt warrants;

if applicable, the designation and terms of the securities with which such debt warrants are issued and the number of such debt warrants issued with each security;

if applicable, the date from and after which such debt warrants and any securities issued therewith will be separately transferable;

the principal amount of debt securities purchasable upon exercise of a debt warrant and the price at which such principal amount of debt securities may be purchased upon exercise;

the date on which the right to exercise such debt warrants shall commence and the date on which such right shall expire;

if applicable, the minimum or maximum amount of such debt warrants which may be exercised at any one time;

whether the debt warrants represented by the debt warrant certificates or debt securities that may be issued upon exercise of the debt warrants will be issued in registered form;

information with respect to book-entry procedures, if any;

the currency, currencies or currency units in which the offering price, if any, and the exercise price are payable;

if applicable, a discussion of certain United States federal income tax considerations;

the identity of the warrant agent for the warrants;

the antidilution provisions of such debt warrants, if any;

the redemption or call provisions, if any, applicable to such debt warrant; and

any additional terms of the debt warrants, including terms, procedures and limitations relating to the exchange and exercise of such debt warrants.

Common Stock Warrants

The applicable prospectus supplement will describe the terms of any common stock warrants, including the following:

the title of such warrants;

the offering price of such warrants;

the aggregate number of such warrants;

the designation and terms of the common stock that is issued and purchasable upon exercise of such warrants;

Table of Contents

if applicable, the designation and terms of the securities with which such warrants are issued and the number of such warrants issued with each such security;

if applicable, the date from and after which such warrants and any securities issued therewith will be separately transferable;

the number of shares of common stock that is issued and purchasable upon exercise of the warrants and the price which such shares may be purchased upon exercise;

the date on which the right to exercise such warrants shall commence and the date on which such right shall expire;

if applicable, the minimum or maximum amount of such warrants which may be exercised at any one time;

the currency, currencies or currency units in which the offering price, if any, and the exercise price are payable;

if applicable, a discussion of certain United States federal income tax considerations;

the identity of the warrant agent for the warrants; and

the antidilution provisions of the warrants, if any.

PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods. We may sell the securities (1) through underwriters or dealers, (2) through agents and/or (3) directly to one or more purchasers. We may distribute the securities from time to time in one or more transactions:

at a fixed price or prices, which may be changed;

in at the market offerings, within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market, on an exchange or otherwise;

at prices related to prevailing market prices; or

at negotiated prices.

We may solicit directly offers to purchase the securities being offered by this prospectus. We may also designate agents to solicit offers to purchase the securities from time to time. We will name in a prospectus supplement any agent involved in the offer or sale of our securities.

If we utilize a dealer in the sale of the securities being offered by this prospectus, we will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If underwriters are used in the sale of any the securities, the securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The securities may be either offered to the public through underwriting syndicates represented by managing underwriters, or directly by underwriters. Generally, the underwriters' obligations to purchase the securities will be subject to certain conditions precedent. The underwriters will be obligated to purchase all of the securities if they purchase any of the securities.

We may sell the securities through agents from time to time. The applicable prospectus supplement will name any agent involved in the offer or sale of the securities and any commissions paid to them. Generally, any agent will be acting on a best efforts basis for the period of its appointment. In addition, we may enter into derivative, sale or

forward sale transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with such transaction, the third parties may, pursuant to this prospectus and the applicable prospectus supplement, sell the securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities borrowed from us or others to settle such sales and may use securities received

Table of Contents

from us or others to settle those sales to close out any related short positions. The third party in such sale transactions will be an underwriter and will be identified in the applicable prospectus supplement (or a post-effective amendment). We may also loan or pledge the securities covered by this prospectus and the applicable prospectus supplement to third parties, who may sell the loaned securities or, in an event of default in the case of a pledge, sell the pledged securities pursuant to this prospectus and the applicable prospectus supplement.

The Underwriters, broker-dealers and agents that participate in the distribution of the securities may be deemed to be underwriters as defined by the Securities Act. Any commissions paid or any discounts or concessions allowed to any such persons, and any profits they receive on resale of the securities, may be deemed to be underwriting discounts and commissions under the Securities Act.

Agents, underwriters, and dealers may be entitled under relevant agreements with us to indemnification by us against certain liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which such agents, underwriters and dealers may be required to make in respect thereof. The terms and conditions of any indemnification or contribution will be described in the applicable prospectus supplement.

Underwriters, broker-dealers or agents may receive compensation in the form of commissions, discounts or concessions from us. Underwriters, broker-dealers or agents may also receive compensation from the purchasers of the securities for whom they act as agents or to whom they sell as principals, or both. Compensation as to a particular underwriter, broker-dealer or agent might be in excess of customary commissions and will be in amounts to be negotiated in connection with transactions involving the securities. In effecting sales, broker-dealers engaged by us may arrange for other broker-dealers to participate in the resales. Maximum compensation to any underwriters, dealers or agents will not exceed any applicable NASD limitations.

Underwriters or agents may purchase and sell the securities in the open market. These transactions may include over-allotments, stabilizing transactions, syndicate covering transactions and penalty bids. Over-allotments involve sales in excess of the offering size, which creates a short position. Stabilizing transactions consist of bids or purchases for the purpose of preventing or retarding a decline in the market price of the securities and are permitted so long as the stabilizing bids do not exceed a specified maximum. Syndicate covering transactions involve the placing of any bid on behalf of the underwriting syndicate or the effecting of any purchase to reduce a short position created in connection with an offering. The underwriters or agents also may impose a penalty bid, which permits them to reclaim selling concessions allowed to syndicate members or certain dealers if they repurchase the securities in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the securities, which may be higher than the price that might otherwise prevail in the open market. These activities, if begun, may be discontinued at any time. These transactions may be effected on any exchange on which the securities are traded, in the over-the-counter market or otherwise.

Except as indicated in the applicable prospectus supplement, the securities are not expected to be listed on any securities exchange, except for our common stock, which is quoted on the Nasdaq Global Market under the symbol FCEL, and no underwriters will be obligated to make a market in these securities. We cannot predict the activity or liquidity of any trading in these securities.

DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Our certificate of incorporation provides that none of our directors will be personally liable to us or our shareholders for monetary damages for breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted under the Delaware General Corporation Law. Our by-laws provide for indemnification of our officers and directors to the fullest extent permitted by applicable law. Insofar as indemnification for liabilities under the Securities Act may be permitted to directors, officers or controlling persons of the Company pursuant to the certificate of incorporation, bylaws or applicable law, or otherwise, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

LEGAL MATTERS

The validity of the securities offered hereby has been passed upon for us by Robinson & Cole LLP, Stamford, Connecticut.

Table of Contents

EXPERTS

The consolidated financial statements of FuelCell Energy, Inc. and subsidiaries as of October 31, 2009 and 2008, and for each of the years in the three-year period ended October 31, 2009, and management's assessment of the effectiveness of internal control over financial reporting as of October 31, 2009 have been incorporated by reference herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to our securities offered hereby. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules filed therewith. We have omitted certain parts of the registration statement as permitted by the rules and regulations of the SEC. For further information about us and our securities offered hereby, reference is made to the registration statement and the exhibits and schedules filed therewith. Statements contained in this prospectus regarding the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and each such statement is qualified in all respects by reference to the full text of such contract or other document filed as an exhibit to the registration statement. A copy of the registration statement and the exhibits and schedules filed therewith may be inspected without charge at the public reference room maintained by the SEC, located at 100 F Street, N.E., Washington, D.C. 20549, and copies of all or any part of the registration statement may be obtained from such offices upon the payment of the fees prescribed by the SEC. Please call the SEC at 1-800-SEC-0330 for further information about the public reference room. The SEC also maintains an Internet web site that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC. The address of the site is <http://www.sec.gov>.

We are subject to the informational requirements of the Securities Exchange Act of 1934 (the "Exchange Act") and, therefore, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Such periodic reports, proxy statements and other information are available for inspection and copying at the public reference room and web site of the SEC referred to above. Our common stock is quoted on the Nasdaq Global Market, and you may also inspect and copy our SEC filings at the offices of the National Association of Securities Dealers, Inc. located at 1735 K Street, N.W., Washington, D.C. 20006.

You should rely only on the information provided in this prospectus and the registration statement. We have not authorized anyone else to provide you with different information. Our securities are not being offered in any state where the offer is not permitted. You should assume that the information in this prospectus is accurate only as of the dates of those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference information that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus, while information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference into this registration statement and prospectus the documents listed below, and any future filings we will make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act:

1. Our Annual Report on Form 10-K for the fiscal year ended October 31, 2009 filed on January 14, 2010;
2. Our Quarterly Report on Form 10-Q for the fiscal quarters ended January 31, 2010 April 30, 2010, July 31, 2010, and January 31, 2009 (as amended);
3. Our Proxy for our shareholders' meeting on March 25, 2010, filed on February 3, 2010 and February 12, 2010 (as revised);

4. Our Current Reports on Form 8-K filed on November 2, 2009 (as amended and filed on February 17, March 19 and April 13, 2010), December 11, 2009 (as amended and filed on January 13, 2010), February 3 and 11, March 12 and 29, June 8 and 25; July 8 and 28, 2010, September 2, 2010 and January 10, 2011; and
5. The description of our common stock set forth in our registration statement on Form 8-A, filed with the SEC on June 6, 2000, including any amendments or reports filed for the purposes of updating this description.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to FuelCell Energy, Inc., Attention: Corporate Secretary, 3 Great Pasture Road, Danbury, Connecticut 06813, telephone: (203) 825-6000.

Table of Contents

**10,160,428 Shares of Common Stock
Warrants to Purchase up to 10,160,428 Shares of Common Stock
and up to 10,000,000 Shares of Common Stock to be issued upon exercise of an Additional
Sale Option**

PROSPECTUS SUPPLEMENT

**Lazard Capital Markets
January 10, 2011**