FuelCell Energy

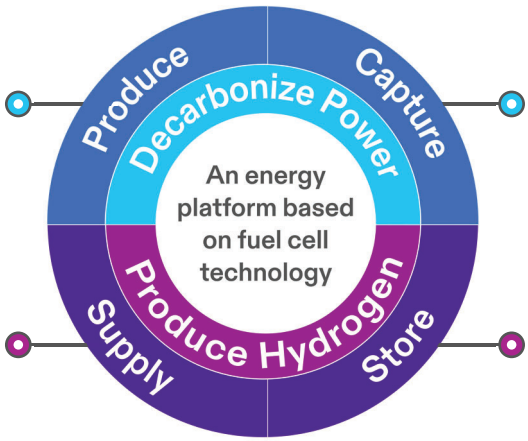
2023 Annual Report
and Form 10-K

About FuelCell Energy

FuelCell Energy is a clean energy technology company working at the forefront of solving today's energy challenges, delivering innovative low-to-zero carbon energy and hydrogen solutions to customers around the globe.

Our technology

Produces low-to-zero carbon power with flexible fuel options including biogas, natural gas and hydrogen.



Only known technology in the world that can capture CO_2 (for use or sequestration) while making power.

Supplies hydrogen through our electrolyzer with up to 100% efficiency; or co-produces hydrogen, power and water from biogas or natural gas with our Tri-gen system.

Converts excess power from renewables to hydrogen, then converts hydrogen back into power when it's needed.[1]

More than 50 years of fuel cell technology innovation and expertise[2, 3]

531 Global patents covering our fuel cell technology

Company highlights[3]

HQ Danbury, Connecticut	**~600** Employees	**188** Modules in operation[4]
FCEL Listing: NASDAQ	**3** Continents: customers in Asia, Europe and North America	**15** Million MWhs generated with patented technology

Our values

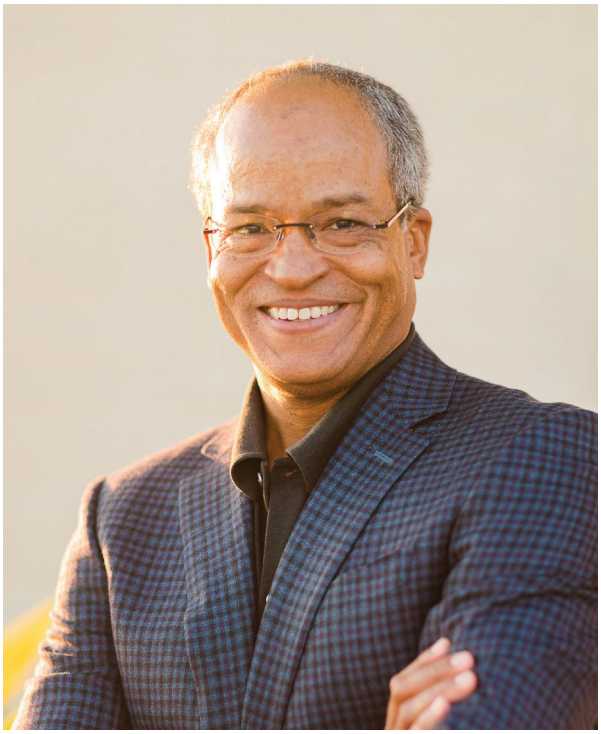
Safety
Physical & Psychological
Foster a healthy & safe environment.

Integrity
In everything we do.

Innovation
Deliver impactful products for our customers.

Accountability
To ourselves, our stakeholders, and our community.

1 Under development.
2 Patents are for FuelCell Energy, Inc., and our subsidiary Versa Power Systems, Inc.
3 As of the year ended October 31, 2023.
4 As of December 2023, certain sites have multiple platforms. For example, our 14 MW Derby, Connecticut, project site has five SureSource 3000 platforms containing a total of 10 modules.



Jason Few, President, Chief Executive Officer

Dear Shareholders,

There were more than a few times over the past year that I found myself pausing to reflect with enormous pride and appreciation for the company and mission I have been given the opportunity to lead as CEO of FuelCell Energy, Inc.

One moment that stands out was at the Port of Long Beach in California when I stood with a combined team from FuelCell Energy and Toyota Motor North America who had given so much of themselves to bring to life Tri-gen — a technological hat trick that creates onsite clean power, hydrogen and water.

Tri-gen technology is now enabling one of the world's largest automakers to take a meaningful step towards its goal of transitioning to renewable energy. What's more, bringing Tri-gen from idea to fruition was another example of problem-solving innovation that has been the hallmark of FuelCell Energy for 55 years.

"What's more, bringing Tri-gen from an idea to fruition was another example of problem-solving innovation that has been the hallmark of FuelCell Energy for 55 years."

A Series of Accomplishments

Another example came in November 2023, just after our fiscal year end, when I had the opportunity to show Connecticut Gov. Ned Lamont our 14-megawatt Derby fuel cell park, which exemplifies the state's new pro-business and manufacturing "Make it Here" campaign. This is the third largest fuel cell park in the world and is quietly and efficiently supplying clean power to thousands of area homes and businesses in the Housatonic River Valley.

And another moment occurred last summer when I traveled to Korea to participate in a signing ceremony with the CEO of our newest customer, Noeul Green Energy. More than just the celebration of the signing of our long-term service agreement, this moment heralded our re-entry into the Asian market.

There were many other highlights over the past year. FuelCell Energy and Exxon Mobil Corporation announced early in our 2024 fiscal year that we will proceed to the pilot phase of implementing our carbon capture technology with Exxon Mobil's affiliates at the Rotterdam Manufacturing Complex, thereby moving into what we believe to be a promising new phase of our multi-year collaboration.

Finally, reflecting our commitment to speed the advancement of our core technologies, we teamed up with IBM to utilize Artificial Intelligence (AI) to explore how generative AI might accelerate extending our fuel cell stack life.

What do these projects have in common? They show the innovation, breadth, and scalability of our technology. We believe they also illustrate how attractive our products are to blue chip companies around the world that

are seeking urgent solutions to some of the most complex energy problems of today. And they underscore our transition from a research and development company to an energy delivery and emissions management company whose commercial products are enabling a world powered by clean energy.

A shifting marketplace requires refining our strategy

We continue to recalibrate our Powerhouse Business Strategy to Grow, Scale and Innovate. As we pursue our own transformational journey, we are continually assessing the market realities that impact our current and prospective customers. Ultimately, this means we must be nimble and adapt our own plans too. Transitions are inherently bumpy, whether they're in a company like ours or in the global economy that has been powered by carbon-based fuel for more than two centuries. The results of these transitions are not always linear and do not necessarily occur in the time frame we expect or would like, and there will always be unexpected twists and turns.

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We are working to capitalize on accelerating global support and investment in the energy transition from governments and industries while also continuing to take a conservative approach to our balance sheet, protecting our access to capital and attracting and retaining top talent, all while continuously driving the transformation of our products, processes, and manufacturing capabilities.

Although we were disappointed that we did not achieve our 2023 revenue target, we took steps to keep our balance sheet strong despite headwinds from different directions, including the highest interest rates in years that we believe caused many customers to pause capital intensive projects. We recognize and appreciate the patience our investors have shown. We ended fiscal year 2023 with $123.4 million in revenue and a backlog of $1.03 billion. Our cash and cash equivalents, short and long-term restricted cash and short-term investments, totaled $403.3 million as of October 31, 2023.

We believe that our rigorous and thoughtful approach to capital allocation and our focus on a strong balance sheet separate us from our competitors and will be integral to future success.

2023 – a year of milestones

As noted above and detailed in the Performance Highlights section, the past year saw many notable achievements.

We demonstrated our commitment to technological advancement and to nurturing successful partnerships as part of our strategy of commercializing our technology and helping to forge a world in which everyone can produce low-to zero-carbon power.

We have moved into the final stages of putting in place another clean hydrogen pilot with the U.S. Department of Energy at Idaho National Laboratory. We expect to have our solid oxide electrolysis technology up and running at the lab in early 2024.

In Canada, an Ontario government-subsidized study by Kinectrics and FuelCell Energy supported by Bruce Power, will also explore the potential to produce hydrogen using electricity generated by clean, reliable and affordable nuclear power.

In Europe, as part of the United Kingdom's government-sponsored Bay Hydrogen Hub consortium, FuelCell Energy has been contracted for a project exploring the viability of using hydrogen to decarbonize asphalt production combining the use of our 1-Megawatt solid oxide electrolyzer fuel cell paired with nuclear-generated heat and electricity to produce hydrogen in bulk at a lower cost than other hydrogen electrolysis technologies. Additionally, FuelCell Energy is working with the U.S. Department of State to deploy our solid oxide electrolysis in Ukraine to explore its use in making ammonia for fertilizer production.

2023 Performance Highlights

- Recorded $123.4 in total revenues for fiscal year 2023.
- Reported backlog of $1.03 billion as of October 31, 2023.
- Ended the fiscal year in a strong financial position, with over $400 million in cash and cash equivalents, short and long-term restricted cash and short-term investments.
- Continued our progress in reentering the Korean market with a long-term service agreement with Noeul Green Energy Co., Ltd. in Korea, a 20 MW fuel cell park that is comprised of SureSource 3000 fuel cell platforms.
- Announced the first commercial order for our solid oxide fuel cell platform, a 250 kW unit to be installed on the campus of Trinity College in Connecticut
- Replaced 12 modules for Korea Electric Power Corporation generating $33M in revenue for FY 2023.
- Achieved commercial operation of our Tri-gen system at the Port of Long Beach for Toyota. The net 2.3 MW fuel cell platform is producing electricity, hydrogen and water.
- Announced the expansion of our Calgary, Canada, based solid oxide fuel cell and electrolyzer facility, which will expand our production from 4 MW of solid oxide electrolyzers to 40 MW.
- Continued to progress toward commercialization of our advanced technologies for carbon capture by extending our joint development agreement with ExxonMobil Technology and Engineering Company into March 2024 focusing on maximizing power output capabilities at high capture levels. Additionally, shortly after our 2023 fiscal year, announced that ExxonMobil would proceed with a pilot of the jointly developed carbon capture technology at its Rotterdam Manufacturing Complex.
- Participating in the regional hydrogen hubs selected by the U.S. Department of Energy in 2023, which will be supported by $7 billion of funding through the Infrastructure Investment and Jobs Act.
- Partnered with IBM to research the use of AI to extend the life of fuel cell stacks.
- Added 35 new patents to our intellectual property portfolio.
- Traded as a company for the 23rd year on the Nasdaq Stock Market under ticker symbol "FCEL."

What's next?

In 2024, we remain focused on commercializing our technologies, accelerating our global sales and service efforts, maintaining a strong balance sheet, making disciplined capital allocation decisions and continuing our solid oxide manufacturing capacity expansion. To do this, we know we must execute when it comes to growing and scaling our business while continuing to exhibit the success in innovation that has always been our hallmark.

Specifically, we believe we are positioned to take advantage of the vast potential in the hydrogen delivery market with our Tri-gen and solid oxide electrolysis platforms.

We also believe our carbon capture and recovery technology could significantly reduce CO_2 emissions from critical industries and execution of our pilot program with Exxon Mobil Corporation remains a key focal point. Another area that we have targeted and continue to actively develop is using captured CO_2 to fill a critical gap impacting the food and beverage industry. We anticipate that the demand for this valuable commodity will continue to grow, and we are constructing an on-site fuel cell demonstration and test unit in the coming year at our Torrington, Connecticut, facility that will allow prospective customers to sample beverage-grade CO_2. In addition, we see growing innovation to develop new products that can convert CO_2 into building products and binders to make cement, create synthetic fuels such as sustainable aviation fuel, and much more.

Expanding our manufacturing capabilities and capacity

We continue to invest in manufacturing capability at our Torrington, Connecticut, and Calgary, Canada, sites to drive greater productivity.

Solid oxide production capacity expansion is underway in our Calgary facility and is expected to increase the capacity of the facility from 1 MW to 10 MW per year of solid oxide fuel cell production or from 4 MW to 40 MW per year of solid oxide electrolysis cell production in fiscal year 2024, and the potential to expand to 80 MW with minimal additional capital investment.

We are also evaluating U.S. locations in addition to our existing Torrington manufacturing location for future manufacturing capacity, with the goal of producing up to an additional 400 MW per year for our solid oxide power generation and electrolysis platform, to be implemented in phases as the market develops.

Becoming a more sustainable company while contributing to a clean energy future

Despite efforts underway to decarbonize, the U.S. government expects global energy consumption to increase through 2050 due to a variety of factors including population growth, increased regional manufacturing and

higher living standards. This will require governments and private companies to work together to enact policies and produce innovative products that will provide reliable, clean energy for the long term.

We believe that government has an outsized role in making sure clean energy goals are met and recognize the extraordinary effort taken by the U.S. government, including enactment of the Bipartisan Infrastructure Law and the Inflation Reduction Act, as well as the legislation that the European Union, Korea, Canada, and other governments have adopted over the past several years. There have also been ambitious commitments and bold actions at the industry and company level across the globe.

We also believe and have seen that providing access to clean and reliable energy creates opportunities within communities and benefits our environment and climate. We strive to advance our technology and solutions to provide more communities with clean and affordable power while supporting resiliency, economic development, and positive social impact.

This commitment is our motivation – and our purpose. And with our latest generation of fuel cells and electrolyzers we are offering two technological advancements that we believe achieve this end. The possibilities for healthy communities and economic prosperity seem endless.

Our company was founded by people who thought differently about how to power our world. Our leadership team, engineers, scientists, researchers and manufacturing employees continue to believe strongly that a community should never be forced to choose between having reliable access to energy and living in a healthy, thriving environment.

“Our company was founded by people who thought differently about how to power our world. Our leadership team, engineers, scientists, researchers and manufacturing employees continue to believe strongly that a community should never be forced to choose between having reliable access to energy and living in a healthy, thriving environment.”

While we continue to play a key role helping customers reduce their environmental footprint, we must also walk the walk with respect to our own sustainability goals. We are proud to release our second Sustainability Report alongside this annual report so that our stakeholders can learn more about our own progress to date in our environmental, sustainability and governance commitments.

A confident and optimistic outlook

Late in 2023, the nations of the world came together in Dubai at the COP28 conference and made history. For the first time, they agreed on the need to “transition away from fossil fuels in a just, orderly and equitable manner.”

These are not just words at FuelCell Energy. Every day, the approximately 600 people on our global team come to work focused on attacking some of the world’s most complex and pressing problems, anticipating the needs of our customers and committing themselves to serve them.

We believe our focus on growth, our commitment to execution, and our responsiveness to the global call for carbon emissions reduction have set the stage for an impactful future. As we navigate the challenges and

opportunities of the coming years, FuelCell Energy remains steadfast in its goal of delivering on our strategic vision. We must never forget that we are not just trying to decarbonize our energy sources for today, we are finding ways to accommodate the energy demands that must still be met around the world to fuel economic growth for all.

This will require the support of governments, the dedication of innovators at companies like FuelCell Energy, and the support of investors like you.

Together, we are driving positive change and a world empowered by clean energy.

On behalf of our Board of Directors and the FuelCell Energy team, thank you for your investment and support of our purpose to enable a world empowered by clean energy.

Jason Few
President, Chief Executive Officer

FuelCell Energy's Tri-gen System at the Port of Long Beach

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

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

For the fiscal year ended October 31, 2023

OR

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

For the transition period from _____ to

Commission file number: 1-14204

FUELCELL ENERGY, INC.

(Exact name of registrant as specified in its charter)

Delaware	**06-0853042**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
3 Great Pasture Road **Danbury, Connecticut**	**06810**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (203) 825-6000

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol (s)	Name of each exchange on which registered
Common Stock, $0.0001 par value per share	FCEL	The Nasdaq Stock Market LLC (Nasdaq Global Market)

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐
Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

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

As of April 28, 2023, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was $763,367,486 based on the closing sale price of $1.88 as reported on the NASDAQ Global Market.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date.

Class	Outstanding at December 14, 2023
Common Stock, $0.0001 par value per share	451,804,288

DOCUMENT INCORPORATED BY REFERENCE

Document	Parts Into Which Incorporated
Definitive Proxy Statement for the 2024 Annual Meeting of Stockholders	Part III

FUELCELL ENERGY, INC.
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PART I

Item 1. BUSINESS

Index to Item 1. BUSINESS **Page**

Forward-Looking Statement Disclaimer

This Annual Report on Form 10-K contains statements that the Company believes to be "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 (the "PSLRA"). All statements other than statements of historical fact included in this Form 10-K, including statements regarding the Company's future financial condition, results of operations, plans, objectives, expectations, future performance, business operations and business prospects, are forward-looking statements. Words such as "expects," "anticipates," "estimates," "goals," "projects," "intends," "plans," "believes," "predicts," "should," "seeks," "will," "could," "would," "may," "forecast," and similar expressions and variations of such words are intended to identify forward-looking statements and are included, along with this statement, for purposes of complying with the safe harbor provisions of the PSLRA. Forward-looking statements are neither historical facts, nor assurances of future performance. Instead, such statements are based only on our beliefs, expectations, and assumptions regarding the future. As such, the realization of matters expressed in forward-looking statements involves inherent risks and uncertainties. Such statements relate to, among other things, the following:

- the development and commercialization by FuelCell Energy, Inc. and its subsidiaries ("FuelCell Energy," "Company," "we," "us" and "our") of fuel cell technology and products and the market for such products,
- the expected timing of completion of our ongoing projects,
- our business plans and strategies,
- the markets in which we expect to operate,
- expected operating results such as revenue growth and earnings,
- our belief that we have sufficient liquidity to fund our business operations for the next 12 months,
- future funding under Advanced Technologies contracts,
- future financing for projects, including equity and debt investments by investors and commercial bank financing, as well as overall financial market conditions,
- the expected cost competitiveness of our technology, and
- our ability to achieve our sales plans, manufacturing capacity expansion plans, market access and market expansion goals, and cost reduction targets.

The forward-looking statements contained in this report are subject to risks and uncertainties, known and unknown, that could cause actual results and future events to differ materially from those set forth in or contemplated by the forward-looking statements, including, without limitation, the risks described under Item 1A - Risk Factors of this report and the following factors:

- general risks associated with product development and manufacturing,
- general economic conditions,
- changes in interest rates, which may impact project financing,
- supply chain disruptions,
- changes in the utility regulatory environment,
- changes in the utility industry and the markets for distributed generation, distributed hydrogen, and fuel cell power plants configured for carbon capture or carbon separation,
- potential volatility of commodity prices that may adversely affect our projects,
- availability of government subsidies and economic incentives for alternative energy technologies,
- our ability to remain in compliance with U.S. federal and state and foreign government laws and regulations and the listing rules of The Nasdaq Stock Market ("Nasdaq"),
- rapid technological change,
- competition,
- the risk that our bid awards will not convert to contracts or that our contracts will not convert to revenue,

- market acceptance of our products,
- changes in accounting policies or practices adopted voluntarily or as required by accounting principles generally accepted in the United States ("U.S. GAAP"),
- factors affecting our liquidity position and financial condition,
- government appropriations,
- the ability of the government and third parties to terminate their development contracts at any time,
- the ability of the government to exercise "march-in" rights with respect to certain of our patents,
- our ability to successfully market and sell our products internationally,
- our ability to develop new products to achieve our long-term revenue targets,
- our ability to implement our strategy,
- our ability to reduce our levelized cost of energy and deliver on our cost reduction strategy generally,
- our ability to protect our intellectual property,
- litigation and other proceedings,
- the risk that commercialization of our new products will not occur when anticipated or, if it does, that we will not have adequate capacity to satisfy demand,
- our need for and the availability of additional financing,
- our ability to generate positive cash flow from operations,
- our ability to service our long-term debt,
- our ability to increase the output and longevity of our platforms and to meet the performance requirements of our contracts,
- our ability to expand our customer base and maintain relationships with our largest customers and strategic business allies, and
- concerns with, threats of, or the consequences of, pandemics, contagious diseases or health epidemics, including the novel coronavirus ("COVID-19"), and resulting supply chain disruptions, shifts in clean energy demand, impacts to our customers' capital budgets and investment plans, and impacts on the demand for our products.

We cannot assure you that:

- we will be able to meet any of our development or commercialization schedules,
- any of our new products or technologies, once developed, will be commercially successful,
- our power plants will be commercially successful,
- we will be able to obtain financing or raise capital to achieve our business plans,
- the government will appropriate the funds anticipated by us under our government contracts,
- the government will not exercise its right to terminate any or all of our government contracts, or
- we will be able to achieve any other result anticipated in any other forward-looking statement contained herein.

The forward-looking statements contained herein speak only as of the date of this report and readers are cautioned not to place undue reliance on these forward-looking statements. 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.

Risk Factor Summary

Our business is subject to numerous risks and uncertainties, including those described in Item 1A "*Risk Factors*". These risks include, but are not limited to the following:

- We have incurred losses and anticipate continued losses and negative cash flows.
- Our cost reduction strategy for manufacturing may not succeed or may be significantly delayed, which may result in our inability to deliver improved margins.
- We have debt and finance obligations outstanding and may incur additional debt in the future, which may adversely affect our financial condition and future financial results.
- We rely on project financing for our generation operating portfolio, which includes debt and tax equity financing arrangements, to realize the benefits provided by investment tax credits and accelerated tax depreciation. In the event that interest rates continue to rise or there are changes in tax policy, our financial results could be harmed.
- Unanticipated increases or decreases in business growth may result in adverse financial consequences for us.
- If our goodwill and other indefinite-lived intangible assets and long-lived assets (including project assets) become impaired, we may be required to record a significant charge to operations.
- Our Advanced Technologies contracts are subject to the risk of termination by the contracting party and we may not realize the full amounts allocated under some contracts due to the lack of Congressional appropriations or early termination.
- Utility companies may resist the adoption of distributed generation and could impose customer fees or interconnection requirements on our customers that could make our products less desirable.
- We depend on third party suppliers for the development and timely supply of key raw materials and components for our products.
- An increase in energy costs, including as a result of the ongoing conflict between Russia and Ukraine, may materially adversely affect our business, financial condition, and results of operations.
- Failure to meet Environmental, Social, and Governance ("ESG") expectations or standards or to achieve our ESG goals could adversely affect our business, results of operations, financial condition, and stock price.
- We derive significant revenue from contracts awarded through competitive bidding processes involving substantial costs and risks. Our contracted projects may not convert to revenue, and our project awards and sales pipeline may not convert to contracts, which may have a material adverse effect on our revenue and cash flows.
- We have signed product sales contracts, engineering, procurement and construction contracts ("EPCs"), power purchase agreements ("PPAs") and long-term service agreements with customers subject to contractual, technology, operating, commodity (i.e., natural gas) and fuel pricing risks, as well as market conditions that may affect our operating results.
- We extend product warranties for our products, which products are complex and could contain defects and may not operate at expected performance levels, which could impact sales and market adoption of our products, affect our operating results or result in claims against us.
- We currently face and will continue to face significant competition, including from products using other energy sources that may be lower priced or have preferred environmental characteristics. Our plans are dependent on market acceptance of our products and we must complete development of our new products and develop additional commercially viable products in order to achieve our long-term revenue targets.
- 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.
- We are increasingly dependent on information technology, and disruptions, failures or security breaches of our information technology infrastructure could have a material adverse effect on our operations and the operations of our power plant platforms. In addition, increased information technology security threats and more sophisticated computer crime pose a risk to our systems, networks, products and services.

- We are required to maintain effective internal control over financial reporting. In a prior fiscal year, our management identified a material weakness in our internal control over financial reporting. If other control deficiencies are identified in the future, we may not be able to report our financial results accurately, prevent fraud or file our periodic reports in a timely manner, which may adversely affect investor confidence in our Company and, as a result, the value of our common stock.
- Our results of operations could vary as a result of changes to our accounting policies or the methods, estimates and judgments we use in applying our accounting policies.
- We may be affected by environmental and other governmental regulation.
- A negative government audit could result in an adverse adjustment of our revenue and costs and could result in civil and criminal penalties.
- Exports of certain of our products are subject to various export control regulations and may require a license or permission from the U.S. Department of State, the U.S. Department of Energy or other agencies.
- The Paycheck Protection Program loan received by us in 2020 and subsequently repaid by us in 2021 has resulted in an informal SEC inquiry into our financial disclosures and may subject us to challenges regarding qualification for the loan, enforcement actions, fines and penalties.
- We will need to raise additional capital, and such capital may not be available on acceptable terms, if at all. If we do raise additional capital utilizing equity, existing stockholders will suffer dilution. If we do not raise additional capital, our business could fail or be materially and adversely affected.
- We depend on our intellectual property, and our failure to protect that intellectual property could adversely affect our future growth and success. Additionally, the U.S. government has certain rights relating to our intellectual property, including the right to restrict or take title to certain patents.
- Our stock price has been and could remain volatile. Financial markets worldwide have experienced heightened volatility and instability which may have a material adverse impact on our Company, our customers and our suppliers.
- Provisions of Delaware and Connecticut law and of our certificate of incorporation and by-laws may make a takeover more difficult. Our by-laws provide that the Court of Chancery of the State of Delaware is the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a judicial forum deemed favorable by the stockholder for disputes with us or our directors, officers or employees.
- The rights of our 5% Series B Cumulative Convertible Perpetual Preferred Stock ("Series B Preferred Stock") could negatively impact our cash flows and dilute the ownership interest of our common stockholders. The Series B Preferred Stock ranks senior to our common stock with respect to payments upon liquidation, dividends, and distributions.
- Litigation could expose us to significant costs and adversely affect our business, financial condition, and results of operations.
- Weakness in the economy and other conditions affecting the financial stability of our customers could negatively impact future sales of our products and our results of operations.
- Our results of operations could be adversely affected by economic and political conditions globally and the effects of these conditions on our customers' businesses and levels of business activity.
- Our future success will depend on our ability to attract and retain qualified management, technical and other personnel.
- We are subject to risks inherent in international operations.

General Information

Information contained in this report concerning the electric power supply industry and the distributed generation market, the distributed hydrogen market, the energy storage market and the carbon capture market, our general expectations concerning these industries and markets, and our position within these industries and markets are based on market research, industry publications, other publicly available information and assumptions made by us based on this information and our

knowledge of these industries and markets, which we believe to be reasonable. Although we believe that the market research, industry publications and other publicly available information, including the sources that we utilized in preparing certain portions of this report, are reliable, they have not been independently verified by us and, accordingly, we cannot assure you that such information is accurate in all material respects. Our estimates, particularly as they relate to our general expectations concerning the electric power supply industry and the distributed generation market, the distributed hydrogen market, the energy storage market and the carbon capture market, involve risks and uncertainties and are subject to change based on various factors, including those discussed under the section of this report entitled "Item 1A - Risk Factors."

Unless otherwise specifically noted herein, all degrees refer to Fahrenheit ("F"); kilowatt ("kW") and megawatt ("MW") numbers used in this report designate nominal or rated capacity of the referenced power plant which is the design rated output of the referenced power plant as of the date of initiation of commercial operations; "efficiency" or "electrical efficiency" means the ratio of the electrical energy generated in the conversion of a fuel to the total energy contained in the fuel (lower heating value, the standard for power plant generation, assumes the water in the product is in vapor form; as opposed to higher heating value, which assumes the water in the product is in liquid form, net of parasitic load); kW means 1,000 watts; MW means 1,000,000 watts; "kilowatt hour" ("kWh") is equal to 1kW of power supplied to or taken from an electric circuit steadily for one hour; and one British Thermal Unit ("Btu") is equal to the amount of heat necessary to raise one pound of pure water from 59^{o}F to 60^{o}F at a specified constant pressure.

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

Business Overview

Headquartered in Danbury, Connecticut, FuelCell Energy is a global leader in delivering environmentally responsible distributed baseload energy platform solutions through our proprietary fuel cell technology. Today, we offer commercial technology that produces clean electricity, heat, clean hydrogen, and water and is also capable of recovering and capturing carbon for utilization and/or sequestration, depending on product configuration and application. We also continue to invest in product development and commercializing technologies that are expected to add new capabilities to our platforms' abilities to deliver hydrogen and long duration hydrogen-based energy storage through our solid oxide technologies, as well as further enhance our existing platforms' carbon capture solutions.

FuelCell Energy is focused on advancing sustainable clean energy technologies that address some of the world's most critical challenges around energy access, security, resilience, reliability, affordability, safety and environmental stewardship. As a leading global manufacturer of proprietary fuel cell technology platforms, FuelCell Energy is uniquely positioned to serve customers worldwide with sustainable products and solutions for industrial and commercial businesses, utilities, governments, municipalities, and communities.

Our History

FuelCell Energy was founded in 1969 by Bernard Baker and Martin Klein, who had a powerful vision for the future of energy. The Company, which is based in Connecticut, was founded as a New York corporation to provide applied research and development services on a contract basis. The Company completed its initial public offering in 1992 and reincorporated in Delaware in 1999. The Company sold its first commercial fuel cell power platform in 2003 to the Kirin Ichiban Brewery Company in Tokyo, Japan, which utilized biofuels to produce carbon neutral electricity and steam. This history of converting advanced research into technological leadership, the diversity of our team, and our team members' ideas drive our culture of innovation and sense of purpose.

Today, FuelCell Energy is a global manufacturer of stationary fuel cell and electrolysis platforms that decarbonize power and produce hydrogen.

Our purpose is to enable a world empowered by clean energy.

Product Platforms and Applications Overview

Our product portfolio is based on two electrochemical platforms: carbonate and solid oxide. The platforms are similar in many ways, but they also have unique capabilities. Both platforms support power generation and combined heat and power applications using a variety of fuels, including hydrogen, hydrogen and natural gas blends, biogas, renewable natural gas, and natural gas. The fuel cells utilized in these platforms react fuel electrochemically, without combusting the fuel,

which avoids emissions produced by combustion such as nitrogen oxides ("NOx"), sulfur oxides ("SOx") and particulates. In the electrochemical process, fuel and air are reacted in separate chambers in the fuel cell stack. The reactions producing CO_2 happen before the fuel is mixed with air, and the CO_2 is concentrated and therefore easy to recover and capture. Both our carbonate and solid oxide platforms are enabled to recover and capture their own CO_2 for use or sequestration before it is emitted into the air. However, our carbonate platforms are unique in their ability to also capture CO_2 from an external source, utilizing the flue stream of a power plant or an industrial boiler as a replacement for ambient air intake.

Our solid oxide platform can operate on pure hydrogen fuel. We believe this feature will gain importance in the future as hydrogen becomes more widespread as a fuel, and in the more near term as we work to deploy our technology for hydrogen-based energy storage.

Both platforms can be used in electrolysis, which is the reverse of fuel cell operation – producing hydrogen from power and water. Carbonate platforms use a mixture of reforming and electrolysis, while solid oxide platforms can be used for zero emission pure hydrogen electrolysis.

Our multi-featured platforms can be configured to provide a number of value streams, including electricity, hydrogen, high grade heat (including steam), water and CO_2 upgradable to food and beverage grade and/or usable in cement or other industrial products, and to concentrate and separate CO_2 from fossil-fueled industrial applications allowing the sequestration and/or utilization of the CO_2.

See the section below entitled "Product Platforms and Applications" for more information.

Our Commitment to Sustainability

As a company, we are committed to helping our customers reduce their environmental impact. We are equally committed to reducing our environmental impact and have therefore developed and begun implementing a plan to reduce our carbon emissions to net zero by 2050. As part of this commitment, during fiscal year 2023, we:

- Performed a corporate-level greenhouse gas ("GHG") emissions inventory for 2020-2024;
- Conducted product-level life cycle assessments to understand and potentially reduce GHG emissions throughout the value chain, from production through decommissioning;
- Developed an Environmental, Social and Governance ("ESG") strategy to prioritize and holistically address our key ESG responsibilities and stakeholders' needs; and
- Established an ESG governance model comprised of an ESG cross-functional team, including executive team members and overseen by the Environmental, Social, Governance and Nominating Committee of our Board of Directors.

Our platforms have a direct impact on reducing our customers' Scope 1 and Scope 2 emissions, thus lowering the global environmental footprint of baseload, or primary, power generation. However, our platforms are designed to go beyond power generation, delivering hydrogen, carbon recovery, carbon capture, water, and thermal energy in various applications. As a result of our platforms' ability to deliver multiple value streams, we help our customers reduce their Scope 1 and Scope 2 emissions on-site without buying off-site carbon/environmental offsets, which do not positively impact the local communities' air quality or emissions. As a company, we are focused on addressing immediate environmental impacts such as NOx, SOx, and particulate emissions and the multi-decade impacts on climate change. In the future, we plan to commercialize our hydrogen, long-duration energy storage, and carbon capture technologies intended to drive next generation solutions to help customers attain their decarbonization goals and continue to advance decarbonization through the utilization of our products in core industries, such as steel manufacturing, cement production, and glass making.

Our patented products offer a sustainable alternative to traditional internal combustion-based power generation and more reliable baseload, or prime, power compared to intermittent sources such as wind, solar, and run of river hydro power. Traditional power plants create immediate harmful emissions, such as NOx, SOx and particulate matter, that are a serious public health concern and have a direct impact on the communities in which these plants operate. When a fuel is combusted (as in traditional power generation), carbon dioxide is emitted in addition to SOx, NOx, and other particulates. When intermittent power sources go offline because the sun is not shining, the wind is not blowing, or water is not flowing, they rely on traditional fossil-fueled power resources such as coal and internal combustion engine technologies to provide electricity. Our energy platforms use a combustion-free power generation process that is virtually free of pollutants. Our platforms are highly efficient and environmentally friendly products that support the "Triple Bottom Line" concept of sustainability, consisting of environmental, social, and economic considerations. Intermittent sources generally avoid fewer emissions than our fuel cell platforms due to the fact these sources of power typically only operate 15% to 40% of the time, while our platforms operate 24 hours a day.

Our commitment to sustainability is also evident in the design, manufacturing, installation, and on-going servicing of our fuel cell energy platforms, which are engineered for the circular economy. For example, when our platforms reach the end of their useful lives, we have the capability to refurbish and re-use certain parts and also recycle more than 90% by weight of what we cannot re-use. This is a departure from combustion-based, wind, and solar power generation methods that typically produce a significant amount of unrecyclable waste, which increases landfill use and, in the case of solar, creates the possibility of toxic material contamination. Our balance of plant ("BOP"), i.e., the mechanical and electrical components surrounding the fuel cell, is designed to have an operating life of 25-to-30 years, at which time metals such as steel and copper are reclaimed for scrap value. For context, by weight, approximately 93% of our entire energy platform can be re-used or recycled at the end of its useful life.

Our Market Opportunity

Climate initiatives are driving the global push to reduce greenhouse gases, including CO_2, NOx and SOx. We believe a large and increasing combined total addressable market opportunity exists for solutions we currently have commercially available today and solutions that we are actively developing for commercialization. Through the capabilities of our platforms, we provide clean, reliable baseload, or prime, power generation (baseload or prime power generation is power generated over a period of time at a steady rate), hydrogen production, high grade heat, carbon recovery from the fuels utilized by our platforms, isolation and removal of CO_2 from exhaust streams, and the ability to use biofuels, renewable natural gas ("RNG"), and a hydrogen-hydrocarbon fuel blend for power generation feedstock. In addition, we are focused on advancing the commercialization of our platform technology to utilize pure hydrogen for baseload power generation and to perform electrolysis to convert water and electricity into hydrogen and to isolate and remove CO_2 from external exhaust streams.

Hydrogen enables zero emissions transportation by utilizing a zero-carbon feedstock as the fuel to power cars, trucks, buses, ships, trains, and, in the future, aircraft and other aerospace applications. Hydrogen is also capable of providing the fuel needed to produce high grade heat for industrial applications such as steel and glass production, in addition to its traditional uses for the refining process, in making ammonia, cement, and chemicals, for in-building heating, for combustion power generation, and for residential heating.

Hydrogen is also an effective medium for the storage of energy, and we are in the process of commercializing a highly efficient and environmentally favorable hydrogen-based long-duration energy storage solution. We believe hydrogen-based storage is environmentally superior to a mineral-based storage solution such as lithium-ion batteries. Additionally, through the deployment of our megawatt and sub-megawatt power generation platform solutions, we can deliver the benefits of clean, distributed power generation, including the desirable value stream of thermal energy, and avoid the need for massive, expensive, difficult to permit, long distance transmission infrastructure and the above ground risks that the traditional transmission grid creates.

CO_2 is also a valuable input ingredient in many products and processes. We believe that, by using more CO_2 (carbon capture utilization) and emitting less CO_2 through the efficiencies of our platforms and by capturing CO_2 at the source point, the use of our platforms can positively impact climate change while improving air quality compared to traditional combustion power generation. Our platforms are capable of delivering CO_2 for food and beverage use, pH balancing of water supply, extending the shelf life of food vital to global food supply and food security, as a binder in a number of materials from concrete to sustainable building materials and the production of synthetic fuels, polymers and other minerals.

See the section below entitled "Our Markets" for information regarding our existing and target markets.

Our Business Strategy

In 2019, we launched our "Powerhouse" strategy to strengthen our business, maximize operational efficiencies and position us for future growth. Having made substantial progress in achieving key initiatives under the original three pillars of our strategy, in fiscal year 2022, we updated the three key pillars of our strategy to "Grow, Scale and Innovate." Under these three pillars, we are focused on:

Grow — Penetrate Significant Market Opportunities

- *Optimize the core business:* Capitalizing on our core technological strengths across targeted customer segments and delivering applications, including, but not limited to, microgrids, distributed hydrogen, and carbon capture and utilization.

- *Drive commercial excellence:* Strengthening customer relationships and building a customer-centric reputation; building our sales pipeline by increasing focus on targeted differentiated applications, product sales, energy as a service financing options (through power purchase, lease or similar agreements), and geographic market and customer segment expansion; and building a broader network of channel and go-to-market relationships.

- *Expand geographically and by market:* Targeting growth opportunities in our traditional markets of North America, South Korea, and Europe, and emerging opportunities in the Middle East, Africa, the Asia Pacific

region and South America. We will continue to monitor global markets for expansion as those opportunities develop.

Scale — Scale Our Existing Platform to Support Growth

- *Invest:* Investing in our current manufacturing capabilities and building new capacity as we advance commercialization of our solid oxide and carbon capture technologies, enhancing our commercial organization and creating distribution partnerships, and investing in marketing to ensure the various audiences of our message have a clear understanding of the potential value propositions and benefits of our platforms and solutions, including customers, regulatory and legislative bodies in each of our target markets, and investors.

- *Extend process leadership*: Building on our legacy and over twenty years of commercial platform process experience, so that we can scale our new platforms and solution capabilities with the same degree of quality as our current footprint.

- *Broaden and deepen our team:* Implementing the next phase of our plan for developing our team to support our growth and enable our future, including building an even more diverse, inclusive, intellectually curious, engaged, and purpose-driven workforce that embodies the culture of the Company and its core values.

Innovate — Innovate for the Future

- *Continue product innovations:* Investing in continuous product improvement, advancing hydrogen-based energy solutions, including storage and electrolysis solutions using a differentiated thin, lightweight, high-efficiency electrode supported cell capable of reverse (fuel cell/electrolysis) operation, and continuing development of carbon capture and carbon recovery technologies extending our platform applications.

- *Deepen participation in the developing hydrogen economy*: Building on our deployed distributed hydrogen Tri-gen platform for the delivery of hydrogen as a zero-emission transportation fuel, as well as advancing our solid oxide technology to support growing applications for distributed hydrogen electrolysis and energy storage applications. This includes leveraging the high efficiency of our solid oxide technology in electrolysis mode and the ability to operate reversibly between electrolysis and fuel cell mode to support the use of hydrogen as an energy storage carrier. These features allow for high efficiency hydrogen and power production using 100% hydrogen fuel for electricity production and economic and efficient hydrogen-based energy storage. Also, this hydrogen is a decarbonizing reduction agent when blended with natural gas and can be used in a number of transportation applications, or as a super fuel to replace traditional hydrocarbons in applications where a continuous fuel feedstock is required.

- *Diversify our revenue streams by delivering products and services that support the global energy transition:* Through the innovations described above, focusing on developing a suite of platforms which we believe will be in demand throughout the energy transition allowing us to increase and broaden our customer penetration, add to the value we deliver to our customers, and diversify our revenue streams.

Our Durable Competitive Advantages

Given the long history of investment in and deployment of our solutions, we believe we have the following competitive advantages that underpin and enable our strategy:

- **Intellectual property** that we believe makes new entry to the market by competitors challenging and **a product portfolio** that consists of several proprietary technologies with capabilities that we believe are attractive based on market economics, rather than government mandates alone.

- **Technical expertise** through a highly skilled team, operating complex processes and enabling sophisticated electrochemical processes to deliver our platform solutions.

- **Operational excellence** programs and resource management aim to maximize cost-reduction opportunities to improve competitiveness and reduce waste, while improving safety and product quality, and lean management

deployment intended to drive manufacturing speed to market and decrease the environmental impact of our operations.

- **Strategic innovation and development relationships** with the U.S. Department of Energy ("DOE"), ExxonMobil Technology and Engineering Company, formerly known as ExxonMobil Research and Engineering Company ("EMTEC"), Canadian Natural Resources Limited ("CNRL") and Drax Group ("Drax") provide funding for and encourage technology development.

- **Products characterized by sustainability over their full lifecycle** compared to other "clean" technologies such as wind turbines, solar panels and mineral-based batteries for which recycling is neither economical nor practical. In addition, mineral-based batteries rely on certain minerals the production of which may be plagued by supply challenges, disruptive mining practices and labor practices not supported by developed countries. Geopolitical risks may expose rare earth and critical minerals to the fragile nature of global trade, thus reducing energy security and independence. Finally, all of these other technologies are currently significant contributors to landfill waste following their useful life.

Product Platforms and Applications

We are focused on using our proprietary technology to pursue the following five significant applications, each of which we believe is important to the global energy transition and to limiting climate change, reducing NOx, SOx, and particulate pollution, limiting noise pollution associated with traditional power generation and fostering more efficient utilization of land compared to traditional power generation and intermittent renewable energy platforms:

- Distributed generation from carbonate and solid oxide platforms (commercially available);
- Distributed hydrogen production using carbonate-based Tri-gen to co-produce power, hydrogen, and water (commercially available);
- Distributed and large-scale hydrogen production using high efficiency solid oxide electrolysis cell ("SOEC") systems (commercially available);
- Carbon capture from external sources (under development) and carbon recovery and utilization enabling carbon capture utilization and sequestration ("CCUS") (commercially available); and
- Long duration energy storage utilizing reversible solid oxide fuel cells ("RSOFC") which alternate between electrolysis mode (to produce and store hydrogen using input power) and fuel cell mode, regenerating power from the stored hydrogen (under development).

The attributes of our products include:

- **Sustainable**: With the commercialization of our solid oxide platform, we are able to offer two highly differentiated high temperature electrochemical platforms. Our solutions produce electricity electrochemically − without combustion − and operate at a low decibel level, which enables siting of the power plants within dense, urban areas while meeting clean air permitting regulations. We believe that our solutions represent an important local public health benefit, and they often generate tax revenues for the local community. Fuel cells also reduce carbon emissions compared to less efficient combustion-based power generation and avoid greater CO_2, SOx, NOx, and particulate emissions than intermittent renewable energy resources.
- **Flexible**: Our solutions can operate on hydrogen, hydrogen and natural gas blends, renewable natural gas, on-site renewable biogas, directed biogas, natural gas, flare gas and propane to offer combined heat and power ("CHP") and are scalable to add power incrementally as demand grows. Our solid oxide platform is also capable of operating on 100% hydrogen. For our carbonate platform, the unique chemistry of our fuel cells allows them to directly use low Btu on-site biogas utilizing our proprietary gas cleanup skid, with no reduction in output or efficiency compared to operation on natural gas. We developed our proprietary biogas cleanup and contaminant monitoring equipment which, combined with the inherent suitability of the carbonate fuel cell chemistry, gives us an advantage in on-site biogas applications. In addition, we have demonstrated operation of our carbonate fuel cell technology with other fuel sources including coal syngas, propane, and hydrogen-natural gas blend. We believe traditional oil and gas companies as well as new market entrants will continue to develop and increase the supply of renewable natural gas which would benefit our customers given the fuel flexibility of our platforms.
- **Reliable**: Our solutions improve power reliability and energy security by lessening reliance on the transmission and distribution infrastructure of the electric grid. Unlike solar, wind, and run of river hydro power, fuel cells are able to operate continuously regardless of weather, time of day, water levels, or geographic location.
- **Standardized**: Our solutions use a standard cell design globally, enabling supply chain volume-based cost reduction, optimal resource utilization and long-life product enhancements.
- **Attractive Thermal Attributes**: In addition to electricity, our standard fuel cell configuration produces high quality thermal energy (approximately 700° F), suitable for heating facilities or water, or steam for industrial processes or for absorption cooling ideal for data center applications. The high thermal value may allow

customers to reduce or eliminate their burning of fuel in carbon intensive boilers, which should reduce emissions that contribute to their Scope 1 emissions. When configured for CHP, our system efficiencies can potentially reach up to 90%, depending on the application. When configured for distributed hydrogen, our plants produce hydrogen in addition to power and water, with a potential effective efficiency (counting the fuel that would have been used to produce hydrogen conventionally) of up to 80% before considering waste heat utilization, which can further improve the total efficiency.

- **Use of Readily Available Catalyst Material**: As our fuel cells are designed to operate at approximately 1,100° F, our platform solution has a key advantage afforded high temperature fuel cells, specifically that they do not require the use of geographically limited precious metal electrodes required by lower temperature fuel cells, such as proton exchange membrane ("PEM") and phosphoric acid ("PAFC") fuel cells. As a result, we are able to use less expensive and more readily available industrial metals, primarily nickel and stainless steel, as catalysts for our fuel cell components, whereas PEM and PAFC fuel cell technologies must compete for many of the core precious metals needed for their platforms.

- **Easy to Site**: Our fuel cell energy platforms are easily sited with a relatively small footprint and low decibel operating level given the amount of power produced, allowing our platforms to be located at the point of demand. They require significantly less land than solar and wind projects for equivalent power production. There is minimal noise produced by the mechanical BOP and our fuel cell platforms have a clean emissions profile, making our fuel cell energy platforms ideally suited for urban locations and in suburban applications at or near the point of energy consumption. Locating our platforms on-site also contributes directly to reducing our customers' Scope 1 and Scope 2 emissions.

- **Scalable**: Our platforms are scalable, providing a cost-effective solution to adding power incrementally as demand grows, such as multi-megawatt fuel cell parks supporting the electric grid and large scale commercial and industrial operations.

- **Forward Compatibility**: Our fuel cells are multi-fuel capable, allowing a customer to deploy our platforms today utilizing natural gas and to migrate in the future to biofuels, renewable natural gas, and/or a hydrogen and natural gas blend as those fuels become more abundant. In addition, upon commercialization of our solid oxide platform, we expect that customers will be able to utilize 100% hydrogen for power production.

Product Efficiency and Effectiveness

The electrical efficiency of our carbonate fuel cell solutions ranges from approximately 47% to 60% upon initial operations of our platforms depending on the configuration. When configured for CHP, our system efficiencies can potentially reach up to 90%, depending on the application. Our solutions are designed to deliver high electrical efficiency where the power is used, avoiding transmission. Transmission line losses average about 5% for the U.S. grid, which represents inefficiency, resulting in additional emissions and a hidden cost to utility customers. In addition, overhead transmission lines have been shown to contribute to the ignition of wildfires in certain geographies, causing significant damage and loss of homes and life.

With respect to our solid oxide platforms, in fuel cell mode, we are targeting efficiencies in the low to high 60% range depending on the fuel type. In electrolysis mode, we are targeting electrical efficiency of about 90%, increasing to approximately 100% when augmented by externally supplied waste heat. In reversible mode, we expect round trip efficiencies in the high 60% range.

With respect to carbon capture capability, we have demonstrated up to 95% carbon capture from simulated coal power plant sources while simultaneously producing baseload power. For harder to capture streams, such as natural gas power generation or industrial boiler capture, we can achieve similarly high capture levels but with reduced power output. We believe we will be able to operate at capture levels of 90% or better at economically acceptable power output levels with industrial boiler sources, and, with continued development, we expect to be able to cost-effectively capture high percentages of carbon from lower concentration streams in the future.

Our Product Platforms and Applications – Current and Future

Carbonate-Based Distributed Generation

Our proprietary, patented platforms generate electricity directly from fuel, such as hydrogen, hydrogen and natural gas blends, biogas, renewable natural gas, and natural gas. This multi-fuel capability enables our platform to leverage the established natural gas infrastructure that is readily available in our existing and target markets, compared to some types of fuel cells that can only operate on high purity hydrogen. Our proprietary technology also allows us to utilize on-site biogas, renewable natural gas or a hydrogen and natural gas blend, the application of which is rapidly expanding around the world, to fuel our platforms.

We market different configurations and applications of our platform to meet specific market needs, including:

- ***On-Site Power (also known as "Behind the Meter"):*** Customers benefit from improved power resilience, energy security from on-site power that reduces reliance on the electric grid in an environmentally responsible manner, and long-term electric and other value stream price certainty. Additionally, thermal energy produced by our fuel cells can be used to produce hot water or steam or to drive high efficiency absorption chillers for cooling applications for commercial and industrial customers. Our platform can also deliver hydrogen and carbon dioxide for beverage and food production in addition to other industrial uses. Carbon separated can also be sequestered depending upon the use case.

- ***Utility Grid Support****:* Our energy platforms are scalable, enabling multiple fuel cell platforms to be located together on a very small footprint per MW generated. This capability enables utilities to add multi-megawatt power generation to enhance electric grid resiliency where needed, without the associated cost and inefficiencies of a transmission system and without other associated above-ground transmission risks. Our fuel cells can solidify the total utility power generation solution when combined with intermittent sources, such as solar or wind, or less efficient combustion-based equipment that provides peaking or load following power.

- ***Microgrid Applications:*** Our platforms can also be configured as a microgrid, either independently or with other forms of power generation, with the goal of providing continuous power and a seamless transition during times of grid outages. We have deployed multiple microgrids leveraging our platform solutions, some individually and some integrated with other forms of power generation.

Carbonate-Based Distributed Hydrogen

Our Tri-gen platform is configurable to deliver on-site hydrogen for transportation, industrial applications, natural gas blending, repowering combustion-based equipment with zero carbon hydrogen, and other uses. Our Tri-gen platform utilizes proprietary fuel cells configured to simultaneously generate three value streams — power generation, hydrogen, and water. When operated on biogas or renewable natural gas, our Tri-gen platform produces renewable hydrogen, also known as green hydrogen, but, even when fueled with natural gas, our platform produces hydrogen with a lower carbon and criteria pollutant impact when compared to conventional steam methane reforming ("SMR") applications because of the use of internal heat compared to burning fuel in the case of SMRs. Heat and steam are byproducts of fuel cell operation, allowing our Tri-gen platform to produce hydrogen without water consumption (in fact with net water production, making our Tri-gen platform a unique platform for hydrogen production) and with a low carbon footprint. Adding carbon separation or carbon capture to our Tri-gen platform when fueled with natural gas will deliver blue hydrogen (i.e., hydrogen produced with carbon capture).

Solid Oxide-Based Electrolysis

We have commercialized a proprietary solid oxide electrolysis technology which is expected to enable production of hydrogen with high electrical efficiency. We believe that our platform will deliver higher efficiency than our competitors and competing technologies with or without the addition of waste heat. Our solid oxide stacks in electrolysis mode split water into hydrogen and oxygen using supplied carbon-free electricity. The hydrogen can be stored as compressed gas, creating the ability to produce a virtually limitless supply.

The largest factor in the cost of electrolysis-produced hydrogen is the cost of electricity. Consequently, efficiency is one of the most effective ways to lower cost. We believe our solid oxide platform is among the most efficient available

electrolysis technologies. We believe this translates to approximately 20% to 35% less electrical energy needed per kg of hydrogen production compared to lower efficiency and low-temperature electrolysis. For example, at a cost of $0.10/kWh for electricity, that difference results in a savings of approximately $1 to $1.50 per kg of hydrogen with our SOEC platform. We believe our solid oxide platform offers one of the best chances of achieving the $1 per kg levelized cost of hydrogen targeted by the U.S. Department of Energy by 2050. Applications for this technology include centralized large scale hydrogen production from grid-scale renewables or nuclear power, and decentralized hydrogen production for industrial, transportation, repowered combustion generation assets, and synthetic or sustainable fuels for use in aviation and other applications.

We have operated a sub scale demonstration project of our solid oxide electrolysis technology in our Danbury test facility, which demonstrated the high electrical efficiency discussed above. We have also been awarded a pilot program to provide a packaged 150 kg/day system for demonstration at Idaho National Laboratory. Idaho National Laboratory is currently conducting stack tests to evaluate performance and durability, and we expect our solid oxide electrolysis technology to be placed in service during fiscal year 2024.

Solid Oxide-Based Long Duration Hydrogen-Based Energy Storage

We are in the process of developing a solution for long duration energy storage using our proprietary solid oxide electrolysis technology. Our solid oxide stacks are designed to alternate between electrolysis and power generation mode, with one of our design goals being improved integration of intermittent wind and solar power generation sources into the modern electrical grid via long duration storage of energy. Hydrogen-based long duration energy storage has the ability to transform the way intermittent resources are supported today as an alternative to combustion energy sources for continuous or peaking power to fill in when intermittent resources are not online. Instead of producing power from fuel and air, a solid oxide fuel cell stack in electrolysis mode splits water into hydrogen and oxygen using supplied carbon-free electricity. During high demand periods or periods when intermittent resources are offline, the stored hydrogen can be sent back to the same solid oxide stacks, which react it with air to produce power and to regenerate the water, which can be stored for the next cycle.

Long duration hydrogen-based energy storage can be achieved without the need to add excessive amounts of conventional battery capacity, a capacity that is reliant on rare earth minerals such as lithium and cobalt, both of which have supply constraints for broad adoption, require extensive mining, present long-term disposal challenges post-use, and are impacted by geopolitical risks associated with supply and mineral processing. The Democratic Republic of the Congo and People's Republic of China ("China") were collectively responsible for approximately 70% and 60% of global production of cobalt and rare earth elements, respectively, in 2019. High levels of production concentration, compounded by complex supply chains, increase the risks that could arise from physical disruption, trade restrictions or other developments in major producing countries, jeopardizing energy security.

Long duration hydrogen-based energy storage is expected to be required at large scale in order to manage the forecasted high penetration of intermittent renewable resources globally, and we believe the water/hydrogen-based approach of our solid oxide fuel cell/solid oxide electrolysis cell/reversible solid oxide fuel cell technology has the potential to be a key enabler of long duration hydrogen-based energy storage. Hydrogen can be produced locally, is less reliant on energy transition minerals and is regenerative. We believe hydrogen as an energy storage medium is superior to mineral-based storage platforms.

We have recently completed conversion of the Danbury electrolysis demonstration system to a reversible system, adding equipment for supply of hydrogen to the stack to make power. We have begun testing the system in RSOFC mode, alternating the test stack between production of hydrogen in electrolysis mode and consumption of hydrogen in fuel cell mode. This is an extension of previous tests with single cells or smaller stacks which demonstrated stable operation in RSOFC mode.

Carbon Capture, Recovery and Utilization

- ***Carbon Capture –*** Power generation and industrial applications are the source of two-thirds of the world's carbon emissions. Cost effective and efficient carbon capture from these two applications globally represents a large market because it could enable clean use of all available fuels. Our carbon capture system is being designed to separate and concentrate CO_2 from the flue gases of natural gas, biomass or coal-fired power plants or other

industrial facilities as a side reaction that extracts and purifies the CO_2 in the flue gas during the power generation process and destroys approximately 70% of NOx emissions during the power generation process.

The production of additional baseload power during the carbon capture process, as opposed to consuming power, differentiates our carbon capture system from other forms of carbon capture offerings. This added revenue attribute could make our carbon capture system more cost effective than other systems which are being considered, or are currently in use, for carbon capture. Our carbon capture systems can be implemented incrementally, managing capital outlay to match decarbonization objectives and regulatory requirements. Since our solution generates a return on capital resulting from the fuel cell's production of electricity compared to an increase in operating expense incurred by other carbon capture technologies, it can extend the life of existing power plants and industrial facilities.

We have a Joint Development Agreement with EMTEC, which first became effective on October 31, 2019 and was executed in fiscal year 2020 (as amended from time to time, the "EMTEC Joint Development Agreement"). Under this agreement, we have engaged in exclusive research and development efforts with EMTEC to evaluate and develop new and/or improved carbonate fuel cells to reduce carbon dioxide emissions from industrial and power sources. Please see the subsection below entitled "License and Joint Development Agreements with EMTEC" for additional information regarding the EMTEC Joint Development Agreement and the relationship between us and EMTEC.

- ***Carbon Recovery and Utilization –*** In addition to the ability to capture carbon dioxide from an external source, we are adding the capability to our platforms to extract and purify carbon dioxide produced by the fuel cell power generation process. Our carbon separation technology allows carbon dioxide to be extracted and purified to the appropriate level for utilization or sequestration, significantly reducing the carbon footprint of the generated power from our fuel cell platforms. This requires a simple modification to the fuel cell module that can be incorporated into new platforms as well as retrofitted for existing systems during stack replacements. Over time, as we replace fuel cell stacks in our deployed modules, we intend to integrate our carbon separation technology, making every platform receiving a module upgrade carbon separation ready. One attractive application for this technology is the on-site production of carbon dioxide for use in beverage and food production, in addition to other uses such as pH balancing of water, the production of dry ice, as a binder in cement and concrete production, utilization in grow houses, the production of ethanol and synthetic fuels such as sustainable aviation fuels, and numerous other industrial applications and building materials. The ability to provide clean power, heat, and useable carbon dioxide is a unique feature profile that we believe is only available with our carbon capture platform. Our systems are modular and scalable, so they can be deployed in a wide variety of applications where on-site carbon dioxide is consumed as a product solution, or carbon dioxide is delivered to multiple nearby consumers. Carbon separated from our platforms can also be sequestered in instances where the project does not include a use for carbon.

Our Markets

We target distinct markets and applications, including:

- Utilities and independent power producers;
- Industrial process applications;
- Education and health care;
- Data centers and communication;
- Wastewater treatment;
- Government;
- Commercial and hospitality;
- Microgrids;

- Continuous manufacturing;
- Industrial hydrogen applications (e.g., fertilizer);
- Hydrogen for mobility and material handling;
- Hydrogen fuel for high grade heat applications;
- Port applications;
- Oil and gas sector;
- High CO_2 emitters;
- Large scale wind and solar projects for the production of hydrogen via electrolysis;
- Engineering, procurement and construction ("EPC") firms; and
- Food and beverage.

The utilities and independent power producer market has historically been our largest market with customers that include utilities on the East and West coasts of the United States, such as UIL Holdings Corporation, Inc. (owned by Avangrid, Inc., a wholly owned subsidiary of Iberdrola), the Long Island Power Authority ("LIPA") and Southern California Edison. In Europe, utility customers include E.ON Connecting Energies, one of the largest utilities in the world. In South Korea, we are contracted to operate and maintain a 20 MW power plant project (comprised of five SureSource 3000 plants) for Korea Southern Power Company ("KOSPO"). In addition, we are now focusing on transitioning projects in South Korea which are currently or were previously serviced by POSCO Energy Co., Ltd. ("POSCO Energy") or its affiliates. During fiscal year 2023, we entered into a long-term service agreement with Noeul Green Energy Co., Ltd. ("Noeul Green Energy") pursuant to which we are contracted to oversee the operation and maintenance of Noeul Green Energy's 20 MW fuel cell park over a term of 14 years. In addition, as of October 31, 2023, our platform technology was deployed across South Korea at an additional six sites totaling more than 100 MW. Although these other platforms are currently serviced by POSCO Energy or its affiliates, we are actively engaging with these potential customers in discussions to enter into new long-term service agreements with us. If we are successful in transitioning this installed base to us, upgrading each of those sites over time with new stacks would require us to produce additional stack replacements at our manufacturing facility in Torrington.

Our power platforms are producing power for a variety of industrial, commercial, municipal and government customers, including manufacturing facilities, pharmaceutical processing facilities, universities, healthcare facilities and wastewater treatment facilities. These institutions expect efficient, clean, and continuous power to reduce operating expenses, reduce greenhouse gas emissions and avoid pollutant emissions to meet their sustainability goals, while boosting resiliency and limiting dependence on the distribution grid. CHP applications further support economic and sustainability initiatives by minimizing or avoiding the use of combustion-based boilers for heat. Our patented power platforms are unique in their ability to run on biogas.

We market our products primarily in the United States, Europe and South Korea, and we are also pursuing expanding opportunities in other countries around the world.

We target for expansion and development markets and geographic regions that:

- Benefit from and value clean distributed generation;
- Are located where there are high energy costs, poor grid reliability, and/or challenged transmission and distribution lines;
- Have a need for distributed hydrogen for transportation or industry;
- Can leverage the multiple value streams delivered by our platforms (electricity, hydrogen, thermal, water, and carbon recovery);

- Are aligned with regulatory frameworks that harmonize energy, economic and environmental policies; and
- Are committed to reducing their Scope 1 and Scope 2 emissions.

Our business model focuses on providing these markets and geographic regions with highly efficient and affordable distributed generation that delivers de-centralized power in a low-carbon, virtually pollutant-free manner. Geographic markets that meet these criteria and where we are already well established include the Northeastern United States and California. We have also installed and are operating plants in Europe and Asia, mainly South Korea, in addition to North America.

We have made significant progress in reducing costs and creating markets since the commercialization of our products in 2003, with more than 220 MW of our carbonate platforms installed and operating as of October 31, 2023.

We believe that we can accelerate and expand the adoption of our distributed solutions through:

- further reductions in the total cost of ownership;
- increasing understanding of total avoided emissions and continued education regarding the multiple value streams that our solutions provide;
- continued improvements in product quality, power efficiency, and stack life;
- increasing brand recognition and understanding of our differentiated platform portfolio;
- expanding our sub megawatt platform to include solid oxide for both hydrogen power production and utilization of hydrogen rich fuels;
- geographic and segment expansion;
- working to increase demand for on-site generation and microgrid expansion; and
- product expansion across carbon recovery and utilization, carbon capture and distributed hydrogen.

Levelized Cost of Energy

Our fuel cell projects deliver power at a rate comparable to pricing from the grid in our targeted markets. Policy programs that help to support adoption of clean distributed power generation often lead to below-grid pricing. We measure power costs by calculating the Levelized Cost of Energy ("LCOE") over the life of the project.

There are several primary elements to LCOE for our fuel cell projects, including:

- Capital cost;
- Operations and maintenance cost; and
- Fuel expense.

Given the level of integration in our business model of manufacturing, installing and operating fuel cell power platforms, there are multiple areas and opportunities for cost reductions. We are actively managing and reducing costs in all three LCOE areas, including cost reduction initiatives with respect to system components and raw materials, advanced lean manufacturing principles, improvements in lifetime product costs through continued system and platform engineering, and improvements in output and efficiency. We are also investing in platform design to reduce overall EPC cost associated with the installation of our platforms.

Our Business Model

Our business model is based on multiple revenue streams, targeting both recurring revenue and non-recurring revenue. Recurring revenue is delivered through recurring electricity, capacity, and renewable energy credit sales under power purchase agreements ("PPAs") and tariffs for projects we retain in our generation operating portfolio, as well as service

revenue, mainly through long-term service agreements. Non-recurring revenue is generated through power platform and component sales, as well as from public and private industry research contracts related to the development of our Advanced Technologies (which are discussed in more detail below).

We are a complete solutions provider for our platform solutions, controlling the design, sales, manufacturing, installation, operations, and maintenance of our patented fuel cell technology under long-term power purchase and service agreements. When utilizing long-term PPAs, the end-user of the power or utility hosts the installation and only pays for power as it is delivered, avoiding up-front capital investment. We also develop projects and sell equipment directly to customers, providing a complete solution of engineering, installing, and servicing the fuel cell power plant under an EPC agreement and a long-term maintenance and service agreement. (See the sections below entitled "Engineering, Procurement and Construction" and "Service and Warranty Agreements" for more information.) We maintain the long-term recurring service obligation and associated revenues running conterminous with the life of such projects.

Historically, in the United States, customers or developers typically purchased our fuel cell power plants outright. As the size of our fuel cell projects has grown and the availability of project capital has improved, project structures in the U.S. have transitioned predominantly to PPAs. Customers and developers generally have the option to either purchase our fuel cell platforms outright or enter into a PPA under which the customer or developer (i.e. the end-user of the power) commits to purchase power as it is produced for an extended period of time, typically 10 to 20 years. We may elect to retain ownership of a project, or we may elect to sell all or some of the project to a third party. If a project or project asset is sold, revenue from the sale is recognized and reflected in the Product revenues line item of our Consolidated Statements of Operations and Comprehensive Loss, and we recognize revenue separately for the long-term maintenance and service agreement with respect to the project over the term of that agreement. If a project is retained, we recognize electricity, capacity and/or renewable energy credits monthly over the term of the PPA. We report the financial performance of retained projects as Generation revenues and Cost of generation revenues in our Consolidated Statements of Operations and Comprehensive Loss.

Our decision to retain certain projects is based in part on the recurring, predictable cash flows these projects can offer us, the proliferation of PPAs in the industry and the potential access to capital. Retaining PPAs affords us the full benefit of future cash flows under the PPAs, which are expected to be higher than if we sell the projects, although it requires more upfront capital investment and financing. As of October 31, 2023, our operating portfolio of retained projects totaled 43.7 MW with an additional 19.4 MW under development or construction. We plan to continue to grow this portfolio prudently and in a balanced manner, while also selling projects to customers or project investors when selling presents the best value and opportunity for our capital needs or meets the customer's desired ownership structure. Additionally, we may monetize certain environmental and incentive tax credits through lending institutions and tax investors, including through entering into sale-leaseback and partnership-flip structures that reduce our required net capital investment in a project while still allowing us to retain ownership of the project.

We operate and maintain our project platforms for the life of the project regardless of the ownership structure. For all operating fuel cell platforms not operating under a PPA, customers enter into long-term service agreements with us, some of which have terms of up to 20 years. We report the revenue earned under long-term maintenance and service agreements as Service agreements revenues in our Consolidated Statements of Operations and Comprehensive Loss.

Internationally, South Korea and Europe have historically been product sale markets for the Company; however, prior to fiscal year 2022, we had not recognized meaningful product sales revenues in these geographies since 2018. Our activities in South Korea were impacted by our prior dispute with POSCO Energy and, until fiscal year 2021, we moderated our investment in business development in Europe due to limited resources. During fiscal year 2022, our commercial team renewed its sales efforts in both markets. Increasing product sales in South Korea and Europe is a key area of focus for our Company. As a result of entering into a settlement agreement with POSCO Energy and its subsidiary, Korea Fuel Cell Co., Ltd. ("KFC"), on December 20, 2021 (the "Settlement Agreement"), we have confirmed our full access to the South Korean and broader Asian markets for sales of our products and we are aggressively pursuing sales in these markets, which we see as key to our future growth.

Advanced Technologies Programs

Our Advanced Technologies programs include research and development and demonstration programs funded by third parties. We undertake both privately funded and publicly funded research and development to develop and grow these

opportunities, reduce product and output costs, and expand our technology portfolio. Our Advanced Technologies programs are currently focused on the continued development and commercialization of our solutions that advance solid oxide fuel cells, distributed hydrogen, and carbon capture. We report the revenue earned under these programs as Advanced Technologies contract revenues in our Consolidated Statements of Operations and Comprehensive Loss.

We have historically worked on technology development with various U.S. government departments and agencies, including the DOE, the Department of Defense, the Environmental Protection Agency, the Defense Advanced Research Projects Agency, the Office of Naval Research, and the National Aeronautics and Space Administration. Government funding, principally from the DOE, provided 3%, 6% and 9% of our revenue for the fiscal years ended October 31, 2023, 2022, and 2021, respectively. In addition to these U.S. government departments and agencies, we have also executed contracts for other funded work with private companies like CNRL, Drax and EMTEC.

Beyond the external funding sources described above, we intend to prudently invest capital to accelerate commercialization of solid oxide fuel cells, carbon capture and separation, and long-duration energy storage solutions, as discussed below in more detail in the section entitled "Company Funded Research and Development."

Company Funded Research and Development

In addition to research and development performed under research contracts, including as described under the heading "Advanced Technologies Programs" above, we also fund our own research and development activities to support the commercial fleet with product enhancements and improvements. We work to continuously improve and mature our products and implement lessons learned into our product designs and manufacturing process subsequent to introduction. We also continue to invest in improvement initiatives with respect to our core molten carbonate technology. For example, we have identified improvement opportunities ranging from improved thermal management by reducing internal temperature to improving the performance of our electrical balance of plant and implemented design changes to our commercial platforms which are expected to improve overall product performance.

As it relates to our fuel cell modules, these improvements center around delivering more uniform temperature distribution within the cell stack within the modules with the intent of improving output over the life of the modules to achieve the product's expected design life. Continued extension of design life and output of our modules over time is a core research and development focus. In addition, we are also investing in the commercialization of our patented technologies, such as carbon capture and separation, solid oxide fuel cells, and solid oxide electrolysis cells for hydrogen production and energy storage as we believe these technologies represent significant future market opportunities. To further accelerate commercialization activity for our solid oxide platform, we commenced the design and construction of two advanced prototypes: (i) a 250-kW power generation platform, and (ii) a 1 MW high-efficiency electrolysis platform. These advanced prototypes are in process and expected to be completed during calendar year 2024.

Company funded research and development is included in Research and development expenses (operating expenses) in our consolidated financial statements. The total research and development expenditures in the Consolidated Statements of Operations and Comprehensive Loss, including third party and Company-funded expenditures, are as follows:

	Years Ended October 31,		
(dollars in thousands)	2023	2022	2021
Cost of Advanced Technologies contract revenues	$ 13,185	$ 15,184	$ 16,496
Research and development expenses	61,021	34,529	11,315
Total research and development	$ 74,206	$ 49,713	$ 27,811

Manufacturing and Service Facilities

We operate a 167,000 square-foot manufacturing facility in Torrington, Connecticut where we produce the individual cell packages and assemble fuel cell modules for our carbonate fuel cell products. This facility also houses our global service center. Our completed modules are conditioned in Torrington and shipped directly to customer sites. We continue to invest in manufacturing capability with the goal of reducing production bottlenecks and driving productivity, including investments in automation, laser welding, and the construction of additional integrated conditioning capacity. We also constructed a SureSource 1500 in Torrington during fiscal year 2022, which operates as a testing facility for qualifying

new supplier components and performance testing and validation of continued platform innovations. Additionally, we expect to complete the construction of an additional on-site fuel cell demonstration and test unit in fiscal year 2024. This platform will allow for component testing, with the goal of accelerating the integration of alternate suppliers, and will allow prospective customers to observe demonstrated capabilities of the fuel cell platform, such as carbon separation, including for the sampling and testing of separated CO_2 to verify quantity, quality or purity requirements for food and beverage companies. For the year ended October 31, 2023, the Torrington facility was operating at a 32.7 MW per year annualized production rate on a single production shift. Maximum annualized capacity (module manufacturing, final assembly, testing and conditioning) is 100 MW per year under the Torrington facility's current configuration when being fully utilized. The Torrington facility is sized to accommodate the eventual annualized production capacity of up to 200 MW per year with additional capital investment in machinery, equipment, tooling and inventory.

We design and manufacture the core fuel cell components that are stacked on top of each other to build a fuel cell stack. For megawatt-scale power plants, four fuel cell stacks are combined to build a 1.4 MW fuel cell module. To complete the power platform, the fuel cell module or modules are combined with the BOP. The mechanical BOP processes the incoming fuel such as natural gas or biogas and includes various fuel handling and processing equipment such as pipes and blowers. The electrical BOP processes the power generated for use by the customer and includes electrical interface equipment such as an inverter. The BOP components are either purchased directly from suppliers or the manufacturing is outsourced based on our designs and specifications. This strategy allows us to leverage our manufacturing capacity, focusing on the critical aspects of the power plant where we have specialized knowledge and expertise and possess extensive intellectual property. BOP components are shipped directly to a project site and are then assembled with the fuel cell module into a complete power plant.

The Torrington production and service facility and the Danbury corporate headquarters and research and development facility are ISO 9001:2015 and ISO 14001:2015 certified and our Field Service operation (which maintains the installed fleet of our platforms) is ISO 9001:2015 certified, reinforcing the tenets of our quality management system and a focus on safety, continuous improvement, and commitment to quality, environmental stewardship, and customer satisfaction. Sustainability is promoted throughout our organization. We manufacture our products and manage them through end-of-life using environmentally friendly business processes and practices, certified to ISO 14001:2015. We continually strive to improve how we plan and execute across the entire product life cycle. We maintain a chain of custody and responsibility of our products throughout the product life cycle and strive for "cradle-to-cradle" sustainable business practices, incorporating sustainability in our corporate culture. When our platforms reach the end of their useful lives, we can refurbish and re-use certain parts and then recycle most of what we cannot re-use. By weight, approximately 93% of the entire power plant can be re-used or recycled at the end of its useful life.

Our manufacturing and research and development facility in Calgary, Alberta, Canada is focused on the engineering and development of our solid oxide fuel cell ("SOFC") and SOEC technologies. This facility also houses our SOFC and SOEC stack research and development effort and includes equipment for the manufacturing of solid oxide cells and stacks, including advanced manufacturing capabilities. We are making additional investments in the Calgary facility to establish a center of competence and excellence for solid oxide cell and stack research and manufacturing. This facility includes equipment for the manufacturing of solid oxide cells and stacks, including an advanced automated stack manufacturing line which has been developed to ensure that the labor and overhead which are required to produce these technologies are optimized for efficiency and complement the low direct material cost of the stack. As of October 31, 2023, the solid oxide production capacity expansion is well underway in our Calgary facility and is expected to increase the capacity of the facility from 1 MW to 10 MW per year of SOFC production or from 4 MW to 40 MW per year of SOEC production in fiscal year 2024. In parallel, we are also evaluating additional U.S. locations with the goal of producing up to an additional 400 MW per year of SOEC, which would be implemented in phases as the market develops.

We have a manufacturing and service facility in Taufkirchen, Germany that has the capability to perform final module assembly for up to 20 MW per year of carbonate sub-megawatt fuel cell power platforms to service the European market. Our European service activities are also operated out of this location. Our operations in Europe are certified under both ISO 9001:2015 and ISO 14001:2015.

As we continue our focus on business in international markets such as Europe and Asia, we plan to explore manufacturing and assembly opportunities in those markets to achieve more efficient product manufacturing and supply chain operations, as well as meet the increasing government requirements for the inclusion of locally sourced content and components in order to benefit from enhanced clean energy investment incentives.

Raw Material Sourcing and Supplier Relationships

We use various commercially available raw materials and components to construct a fuel cell module, including nickel and stainless steel, which are key inputs in our manufacturing process. Our fuel cell stack raw materials are sourced from multiple vendors and are not considered precious metals. We have a global integrated supply chain with qualified sources of supply, many of which are located locally in the regions in which we have established manufacturing and service operations including Europe and Asia.

Despite a somewhat volatile nickel market and increased pricing pressure on stainless steel direct materials, we have employed strategic inventory purchases, negotiated fixed-price supply contracts and employed financial hedges to help mitigate the impact to our product cost and improve financial planning. We have implemented several initiatives to mitigate the effect of impacts associated with extended lead times for materials and components by optimizing domestic supplier shipping volumes, leveraging competition across multiple qualified freight forwarders, establishing selective direct relationships with steamship lines, and aggregating shipments with qualified suppliers.

From time to time, we may enter into over-the-counter financial hedges to mitigate market price volatility associated with our underlying physical commodity exposure (and other asset classes) consistent with our Financial Risk Management Policy. These hedges are non-speculative in nature, are entered into with investment grade-rated multinational financial institutions and are governed under the terms of the International Swaps and Derivative Association.

While we manufacture the fuel cells in our Torrington facility, the electrical and mechanical BOPs are assembled by and procured from several suppliers. All of our suppliers must undergo a stringent and rigorous qualification process. We continually evaluate and qualify new suppliers as we diversify our supplier base in our pursuit of lower costs, security of supply, and consistent quality. We purchase mechanical and electrical BOP components from third party vendors, based on our own proprietary designs.

Assuring the absence of conflict minerals in our power platforms is a continuing initiative. Our fuel cells, including the fuel cell components and completed fuel cell module, do not utilize any 3TG minerals (i.e., tin, tungsten, tantalum and gold) that are classified as conflict minerals. We utilize componentry in the BOP such as computer circuit boards that utilize trace amounts of 3TG minerals. For perspective, total shipments in fiscal year 2022 weighed approximately 6.2 million pounds, of which only 38.0 pounds, or 0.000908%, represented 3TG minerals, so the presence of these minerals is negligible. Our conflict mineral disclosure filed with the Securities and Exchange Commission ("SEC") on Form SD contains specific information on the actions we are taking to avoid the use of conflict minerals.

Overall, as we continue to grow our business, we remain focused on improving quality, increasing the competitive supply landscape, maintaining existing supplier relationships, as well as building strong new key supplier relationships to expand our supply chain options.

Engineering, Procurement and Construction

We provide customers with complete turn-key solutions, including development, engineering, procurement, construction, interconnection and operations for our fuel cell projects. We have developed relationships with many design firms and licensed general contractors and have a repeatable, safe, and efficient execution philosophy that has been successfully demonstrated in numerous jurisdictions, both domestically and abroad, all with an exemplary safety record. The ability to rapidly and safely execute installations minimizes high-cost construction period financing and can assist customers in certain situations when the commercial operations date for a project is time sensitive.

Services and Warranty Agreements

We offer a comprehensive portfolio of services, including engineering, project management and installation, and long-term operating and maintenance programs, including trained technicians that remotely monitor and operate our platforms around the world, 24 hours a day and 365 days a year. We directly employ field technicians to service the power platforms and maintain distribution centers near our customers to support the high availability of our platforms.

For all operating fuel cell platforms not under a PPA, customers purchase long-term service agreements ("LTSAs"), some of which have terms of up to 20 years. Pricing for LTSAs is based upon the value of service assurance and the markets in

which we compete and includes all future maintenance and fuel cell module exchanges. Each carbonate model of our power platform has a target design life of 25-to-30 years. The fuel cell modules, with legacy modules having a 5-year target cell design life and current production modules having a 7-year target cell design life, go through periodic replacement, while the BOP systems, which consist of conventional mechanical and electrical equipment, are maintained over the life of the project.

Under the typical provisions of both our LTSAs and PPAs, we provide services to monitor, operate, service and maintain power platforms to meet specified performance levels. Operations and maintenance are key drivers for power platforms to deliver their projected revenue and cash flows. The service aspects of our business model provide a recurring and predictable revenue stream for the Company. We have committed future production for scheduled fuel cell module exchanges under LTSAs and PPAs through the respective expiration dates of such LTSAs and PPAs, which range through 2042. The pricing structure of the LTSAs incorporates these scheduled fuel cell module exchanges and the committed nature of this production facilitates our production planning. Many of our PPAs and LTSAs include guarantees for system performance, including electrical output and heat rate. Should the power platform not meet the minimum performance levels, we may be required to replace the fuel cell module with a new or used replacement module and/or pay performance penalties. Our goal is to optimize the power platforms to meet expected operating parameters throughout their contracted service terms.

In addition to our service agreements, we provide a warranty for our products against manufacturing or performance defects for a specific period of time. The warranty term in the U.S. is typically 15 months after shipment or 12 months after acceptance of our products. We accrue for estimated future warranty costs based on historical experience.

Competition

The market for clean energy is highly competitive. Many factors, including government incentives and specific market dynamics, affect how clean energy can deliver outcomes for customers in a given region. While clean energy often competes against the electric grid, which is readily available to prospective customers and supplied by traditional centralized power plants, including coal, gas, hydro, and nuclear plants, clean energy is increasingly able to compete with the grid and long-distance transmission of electricity in terms of levelized cost of electricity. Clean energy sources that customers may consider beyond our solutions include products such as wind turbines, solar arrays, and hydro facilities, as well as a range of hydrogen and fuel cell solutions from both incumbent and developing competitors.

Our platforms are based on a range of technologies and target a variety of applications, each of which have incumbent and developing competitors. Several companies in the U.S. are engaged in fuel cell development, although, to our knowledge, we are the only domestic company engaged in manufacturing and deployment of stationary natural gas or biogas fueled carbonate fuel cells. In addition to different types of stationary fuel cells, some other technologies that compete in the distributed generation marketplace include micro-turbines, turbines, and reciprocating gas engines.

Our stationary fuel cell platforms also compete against large scale solar and wind technologies, although we complement the unreliable intermittent nature of solar and wind power with the continuous, reliable power output of our fuel cells. Utility scale solar and wind power require specific geographies and weather profiles, transmission for utility-scale applications, and a source of back up capacity for when the sun or wind is not available. They also require a significant amount of land compared to our fuel cell power plants, making it difficult to site megawatt-class solar and wind projects in urban areas. While fuel cells emit negligible amounts of NOx, SOx and particulate matter, fuel cells do emit some carbon dioxide when fueled with natural gas or carbon-neutral biogas (although, while operating on biogas, the platform's emissions would be considered carbon neutral), but in both cases less per kWh than other less-efficient systems. In many markets, baseload fuel cells avoid more emissions than wind or solar systems of similar capacity because they operate for many more hours of the day compared to these intermittent resources.

Product development cycles are long and product quality and efficiency are critical to success. Research and development investments are crucial in this business, as are focused intellectual property strategies and protection of such, as new technologies and solutions could make our solutions less competitive.

We continue to invest in exploring new ways of further improving the efficiency and effectiveness of our platforms. Our objective is to continue to improve our competitive position, including innovating in areas such as offering multiple

platform solutions, and methods for producing clean hydrogen, solid oxide, and carbon separation and carbon capture in order to add value for customers looking for clean and renewable energy and to aid in their decarbonization goals.

Backlog

Backlog represents definitive agreements executed by the Company and our customers. Project awards are not included in our backlog.

Backlog as of October 31, 2023 and 2022 consisted of the following (in thousands):

	2023	2022
Commercial:		
Product	$ —	$ 9,065
Service	140,782	114,040
Generation	872,072	944,041
Total Commercial	$ 1,012,854	$ 1,067,146
Advanced Technologies:		
Non-U.S. Government	$ 10,745	$ 7,598
U.S. Government - Funded	4,263	14,065
U.S. Government - Unfunded	255	1,190
Total Advanced Technologies	$ 15,263	$ 22,853
Total Backlog	$ 1,028,117	$ 1,089,999

Service and generation backlog as of October 31, 2023 had a weighted average term of approximately 17 years, with weighting based on dollar backlog and utility service contracts of up to 20 years in duration at inception. Generally, our government funded and privately funded research and development contracts are subject to the risk of termination at the convenience of the contract counterparty.

Generation backlog is the largest component of our total commercial backlog, reflecting revenues from projects with PPAs in place and of which we have retained ownership. Under a PPA, the utility or end-user of the power (and other attributes such as capacity and renewable energy credits) commits to purchase power as it is produced for an extended period of time, typically 10-to-20 years. With the project being retained, electricity, capacity and/or renewable energy credits are recognized monthly over the term of the PPA. We report the financial performance of retained project assets as generation revenue and cost of generation revenues.

Our outstanding backlog is not indicative of amounts to be earned in the upcoming fiscal year. The specific elements of backlog may vary in terms of timing and revenue recognition from less than one year to up to 20 years.

We may choose to sell or retain operating project assets on the balance sheet, thus creating variability in timing of revenue recognition. Accordingly, the timing and the nature of our business makes it difficult to predict what portion of our backlog will be filled in the next fiscal year.

License and Joint Development Agreements with EMTEC

EMTEC and FuelCell Energy began working together in 2016 under an initial joint development agreement with a focus on better understanding the fundamental science behind carbonate fuel cells for use in advanced applications and specifically how to increase efficiency in separating and concentrating carbon dioxide from the exhaust of natural gas-fueled power generation.

In June 2019, we entered into a license agreement with EMTEC to facilitate the further development of our carbon capture platform (the "EMTEC License Agreement"). Pursuant to the EMTEC License Agreement, we granted EMTEC and its affiliates a non-exclusive, worldwide, fully-paid, perpetual, irrevocable, non-transferable license and right to use our patents, data, know-how, improvements, equipment designs, methods, processes and the like to the extent it is useful to research, develop and commercially exploit carbonate fuel cells in applications in which the fuel cells concentrate carbon dioxide from external industrial and power sources and for any other purpose attendant thereto or associated therewith, in

exchange for a $10 million payment. Such right and license is sublicensable to third parties performing work for or with EMTEC or its affiliates but shall not otherwise be sublicensable.

The EMTEC License Agreement facilitated the execution of the EMTEC Joint Development Agreement, pursuant to which we have engaged in exclusive research and development efforts with EMTEC to evaluate and develop new and/or improved carbonate fuel cells to reduce carbon dioxide emissions from industrial and power sources, in exchange for (a) payment by EMTEC of (i) an exclusivity and technology access fee of $5.0 million, (ii) up to $45.0 million for research and development efforts (which amount has been increased in recent amendments as described below), and (iii) milestone-based payments of up to $10.0 million, which were to be paid only if certain technological milestones were met (the first technical milestone was met and $5.0 million in milestone payments were made during fiscal year 2022), and (b) certain licenses.

Effective as of October 31, 2021, we and EMTEC agreed, among other things, to extend the term of the EMTEC Joint Development Agreement for an additional six months, ending on April 30, 2022. This extension allowed for the continuation of research intended to enable incorporation of design improvements to our fuel cell design in order to support a decision to use the improvements in a future demonstration of the technology for capturing carbon at an ExxonMobil refinery located in Rotterdam, Netherlands (such demonstration, the "Rotterdam Project") and provided additional time to achieve the first milestone under the EMTEC Joint Development Agreement.

Effective as of April 30, 2022, we and EMTEC agreed to further extend the term of the EMTEC Joint Development Agreement for an additional eight months, ending on December 31, 2022 and to increase the maximum amount of research costs to be reimbursed by EMTEC from $45.0 million to $50.0 million. This extension to the EMTEC Joint Development Agreement allowed for the continuation of research intended to enable us and EMTEC to: (i) gain an improved understanding of the fuel cell operating envelope for various carbon capture applications; and (ii) complete data collection to support the project gate decision for the Rotterdam Project. In addition, under this second extension, we and EMTEC agreed to conduct a joint market study to (a) define application opportunities, commercialization strategies, and development requirements, (b) identify partners for potential pilot/demonstration projects, and (c) assess fuel cell/stack/module manufacturing scale-up and cost reduction.

Effective as of December 1, 2022, we and EMTEC agreed to further extend the term of the EMTEC Joint Development Agreement such that it would end on August 31, 2023 and to further increase the maximum amount of research costs to be reimbursed by EMTEC from $50.0 million to $60.0 million. This extension to the EMTEC Joint Development Agreement (i) allowed for continuation of research intended to enable us and EMTEC to finalize data collection in support of the project gate decision for the Rotterdam Project, (ii) allowed for the continuation of the development, engineering and mechanical derisking of the Generation 2 Technology fuel cell module prototype, and (iii) allowed for studying the manufacturing scale-up and cost reduction of a commercial Generation 2 Technology fuel cell carbon capture facility.

Effective as of August 31, 2023, we and EMTEC agreed to further extend the term of the EMTEC Joint Development Agreement such that it will end on March 31, 2024 (unless terminated earlier) and to further increase the maximum amount of research costs to be reimbursed by EMTEC from $60.0 million to $67.0 million. This extension to the EMTEC Joint Development Agreement is intended to allow us and EMTEC the opportunity to continue (i) derisking of the Generation 2 Technology fuel cell module demonstration prototype and (ii) the joint marketing and sales efforts to inform development of a new business framework between the parties beyond the current joint development agreement structure.

We have successfully demonstrated and completed all required technology tests regarding the efficacy and longevity of our carbonate fuel cells to capture at least 90% of CO_2 emissions from an external emissions source with a concentration of 8% or higher CO_2.

In December 2023, we, in conjunction with Exxon Mobil Corporation, announced that Esso Nederland BV, an affiliate of Exxon Mobil Corporation, plans to build a pilot plant at its Rotterdam Manufacturing Complex to test the carbonate fuel cell technology for carbon capture jointly developed by us and EMTEC under the EMTEC Joint Development Agreement in an industrial environment. We have not entered into any new purchase orders or definitive agreements in connection with plans to construct the pilot plant as of the date of this report. Accordingly, we are unable to predict the impact, if any, of these plans on our future financial results or condition.

Regulatory and Legislative Environment

Distributed generation differs from central generation. As such, it is subject to a separate set of legal standards as well as legislative and regulatory policies. The policies that affect our products are not always the same as those imposed on other companies, or the products of other companies, that produce power, and while some policies may make our products less competitive, others may provide an advantage. Certain utility policies may also pose barriers to our installation or interconnection with the utility grid, such as backup, standby or departing load charges that make installation of our products less economically attractive for our customers. Regulatory and legislative impact can take the form of policy, incentive programs, and defined sustainability initiatives such as Renewable Portfolio Standards ("RPS").

United States

Various states and municipalities in the U.S. have adopted programs for which our products qualify, including programs supporting self-generation, clean air power generation, combined heat and power applications, carbon reduction, grid resiliency/microgrids, energy storage and utility ownership of fuel cell projects.

Many states in the U.S. have enacted legislation adopting Clean Energy Standards ("CES") or RPS mechanisms. Under these standards, regulated utilities and other load serving entities are required to procure a specified percentage of their total electricity sales to end-user customers from eligible resources according to a set schedule. CES and RPS, and their implementing regulations, vary significantly from state to state, particularly with respect to the percentage of renewable energy required to achieve the state's mandate, the definition of eligible clean and renewable energy resources, and the extent to which renewable energy credits (certificates representing the generation of renewable energy) qualify for CES or RPS compliance. Fuel cells using biogas qualify as renewable power generation technology in all of the CES and RPS states in the U.S., and some states specify that fuel cells operating on natural gas are also eligible for these initiatives in recognition of the high efficiency and low pollutants of fuel cells. Many states have been debating legislation or regulations that seek to reduce the consumption of electricity generated through the use of fossil fuels in favor of zero or low-carbon resources.

At the federal level, there also has been significant activity during the last five years, in particular, the passage of the Bipartisan Infrastructure Bill of 2021 and the Inflation Reduction Act of 2022.

The Bipartisan Infrastructure Bill allocated over $8 billion for hydrogen-related activity and research, including a hydrogen "HUBs" initiative to be administered by the DOE. This federal legislation spurred unprecedented activity across the U.S. to organize networks of hydrogen production, distribution, and consumption in an effort to attract federal matching funds available under the Bipartisan Infrastructure Bill. In October 2023, the Biden-Harris administration announced that seven Hydrogen Hub projects were selected for award negotiations with the potential to receive up to an aggregate of $7 billion of funding.

The Inflation Reduction Act, or "IRA," was signed into law on August 16, 2022, marking a major investment by the U.S. federal government into a broad spectrum of renewable energy technologies by recasting existing investment and production tax credits and creating new credits for zero-emission technology. The IRA extended the existing Internal Revenue Code ("IRC") Section 48 investment tax credit, which includes fuel cell technology, through 2024 and introduces new prevailing wage conditions required to be eligible for the full credit value. Beyond this change, we believe our Company could benefit from changes to the production tax credit pursuant to IRC Section 45Q related to carbon capture and sequestration, the new investment tax credit pursuant to IRC Section 48E for zero emission energy property, which will succeed the existing Section 48 investment tax credit, and the IRC Section 45V production tax credit for hydrogen. This new production credit offers up to $3.00 per kilogram of hydrogen produced if the hydrogen is considered zero carbon and if the hydrogen generation project conforms with prevailing wage and apprenticeship requirements. Such an incentive for zero carbon could result in increased demand for commercial solutions to hydrogen production technology, such as our solid oxide electrolyzer. Many of the modified or new tax credits also include additional credits for using domestically sourced content and for siting projects in specified "energy communities" where fossil fuel production previously has been a significant economic driver. Based on the current guidance made available by the IRS and U.S. Treasury Department, we believe that our Company is well positioned to take advantage of these provisions.

South Korea

South Korea introduced the world's first hydrogen law, the Hydrogen Economy Promotion and Safety Management Act (the "Hydrogen Act"), in 2020. The Hydrogen Act focuses on developing an ecosystem for the hydrogen economy and expands public access to alternative fuel. In 2022, a Clean Hydrogen Portfolio Standard came into effect which mandates a renewable energy supply system using hydrogen under the Hydrogen Act by excluding hydrogen energy and fuel cells

from the scope of the existing RPS scheme. Moreover, the amendment to the Hydrogen Act adopted a grade-based certification system for clean hydrogen and requires operators of hydrogen fuel supply facilities to include a minimum percentage of clean hydrogen in hydrogen that they sell or use.

Europe

European governments continue to be supportive of hydrogen-based generation and efficient CHP applications. Italy adopted a system to promote energy efficiency with Italian "White Certificates" (Energy Efficiency Certificates) that are tradable certificates, for which fuel cells qualify, to promote energy savings expressed in tons of oil equivalent saved. Germany, the United Kingdom and the Netherlands provide tax incentives, grants and waivers of regulatory fees for clean energy installations. Additionally, large energy-intensive industry sectors and the aviation sector in European Union countries above a certain size qualify for the Emissions Trading Scheme and are subject to a cap-and-trade requirement for carbon emissions.

In the European Union ("EU"), the Emissions Trading System ("ETS") has created carbon capture sequestration allowances to be applied to ETS calculations for carbon not released into the atmosphere, and instead placed into a storage location for future use. Similar credits are allowed for entities that capture CO_2 emissions to produce precipitated calcium carbonate, in which the used CO_2 is chemically bound. The EU is anticipated to develop a standard to be able to classify when CO_2 has been "stored". We believe that these developments, along with legislation recently passed by the EU Parliament leading to the creation of the European Hydrogen Bank funded with 3 billion euros, will provide market support for carbon capture technologies. Additionally, various individual EU member states are investing substantial amounts of public funding into the deployment of hydrogen, such as Germany with the H2Global program where the public corporate vehicle, HintCo, is expected to be funded with 10 billion euros. In parallel to the ongoing public funding of hydrogen, the EU has recently implemented a carbon border adjustment mechanism whereby specific industries will be subject, after a transitional phase started on October 1, 2023 and running to December 31, 2025, to mirror carbon pricing for imports into the EU.

In response to the hardships and global energy market disruption caused by Russia's invasion of Ukraine, the EU adopted the REPowerEU Plan. REPowerEU is a plan for:

- saving energy,
- producing clean energy, and
- diversifying the EU's energy supplies.

The REPowerEU Plan is backed by financial and legal measures to build the new energy infrastructure and system that Europe needs. In addition to the construction of a hydrogen backbone by 2030, REPowerEU calls for 6 gigawatts ("GW") of electrolysis by 2024 and 30 GW by 2030.

In addition, the EU is finalizing the adoption of the Net-Zero-Industry Act that is intended to serve as a response to the Inflation Reduction Act in the United States. This act will set forth a series of low-carbon technology objectives for 2030 by modifying regulatory, financing and permitting aspects of cleantech industrial products.

Africa

South African legislation requires the transition from 90% coal-generated electricity to a system that is transparent, equitable, and incorporative of renewable energy and alternative sources. The governments of South Africa, France, Germany, the United Kingdom and the U.S., along with the EU, have announced an ambitious, long-term Just Energy Transition Partnership (the "Partnership") to support South Africa's decarbonization efforts. The Partnership aims to accelerate the decarbonization of South Africa's economy, with a focus on the electricity system, to help it achieve the ambitious goals set out in its updated Nationally Determined Contribution emissions goals. This Partnership mobilizes an initial commitment of $8.5 billion for the first phase of financing, through various mechanisms including grants, concessional loans and investments and risk sharing instruments, including to mobilize the private sector.

Nigeria has reduced subsidies on diesel fuel. This has resulted in significant cost pressure, as approximately 30% of the grid load is served by diesel generation. Therefore, natural gas generation is expected to emerge as a cleaner and more cost-effective option. Furthermore, recent regulatory changes are beginning to allow for distributed generation to directly inject power into distribution grids which we believe will serve to improve the availability and sustainability of power.

Government Regulation

Our Company and our products are subject to various federal, provincial, state and local laws and regulations relating to, among other things, land use, safe working conditions, handling and disposal of hazardous and potentially hazardous substances and emissions of pollutants into the atmosphere. Emissions of SOx and NOx from our power plants are substantially lower than conventional combustion-based generating stations and are far below existing and proposed regulatory limits. The primary emissions from our power plants, assuming no cogeneration application, are humid flue gas that is discharged at temperatures of 700-800° F, water that is discharged at temperatures of 10-20° F above ambient air temperatures, and CO_2 in per-kW hour amounts that are, due to the high efficiency of fuel cells, significantly less than conventional fossil fuel central generation power plants. Depending on the jurisdiction, whether our plants require water discharge permits is dependent upon whether the discharge is directed to a storm drain or wastewater system.

Proprietary Rights and Licensed Technology

Our intellectual property consists of patents, trade secrets, institutional knowledge and know-how that we believe is a competitive advantage and represents a barrier to entry for potential competitors. We have extensive experience in designing, manufacturing, operating and maintaining fuel cell power plants. This experience cannot be easily or quickly replicated and, combined with our trade secrets, proprietary processes and patents, safeguards our intellectual property rights.

As of October 31, 2023, we (excluding our subsidiaries) had 139 U.S. patents and 282 patents in other jurisdictions covering our fuel cell technology (in certain cases covering the same technology in multiple jurisdictions), with patents directed to various aspects of our carbonate technology, SOFC technology, PEM fuel cell technology and applications thereof. As of October 31, 2023, we also had 34 patent applications pending in the U.S. and 98 patent applications pending in other jurisdictions.

As of October 31, 2023, our subsidiary, Versa Power Systems, Ltd. ("Versa"), had 24 U.S. patents and 86 international patents covering SOFC technology (in certain cases covering the same technology in multiple jurisdictions). As of October 31, 2023, Versa also had 9 pending U.S. patent applications and 26 patent applications pending in other jurisdictions. In addition, as of October 31, 2023, our subsidiary, FuelCell Energy Solutions, GmbH, had license rights to 2 U.S. patents and 7 patents outside the U.S. (in certain cases covering the same technology in multiple jurisdictions) for carbonate fuel cell technology licensed from Fraunhofer IKTS.

We continue to innovate, and no patent expiration, either individually or in the aggregate, is expected to have any material impact on our current or anticipated operations.

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

Significant Customers and Information about Geographic Areas

We contract with a concentrated number of customers for the sale of our products and for research and development. For the years ended October 31, 2023, 2022 and 2021, our top customers, KOSPO, KFC, Connecticut Light and Power, and EMTEC, accounted for an aggregate of 68%, 74% and 61%, respectively, of our total annual consolidated revenue. Revenue percentage by major customer for the last three fiscal years is as follows:

	Years Ended October 31,		
	2023	2022	2021
Korea Southern Power Company (KOSPO)	31 %	6 %	12 %
Korea Fuel Cell Co., Ltd (KFC)	16 %	46 %	— %
Connecticut Light and Power	13 %	14 %	20 %
ExxonMobil Technology and Engineering Company (f/k/a ExxonMobil Research and Engineering Company) (EMTEC)	8 %	8 %	29 %
Total	68 %	74 %	61 %

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

We have marketing and manufacturing operations both within and outside the United States. We source raw materials and BOP components from a diverse global supply chain. In fiscal year 2023, the foreign country with the greatest concentration risk was South Korea, accounting for 47% of our consolidated net revenues. While we plan to aggressively pursue sales of our products in South Korea as a result of the Settlement Agreement with POSCO Energy and KFC, we are also in the process of diversifying our sales mix from both a customer specific and geographic perspective as part of our overall strategic plan.

The international nature of our operations subjects us to a number of risks, including fluctuations in exchange rates, adverse changes in foreign laws or regulatory requirements and tariffs, taxes, and other trade restrictions. See Item 1A "Risk Factors" – "*We are subject to risks inherent in international operations*." See also Note 14. "Segment Information," to the consolidated financial statements in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K for information about our net sales by geographic region for the years ended October 31, 2023, 2022 and 2021. See also Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," for other information about our operations and activities in various geographic regions.

People and Organizational Development

We are committed to our continued efforts to increase diversity and foster an inclusive work environment that supports the global workforce and the communities we serve. We recruit the best qualified employees regardless of gender, ethnicity or other protected traits and it is our policy to fully comply with all laws (domestic and foreign) applicable to discrimination in the workplace. Our diversity, equity and inclusion principles are also reflected in our employee training and policies.

As of October 31, 2023, we had 591 full-time and part-time employees, of which 488 were located in the United States, 86 were located in Canada, 10 were located in Germany, and 7 were located in Asia.

Of our total employees, 23% are female, up 1% from 2022, and 30% are people of color, up 0.6% from 2022.

Compensation and Benefits

As part of our compensation philosophy, we believe that we must offer and maintain market competitive compensation and benefit programs for all of our team members in order to attract and retain superior and diverse talent. In addition to competitive base wages, additional programs include an annual Management Incentive Plan, Long-Term Equity Incentive Plans, and a Company matched 401(k) Plan.

For plan year 2024, we have kept healthcare costs neutral and provided a greater employer contribution towards the health savings plan while also enhancing our dental and vision plans at no cost to our employees. We have also implemented a wellness program for employees that includes health savings and flexible spending accounts, paid time off, family leave, team member assistance programs and a flexible hybrid work environment.

Workforce Environmental Health and Safety

We take workplace jobsite safety and environmental compliance very seriously. Under our robust environmental, health and safety ("EH&S") program, we strongly encourage the reporting of near misses to identify opportunities for improvement and we are constantly evaluating our EH&S protocols in an effort to keep our facilities and workspaces environmentally friendly and safe for our team members, stakeholders, customers, and visitors.

We are committed to EH&S excellence. Our Environmental Management System is certified to ISO 14001:2015, and our Occupational Health & Safety Management System is certified to ISO 45001:2018. Health and safety is both a bottom-up and top-down priority as the Company's Board of Directors is actively engaged in ongoing review of our polices, protocols and performance.

Our EH&S core principles are:

- Zero injuries / incidents;
- Compliance with all legal obligations;
- Pollution prevention;
- Waste reduction; and
- Continual improvement.

We are also in the process of performing life cycle analyses on our products, as well as our production and office locations, and developing a roadmap to net zero carbon emissions.

Our safety performance is excellent and is demonstrated by experience modification rates below the industry average of 1.0 for the last 7 fiscal years: 2017: 0.65, 2018: 0.62, 2019: 0.65, 2020: 0.59, 2021: 0.68, 2022: 0.088 and 2023: 0.89. We have maintained an "A" rating since 2016 providing "Safety Tier 1" performance with ISNetworld, a database for online contractor safety management designed to streamline companies' and contractors' compliance pre-qualification processes. Because EH&S compliance is a priority for us, we also leverage ISNetworld to qualify contractors that work on our projects.

Available Information

We file annual, quarterly and current reports, proxy statements and other information electronically with the SEC. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports are made available free of charge through the "Investors" section of the Company's website (http://www.fuelcellenergy.com) as soon as practicable after such material is electronically filed with, or furnished to, the SEC. Material contained on our website is not incorporated by reference in this report. Our executive offices are located at 3 Great Pasture Road, Danbury, CT 06810. The SEC also maintains an Internet website that contains reports and other information regarding issuers that file electronically with the SEC located at http://www.sec.gov.

Information about our Executive Officers

NAME	AGE	PRINCIPAL OCCUPATION
Jason B. Few President, Chief Executive Officer	57	Mr. Few was appointed President and Chief Executive Officer in August 2019 and has served as a director since 2018. Mr. Few chairs the Executive Committee of the Board of Directors (the "Board"). Mr. Few previously served as the Company's Chief Commercial Officer from September 2019 to March 2022. Prior to joining FuelCell Energy, Mr. Few served as President of Sustayn Analytics LLC, a cloud-based software waste and recycling optimization company, since 2018, and as the Founder and Senior Managing Partner of BJF Partners LLC, a privately held strategic consulting firm, since 2016. Mr. Few has over 30 years of experience increasing enterprise value for Global Fortune 500 and privately-held technology, telecommunications, technology and energy firms. He has overseen transformational opportunities across the technology and industrial energy sectors, in roles including Founder and Senior Managing Partner of BJF Partners, LLC; President and Chief Executive Officer of Continuum Energy, an energy products and services company, from 2013-2016; various roles including Executive Vice President and Chief Customer Officer of NRG Energy, Inc., an integrated energy company, from 2011 to 2012; President of Reliant Energy, from 2009 to 2012 and Vice President, Smart Energy, a retail electricity provider, from 2008 to 2009. Mr. Few also has served as a Senior Advisor to Verve Industrial Protection, an industrial cybersecurity software company, since 2016. Mr. Few was elected to the board of directors of Enbridge Inc. (NYSE: ENB) effective May 4, 2022, and serves on the Safety & Reliability and Sustainability Committees. Mr. Few also served on the board of directors of Marathon Oil (NYSE: MRO) from April 2019 to May 2022. Mr. Few received his Bachelor's Degree in Computer Systems in Business from Ohio University, and a MBA from Northwestern University's J.L. Kellogg Graduate School of Management.
Michael S. Bishop Executive Vice President, Chief Financial Officer and Treasurer	55	Mr. Bishop was appointed Executive Vice President in June 2019 and has served as the Company's Chief Financial Officer since June 2011. Mr. Bishop previously served as the Company's Treasurer from June 2011 to June 2022 and as Senior Vice President of the Company from June 2011 to June 2019. Mr. Bishop was reappointed Treasurer of the Company in August 2023. He has more than 25 years of experience in financial operations and management with public high growth technology companies with a focus on capital raising, project finance, debt/treasury management, investor relations, strategic planning, internal controls, and organizational development. Since joining the Company in 2003, Mr. Bishop has held a succession of financial leadership roles, including Assistant Controller, Corporate Controller and Vice President and Controller. Prior to joining the Company, Mr. Bishop held finance and accounting positions at TranSwitch Corporation, Cyberian Outpost, Inc. and United Technologies, Inc. He is a certified public accountant and began his professional career at McGladrey and Pullen, LLP (now RSM US LLP). Mr. Bishop also served four years in the United States Marine Corps.

NAME	AGE	PRINCIPAL OCCUPATION
		Mr. Bishop received a Bachelor of Science in Accounting from Boston University and a MBA from the University of Connecticut.
Michael Lisowski Executive Vice President, Chief Operating Officer	54	Mr. Lisowski was appointed Executive Vice President and Chief Operating Officer in June 2019. Mr. Lisowski has served as the Company's Vice President of Global Operations since 2018, and, from 2001 to 2018, held various other positions within the Company, including Vice President of Supply Chain from 2010 to 2018. Mr. Lisowski is a senior global operations leader with 27 years of progressive operations experience in technology-driven businesses. In his position as the Company's Chief Operating Officer (and in his prior position as the Company's Vice President of Global Operations), Mr. Lisowski is (and was) responsible for the Supply Chain, Manufacturing, Quality, Project Management, Environmental Health and Safety, and Plant Engineering functions of the Company. Additionally, Mr. Lisowski and his team are responsible for the development and qualification of strategic suppliers for critical direct materials, as well as procurement of capital equipment in support of operations. Mr. Lisowski received his Bachelor's Degree in Communications and Business Administration at Western New England University and a Master's Degree in Management, Global Supply Chain Integrations from Rensselaer Polytechnic Institute.
Anthony Leo Executive Vice President, Chief Technology Officer	66	Mr. Leo was appointed Executive Vice President and Chief Technology Officer in June 2019 and, prior to that, served as Vice President of Applications and Advanced Technologies since 2014. From 1978 to 2014, Mr. Leo has held various other positions with the Company, including Vice President of Application Engineering and Advanced Technology Development, Vice President of Applications and OEM Engineering, and Vice President of Product Engineering. Mr. Leo has held key leadership roles in the Company's research, development, and commercialization of stationary fuel cell power plants for more than 30 years. In his current position and in his position as the Company's Vice President of Applications and Advanced Technologies, Mr. Leo is and has been responsible for Applications and Advanced Technology Development. In Mr. Leo's other positions with the Company, he has been responsible for managing advanced research and development of rechargeable batteries and fuel cells, managing the first large-scale demonstration stationary fuel cell project, and establishing the Product Engineering Group. Mr. Leo received his Bachelor of Science Degree in Chemical Engineering from Rensselaer Polytechnic Institute and has served as Chairman of the American Society of Mechanical Engineers PTC-50 Fuel Cell Performance Test Code committee and as a member on the Department of Energy's Hydrogen and Fuel Cell Technical Advisory Committee.
Joshua Dolger Executive Vice President, General Counsel and Corporate Secretary	49	Mr. Dolger was appointed Executive Vice President and General Counsel on December 10, 2021 and Corporate Secretary on June 25, 2021. Mr. Dolger previously served as Interim General Counsel from June 25, 2021 to December 10, 2021 and as Senior Counsel from May 17, 2021 to June 25, 2021. In his current positions, Mr. Dolger oversees all the Company's legal and governmental affairs, as well as provides leadership in all aspects of the Company's business, including commercial matters, compliance, corporate governance and board activities. Prior to joining the Company,

		Mr. Dolger held a variety of legal positions of increasing responsibility at the headquarters of Terex Corporation, a public company and a global manufacturer of aerial work platforms and materials processing machinery, most recently as Assistant General Counsel from January 2016 to March 2021. Mr. Dolger's focus included Securities and Exchange Commission work, mergers and acquisitions, corporate governance, commercial contract drafting and negotiation, and implementation of the company's multi-year strategic supply chain initiative. Prior to joining Terex Corporation, Mr. Dolger was a senior corporate attorney at Pullman & Comley, LLC. Mr. Dolger is a licensed attorney in Connecticut and New York. Mr. Dolger received a Bachelor of Arts Degree from the State University of New York at Albany and Juris Doctor from Pace University School of Law.
Mark Feasel Executive Vice President, Chief Commercial Officer	53	Mr. Feasel was appointed Executive Vice President and Chief Commercial Officer in April 2022. Mr. Feasel served as President, Smart Grid – North America of Schneider Electric USA ("Schneider Electric"), a multinational energy efficiency and automation provider, from December 2019 to April 2022. Prior to that, he served Schneider Electric as Vice President, Electric Utility Segment & Smart Grid from July 2012 to December 2019, as Vice President, Sales and Marketing from November 2010 through July 2012, and as Director, Sales and Marketing from March 2005 to November 2010. As President, Smart Grid – North America, Mr. Feasel had responsibility for the Electric Utility segment, Smart Grid, and Microgrid for Schneider Electric in North America. Throughout his career at Schneider Electric, he held leadership roles in Energy Management, Power Quality, Utility Solutions, Oil & Gas Solutions, Electrical Distribution Protection and Automation, and Microgrids. Mr. Feasel joined Schneider Electric in 2005 through the company's acquisition of Power Measurement, Inc., and began his career with the United States Navy serving in the Electrical Division where he was responsible for the operation and maintenance of the systems associated with the nuclear reactor plant on a ballistic missile submarine. Mr. Feasel has also served as an Adjunct Professor at Northwestern University since June 2020, where he teaches Electric Utility Grid Planning and Operations for the Master of Science in Energy and Sustainability Program. Mr. Feasel is a graduate of the University of Toledo.

ITEM 1A. RISK FACTORS

An investment in our common stock involves a high degree of risk. Prior to making a decision about investing in our securities, you should carefully consider the specific risk factors discussed below, together with all of the other information in this Annual Report on Form 10-K, including the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. If any such risks actually occur, our business, financial condition, or results of operations could be materially and adversely affected. In such cases, the market price of our common stock could decline, and you may lose all or part of your investment.

Risks Related to Our Business, Industry and Supply Chain

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

We have transitioned from a research and development company to a commercial products manufacturer, services provider and developer. We have not been profitable since our year ended October 31, 1997. We expect to continue to incur net losses and generate negative cash flows until we can produce sufficient revenues and gross profit 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 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 and will continue to do so. Our future ability to obtain such financing could be impaired by a variety of factors, including, but not limited to, the price of our common stock, our lack of available shares and general market conditions.

Our cost reduction strategy for manufacturing may not succeed or may be significantly delayed, which may result in our inability to deliver improved margins.

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

We have debt and finance obligations outstanding and may incur additional debt in the future, which may adversely affect our financial condition and future financial results.

As of October 31, 2023, our total consolidated debt and finance obligations outstanding ("indebtedness") was $123.0 million ($119.5 million, net of deferred finance costs).

Our ability to make scheduled payments of principal and interest and other required repayments depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not generate cash flows from operations in the future sufficient to service our debt and make necessary capital expenditures. If we are unable to generate such cash flows, we may be required to adopt one or more alternatives, such as selling assets, restructuring operations, restructuring debt or obtaining additional equity capital on terms that may be onerous or dilutive.

We may incur additional indebtedness in the future in the ordinary course of business, which could include onerous restrictions on us. If new debt is added to current debt levels, the risks described above could intensify. Our debt agreements contain representations and warranties, affirmative and negative covenants, and events of default that entitle the lenders to cause our indebtedness under such debt agreements to become immediately due and payable.

We rely on project financing for our generation operating portfolio, which includes debt and tax equity financing arrangements, to realize the benefits provided by investment tax credits and accelerated tax depreciation. In the event that interest rates continue to rise or there are changes in tax policy, our financial results could be harmed.

Rising interest rates may increase our cost of capital. Part of our business strategy is to generate positive cash flows after debt service from our generation operating portfolio. Rising interest rates may have an adverse impact on the cost of debt and thus result in lower cash flows after debt service than we realize today. We also expect that projects we retain in our generation operating portfolio will receive capital from tax equity investors who derive a significant portion of their economic returns through tax benefits. Tax equity investors are generally entitled to substantially all of the project's tax benefits, such as those provided by the U.S. investment tax credit ("ITC") and Modified Accelerated Cost Recovery System or bonus depreciation. Our ability to obtain additional financing in the future depends on the continued confidence of financing sources in our business model and the continued availability of tax benefits applicable to our products. If we are unable to enter into tax equity financing agreements with attractive pricing terms, or at all, we may not be able to obtain the capital needed to finance the build out of our generation assets which would impact our overall liquidity and our business, financial condition and results of operations.

Unanticipated increases or decreases in business growth may result in adverse financial consequences for us.

We operate a 167,000 square-foot manufacturing facility in Torrington, Connecticut where we produce the individual cell packages and assemble the fuel cell modules for our carbonate fuel cell products. The maximum annualized capacity (module manufacturing, final assembly, testing and conditioning) is 100 MW per year under the Torrington facility's current configuration when being fully utilized. The Torrington facility is sized to accommodate the eventual annualized production capacity of up to 200 MW per year with additional capital investment in machinery, equipment, tooling and inventory.

We have a manufacturing and service facility in Taufkirchen, Germany that has the capability to perform final module assembly for up to 20 MW per year of carbonate sub-megawatt fuel cell power platforms to service the European market. Our European service activities are also operated out of this location.

Our manufacturing and research and development facility in Calgary, Alberta, Canada is focused on the engineering and development of the Company's SOFC and SOEC technologies. This facility also houses our SOFC and SOEC stack research and development effort and includes equipment for the manufacturing of solid oxide cells and stacks, including advanced manufacturing capabilities. As of October 31, 2023, this facility is capable of producing 1 MW per year of SOFC or approximately 4 MW per year of SOEC. We are investing in expanding this facility with the goal of increasing its production capacity to 10 MW per year of SOFC or 40 MW per year of SOEC, and we expect this expansion to be complete in fiscal year 2024. If this expansion is delayed, our ability to timely fulfill future orders to meet anticipated demand and our future revenues and ability to achieve profitability will be negatively impacted.

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, or retrofit or further equip our existing facilities, 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.

If our goodwill and other indefinite-lived intangible assets and long-lived assets (including project assets) become impaired, we may be required to record a significant charge to operations.

We have recorded significant impairment charges, and may in the future be required to record significant impairment charges, to operations in our financial statements should we determine that our goodwill, other indefinite-lived intangible assets (i.e., in process research and development ("IPR&D")) and other long-lived assets (i.e., project assets, property, plant and equipment and amortizing intangible assets) are impaired. Such charges might have a significant impact on our reported financial condition and results of operations. Project assets and property, plant and equipment impairment charges totaled approximately $2.4 million, $1.8 million and $5.0 million for the fiscal years ended October 31, 2023, 2022 and 2021, respectively.

As required by accounting rules, we review our goodwill for impairment at least annually as of July 31 or more frequently if facts and circumstances indicate that it is more likely than not that the fair value of a reporting unit that has goodwill is less than its carrying value. Factors that may be considered a change in circumstances indicating that the carrying value of our goodwill might not be recoverable include a significant decline in projections of future cash flows and lower future growth rates in our industry. We review IPR&D for impairment on an annual basis as of July 31 or more frequently if facts and circumstances indicate the fair value is less than the carrying value. If the technology has been determined to be abandoned or not recoverable, we would be required to record a charge reflecting impairment of the asset. We review long-lived assets for impairment whenever events or changes in circumstances indicate the carrying amount may not be recoverable. We consider a project asset commercially viable and recoverable if such project asset is anticipated to be sellable for a profit, or generates positive cash flows, in excess of the cost of the project asset once it is either fully developed or fully constructed. If any of our project assets are not considered commercially viable or costs are not deemed to be recoverable, we would be required to record a charge reflecting the impairment of such project assets.

Our Advanced Technologies contracts are subject to the risk of termination by the contracting party and we may not realize the full amounts allocated under some contracts due to the lack of Congressional appropriations or early termination.

A portion of our revenues has been derived from long-term cooperative agreements and other contracts with the DOE and other U.S. government agencies. These agreements are important to the continued development of our technology and our products. We also contract with private sector companies under certain Advanced Technologies contracts to develop strategically important and complementary offerings.

Generally, our privately funded Advanced Technologies contracts, including our EMTEC Joint Development Agreement, contracted demonstration projects undertaken with EMTEC or other ExxonMobil affiliates, and our government research and development contracts are subject to the risk of termination at the convenience of the contracting party and may contain certain milestones and deliverables which we may not be able to meet if actual results or the timing of deliverables differ materially from our original estimates or contractually agreed timelines. Furthermore, with respect to government-funded contracts, irrespective of the amounts allocated by the contracting agency, such contracts 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 government-funded 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 privately funded, government research and development or other contracts. Termination of the contracts or failure to receive the full amounts under any of our Advanced Technologies contracts could materially and adversely affect our business prospects, results of operations and financial condition.

Utility companies may resist the adoption of distributed generation and could impose customer fees or interconnection requirements on our customers that could make our products less desirable.

Investor-owned utilities may resist adoption of distributed generation fuel cell plants as such plants are disruptive to the utility business model that primarily utilizes large central generation power plants and associated transmission and distribution. On-site distributed generation that is on the customer-side of the electric meter competes with the utility. Distributed generation on the utility-side of the meter generally has power output that is significantly less than central generation power plants and may be perceived by the utility as too small to materially impact its business, limiting its interest. Additionally, perceived technology risk may limit utility interest in stationary fuel cell power plants.

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

We depend on third party suppliers for the development and timely 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 that are critical to our manufacturing process. We also rely on third-party suppliers for the BOP 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 our 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, all of which could harm our business prospects, results of operations and financial condition. We do not know whether we will be able to maintain long-term supply relationships with our critical suppliers, or secure new long-term supply relationships on terms that will allow us to achieve our objectives, if at all. A supplier's failure to develop and supply components in a timely manner or to supply components that meet our quality, quantity or cost requirements or our technical specifications, or our inability to obtain alternative sources of these components on a timely basis or on terms acceptable to us, could each harm our ability to manufacture our products. In addition, our supply chain has been, and in the future could be, adversely affected by the COVID-19 pandemic or other pandemics, which may create global shipping and logistics challenges. These challenges may include extended shipping lead times and pricing pressures on transportation and logistics that could adversely impact our ability to meet our production schedules and project deadlines, may result in additional and increased costs, or may otherwise adversely impact our business, results of operations and financial condition. If such events occur and we are unable to pass these costs on to our customers or timely complete projects, we may experience reduced revenue and other adverse impacts on our business, results of operations and financial condition.

Our business and operations may be adversely affected by new outbreaks of COVID-19 variants or other outbreaks of contagious diseases.

Any outbreaks of contagious diseases, including new outbreaks of COVID-19 variants, and other adverse public health developments in countries where we and our suppliers operate, could have a material and adverse effect on our business, financial condition and results of operations. These effects could include disruptions to or restrictions on our employees' ability to travel, as well as temporary or prolonged closures of our facilities or the facilities of our customers, suppliers, or other vendors in our supply chain. Any of these events, which may result in disruptions to our supply chain or customer demand, could materially and adversely affect our business and our financial results. The extent to which new outbreaks of COVID-19 variants may impact our business and our financial results will depend on future developments, which are highly uncertain and cannot be predicted. Such developments may include new mutations of the virus, the continued efficacy of vaccines and the actions that may be taken by various governmental authorities in response to a new outbreak, such as periodic quarantine or "shelter-in-place" orders and business closures imposed by various states within the United States, and the impact on the U.S. or global economy. At this time, it is impossible to predict the future impact of COVID-19 or other public health crises that could emerge in the future, including other pandemics or epidemics, on our business, liquidity, capital resources, supply chain and financial results or its effect on clean energy demand, capital budgets of our customers, or demand for our products.

An increase in energy costs, including as a result of the ongoing conflict between Russia and Ukraine, may materially adversely affect our business, financial condition, and results of operations.

Our results of operations can be directly affected by volatility in the cost and availability of energy, which is subject to global supply and demand and other factors beyond our control. The ongoing conflict between Russia and Ukraine has impacted global energy markets, particularly in Europe, leading to higher volatility in prices for crude oil, natural gas and other energy supplies. Higher energy costs result in increases in operating expenses at our manufacturing facilities, in the expense of shipping materials to our facilities, and in the expense of operating our projects for which we procure natural gas, all of which may in turn adversely affect our business, financial condition, and results of operations.

Failure to meet Environmental, Social, and Governance ("ESG") expectations or standards or to achieve our ESG goals could adversely affect our business, results of operations, financial condition, and stock price.

In recent years, there has been an increased focus from stakeholders on ESG matters, including greenhouse gas emissions and climate-related risks, renewable energy, water stewardship, waste management, diversity, equality and inclusion, responsible sourcing and supply chain, human rights, and social responsibility. Given our commitment to ESG, we actively manage these issues and have established and publicly announced certain goals, commitments, and targets which we may refine or even expand further in the future. These goals, commitments, and targets reflect our current plans and aspirations and are not guarantees that we will be able to achieve them. Evolving stakeholder expectations and our efforts to manage these issues, report on them, and accomplish our goals present numerous operational, regulatory, reputational, financial, legal, and other risks, any of which could have a material adverse impact, including on our reputation and stock price.

Such risks and uncertainties include:

- reputational harm, including damage to our relationships with customers, suppliers, investors, governments, or other stakeholders;
- adverse impacts on our ability to sell and manufacture products;
- the success of our collaborations with third parties;
- increased risk of litigation, investigations, or regulatory enforcement action;
- unfavorable ESG ratings or investor sentiment;
- diversion of resources and increased costs to control, assess, and report on ESG metrics;
- our ability to achieve our goals, commitments, and targets within the timeframes announced;
- access to and increased cost of capital; and
- adverse impacts on our stock price.

Any failure, or perceived failure, to meet evolving stakeholder expectations and industry standards or achieve our ESG goals, commitments, and targets could have an adverse effect on our business, results of operations, financial condition, and stock price.

Risks Related to Sales of our Products

We derive significant revenue from contracts awarded through competitive bidding processes involving substantial costs and risks. Our contracted projects may not convert to revenue, and our project awards and sales pipeline may not convert to contracts, which may have a material adverse effect on our revenue and cash flows.

We expect a significant portion of the business that we will seek in the foreseeable future will be awarded through competitive bidding against other fuel cell technologies and other forms of power generation. The competitive bidding process involves substantial costs and a number of risks, including the significant cost and managerial time to prepare bids and proposals for contracts that may not be awarded to us and our failure to accurately estimate the resources and costs that will be required to fulfill any contract we win. In addition, following a contract award, we may encounter significant expense, delay or contract modifications or award revocation as a result of our competitors protesting or challenging contracts awarded to us in competitive bidding. Our failure to compete effectively in this procurement environment could adversely affect our revenue and/or profitability.

Some of the project awards we receive and orders we accept from customers require certain conditions or contingencies (such as permitting, interconnection, financing or regulatory approval) to be satisfied, some of which are outside of our control. Certain awards are cancelable or revocable at any time prior to contract execution. The time periods from receipt of an award to execution of a contract, or receipt of a contract to installation may vary widely and are determined by a number of factors, including the terms of the award, governmental policies or regulations that go into effect after the award, the terms of the customer contract and the customer's site requirements. These same or similar conditions and contingencies may be required by financiers in order to draw on financing to complete a project. If these conditions or contingencies are not satisfied, or changes in laws affecting project awards occur, or awards are revoked or cancelled, project awards may not convert to contracts, and installations may be delayed or canceled. This could have an adverse impact on our revenue and cash flow and our ability to complete construction of a project.

We have signed product sales contracts, EPCs, PPAs and long-term service agreements with customers subject to contractual, technology, operating, commodity (i.e. natural gas) and fuel pricing risks as well as market conditions that may affect our operating results.

We apply the transfer of control over time revenue recognition method under Accounting Standards Codification Topic 606: Revenue from Contracts with Customers to certain service contracts which are subject to estimates. On an annual basis, we perform a review process to help ensure that total estimated contract costs include estimates of costs to complete that are based on the most recent available information. The amount of costs incurred on a cumulative to date basis as a function of estimated costs at completion is applied to contract consideration to determine the cumulative revenue that should be recognized to date.

We have contracted under long-term service agreements with certain customers to provide service on our products over terms up to 20 years. Under the provisions of these contracts, we provide services to maintain, monitor, and repair customer power plants to meet minimum operating levels. Pricing for service contracts is based upon estimates of future costs including future module exchanges. While we have conducted tests to determine the overall life of our products, we have not run certain of our products over their projected useful life or in all potential conditions prior to large scale commercialization. As a result, we cannot be sure that these products will last to their expected useful life or perform as anticipated in all conditions, which could result in warranty claims, performance penalties, maintenance and module replacement costs in excess of our estimates, losses on service contracts and/or a negative perception of our products. As a result of our products' lack of maturity, we have incurred and may continue to incur charges for warranty claims, performance penalties, maintenance and module replacement costs in excess of our estimates and losses on service contracts. Each of these risks could be material under these contracts and, as a result, we may experience diminished returns or be required to write off all or a portion of our capitalized costs in these project assets.

In certain instances, we have executed PPAs with the utility, end-user of the power or site host of the fuel cell power plant. We may then sell the PPA and power plant to a project investor or retain the project and collect revenue from the sale of power over the term of the PPA, recognizing electricity revenue as power is generated and sold. Our growing portfolio of project assets used to generate and sell power under PPAs and utility tariff programs exposes us to operational risks and uncertainties, including, among other things, lost revenues due to prolonged outages, replacement equipment costs, risks

associated with facility start-up operations, failures in the availability or acquisition of fuel (including natural gas and renewable natural gas), the impact of severe adverse weather conditions, natural disasters, terrorist attacks, cybersecurity attacks, risks of property damage or injury from energized equipment, availability of adequate water resources and ability to intake and discharge water, use of new or unproven technology, fuel commodity price risk and fluctuating market prices, and lack of alternative available fuel sources.

Our ability to proceed with projects under development and complete construction of projects on schedule and within budget may be adversely affected by escalating costs for materials and fuel (including natural gas and renewable natural gas), supply chain and logistics challenges, tariffs, labor and regulatory compliance, inability to obtain necessary permits, interconnections or other approvals on acceptable terms or on schedule and by other factors. If any development project or construction is not completed, is delayed or is subject to cost overruns, we could become obligated to make delay or termination payments or become obligated for other damages under contracts, experience diminished returns or be required to write off all or a portion of our capitalized costs in the project. Each of these events could have an adverse effect on our business, financial condition, results of operations and prospects.

We extend product warranties for our products, which products are complex and could contain defects and may not operate at expected performance levels, which could impact sales and market adoption of our products, affect our operating results or result in claims against us.

We develop complex and evolving products and we continue to advance the capabilities of our fuel cell stacks. We produce carbonate fuel stacks with a 7-year cell design life. We are also in the process of manufacturing and selling SOEC and SOFC products. We provide product warranties 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 have assumed in our estimates. Issues have been and may continue to be found in existing or new products including, but not limited to, module decay rates which have exceeded and may continue to exceed design expectations. This has resulted and may continue to result in a delay in recognition or loss of revenues and may result in loss of market share or failure to achieve broad market acceptance. The occurrence of defects has also caused and may continue to cause us to incur significant warranty, support and repair costs in excess of our estimates, could divert the attention of our engineering personnel from our product development efforts, and could harm our relationships with our customers. Although we seek to limit our liability, a product liability claim brought against us, even if unsuccessful, would likely be time consuming, could be costly to defend, and may hurt our reputation in the marketplace. Our customers could also seek and obtain damages from us for their losses.

We currently face and will continue to face significant competition, including from products using other energy sources that may be lower priced or have preferred environmental characteristics.

We compete on the basis of our products' reliability, efficiency, environmental considerations and cost. Technological advances in alternative energy products, improvements in the electric grid or other sources of power generation that use lower priced fuel or no fuel, or other fuel cell technologies may negatively affect the development or sale of some or all of our products or make our products less economically attractive, non-competitive or obsolete prior to or after commercialization. Significant decreases in the price of alternative technologies or grid delivered electricity, or significant increases in the price of our fuels could have a material adverse effect on our business because other generation sources could be more economically attractive to consumers than our products. Additionally, in certain markets, consumers and regulators have expressed a preference for zero-carbon generating resources over fueled resources, which could adversely affect sales of our products in such markets.

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 engaged in fuel cell development, although we are the only domestic company engaged in manufacturing and deployment of stationary carbonate fuel cells. Other emerging fuel cell technologies include small or portable PEM fuel cells, stationary phosphoric acid fuel cells, stationary solid oxide fuel cells, and small residential solid oxide fuel cells. Any of these technologies and any of our competitors has the potential to capture market share in our target markets. There are also other potential fuel cell competitors internationally that could capture market share.

Other than fuel cell developers, we must also compete with companies that manufacture combustion-based distributed power equipment, including various engines and turbines, and have well-established manufacturing, distribution, operating

and cost features. Electrical efficiency of these products can be competitive with our power plants in certain applications. Significant competition may also come from gas turbine companies and large scale solar and wind technologies.

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 or non-fuel based power sources, hydrogen generation sources or storage. 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, hydrogen, carbon capture and storage markets are still evolving, it is difficult to predict with certainty the size of these markets and their growth rates. The development of a market for our products may be affected by many factors that are out of our control, including:

- the cost competitiveness of our fuel cell products including availability and output expectations and total cost of ownership;
- the future costs of natural gas, renewable natural gas (biofuels), and other fuels used by our fuel cell products;
- customer reluctance to try a new product;
- the market for distributed generation, hydrogen, carbon capture and storage and government policies that affect those markets;
- government incentives, mandates or other programs favoring zero carbon energy sources;
- local permitting and environmental requirements;
- customer preference for non-fuel based technologies; 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 we may never achieve profitability.

We must complete development of our new products and develop additional commercially viable products in order to achieve our long-term revenue targets.

In fiscal year 2022, we established new target revenues to be met by the end of fiscal year 2025 and the end of fiscal year 2030. In developing these revenue targets, we assumed the successful commercialization of our SOEC, SOFC and carbon capture products. If we experience delays in meeting our development goals (including manufacturing expansion) for these products, these products exhibit technical defects, or we are unable to meet cost or performance goals with respect to these products, including goals for power output, hydrogen production, rates of carbon capture, useful life and reliability, then our ability to generate revenue and achieve profitability from sales of these new products will be delayed or may not occur at all. In addition, if we are unable to develop additional commercially viable products in the future, we may not be able to generate sufficient revenue to become profitable. The profitable commercialization of our products depends on our ability to reduce the costs of our products, and we cannot assure you that we will be able to sufficiently reduce these costs to achieve profitability.

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. Although our platforms do not combust fuels for the generation of electricity, the fuels we use are combustible and may be toxic. In addition, our SureSource products operate at high temperatures and use corrosive carbonate material, which could expose us to potential liability claims. Although we incorporate a robust design and redundant safety features

in our power plants, have established comprehensive safety, maintenance, and training programs, follow third-party certification protocols, codes and standards, and do not store natural gas or hydrogen at our power plants, we cannot guarantee that 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.

Risks Related to Privacy, Data Protection and Cybersecurity

We are increasingly dependent on information technology, and disruptions, failures or security breaches of our information technology infrastructure could have a material adverse effect on our operations and the operations of our power plant platforms. In addition, increased information technology security threats and more sophisticated computer crime pose a risk to our systems, networks, products and services.

We rely on information technology networks and systems, including the Internet, to process, transmit and store electronic and financial information and to manage a variety of business processes and activities, including communication with power plants owned by us or our customers and production, manufacturing, financial, logistics, sales, marketing and administrative functions. Additionally, we collect and store data that is sensitive to us and to third parties. Operating these information technology networks and systems and processing and maintaining this data, in a secure manner, are critical to our business operations and strategy. We depend on our information technology infrastructure to communicate internally and externally with employees, customers, suppliers and others. We also use information technology networks and systems to comply with regulatory, legal and tax requirements and to operate our fuel cell power plants. These information technology systems, many of which are managed by third parties or used in connection with shared service centers, may be susceptible to damage, disruptions or shutdowns due to failures during the process of upgrading or replacing software, databases or components thereof, power outages, hardware failures, computer viruses, attacks by computer hackers or other cybersecurity risks including the impact of emerging technologies, telecommunication failures, user errors, natural disasters, terrorist attacks or other catastrophic events. If any of our significant information technology systems suffer severe damage, disruption or shutdown, and our disaster recovery and business continuity plans do not effectively resolve the issues in a timely manner, our product sales, financial condition and results of operations may be materially and adversely affected, and we could experience delays in reporting our financial results, or our fuel cell power plant operations may be disrupted, exposing us to performance penalties under our contracts with customers.

In addition, information technology security threats — from user error to cybersecurity attacks designed to gain unauthorized access to our systems, networks and data — are increasing in frequency and sophistication. Cybersecurity attacks may range from random attempts to coordinated and targeted attacks, including sophisticated computer crime and advanced persistent threats. These threats pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of our data.

Cybersecurity attacks could also include attacks targeting customer data or the security, integrity and/or reliability of the hardware and software installed in our products. We have experienced, and may continue to experience in the future, cybersecurity attacks that have resulted in unauthorized parties gaining access to our information technology systems and networks and, in one instance, gaining control of the information technology system at one of our power plants. However, to date, no cybersecurity attack has resulted in any material loss of data, interrupted our day-to-day operations or had a material impact on our financial condition, results of operations or liquidity. While we actively manage information technology security risks within our control, there can be no assurance that such actions will be sufficient to mitigate all potential risks to our systems, networks and data. In addition to the direct potential financial risk as we continue to build, own and operate generation assets, other potential consequences of a material cybersecurity attack include reputational damage, litigation with third parties, disruption to systems, unauthorized release of confidential or otherwise protected information, corruption of data, diminution in the value of our investment in research, development and engineering, and increased cybersecurity protection and remediation costs, which in turn could adversely affect our competitiveness, results of operations and financial condition. The amount of insurance coverage we maintain may be inadequate to cover claims or liabilities relating to a cybersecurity attack.

Additionally, the legal and regulatory environment surrounding information security and privacy in the U.S. and international jurisdictions is constantly evolving. Violation or non-compliance with any of these laws or regulations, contractual requirements relating to data security and privacy, or our own privacy and security policies, either intentionally or unintentionally, or through the acts of intermediaries could have a material adverse effect on our brand, reputation,

business, financial condition and results of operations, as well as subject us to significant fines, litigation losses, third-party damages and other liabilities.

Tax, Accounting, Compliance and Regulatory Risks

We are required to maintain effective internal control over financial reporting. In a prior fiscal year, our management identified a material weakness in our internal control over financial reporting. If other control deficiencies are identified in the future, we may not be able to report our financial results accurately, prevent fraud or file our periodic reports in a timely manner, which may adversely affect investor confidence in our Company and, as a result, the value of our common stock.

We are required, pursuant to Section 404 of the Sarbanes-Oxley Act ("Section 404"), to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. Complying with Section 404 requires a rigorous compliance program as well as adequate time and resources. We may not be able to complete our internal control evaluation, testing and any required remediation in a timely fashion. Additionally, if we identify one or more material weaknesses in our internal control over financial reporting, we will not be able to assert that our internal controls are effective. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

In a prior fiscal year, our management identified a material weakness in our internal control over financial reporting, which has been remediated. We cannot be certain that other material weaknesses and control deficiencies will not occur in the future. If material weaknesses are identified in the future, or if we are not able to comply with the requirements of Section 404 in a timely manner, our reported financial results could be materially misstated and we could be subject to investigations or sanctions by regulatory authorities, which would require additional financial and management resources, and the value of our common stock could decline.

To the extent we identify future weaknesses or deficiencies, there could be material misstatements in our consolidated financial statements and we could fail to meet our financial reporting obligations. As a result, our ability to obtain additional financing on favorable terms or at all could be materially and adversely affected which, in turn, could materially and adversely affect our business, our financial condition and the value of our common stock. If we are unable to assert that our internal control over financial reporting is effective in the future, investor confidence in the accuracy and completeness of our financial reports could be further eroded, which would have a material adverse effect on the price of our common stock.

Our results of operations could vary as a result of changes to our accounting policies or the 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.

In future periods, management will continue to reevaluate its estimates for contract margins, service agreements, loss accruals, warranty, performance guarantees, liquidated damages, inventory valuation allowances and allowance for doubtful accounts. Changes in those estimates and judgments could significantly affect our results of operations and financial condition. We will also adopt changes required by the Financial Accounting Standards Board and the SEC.

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 carbon dioxide and pollutants into the atmosphere. 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. In addition, it is possible that industry-specific laws and regulations will be adopted covering matters such as transmission scheduling, distribution, emissions, 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. 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. 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. 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.

Given that some of our product configurations run on fossil fuels, we may be negatively impacted by CO2-related changes in applicable laws, regulations, ordinances, rules or the requirements of the incentive programs on which we and our customers currently rely. Changes in any of the laws, regulations, ordinances or rules that apply to our installations and new technology could make it illegal or more costly for us or our customers to install and operate our products at particular sites. Additionally, our customers and potential customers' energy procurement policies may prohibit or limit their willingness to procure our products. Our business prospects may be negatively impacted if we are prevented from completing new installations or our installations become more costly as a result of laws, regulations, ordinances, or rules applicable to our products, or by our customers' and potential customers' energy procurement policies.

In addition, certain of our products benefit from federal, state and local governmental incentives, mandates or other programs promoting clean energy generation. Any changes to or termination of these programs could reduce demand for our products, impair sales financing, and adversely impact our business, financial condition and results of operations.

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.

Exports of certain of our products are subject to various export control regulations and may require a license or permission from the U.S. Department of State, the U.S. Department of Energy or other agencies.

As an exporter, we must comply with various laws and regulations relating to the export of products, services and technology from the U.S. and with the laws and regulations of other countries having jurisdiction over our operations. We are subject to export control laws and regulations, including the International Traffic in Arms Regulation, the Export Administration Regulation, and the Specially Designated Nationals and Blocked Persons List, which generally prohibit U.S. companies and their intermediaries from exporting certain products, importing materials or supplies, or otherwise doing business with restricted countries, businesses or individuals, and require companies to maintain certain policies and procedures to ensure compliance. We are also subject to the Foreign Corrupt Practices Act, which prohibits improper payments to foreign governments and their officials by U.S. and other business entities. Under these laws and regulations, U.S. companies may be held liable for their actions and actions taken by their strategic or local partners or representatives. If we, or our intermediaries, fail to comply with the requirements of these laws and regulations, or similar laws of other countries, governmental authorities in the United States or elsewhere, as applicable, could seek to impose civil and/or criminal penalties, which could damage our reputation and have a material adverse effect on our business, financial condition and results of operations.

The Paycheck Protection Program loan received by us in 2020 and subsequently repaid by us in 2021 has resulted in an informal SEC inquiry into our financial disclosures and may subject us to challenges regarding qualification for the loan, enforcement actions, fines and penalties.

On April 20, 2020, we entered into a Paycheck Protection Program Promissory Note, dated April 16, 2020 (the "PPP Note"), evidencing a loan to the Company from Liberty Bank under the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act"). Pursuant to the PPP Note, we received total proceeds of approximately $6.5 million on April 24, 2020 (the "PPP Loan"). In accordance with the requirements of the CARES Act, as amended by the Paycheck Protection Program Flexibility Act of 2020 (the "PPP Flexibility Act"), the PPP Loan may have been fully forgiven if (i) proceeds were used to pay eligible payroll costs, rent, mortgage interest and utilities and (ii) full-time employee headcount and salaries were either maintained during the 24-week period following disbursement of the PPP Loan or restored by December 31, 2020. If not so maintained or restored, forgiveness of the PPP Loan would have been reduced in accordance with regulations issued by the U.S. Small Business Administration. On October 29, 2020, we applied for forgiveness of the PPP Loan. While we believe we met all of the requirements of the CARES Act, as amended by the PPP Flexibility Act, for forgiveness, on February 11, 2021, we withdrew our application for forgiveness and repaid all amounts outstanding under the PPP Note, together with all accrued interest, in part because our financial circumstances had changed substantially since the time of the application for forgiveness, such that we were no longer in need of forgiveness of the PPP Loan. As a result of this repayment, the PPP Loan is not reported on our Consolidated Balance Sheets as of October 31, 2023 and 2022.

Our receipt of the PPP Loan, our submission of a forgiveness application, and our withdrawal of our forgiveness application may result in adverse publicity and damage to our reputation, governmental investigations, inquiries, reviews and audits, such as the SEC inquiry described below, which could consume significant financial and management resources. Any of these events could harm our business, results of operations and financial condition.

On or about May 11, 2020, the Division of Enforcement of the SEC sent us an inquiry requesting that we voluntarily provide information to the SEC pertaining to our application and resulting PPP Loan and how the need for the PPP Loan compares with our filings, disclosures and financial condition. While this request for information was voluntary and we were not obligated to respond, we cooperated with the request for information and voluntarily provided information to the SEC. The SEC did not communicate with us in fiscal year 2022 or fiscal year 2023 about its inquiry.

Risks Related to Our Need for Additional Capital

We will need to raise additional capital, and such capital may not be available on acceptable terms, if at all. If we do raise additional capital utilizing equity, existing stockholders will suffer dilution. If we do not raise additional capital, our business could fail or be materially and adversely affected.

The implementation of our business plan and strategy requires additional capital to fund operations as well as investment by us in project assets. If we are unable to raise additional capital in the amounts required, on terms acceptable to us, or at all, we will not be able to successfully implement our business plan and strategy. Our capital-intensive business model increases the risk that we will not be able to successfully implement our plans if we do not raise additional capital in the amounts required.

In addition, if we raise additional funds through further issuances of our common stock, or securities convertible into or exchangeable for shares of our common stock, into the public market, including shares of our common stock issued upon exercise of options or warrants, holders of our common stock could suffer significant dilution, and any new equity securities we issue could have rights, preferences and privileges superior to those of our then-existing capital stock. Any debt financing secured by us in the future could involve restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities. If we cannot raise additional funds when we need them, our business and prospects could fail or be materially and adversely affected. In addition, if additional funds are not secured in the future, we will have to modify, reduce, defer or eliminate parts of our present and anticipated future projects, or sell some or all of our assets.

Risks Related to our Intellectual Property and Technology Licenses

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, misappropriation, or other violation, or be enjoined from using such intellectual property. We rely on patent, trade secret, trademark and copyright law to protect our intellectual property.

We previously licensed certain of our carbonate fuel cell manufacturing intellectual property to POSCO Energy on an exclusive basis in the South Korean and broader Asian markets, and pursuant to the terms of the Settlement Agreement with POSCO Energy, we have done so again, but this time on a limited, non-exclusive basis to enable module replacement to POSCO Energy's existing LTSA customers only. In addition, effective as of June 11, 2019, we entered into the EMTEC License Agreement, pursuant to which we agreed, subject to the terms of the EMTEC License Agreement, to grant EMTEC and its affiliates a non-exclusive, worldwide, fully paid, perpetual, irrevocable, non-transferrable license and right to use our patents, data, know-how, improvements, equipment designs, methods, processes and the like to the extent it is useful to research, develop, and commercially exploit carbonate fuel cells in applications in which the fuel cells concentrate carbon dioxide from industrial and power sources and for any other purpose attendant thereto or associated therewith. Such right and license is sublicensable to third parties performing work for or with EMTEC or its affiliates, but shall not otherwise be sublicensable. Furthermore, on November 5, 2019, we entered into the EMTEC Joint Development Agreement, pursuant to which we agreed to grant EMTEC and its affiliates a worldwide, non-exclusive, royalty-free, irrevocable, perpetual, sub-licensable, non-transferable (subject to certain exceptions) right and license to practice certain Company background intellectual property (to the extent not already licensed pursuant to the EMTEC License Agreement) for new carbonate fuel cell technology in carbon capture applications and hydrogen applications. We depend on POSCO Energy and EMTEC to also protect our intellectual property rights, but we cannot assure you that POSCO Energy or EMTEC will do so.

As of October 31, 2023, we (excluding our subsidiaries) had 139 U.S. patents and 282 patents in other jurisdictions covering our fuel cell technology (in certain cases covering the same technology in multiple jurisdictions), with patents directed to various aspects of our SureSource technology, SOFC technology, PEM fuel cell technology and applications thereof. As of October 31, 2023, we also had 34 patent applications pending in the U.S. and 98 patent applications pending in other jurisdictions. As of October 31, 2023, our subsidiary, Versa Power Systems, Ltd. ("Versa"), had 24 U.S. patents and 86 international patents covering SOFC technology (in certain cases covering the same technology in multiple jurisdictions). As of October 31, 2023, Versa also had 9 pending U.S. patent applications and 26 patent applications pending in other jurisdictions. In addition, as of October 31, 2023, our subsidiary, FuelCell Energy Solutions, GmbH, had license rights to 2 U.S. patents and 7 patents outside the U.S. (in certain cases covering the same technology in multiple jurisdictions) for carbonate fuel cell technology licensed from Fraunhofer IKTS.

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, misappropriating or otherwise violating third-party intellectual property, we do not know whether we will be able to obtain licenses to use such intellectual property 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 (including our subsidiaries) or other patents that third parties license to us will not be invalidated, circumvented, challenged, rendered unenforceable or licensed to others, or that any of our owned or licensed pending or future patent applications will be issued with the breadth of claim coverage sought by us or our licensors, 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 business associates 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 has 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, misappropriating or otherwise violating third-party intellectual property, 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 material intellectual property litigation, we could become subject to lawsuits in which it is alleged that we have infringed, misappropriated or otherwise violated the intellectual property rights of others or commence lawsuits against others who we believe are infringing, misappropriating or otherwise violating our rights or violating their agreements to protect our intellectual property. 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.

The U.S. government has certain rights relating to our intellectual property, including the right to restrict or take title to certain patents.

Multiple 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.

Risks Related to Our Common and Preferred Stock

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 commercialization milestones;
- failure to win contracts through competitive bidding processes, or the loss of project awards previously announced or anticipated prior to entering into definitive contracts;
- the loss of a major customer or a contract;
- 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;
- changes in the securities analysts that cover us or failure to regularly publish reports;
- 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;
- dilution from issuances of our common stock;
- general market trends or preferences for non-fueled resources;
- pandemics, or any public health or safety issues in the regions where we operate;
- general technological or economic trends; and
- changes in the United States or foreign political environment and the passage of laws, including, tax, environmental or other laws, affecting the product development business.

The closing price of our common stock on December 14, 2023 was $1.56 per share. There can be no assurance that the current stock price will be maintained, and it is possible that our stock price could drop significantly. In the past, following periods of volatility in the market price of their stock, companies have been the subject of securities class action litigation. If we become 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.

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 into or exchangeable for shares of our common stock, into the public market, including shares of our common stock issued upon exercise of options or 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.

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

Provisions in our Certificate of Incorporation, as amended ("Certificate of Incorporation"), and Second Amended and Restated By-Laws ("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. 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.

Our By-laws provide that the Court of Chancery of the State of Delaware is the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a judicial forum deemed favorable by the stockholder for disputes with us or our directors, officers or employees.

Our By-laws provide that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our Certificate of Incorporation or our By-laws, any action to interpret, apply, enforce, or determine the validity of our Certificate of Incorporation or By-laws, or any action asserting a claim against us that is governed by the internal affairs doctrine. The choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that the stockholder finds favorable for disputes against us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find the choice of forum provision contained in our By-laws to be inapplicable or unenforceable in such an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition.

The rights of our Series B Preferred Stock could negatively impact our cash flows and dilute the ownership interest of our stockholders.

The terms of our 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 of our common stock, 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 0.5910 shares of our common stock (which is equivalent to an initial conversion price of $1,692 per share), plus cash in lieu of fractional shares. Furthermore, the conversion rate applicable to the Series B Preferred Stock is subject to additional adjustment upon the occurrence of certain events.

The Series B Preferred Stock ranks senior to our common stock with respect to payments upon liquidation, dividends, and distributions.

The rights of the holders of our Series B Preferred Stock rank senior to our obligations to our common stockholders. Upon our liquidation, the holders of Series B Preferred Stock are entitled to receive $1,000.00 per share plus all accumulated and unpaid dividends (the "Liquidation Preference"). Until the holders of Series B Preferred Stock receive the Liquidation Preference with respect to their shares of Series B Preferred Stock in full, no payment will be made on any junior shares, including shares of our common stock. The existence of senior securities such as the Series B Preferred Stock could have an adverse effect on the value of our common stock.

General Risk Factors

Litigation could expose us to significant costs and adversely affect our business, financial condition, and results of operations.

We are, or may become, party to various lawsuits, arbitrations, mediations, regulatory proceedings and claims, which may include lawsuits, arbitrations, mediations, regulatory proceedings or claims relating to commercial liability, product recalls, product liability, product claims, employment matters, environmental matters, breach of contract, intellectual property, indemnification, stockholder suits, derivative actions or other aspects of our business. Litigation (including the other types of proceedings identified above) is inherently unpredictable, and although we may believe we have meaningful defenses in these matters, we may incur judgments or enter into settlements of claims that could have a material adverse effect on our business, financial condition, and results of operations. The costs of responding to or defending litigation may be significant and may divert the attention of management away from our strategic objectives. There may also be adverse publicity associated with litigation that may decrease customer confidence in our business or our management, regardless of whether the allegations are valid or whether we are ultimately found liable.

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

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

- The long-term nature of our sales cycle can require long lead times between application design, order booking and product fulfillment. For such sales, we often require substantial cash down payments in advance of delivery. For our generation business, we must invest substantial amounts in application design, manufacture, installation, commissioning and operation, which amounts are returned through energy sales over long periods of time. Our growth strategy assumes that financing will be available for us to finance working capital or for our customers to provide down payments and to pay for our products. Financial market issues may delay, cancel or restrict the construction budgets and funds available to us or our customers for the deployment 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 causes significant uncertainty and may result in an increase in the return required by investors in relation to the risk of such projects.

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

Weakness in the economy and other conditions affecting the financial stability of our customers could negatively impact future sales of our products and our results of operations.

Our products require a long-term investment from our customers. Global inflationary pressures, particularly in the United States, have increased recently to levels not seen in recent years. Should our customers be impacted by these pressures, it could result in delays in purchasing decisions which could impact future sales of our products and our results of operations. In addition, downturns in the worldwide economy, due to inflation, geopolitics, major central bank policy actions including interest rate increases, public health crises, or other factors could also adversely affect our business.

Our results of operations could be adversely affected by economic and political conditions globally and the effects of these conditions on our customers' businesses and levels of business activity.

Economic and political events in 2022 and 2023 have altered the landscape in which we and other U.S. companies operate in a variety of ways. In response to inflationary pressures, the U.S. Federal Reserve has raised interest rates, resulting in an increase in the cost of borrowing for us, our customers, our suppliers, and other companies relying on debt financing. World events, such as the Russian invasion of Ukraine and the resulting economic sanctions, have impacted the global economy. Prolonged inflationary conditions, high and/or increased interest rates, and additional sanctions or retaliatory measures related to the Russia-Ukraine crisis, or other geo-political situations, could further negatively affect U.S. and international commerce and exacerbate or prolong the period of high energy prices and supply chain constraints. At this time, the extent and duration of these economic and political events and their effects on the economy and the Company are impossible to predict.

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

Our future success is substantially dependent on the services and performance of our executive officers and other key management, engineering, scientific, manufacturing and operating personnel. The loss of the services of any such personnel could materially adversely affect our business. Our ability to achieve our commercialization plans and to increase production at our manufacturing facility in the future will also depend on our ability to attract and retain additional qualified personnel, and we cannot assure you that we will be able to do so. Recruiting personnel for the fuel cell industry is competitive. Our inability to attract and retain additional qualified personnel, or the departure of key employees, could materially and adversely affect our development, commercialization and manufacturing plans and, therefore, our business prospects, results of operations and financial condition. In addition, our inability to attract and retain sufficient personnel to quickly increase production at our manufacturing facility when and if needed to meet increased demand may adversely impact our ability to respond rapidly to any new product, growth or revenue opportunities. Our inability to attract and retain sufficient qualified personnel to staff our government or third party funded research contracts may result in our inability to complete such contracts or terminations of such contracts, which may adversely impact financial conditions and results of operations.

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, as well as the ability to provide service to our international customers. 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 the strain any future growth may place on our management, service and operations teams and financial infrastructure, unexpected changes in regulatory requirements and other geopolitical risks, fluctuations in currency exchange rates, longer accounts receivable requirements and collections, greater bonding and security requirements, difficulties in managing international operations, potentially adverse tax consequences, restrictions on repatriation of any 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.

We source raw materials and parts for our products on a global basis, which subjects us to a number of potential risks, including the impact of export duties and quotas, trade protection measures imposed by the U.S. and other countries including tariffs, potential for labor unrest, changing global and regional economic conditions and current and changing regulatory environments. Changes to these factors may have an adverse effect on our ability to source raw materials and parts in line with our current cost structure.

Although our reporting currency is the U.S. dollar, we conduct our business and incur costs in the local currency of most countries in which we operate. As a result, we are subject to currency translation and transaction risk. Changes in exchange rates between foreign currencies and the U.S. dollar could affect our net sales and cost of sales and could result in exchange gains or losses. We cannot accurately predict the impact of future exchange rate fluctuations on our results of operations.

We could also expand our business into new and emerging markets, many of which have an uncertain regulatory environment relating to currency policy. Conducting business in such markets could cause our exposure to changes in exchange rates to increase, due to the relatively high volatility associated with emerging market currencies and potentially longer payment terms for our proceeds. Our ability to hedge foreign currency exposure is dependent on our credit profile with financial institutions that are willing and able to do business with us. Deterioration in our credit position or a significant tightening of the credit market conditions could limit our ability to hedge our foreign currency exposure and, therefore, result in exchange gains or losses.

Item 1B. UNRESOLVED STAFF COMMENTS

None.

Item 1C. CYBERSECURITY

Not applicable.

Item 2. PROPERTIES

The following is a summary of our offices and locations:

Location	Business Use	Square Footage	Lease Expiration Dates
Danbury, Connecticut	Corporate Headquarters, Research and Development, Sales, Marketing, Service, Purchasing and Administration	72,000	Company owned
Torrington, Connecticut	Manufacturing and Administrative	167,000	December 2030[(1)]
Taufkirchen, Germany	Manufacturing and Administrative	20,000	June 2024
Calgary, Alberta, Canada	Manufacturing, Research and Development	48,308	September 2028
Calgary, Alberta, Canada	Storage	18,627	July 2024

(1) In November 2015, this lease was extended until December 2030, with the option to extend for three additional five-year periods thereafter.

Item 3. LEGAL PROCEEDINGS

From time to time, the Company is involved in legal proceedings, including, but not limited to, regulatory proceedings, claims, mediations, arbitrations and litigation, arising out of the ordinary course of its business ("Legal Proceedings").

Although the Company cannot assure the outcome of such Legal Proceedings, management presently believes that the result of such Legal Proceedings, either individually, or in the aggregate, will not have a material adverse effect on the Company's consolidated financial statements, and no material amounts have been accrued in the Company's consolidated financial statements with respect to these matters.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

FuelCell Common Stock

Our common stock has been publicly traded since June 25, 1992. Our common stock trades under the symbol "FCEL" on the Nasdaq Global Market.

On December 14, 2023, the closing price of our common stock on the Nasdaq Global Market was $1.56 per share. As of December 14, 2023, there were 118 holders of record of our common stock. This does not include the number of persons whose stock is in nominee or "street" name accounts through brokers.

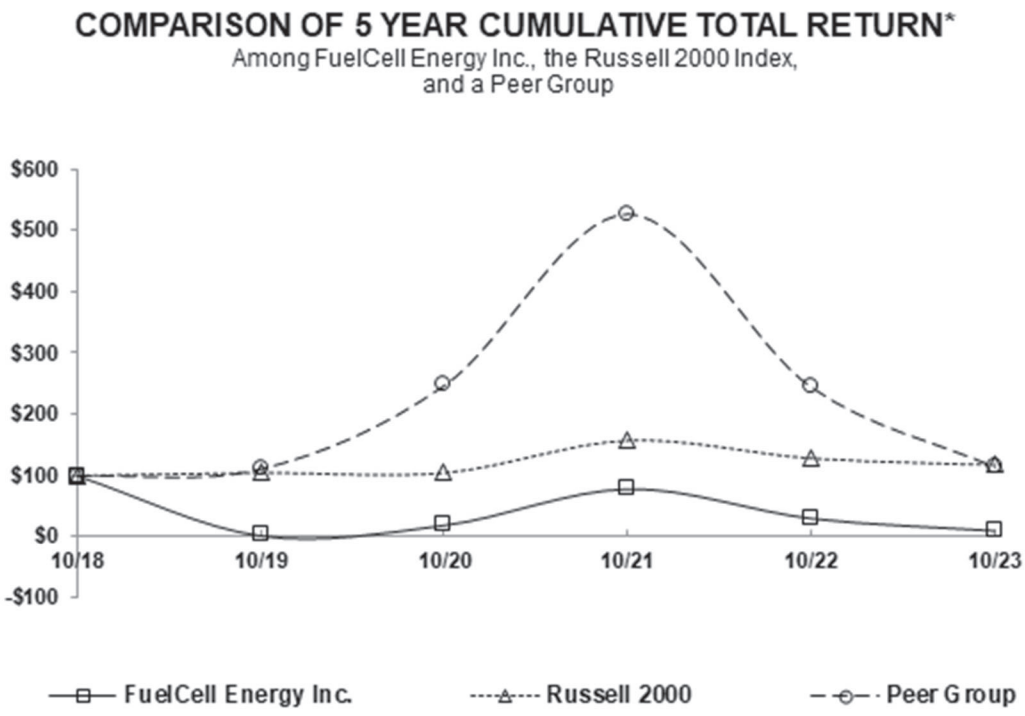
We have never paid a cash dividend on our common stock and do not anticipate paying any cash dividends on our common stock in the foreseeable future. In addition, the terms of our Series B Preferred Stock prohibit the payment of dividends on our common stock unless all dividends on the Series B Preferred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

FuelCell Preferred Stock

Information concerning the Company's Series B Preferred Stock is incorporated herein by reference to Note 13. "Redeemable Preferred Stock" of the Notes to the Consolidated Financial Statements.

Performance Graph

The following graph compares the annual change in the Company's cumulative total stockholder return on its common stock for the five fiscal years ended October 31, 2023 with the cumulative stockholder total return on the Russell 2000 Index, a peer group consisting of Standard Industry Classification Group Code 3690 companies listed on the Nasdaq Global Market and New York Stock Exchange and a customized 14 company peer group. It assumes $100.00 invested on October 31, 2018 with dividends reinvested.



Equity Compensation Plan Information

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

Stock Repurchases

The following table sets forth information with respect to purchases made by us or on our behalf of our common stock during the periods indicated:

Period	Total Number of Shares Purchased [1]	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs	Maximum Number of Shares that May Yet be Purchased Under the Plans or Programs
August 1, 2023 - August 31, 2023	—	$ —	—	—
September 1, 2023 - September 30, 2023	356,581	1.33	—	—
October 1, 2023 - October 31, 2023	242	1.29	—	—
Total	356,823	$ 1.33	—	—

(1) Includes only shares that were surrendered by employees to satisfy statutory tax withholding obligations in connection with the vesting of stock-based compensation awards.

Item 6. RESERVED

Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with the information included in Item 8 of this Annual Report on Form 10-K. Unless otherwise indicated, the terms "Company", "FuelCell Energy", "we", "us", and "our" refer to FuelCell Energy, Inc. and its subsidiaries. All tabular dollar amounts are in thousands. In certain instances, the capitalized terms used in this section are defined elsewhere in this Annual Report on Form 10-K, including in the Notes to the Consolidated Financial Statements.

In addition to historical information, this discussion and analysis contains forward-looking statements. All forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those projected. Please see the section of this Annual Report entitled "Forward-Looking Statement Disclaimer" for a discussion of the uncertainties, risks and assumptions associated with these statements, as well as the other risks set forth in our filings with the SEC including those set forth under the section entitled "Item 1A — Risk Factors" in this Annual Report.

Overview

Headquartered in Danbury, Connecticut, FuelCell Energy is a global leader in delivering environmentally responsible distributed baseload energy platform solutions through our proprietary fuel cell technology. Today, we offer commercial technology that produces clean electricity, heat, clean hydrogen, and water and is also capable of recovering and capturing carbon for utilization and/or sequestration, depending on product configuration and application. We also continue to invest in product development and commercializing technologies that are expected to add new capabilities to our platforms' abilities to deliver hydrogen and long duration hydrogen-based energy storage through our solid oxide technologies, as well as further enhance our existing platforms' carbon capture solutions.

FuelCell Energy is focused on advancing sustainable clean energy technologies that address some of the world's most critical challenges around energy access, security, resilience, reliability, affordability, safety and environmental stewardship. As a leading global manufacturer of proprietary fuel cell technology platforms, FuelCell Energy is uniquely positioned to serve customers worldwide with sustainable products and solutions for industrial and commercial businesses, utilities, governments, municipalities, and communities.

FuelCell Energy, based in Connecticut, was founded in 1969 as a New York corporation to provide applied research and development services on a contract basis. We completed our initial public offering in 1992 and reincorporated in Delaware in 1999. We began selling stationary fuel cell power plants commercially in 2003.

Results of Operations

Management evaluates our results of operations and cash flows using a variety of key performance indicators, including revenues compared to prior periods and internal forecasts, costs of our products and results of our cost reduction initiatives, and operating cash use. These are discussed throughout the "Results of Operations" and "Liquidity and Capital Resources" sections. Results of Operations are presented in accordance with U.S. GAAP.

The following discussion and analysis of our Results of Operations and Liquidity and Capital Resources includes a comparison of the fiscal year ended October 31, 2023 ("fiscal year 2023") to the fiscal year ended October 31, 2022 ("fiscal year 2022"). A similar discussion and analysis that compares fiscal year 2022 to the fiscal year ended October 31, 2021 ("fiscal year 2021") can be found in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," of our Form 10-K for the fiscal year ended October 31, 2022.

Comparison of the Years Ended October 31, 2023 and 2022

Revenues and Costs of revenues

Revenues and costs of revenues for the years ended October 31, 2023 and 2022 were as follows:

(dollars in thousands)	Year Ended October 31, 2023	Year Ended October 31, 2022	Change $	Change %
Total revenues	$ 123,394	$ 130,484	$ (7,090)	(5)%
Total costs of revenues	133,929	160,059	(26,130)	(16)%
Gross loss	$ (10,535)	$ (29,575)	$ 19,040	(64)%
Gross margin	(8.5)%	(22.7)%		

Total revenues for the year ended October 31, 2023 decreased $7.1 million, or 5%, to $123.4 million from $130.5 million for the year ended October 31, 2022. Total costs of revenues for the year ended October 31, 2023 decreased by $26.1 million, or 16%, to $133.9 million from $160.1 million for the year ended October 31, 2022. The Company's gross margin was (8.5)% in fiscal year 2023, as compared to a gross margin of (22.7)% in fiscal year 2022. A discussion of the changes in product revenues, service agreements revenues, generation revenues and Advanced Technologies contract revenues follows.

Product revenues

Product revenues, cost of product revenues and gross profit (loss) from product revenues for the years ended October 31, 2023 and 2022 were as follows:

(dollars in thousands)	Year Ended October 31, 2023	Year Ended October 31, 2022	Change $	Change %
Product revenues	$ 19,589	$ 60,000	$ (40,411)	(67)%
Cost of product revenues	12,878	64,495	(51,617)	(80)%
Gross profit (loss) from product revenues	$ 6,711	$ (4,495)	$ 11,206	(249)%
Product revenues gross margin	34.3 %	(7.5)%		

Product revenues for the year ended October 31, 2023 were $19.6 million compared to $60.0 million for the year ended October 31, 2022. Our December 2021 Settlement Agreement (the "Settlement Agreement") with POSCO Energy Co., Ltd. ("POSCO Energy") and its subsidiary, Korea Fuel Cell Co., Ltd. ("KFC"), included an option to purchase an additional 14 modules (in addition to the 20 modules that were purchased by KFC during fiscal year 2022). This option included a material right related to an extended warranty obligation for the modules. The option was not exercised by KFC as of the expiration date of December 31, 2022 and, as a result, during the year ended October 31, 2023, the Company recognized $9.1 million of product revenues, which represents the consideration allocated to the material right if the option had been exercised. Product revenues for the fiscal year ended October 31, 2023 also included $10.5 million of revenue that was recognized in October 2023 when certain of the modules previously sold by the Company to KFC were installed by KFC at the power plants operated by Noeul Green Energy Co., Ltd. ("Noeul Green Energy"), the Company entered into a new long-term service agreement to service these power plants (including the modules installed by KFC), and the existing service agreement between KFC and Noeul Green Energy was simultaneously terminated. Recognition of this revenue was previously constrained due to an obligation of the Company to KFC related to modules previously sold by the Company to KFC. This obligation was relieved in conjunction with the execution of the new long-term service agreement with Noeul Green Energy.

Cost of product revenues decreased $51.6 million for the year ended October 31, 2023 to $12.9 million, compared to $64.5 million in the same period in the prior year. The decrease is primarily due to the lack of module sales during the year ended October 31, 2023. Manufacturing variances, primarily related to production volumes and unabsorbed overhead costs, totaled approximately $12.0 million for the year ended October 31, 2023 compared to approximately $13.5 million for the year ended October 31, 2022. The reduction in manufacturing variances for the year ended October 31, 2023 was driven primarily by an overall reduction in actual manufacturing costs. Cost of product revenues for the year ended October 31, 2022 included an impairment charge of approximately $1.0 million related to the cessation of use of conditioning equipment in Danbury, CT, which has been replaced by new equipment at our production facility in Torrington, CT.

Product revenues for the year ended October 31, 2023 generated a gross profit of $6.7 million compared to a gross loss of $4.5 million for the year ended October 31, 2022. The gross profit is a direct result of the product revenues recognized in the year ended October 31, 2023 related to the expiration without exercise of KFC's module purchase option, the release of previously constrained product revenue and the fact that there were no corresponding costs associated with the recognition of these revenues.

For the year ended October 31, 2023, we operated at an annualized production rate of approximately 32.7 MW, which is a decrease from the annualized production rate of 39.3 MW for the year ended October 31, 2022.

As of October 31, 2023 and 2022, there was $0 and $9.1 million, respectively, of product backlog.

Service agreements revenues

Service agreements revenues and associated cost of revenues for the years ended October 31, 2023 and 2022 were as follows:

	Year Ended October 31,		Change	
(dollars in thousands)	2023	2022	$	%
Service agreements revenues	$ 49,084	$ 12,786	$ 36,298	284 %
Cost of service agreements revenues	44,953	17,233	27,720	161 %
Gross profit (loss) from service agreements revenues	$ 4,131	$ (4,447)	$ 8,578	(193)%
Service agreements revenues gross margin	8.4 %	(34.8)%		

Revenues for the year ended October 31, 2023 from service agreements increased $36.3 million to $49.1 million from $12.8 million for the year ended October 31, 2022. During the year ended October 31, 2023 there were 15 new module exchanges – one new module exchange at the plant at Trinity College, two new module exchanges at the plant in Woodbridge, CT, which originally achieved commercial operations in fiscal year 2017, and 12 new module exchanges at the plants owned by Korea Southern Power Company in South Korea, which achieved commercial operations in fiscal year 2018. The increase in service agreements revenues for the year ended October 31, 2023 is primarily due to the fact that 15 new module exchanges occurred during the period, while there were fewer module exchanges during the year ended October 31, 2022. Both periods also included a reduction in service agreements revenues – specifically, a $2.1 million reduction in the fourth quarter of fiscal year 2023 and a $3.8 million reduction in the fourth quarter of fiscal year 2022, in each case as a result of higher future cost estimates related to future module exchanges compared to our prior estimates. Because we recognize revenue on service contracts over time using a cost input method in accordance with Accounting Standards Codification Topic 606 ("ASC 606"), we evaluate the cost estimates associated with each service contract periodically and adjust revenue accordingly. In fiscal years 2023 and 2022, we reviewed our cost estimates relating to our service contracts and identified higher estimated costs than those that were previously estimated. These higher estimated costs are due to our expectation that supply chain costs will remain high relative to prior years and that our production volumes will remain low, resulting in an increase in expected module costs.

For the year ended October 31, 2023, accrued performance penalties under our service agreements totaled approximately $1.0 million compared to approximately $0.7 million for the year ended October 31, 2022. Accrued performance guarantees represent variable consideration for service contracts and accordingly are recorded as an offset to service agreements revenues.

Cost of service agreements revenues increased $27.7 million to $45.0 million for the year ended October 31, 2023 from $17.2 million for the year ended October 31, 2022. Cost of service agreements revenues were higher for the year ended October 31, 2023 than for the year ended October 31, 2022 due to the fact that 15 new module exchanges occurred during the year ended October 31, 2023, while there were fewer module exchanges during the year ended October 31, 2022.

We record loss accruals for service agreements when the estimated cost of future module exchanges and maintenance and monitoring activities exceeds the remaining unrecognized consideration. Estimates for future costs on service agreements are determined by a number of factors including the estimated remaining life of the module(s), used replacement modules available, and future operating plans for the power platform. The net increase of approximately $2.3 million to the loss accrual in fiscal year 2023 was a result of adjustments to future cost estimates related to future module exchanges, as further described above.

We work to continuously improve and mature our products and implement lessons learned into our product designs and manufacturing process subsequent to introduction. In 2021, we examined data related to module field performance, identified improvement opportunities and invested in improvement initiatives with respect to our core molten carbonate technology. We continue to invest in such improvement initiatives. We have identified improvement opportunities ranging from improved thermal management by reducing internal temperature to improving the performance of our electrical balance of plant and implemented design changes to our commercial platforms which are expected to improve overall product performance. As it relates to our fuel cell modules, these improvements center around delivering more uniform temperature distribution within the cell stack within the modules with the intent of improving output over the life of the modules to achieve the product's expected design life.

Cost of service agreements revenues for both years includes planned maintenance activities, module exchanges and continued investment in the service fleet in order to improve performance. Cost of service agreements includes maintenance and operating costs and module exchanges.

Overall gross profit from service agreements revenues was $4.1 million for the year ended October 31, 2023 which increased from a gross loss of $4.4 million for the year ended October 31, 2022. The overall gross margin was 8.4% for the year ended October 31, 2023 compared to a gross margin loss of 34.8% in the comparable prior year period. Gross margin was higher during the year ended October 31, 2023 primarily due to the fact that 15 new module exchanges were completed during the year ended October 31, 2023 (compared to fewer module exchanges during the year ended October 31, 2022) and that such module exchanges were performed pursuant to service agreements with higher margins.

As of October 31, 2023, service agreements backlog totaled $140.8 million compared to $114.0 million as of October 31, 2022. This backlog is for service agreements of up to 20 years at inception and is expected to generate positive margins and cash flows based on current estimates.

Generation revenues

Generation revenues and related costs for the years ended October 31, 2023 and 2022 were as follows:

	Year Ended October 31,		Change	
(dollars in thousands)	2023	2022	$	%
Generation revenues	$ 37,508	$ 36,186	$ 1,322	4 %
Cost of generation revenues	62,913	63,147	(234)	(0)%
Gross loss from generation revenues	$ (25,405)	$ (26,961)	$ 1,556	(6)%
Generation revenues gross margin	(67.7)%	(74.5)%		

Revenues from generation for the year ended October 31, 2023 totaled $37.5 million, which represents an increase of $1.3 million from revenue recognized of $36.2 million for the year ended October 31, 2022. Generation revenues for the years ended October 31, 2023 and 2022 reflect revenue from electricity generated under our power purchase agreements ("PPAs") and the sale of renewable energy credits. The increase in generation revenues for the year ended October 31, 2023 is primarily due to the fact that we recorded a full year of generation revenues associated with the Long Island Power Authority ("LIPA") project in Yaphank, New York (which achieved commercial operations in December 2021) and the fact that the 7.4 MW fuel cell project located on the U.S. Navy Submarine Base in Groton, CT (the "Groton Project") achieved commercial operations and began generating revenues in the first quarter of fiscal year 2023.

Cost of generation revenues totaled $62.9 million for the year ended October 31, 2023. The decrease from the comparable prior year period was primarily due to a derivative gain during the year ended October 31, 2023 of $4.1 million as a result of net settling certain natural gas purchases under a previous normal purchase normal sale contract designation, which resulted in a change to mark-to-market accounting. The decrease is also a result of lower operating costs for existing plants due to efficiencies resulting from plant maintenance activities and module exchanges. The decrease was partially offset by an increase in expensed construction and gas costs related to the Toyota project (expensed construction and gas costs were approximately $22.9 million for the year ended October 31, 2023 compared to expensed construction costs for the comparable prior year period of $22.1 million) and costs of approximately $7.3 million related to the increased size of the installed fleet with the Groton Project achieving commercial operations. Cost of generation revenues also includes an impairment charge of $2.4 million for the year ended October 31, 2023 relating to a project asset for which a PPA was ultimately not awarded.

As further background on the costs related to the Toyota project, it was determined in the fourth quarter of fiscal year 2021 that a potential source of renewable natural gas ("RNG") at favorable pricing was no longer sufficiently probable for the Toyota project resulting in impairment of the asset, given the negative cash flow profile of the project. Thus, as the Toyota project was being constructed, only amounts associated with inventory components that could be redeployed for alternative use were capitalized. The balance of costs incurred (i.e., the approximately $22.9 million associated with the construction and gas costs mentioned above) were expensed as cost of generation revenues.

In the fourth quarter of fiscal year 2022, the Company made the decision not to proceed with development of the 7.4 MW and 1.0 MW Hartford projects given the then current economic profile of these projects and, as a result, incurred an impairment charge of $0.8 million.

Refer to Note 6. "Project Assets" to the Consolidated Financial Statements for more information on the impairment charge for the fiscal year ended October 31, 2023.

We currently have three projects with fuel sourcing risk, which are the Toyota project, which requires procurement of RNG, and our Derby, CT 14.0 MW and 2.8 MW projects, both of which require natural gas for which there is no pass-through mechanism. A two-year (through May of 2025) fuel supply contract has been executed for the Toyota project. Six-year (through October 2029) fuel supply contracts have been executed for the 14.0 MW and 2.8 MW projects in Derby, CT. The Company will look to extend the duration of these contracts should market and credit conditions allow. If the Company is unable to secure fuel on favorable economic terms, it may result in impairment charges to the Derby project assets and further charges for the Toyota project asset.

The overall gross loss from generation revenues was $29.5 million for the year ended October 31, 2023, which represents an increase of $2.6 million from a gross loss of $27.0 million for the year ended October 31, 2022. The increase in gross loss from generation revenues is primarily related to the impairment charge of $2.4 million recorded for the year ended October 31, 2023 relating to a project asset for which a PPA was ultimately not awarded and the increase in construction and gas costs being expensed related to the Toyota project, partially offset by higher margins from the operating fleet (due in part to the higher operating output of the generation fleet portfolio) during the year ended October 31, 2023 compared to the year ended October 31, 2022.

As of October 31, 2023 and 2022, generation backlog totaled $0.9 billion.

Advanced Technologies contracts

Advanced Technologies contract revenues and related costs for the years ended October 31, 2023 and 2022 were as follows:

(dollars in thousands)	Year Ended October 31, 2023	Year Ended October 31, 2022	Change $	Change %
Advanced Technologies contract revenues	$ 17,213	$ 21,512	$ (4,299)	(20)%
Cost of Advanced Technologies contract revenues	13,185	15,184	(1,999)	(13)%
Gross profit from Advanced Technologies contracts	$ 4,028	$ 6,328	$ (2,300)	(36)%
Advanced Technologies contract gross margin	23.4 %	29.4 %		

Advanced Technologies contract revenues decreased to $17.2 million for the year ended October 31, 2023 compared to $21.5 million for the year ended October 31, 2022. Compared to the year ended October 31, 2022, Advanced Technologies contract revenues recognized under the Joint Development Agreement between the Company and ExxonMobil Technology and Engineering Company f/k/a ExxonMobil Research and Engineering Company ("EMTEC") (which was originally effective as of October 31, 2019) (as amended, the "EMTEC Joint Development Agreement") were approximately $0.3 million higher during the year ended October 31, 2023 and Advanced Technologies contract revenues recognized under government and other contracts were approximately $4.6 million lower for the year ended October 31, 2023 as a result of the allocation of engineering resources during the year based on the scope of the contracts in the year.

Cost of Advanced Technologies contract revenues decreased $2.0 million to $13.2 million for the year ended October 31, 2023, compared to $15.2 million for the year ended October 31, 2022. This decrease is a result of the level of activity and the scope of work performed under the EMTEC Joint Development Agreement during the year ended October 31, 2023, compared to the year ended October 31, 2022.

Advanced Technologies contracts for the year ended October 31, 2023 generated a gross profit of $4.0 million compared to a gross profit of $6.3 million for the year ended October 31, 2022. The lower gross profit was primarily due to the higher costs recognized under government contracts during the year ended October 31, 2023, offset by favorable margins under the EMTEC Joint Development Agreement during the year ended October 31, 2023 compared to the year ended October 31, 2022.

As of October 31, 2023, Advanced Technologies contract backlog totaled $15.3 million compared to $22.9 million at October 31, 2022.

Administrative and selling expenses

Administrative and selling expenses were $64.5 million and $79.6 million for the years ended October 31, 2023 and 2022, respectively. The year ended October 31, 2022 included non-recurring legal expenses of $24.0 million associated with the settlement of the Company's disputes with POSCO Energy and KFC. Excluding the $24.0 million in legal fees, administrative and selling expenses were higher during the year ended October 31, 2023 than during the year ended October 31, 2022 primarily due to an increase in compensation expense resulting from an increase in headcount in support of sales, marketing and business expansion.

Research and development expenses

Research and development expenses increased to $61.0 million for the year ended October 31, 2023 compared to $34.5 million for the year ended October 31, 2022. The increase is primarily due to an increase in spending on the Company's ongoing commercial development efforts related to our solid oxide power generation and electrolysis platforms and carbon separation and carbon capture solutions compared to the comparable prior year period. During fiscal year 2023, the Company increased headcount by 78 employees, many of whom are focused on the commercialization and manufacturing of these new products. Research and development activities during the fiscal year included designing and testing components and increasing manufacturing capacity at our Calgary facility.

Loss from operations

Loss from operations for the year ended October 31, 2023 was $136.1 million compared to $143.7 million for the year ended October 31, 2022. This decrease was primarily driven by decreased administrative and selling expenses compared to the year ended October 31, 2022, offset by higher research and development expenses compared to the year ended October 31, 2022. The decrease in loss from operations was also due, in part, to a lower gross loss of $10.5 million for the year ended October 31, 2023, compared to gross loss of $29.6 million for the year ended October 31, 2022. The lower gross loss was driven by higher product and service agreements gross margins.

Interest expense

Interest expense for the years ended October 31, 2023 and 2022 was $7.2 million and $6.4 million, respectively. Interest expense for both periods includes interest associated with finance obligations for failed sale-leaseback transactions and interest on the loans associated with the Bridgeport Fuel Cell Project which were extinguished in May 2023. Interest expense for the year ended October 31, 2023 also includes interest on the OpCo Financing Facility (as defined elsewhere herein), which was entered into in May 2023, and interest on the Senior Back Leverage Loan Facility and the Subordinated Back Leverage Loan Facility (in each case as defined elsewhere herein), which were entered into in August 2023.

Interest income

Interest income was $15.8 million and $3.4 million for the years ended October 31, 2023 and 2022, respectively. Interest income for the year ended October 31, 2023 represents $12.0 million of interest earned on money market investments and $3.8 million of interest earned on U.S. Treasury Securities. Interest income earned for the year ended October 31, 2022 reflects interest earned on money market investments.

Gain on extinguishment of finance obligations and debt, net

The gain on extinguishment of finance obligations and debt, net was $15.3 million for the year ended October 31, 2023 and represents the gain on the payoff of the PNC Energy Capital, LLC ("PNC") finance obligations (which occurred in May 2023), offset by the write-off of debt issuance costs upon the repayment of the loans associated with the Bridgeport Fuel Cell Project and the extinguishment of the PNC sale-leaseback transactions.

Other income, net

Other income, net was $4.7 million and $0.3 million for the years ended October 31, 2023 and 2022, respectively. Other income, net for the year ended October 31, 2023 reflects a gain on the OpCo Financing Facility derivative contract of $3.3 million and $1.9 million of refundable research and development tax credits. Other income, net for the year ended October 31, 2022 primarily represents a gain on derivative contract of $0.8 million, and $0.4 million of refundable research and development tax credits, offset by foreign exchange losses of $0.9 million.

Provision for income taxes

We have not paid federal or state income taxes in several years due to our history of net operating losses, although we have paid foreign income and withholding taxes in South Korea. Provision for income tax recorded for the years ended

October 31, 2023 and 2022 was $0.6 million and $0.8 million, respectively. The provision for income tax recorded for the years ended October 31, 2023 and 2022 reflects the realization of withholding taxes on customer deposits.

Net loss attributable to noncontrolling interests

Net loss attributable to noncontrolling interests is the result of allocating profits and losses to noncontrolling interests under the hypothetical liquidation at book value ("HLBV") method. HLBV is a balance sheet-oriented approach for applying the equity method of accounting when there is a complex structure, such as the flip structure of our tax equity financings with East West Bancorp, Inc. ("East West Bank") and Renewable Energy Investors, LLC ("REI").

For the year ended October 31, 2023, net income attributable to noncontrolling interest totaled $2.0 million for the LIPA Yaphank project tax equity financing transaction with REI. For the year ended October 31, 2022, net loss allocated to noncontrolling interest totaled $4.5 million for the LIPA Yaphank tax equity financing transaction with REI. The net loss for the year ended October 31, 2022 was primarily driven by the Investment Tax Credit ("ITC") attributable to the noncontrolling interest for the 2021 tax year. The ITC reduces the noncontrolling interests' claim on hypothetical liquidation proceeds in the HLBV waterfall. This reduction in liquidation proceeds drove the loss for the year ended October 31, 2022.

For the year ended October 31, 2023, net loss attributable to noncontrolling interest totaled $2.5 million for the Groton Project tax equity financing transaction with East West Bank. There was no comparable net loss for the year ended October 31, 2022, as the Groton Project tax equity transaction closed and the Groton Project began operations in the first quarter of fiscal year 2023. The net loss for the year ended October 31, 2023 is primarily driven by the ITC attributable to the noncontrolling interest for the 2022 tax year. The ITC reduces the noncontrolling interests' claim on hypothetical liquidation proceeds in the HLBV waterfall. This reduction in liquidation proceeds drove the loss for the year ended October 31, 2023.

Series B preferred stock dividends

Dividends recorded on our 5% Series B Cumulative Convertible Perpetual Preferred Stock ("Series B Preferred Stock") were $3.2 million for each of the years ended October 31, 2023 and 2022.

Net loss attributable to common stockholders and loss per common share

Net loss attributable to common stockholders represents the net loss for the period less the preferred stock dividends on the Series B Preferred Stock. For the years ended October 31, 2023 and 2022, net loss attributable to common stockholders was $110.8 million and $145.9 million, respectively, and loss per common share was $0.26 and $0.38, respectively. The decrease in the net loss attributable to common stockholders for the year ended October 31, 2023 is primarily due to the lower gross loss for the year ended October 31, 2023 compared to the year ended October 31, 2022. The lower net loss per common share for the year ended October 31, 2023 as compared to the year ended October 31, 2022 is primarily due to the lower net loss attributable to common stockholders and the higher number of weighted average shares outstanding due to share issuances since October 31, 2022.

LIQUIDITY AND CAPITAL RESOURCES

Overview, Cash Position, Sources and Uses

Our principal sources of cash have been proceeds from the sale of our products and projects, electricity generation revenues, research and development and service agreements with third parties, sales of our common stock through public equity offerings, and proceeds from debt, project financing and tax monetization transactions. We have utilized this cash to accelerate the commercialization of our solid oxide platforms, develop new capabilities to separate and capture carbon, develop and construct project assets, invest in capital improvements and expansion of our operations, perform research and development, pay down existing outstanding indebtedness, and meet our other cash and liquidity needs.

As of October 31, 2023, unrestricted cash and cash equivalents totaled $250.0 million compared to $458.1 million as of October 31, 2022. During the year ended October 31, 2023, the Company invested in United States (U.S.) Treasury Securities. The amortized cost of the U.S. Treasury Securities outstanding totaled $103.8 million as of October 31, 2023

(compared to $0 as of October 31, 2022) and is classified as Investments – short-term on the Consolidated Balance Sheets. The maturity dates for the outstanding U.S. Treasury Securities range from November 9, 2023 to January 23, 2024.

On July 12, 2022, the Company entered into an Open Market Sale Agreement with Jefferies LLC, B. Riley Securities, Inc., Barclays Capital Inc., BMO Capital Markets Corp., BofA Securities, Inc., Canaccord Genuity LLC, Citigroup Global Markets Inc., J.P. Morgan Securities LLC and Loop Capital Markets LLC (the "Open Market Sale Agreement") with respect to an at the market offering program under which the Company may, from time to time and subject to various conditions contained therein, offer and sell up to 95.0 million shares of the Company's common stock. From the date of the Open Market Sale Agreement through October 31, 2023, the Company sold approximately 62.8 million shares under the Open Market Sale Agreement at an average sale price of $2.66 per share, resulting in gross proceeds of approximately $166.8 million before deducting sales commissions and fees, and net proceeds to the Company of approximately $162.7 million after deducting sales commissions and fees totaling approximately $4.1 million. During the year ended October 31, 2023, approximately 44.3 million shares were sold under the Open Market Sale Agreement at an average sale price of $2.25 per share, resulting in gross proceeds of approximately $99.7 million before deducting sales commissions and fees, and net proceeds to the Company of approximately $97.4 million after deducting sales commissions and fees totaling approximately $2.3 million. During the three months ended October 31, 2023, approximately 2.0 million shares were sold under the Open Market Sale Agreement at an average sale price of $2.14 per share, resulting in gross proceeds of approximately $4.3 million before deducting sales commissions and fees, and net proceeds to the Company of approximately $4.2 million after deducting sales commissions and fees totaling approximately $0.1 million. As of October 31, 2023, approximately 32.2 million shares were available for issuance under the Open Market Sale Agreement. However, in order to sell additional shares under the Open Market Sale Agreement, the Company must file a prospectus supplement covering such sales under its recently filed Registration Statement on Form S-3. The Company currently intends to use the net proceeds from any additional sales under the Open Market Sale Agreement to accelerate the development and commercialization of its product platforms (including, but not limited to, its solid oxide and carbon capture platforms), for project development, market development, and internal research and development, to invest in capacity expansion for solid oxide and carbonate fuel cell manufacturing, and for project financing, working capital support, and general corporate purposes. The Company may also use the net proceeds from this offering to invest in joint ventures, acquisitions, and strategic growth investments and to acquire, license or invest in products, technologies or businesses that complement its business.

During the third quarter of fiscal year 2023, the Company (through one of its indirect subsidiaries) entered into a project financing facility (which is referred to as the "OpCo Financing Facility") in the amount of $80.5 million, which was partially used to extinguish certain existing debt, to partially repay other existing debt, and to repurchase project assets under sale-leaseback transactions, resulting in $46.1 million of net proceeds. See Note 11. "Debt" for additional information regarding the OpCo Financing Facility.

During the fourth quarter of fiscal year 2023, the Company (through one of its indirect subsidiaries) entered into two related term loan facilities (which are referred to herein as the "Senior Back Leverage Loan Facility" and the "Subordinated Back Leverage Loan Facility") in the aggregate amount of $20.0 million. See Note 11. "Debt" for additional information regarding the Senior Back Leverage Loan Facility and the Subordinated Back Leverage Loan Facility.

During the fourth quarter of fiscal year 2023, the Company closed on a tax equity financing transaction with Franklin Park 2023 FCE Tax Equity Fund, LLC ("Franklin Park"), a subsidiary of Franklin Park Infrastructure, LLC, for two fuel cell power plant installations -- the 14.0 MW Derby Fuel Cell Project and the 2.8 MW SCEF Fuel Cell Project, both located in Derby, Connecticut (collectively, the "Derby Projects"). Franklin Park's tax equity commitment with respect to the Derby Projects totals $30.2 million. Of this amount, approximately $9.1 million was received on October 31, 2023. In connection with the closing of this tax equity financing transaction, the Company paid closing costs of approximately $1.8 million, which included appraisal fees, title insurance expenses and legal and consulting fees. The balance of this commitment will be funded to the Company upon substantial completion of the Derby Projects. Net of estimated additional fees of $0.5 million, the Company anticipates additional funding of approximately $20.6 million.

We believe that our unrestricted cash and cash equivalents, expected receipts from our contracted backlog, funds received upon the maturity of U.S. Treasury Securities, and release of short-term restricted cash less expected disbursements over the next twelve months will be sufficient to allow the Company to meet its obligations for at least one year from the date of issuance of the financial statements included in this Annual Report on Form 10-K.

To date, we have not achieved profitable operations or sustained positive cash flow from operations. The Company's future liquidity, for fiscal year 2024 and in the long-term, will depend on its ability to (i) timely complete current projects in process within budget, (ii) increase cash flows from its generation operating portfolio, including by meeting conditions required to timely commence operation of new projects, operating its generation operating portfolio in compliance with minimum performance guarantees and operating its generation operating portfolio in accordance with revenue expectations, (iii) obtain financing for project construction and manufacturing expansion, (iv) obtain permanent financing for its projects once constructed, (v) increase order and contract volumes, which would lead to additional product sales, service agreements and generation revenues, (vi) obtain funding for and receive payment for research and development under current and future Advanced Technologies contracts, (vii) successfully commercialize its solid oxide, hydrogen and carbon capture platforms, (viii) implement capacity expansion for solid oxide product manufacturing, (ix) implement the product cost reductions necessary to achieve profitable operations, (x) manage working capital and the Company's unrestricted cash balance and (xi) access the capital markets to raise funds through the sale of debt and equity securities, convertible notes, and other equity-linked instruments.

We are continually assessing different means by which to accelerate the Company's growth, enter new markets, commercialize new products, and enable capacity expansion. Therefore, from time to time, the Company may consider and enter into agreements for one or more of the following: negotiated financial transactions, minority investments, collaborative ventures, technology sharing, transfer or other technology license arrangements, joint ventures, partnerships, acquisitions or other business transactions for the purpose(s) of geographic or manufacturing expansion and/or new product or technology development and commercialization, including hydrogen production through our carbonate and solid oxide platforms and storage and carbon capture, sequestration and utilization technologies.

Our business model requires substantial outside financing arrangements and satisfaction of the conditions of such arrangements to construct and deploy our projects to facilitate the growth of our business. The Company has invested capital raised from sales of its common stock to build out its project portfolio. The Company has also utilized and expects to continue to utilize a combination of long-term debt and tax equity financing (e.g., sale-leaseback transactions, partnership flip transactions and the monetization and/or transfer of eligible investment and production tax credits) to finance its project asset portfolio as these projects commence commercial operations, particularly in light of the passage of the Inflation Reduction Act in August 2022. The Company may also seek to undertake private placements of debt securities to finance its project asset portfolio. The proceeds of any such financing, if obtained, may allow the Company to reinvest capital back into the business and to fund other projects. We may also seek to obtain additional financing in both the debt and equity markets in the future. If financing is not available to us on acceptable terms if and when needed, or on terms acceptable to us or our lenders, if we do not satisfy the conditions of our financing arrangements, if we spend more than the financing approved for projects, if project costs exceed an amount that the Company can finance, or if we do not generate sufficient revenues or obtain capital sufficient for our corporate needs, we may be required to reduce or slow planned spending, reduce staffing, sell assets, seek alternative financing and take other measures, any of which could have a material adverse effect on our financial condition and operations.

Generation Operating Portfolio, Project Assets and Backlog

To grow our generation operating portfolio, the Company will invest in developing and building turn-key fuel cell projects, which will be owned by the Company and classified as project assets on the Consolidated Balance Sheets. This strategy requires liquidity and the Company expects to continue to have increasing liquidity requirements as project sizes increase and more projects are added to backlog. We may commence building project assets upon the award of a project or execution of a multi-year PPA with an end-user that has a strong credit profile. Project development and construction cycles, which span the time between securing a PPA and commercial operation of the platform, vary substantially and can take years. As a result of these project cycles and strategic decisions to finance the construction of certain projects, we may need to make significant up-front investments of resources in advance of the receipt of any cash from the sale or long-term financing of such projects. To make these up-front investments, we may use our working capital, seek to raise funds through the sale of equity or debt securities, or seek other financing arrangements. Delays in construction progress and completing current projects in process within budget, or in completing financing or the sale of our projects may impact our liquidity in a material way.

Our generation operating portfolio (43.7 MW as of October 31, 2023, which includes 7.4 MW attributed to the design rated output of the Groton Project, although the Groton Project has been operating below its rated capacity at an output of approximately 6.0 MW since commencement of commercial operations) contributes higher long-term cash flows to the Company than if these projects had been sold. We expect generation revenue to continue to grow as additional projects

achieve commercial operation, but this revenue amount may also fluctuate from year to year depending on platform output, operational performance and management and site conditions. The Company plans to continue to grow this portfolio while also selling projects to investors. As of October 31, 2023, the Company had projects representing an additional 19.4 MW in various stages of development and construction, which projects are expected to generate operating cash flows in future periods, if completed. Retaining long-term cash flow positive projects, combined with our service fleet, is expected to result in reduced reliance on new project sales to achieve cash flow positive operations, however, operations and performance issues could impact results. We have worked with and are continuing to work with lenders and financial institutions to secure construction financing, long-term debt, tax equity and sale-leasebacks for our project asset portfolio, but there can be no assurance that such financing can be attained, or that, if attained, it will be retained and sufficient.

As of October 31, 2023, net debt outstanding related to project assets was $112.6 million. Future required payments, inclusive of principal and interest, totaled $138.8 million as of October 31, 2023. The outstanding finance obligations under our sale-leaseback transactions, which totaled $18.8 million as October 31, 2023, include an embedded gain of $9.1 million representing the current carrying value of finance obligations less future required payments, which will be recognized at the end of the applicable lease terms should the Company repurchase the assets at the end of the term.

Our generation operating portfolio provides us with the full benefit of future cash flows, net of any debt service requirements.

The following table summarizes our generation operating portfolio as of October 31, 2023:

Project Name	Location	Power Off - Taker	Rated Capacity (MW) [1]	Actual Commercial Operation Date (FuelCell Energy Fiscal Quarter)	PPA Term (Years)
Central CT State University ("CCSU")	New Britain, CT	CCSU (CT University)	1.4	Q2 '12	15
Riverside Regional Water Quality Control Plant	Riverside, CA	City of Riverside (CA Municipality)	1.4	Q4 '16	20
Pfizer, Inc.	Groton, CT	Pfizer, Inc.	5.6	Q4 '16	20
Santa Rita Jail	Dublin, CA	Alameda County, California	1.4	Q1 '17	20
Bridgeport Fuel Cell Project	Bridgeport, CT	Connecticut Light and Power Company (CT Utility)	14.9	Q1 '13	15
Tulare BioMAT	Tulare, CA	Southern California Edison (CA Utility)	2.8	Q1 '20	20
San Bernardino	San Bernardino, CA	City of San Bernardino Municipal Water Department	1.4	Q3'21	20
LIPA Yaphank Project	Long Island, NY	PSEG / LIPA, LI NY (Utility)	7.4	Q1'22	18
Groton Project	Groton, CT	CMEEC (CT Electric Co-op)	7.4 [2]	Q1'23	20
		Total MW Operating:	**43.7**		

(1) Rated capacity is the platform's design rated output as of the date of initiation of commercial operations, except with respect to the Groton Project. The Groton Project commenced commercial operations in December 2022 operating at, and is and was as of October 31, 2023 operating at, only approximately 6.0 MW as discussed in additional detail in footnote (2) below. The initial operating output of the Groton Project is and will be approximately 6.0 MW until the Technical Improvement Plan described below in footnote (2) is fully implemented. Full implementation of the Technical Improvement Plan is expected to bring this platform to its design rated output of 7.4 MW. Accordingly, rated capacity with respect to the Groton Project is the platform's expected design rated output at the time of the full implementation of the Technical Improvement Plan.

(2) As previously disclosed, the Groton Project achieved commercial operations on December 16, 2022. On December 16, 2022, the Company entered into an Amended and Restated PPA which modified and replaced the existing power purchase agreement with Connecticut Municipal Electric Energy Cooperative ("CMEEC") to allow the Groton Project to operate at a reduced output of approximately 6.0 MW while a Technical Improvement Plan ("TIP") is implemented with the goal of bringing the platform to its rated capacity of 7.4 MW by December 31, 2023. In conjunction with entering into the Amended and Restated PPA, on December 16, 2022, the Company and CMEEC declared that the plants are commercially operational at 6.0 MW and CMEEC and the Company agreed that, for all purposes, the commercial operations date had been achieved. The Navy also provided its authorization to proceed with commercial operations at 6.0 MW. The Company is incurring and will continue to incur performance guarantee fees under the Amended and Restated PPA as a result of operating at an output below 7.4 MW during implementation of the TIP. Although the Company believes it will successfully implement the TIP and bring the plant up to its design rated output of 7.4 MW by December 31, 2023, no assurance can be provided that such work will be successful. In the event that the plants do not reach an output of 7.4 MW by December 31, 2023, the Amended and Restated PPA will continue in effect, and the Company will be subject to ongoing performance guarantee fees.

The following table summarizes projects in process, all of which are in backlog, as of October 31, 2023:

Project Name	Location	Power Off-Taker	Rated Capacity (MW) [1]	PPA Term (Years)
Toyota	Los Angeles, CA	Southern California Edison; Toyota	2.3	20
CT RFP-2	Derby, CT	Eversource/United Illuminating (CT Utilities)	14.0	20
SCEF - Derby	Derby, CT	Eversource/United Illuminating (CT Utilities)	2.8	20
Trinity College	Hartford, CT	Trinity College	0.3	15
		Total MW in Process:	**19.4**	

(1) Rated capacity is the platform's design rated output as of the date of initiation of commercial operations.

The projects listed in the above table are in various stages of development or on-site construction and installation. Current project updates are as follows:

- ***Toyota - Port of Long Beach, CA – The Toyota Project***. This 2.8 MW Tri-gen platform produces electricity (at a net output of 2.3 MW), hydrogen and water. We have successfully completed the commissioning of this Tri-gen project at the Port of Long Beach for Toyota (the "Toyota project"), and it is producing power and water and delivering hydrogen that meets the stringent purity specifications required for mobility applications. On November 7, 2023, the Toyota project met the requirements to be placed in service under the BioMAT program with Southern California Edison and began exporting power. As a result, this project was transitioned to the generation operating portfolio as of November 7, 2023.

- ***Derby, CT***. This 14.0 MW utility scale fuel cell platform in Derby, CT contains five SureSource 3000 fuel cell systems that are installed on engineered platforms alongside the Housatonic River. On December 15, 2023, the project met the requirements to be placed in service.

  In addition, the commissioning of a 2.8 MW project also located in Derby, CT is in the final stages. Our current expectation is that this project will be placed in service in December 2023.

- ***Trinity College***. During fiscal year 2022, we entered into a power purchase agreement with Trinity College in Hartford, Connecticut, for our 250 kW solid oxide fuel cell power generation system. Power and heat produced from the platform will be used at Trinity's campus in Hartford, Connecticut, to lower energy cost and enhance energy reliability and security. This project is currently under development and the solid oxide fuel cell power generation system is expected to be installed in the summer of 2024. Modules for our solid oxide platform are manufactured at our manufacturing and research and development facility in Calgary, Alberta, Canada, and this project will be fully assembled and integrated at our facilities in Connecticut.

Backlog by revenue category is as follows:

- Service agreements backlog totaled $140.8 million as of October 31, 2023, compared to $114.0 million as of October 31, 2022. Service agreements backlog includes future contracted revenue from maintenance and scheduled module exchanges for power plants under service agreements. During the year ended October 31, 2023, the Company entered into a 14-year service agreement with Noeul Green Energy for their 20 MW plant in South Korea. The contract value totaled approximately $75.6 million.

- Generation backlog totaled $872.1 million and $944.0 million as of October 31, 2023 and October 31, 2022, respectively. Generation backlog represents future contracted energy sales under contracted PPAs or approved utility tariffs.

- Product backlog totaled $0 as of October 31, 2023, compared to $9.1 million as of October 31, 2022.

- Advanced Technologies contract backlog totaled $15.3 million as of October 31, 2023, compared to $22.9 million as of October 31, 2022. Advanced Technologies contract backlog represents remaining revenue under the EMTEC Joint Development Agreement and government contracts.

Overall, backlog decreased by approximately 5.7% to $1.03 billion as of October 31, 2023, compared to $1.09 billion as of October 31, 2022, primarily as a result of revenue recognition under product, generation and service agreements since October 31, 2022. This decline in backlog was partially offset by new service agreements backlog as a result of the new service agreement with Noeul Green Energy entered into during the year ended October 31, 2023.

Backlog represents definitive agreements executed by the Company and our customers. Projects for which we have an executed PPA are included in generation backlog, which represents future revenue under long-term PPAs. The Company's ability to recognize revenue in the future under a PPA is subject to the Company's completion of construction of the project covered by such PPA. Should the Company not complete the construction of the project covered by a PPA, it will forgo future revenues with respect to the project and may incur penalties and/or impairment charges related to the project. Projects sold to customers (and not retained by the Company) are included in product sales and service agreements backlog, and the related generation backlog is removed upon sale. Together, the service and generation portion of backlog had a weighted average term of approximately 17 years, with weighting based on the dollar amount of backlog and utility service contracts of up to 20 years in duration at inception.

Factors that may impact our liquidity

Factors that may impact our liquidity in fiscal year 2024 and beyond include:

- The Company's cash on hand and access to additional liquidity. As of October 31, 2023, unrestricted cash and cash equivalents totaled $250.0 million and short-term investments in U.S. Treasury Securities totaled $103.8 million. Such securities have maturity dates ranging from November 9, 2023 to January 23, 2023.

- We bid on large projects in diverse markets that can have long decision cycles and uncertain outcomes.

- We manage production rate based on expected demand and project schedules. Changes to production rate take time to implement. During fiscal year 2022, we achieved an annualized production rate of 39.3 MW as of October 31, 2022. During the fourth quarter of fiscal year 2023, we operated at an annualized production rate of approximately 35.2 MW, and for the full fiscal year ended October 31, 2023, we operated at an annualized production rate of 32.7 MW. This reduction in annualized production rates is primarily due to reduced staffing levels in our Torrington facility. The Company continuously evaluates its production rate and staffing levels and has determined that the current levels are sufficient to satisfy the current demand for carbonate fuel cell modules.

- As project sizes and the number of projects evolve, project cycle times may increase. We may need to make significant up-front investments of resources in advance of the receipt of any cash from the financing or sale of our projects. These amounts include development costs, interconnection costs, costs associated with posting of letters of credit, bonding or other forms of security, and engineering, permitting, legal, and other expenses.

- The amount of accounts receivable and unbilled receivables as of October 31, 2023 and 2022 was $45.9 million ($25.8 million of which is classified as "Other assets") and $25.6 million ($9.7 million of which is classified as "Other assets"), respectively. Unbilled accounts receivable represent revenue that has been recognized in advance of billing the customer under the terms of the underlying contracts. Such costs have been funded with working capital and the unbilled amounts are expected to be billed and collected from customers once we meet the billing criteria under the contracts. Our accounts receivable balances may fluctuate as of any balance sheet date depending on the timing of individual contract milestones and progress on completion of our projects.

- The amount of total inventory as of October 31, 2023 and 2022 was $91.8 million ($7.3 million is classified as long-term inventory) and $98.5 million ($7.5 million is classified as long-term inventory), respectively, which includes work in process inventory totaling $55.6 million and $67.8 million, respectively. Work in process inventory can generally be deployed rapidly while the balance of our inventory requires further

manufacturing prior to deployment. To execute on our business plan, we must produce fuel cell modules and procure balance of plant ("BOP") components in required volumes to support our planned construction schedules and potential customer contractual requirements. As a result, we may manufacture modules or acquire BOP components in advance of receiving payment for such activities. This may result in fluctuations in inventory and cash as of any given balance sheet date.

- The amount of total project assets as of October 31, 2023 and 2022 was $258.1 million and $232.9 million, respectively. Project assets consist of capitalized costs for fuel cell projects that are operating and producing revenue or are under construction. Project assets as of October 31, 2023 consisted of $167.5 million of completed, operating installations and $90.6 million of projects in development. As of October 31, 2023, we had 43.7 MW of operating project assets (which includes 7.4 MW attributed to the design rated output of the Groton Project although the Groton Project has been operating below its rated capacity at an output of approximately 6.0 MW since commencement of commercial operations) that generated $37.5 million of revenue for the year ended October 31, 2023.

- As of October 31, 2023, the Company had 19.4 MW of projects under development and construction. To build out this portfolio, as of October 31, 2023, we estimate the remaining investment in project assets to be made during fiscal year 2024 to be in the range of approximately $15.0 million to $25.0 million. To fund such expenditures, the Company expects to use unrestricted cash on hand and to seek sources of construction financing. In addition, once the projects under development become operational, the Company will seek to obtain permanent financing (tax equity and debt) which would be expected to return cash to the business. For the year ended October 31, 2023, capitalized project asset expenditures were $52.9 million. In addition, the Company expensed costs related to the Toyota project which totaled $22.9 million for the year ended October 31, 2023.

- Certain of our PPAs for project assets in our generation operating portfolio and project assets under construction expose us to fluctuating fuel price risks as well as the risk of being unable to procure the required amounts of fuel and the lack of alternative available fuel sources. We seek to mitigate our fuel risk using strategies including: (i) fuel cost reimbursement mechanisms in our PPAs to allow for pass through of fuel costs (full or partial) where possible, which we have done with our 14.9 MW operating project in Bridgeport, CT; (ii) procuring fuel under fixed price physical supply contracts with investment grade counterparties, which we have done for twenty years for our Tulare BioMAT project, the initial seven years of the eighteen year PPA for our LIPA Yaphank Project, six years of the twenty year PPA for our 14.0 MW Derby project, and the initial two years of the twenty year hydrogen power purchase agreement for our Toyota project; and (iii) potentially entering into future financial hedges with investment grade counterparties to offset potential negative market fluctuations. The Company does not take a fundamental view on natural gas or other commodity pricing and seeks commercially available means to reduce commodity exposure.

  There are currently three projects with fuel sourcing risk, which are the Toyota project, which requires procurement of RNG, and our Derby, CT 14.0 MW and 2.8 MW projects, both of which require natural gas for which there is no pass-through mechanism. A two-year (through May of 2025) fuel supply contract has been executed for the Toyota project. Six-year (through October 2029) fuel supply contracts have been executed for the 14.0 MW and 2.8 MW projects in Derby, CT. The Company will look to extend the duration of these contracts should market and credit conditions allow. If the Company is unable to secure fuel on favorable economic terms, it may result in impairment charges to the Derby project assets and further charges for the Toyota project asset.

- Expenditures for property, plant and equipment are expected to range between $60.0 million and $75.0 million for fiscal year 2024. These amounts are in addition to the capital expenditures and commitments made by the Company in fiscal year 2023 to upgrade our manufacturing facilities, including the expansion of solid oxide manufacturing capacity at our Calgary facility to 40 MW which is expected to be completed in fiscal year 2024. We are also increasing the carbonate capabilities in our Torrington facility for expected growth in carbon capture and recovery. For fiscal year 2023, cash payments for capital expenditures totaled approximately $39.3 million.

Included in projected expenditures associated with the capacity expansion for molten carbonate is equipment to launch the carbon capture platform manufacturing required for the assembly of the technology jointly developed with EMTEC. The solid oxide production capacity expansion is underway in our Calgary, Canada facility and is expected to increase the capacity of the facility from 1 MW to 10 MW per year of solid oxide fuel cell production or from 4 MW to 40 MW per year of solid oxide electrolysis cell ("SOEC") production in fiscal year 2024.

We have made progress in advancing our carbonate and solid oxide platform capacity expansion plans.

Carbonate Platform: At this time, the maximum annualized capacity (module manufacturing, final assembly, testing and conditioning) is 100 MW per year under the Torrington facility's current configuration when fully utilized. The Torrington facility is sized to accommodate the eventual annualized production capacity of up to 200 MW per year with additional capital investment in machinery, equipment, tooling, labor and inventory.

The Company continues to invest in capability with the goal of reducing production bottlenecks and driving productivity, including investments in automation, laser welding, and the construction of additional integrated conditioning capacity. The Company also constructed a SureSource 1500 in Torrington during fiscal year 2022, which operates as a testing facility for qualifying new supplier components and performance testing and validation of continued platform innovations. During fiscal year 2023, the Company made investments to add engineered carbon separation capability to the onsite SureSource 1500. This addition is expected to be completed in fiscal year 2024. This product enhancement will allow potential customers to observe the operating plant and, given the targeted market of food and beverage companies, will allow for the sampling and testing of separated CO_2 to verify quantity, quality or purity requirements.

Solid Oxide Platforms: The Company continues to invest in product development and manufacturing scale up for two solid oxide platforms: power generation and electrolysis. Both platforms are based on the Company's differentiated thin, lightweight, electrode supported cells, which are configured into compact, lightweight stacks. The thin electrode structure minimizes electrolyte materials, leading to very low use of rare earth minerals compared to other solid oxide technologies, and the electrodes do not require the platinum group materials that lower temperature systems require. The thin electrodes also have very low electrical resistance, leading to high efficiency in both power generation and electrolysis applications. We provide integrated products with the goal of offering complete customer solutions. Our electrolysis platform includes integrated steam generation and hydrogen drying systems, so it will be fed with water, not steam, and will provide dried hydrogen. A steam supply can optionally be used to increase the electrical efficiency of the system from 90% to 100% (based on higher heating value). Our power generation platform can operate on natural gas, biogas, hydrogen, or fuel blends, and is capable of combined heat and power operation at up to 80% efficiency (based on lower heating value).

During the year ended October 31, 2023, Versa Power Systems Ltd. ("Versa Ltd."), a subsidiary of FuelCell Energy, entered into a lease expansion, extension and amending agreement which expanded the space leased by Versa Ltd. in Calgary, Alberta, Canada to include an additional approximately 48,000 square feet, for a total of approximately 80,000 square feet of space. The Company took possession of part of the additional space on April 1, 2023 and took possession of the rest of the additional space on June 1, 2023 after certain leasehold improvements were made to support increased manufacturing. In addition, long-lead process equipment has been ordered to facilitate the expansion of manufacturing capacity for the solid oxide platforms in Calgary. Upon the completion of the Calgary capacity expansion, the Company expects that it will be able to increase annual production capacity and that it will be capable of delivering up to 40 MW of annualized SOEC production per year. During the engineering and permitting phase of this initial manufacturing expansion project, the Company has designed in flexibility that would allow us to further increase cell stack manufacturing capacity at our Calgary facility to facilitate the potential annualized production of up to an additional 40 MW of SOECs per year by leasing additional space and investing in various process optimizations intended to increase throughput and yield. This approach would allow for the potential to increase our total annualized SOEC manufacturing capacity to up to 80 MW per year. Additional investments in our Torrington, CT manufacturing facility could also be undertaken to provide solid oxide module assembly to further enhance overall SOEC manufacturing capacity. The Company has hired and trained additional staff for a 3-shift production operation to support the initial planned expansion to 40 MW

and would need to add additional staff as required in the future to realize the potential 80 MW of annualized SOEC production.

Our solid oxide manufacturing operation is in the process of building four units: two units that will run internally for advanced testing and two production units for delivery externally. Of these commercial units for external delivery, one will be our electrolysis platform for delivery to Idaho National Laboratory ("INL"), and the other will be our distributed power platform for delivery to Trinity College in Hartford, Connecticut for use under a long-term power purchase agreement. All four of these units are in the design, fabrication or manufacturing process, with the INL unit in the final stages of construction and testing. We expect to deliver this unit to INL in early 2024. The other three units are expected to be completed and delivered during calendar year 2024 depending on timing of site readiness, permitting and key component deliveries. If needed to accommodate future commercial orders, the Company may reallocate one or more of its planned internal units for commercial delivery.

The expansion of the Calgary manufacturing facility is phase 1 of the Company's planned operational expansion of production capability. While this expansion is expected to increase our production capacity from 4 MW per year to 40 MW per year of SOECs, the Company also plans to add an additional 400 MW of solid oxide manufacturing capacity in the United States. Early facility design and engineering requirements have been developed, and the Company has engaged in an extensive search in the United States for a potential location for a new manufacturing facility, which would be incremental to the Calgary facility. We anticipate announcing more details regarding our plans for solid oxide production expansion into the United States later in the near term.

Lastly, the Company is in the process of examining or actively applying for various financial programs offered by both Canada and the United States to provide subsidies, investment tax credits and other assistance with the goal of expanding capacity for clean energy manufacturing.

- Company-funded research and development expenses are expected to be in the range between $60.0 million and $70.0 million for fiscal year 2024. During the year ended October 31, 2023, we incurred a total of $61.0 million of Company-funded research and development expenses as we continued to accelerate commercialization of our Advanced Technologies solutions including distributed hydrogen, hydrogen based long duration energy storage and hydrogen power generation. The Company continues to advance its solid oxide platform research, including increasing production of solid oxide fuel cell modules and expanding manufacturing capacity. The Company continues to work with INL on a demonstration high-efficiency electrolysis platform. This project, done in conjunction with the U.S. Department of Energy, is intended to demonstrate that the Company's platform can operate at higher electrical efficiency than currently available electrolysis technologies through the inclusion of an external heat source. To further accelerate the commercialization activity for the solid oxide platform, the Company recently commenced the design and construction of two advanced prototypes: (i) a 250 kW power generation platform, and (ii) a 1 MW high-efficiency electrolysis platform. These advanced prototypes are in process and expected to be completed during calendar year 2024.

- Under the terms of certain contracts, the Company will provide performance security for future contractual obligations. As of October 31, 2023, we had pledged approximately $49.6 million of our cash and cash equivalents as collateral for performance security and for letters of credit for certain banking requirements and contracts. This balance may increase with a growing backlog and installed fleet.

Depreciation and Amortization

As the Company builds project assets and makes capital expenditures, depreciation and amortization expenses are expected to increase. For the years ended October 31, 2023 and 2022, depreciation and amortization totaled $25.4 million and $21.3 million, respectively (of these totals, approximately $20.3 million and $15.5 million for the years ended October 31, 2023 and 2022, respectively, relate to depreciation of project assets in our generation operating portfolio and amortization of a generation intangible asset).

Cash Flows

Cash and cash equivalents and restricted cash and cash equivalents totaled $299.6 million as of October 31, 2023 compared to $481.0 million as of October 31, 2022. As of October 31, 2023, unrestricted cash and cash equivalents was $250.0 million compared to $458.1 million of unrestricted cash and cash equivalents as of October 31, 2022. As of October 31, 2023, restricted cash and cash equivalents was $49.6 million, of which $5.2 million was classified as current and $44.5 million was classified as non-current, compared to $23.0 million of restricted cash and cash equivalents as of October 31, 2022, of which $4.4 million was classified as current and $18.6 million was classified as non-current.

The following table summarizes our consolidated cash flows:

	Year Ended October 31,		
(dollars in thousands)	2023	2022	2021
Consolidated Cash Flow Data:			
Net cash used in operating activities	$ (140,250)	$ (112,167)	$ (70,438)
Net cash used in investing activities	(192,365)	(46,651)	(73,230)
Net cash provided by financing activities	151,067	180,583	411,908
Effects on cash from changes in foreign currency rates	80	(933)	(80)
Net (decrease) increase in cash, cash equivalents and restricted cash	$ (181,468)	$ 20,832	$ 268,160

The key components of our cash inflows and outflows were as follows:

Operating Activities – Net cash used in operating activities was $140.3 million during fiscal year 2023, compared to net cash used in operating activities of $112.2 million in fiscal year 2022 and net cash used in operating activities of $70.4 million in fiscal year 2021.

Net cash used in operating activities during fiscal year 2023 was primarily a result of the net loss of $108.1 million, increases in unbilled receivables of $21.9 million and other assets of $13.1 million and decreases in deferred revenue of $22.3 million and accrued liabilities of $4.5 million, partially offset by decreases in inventories of $4.7 million and accounts receivable of $1.1 million, an increase in accounts payable of $3.0 million and non-cash adjustments of $22.0 million.

Net cash used in operating activities during fiscal year 2022 was primarily a result of the net loss of $147.2 million, increases in inventories of $28.1 million, other assets of $2.1 million and unbilled receivables of $0.2 million and a decrease in deferred revenue of $11.3 million, partially offset by decreases in accounts receivable of $9.2 million, increases in accrued liabilities of $24.6 million and accounts payable of $6.3 million, non-cash adjustments of $35.0 million and cash adjustments of $1.6 million.

Net cash used in operating activities during fiscal year 2021 was primarily the result of the net loss of $101.1 million, increases in accounts receivable of $5.2 million, unbilled receivables of $3.6 million and inventory of $18.8 million and decreases in deferred revenue of $5.2 million. These amounts were partially offset by increases in accounts payable of $2.0 million and accrued liabilities of $0.3 million and net non-cash adjustments of $63.8 million.

Investing Activities – Net cash used in investing activities was $192.4 million during fiscal year 2023, compared to $46.7 million in fiscal year 2022 and $73.2 million in fiscal year 2021.

Net cash used in investing activities during fiscal year 2023 included $299.1 million for the purchase of U.S. Treasury Securities, $53.0 million of project asset expenditures and $39.4 million of capital expenditures, offset by funds received from the maturity of U.S. Treasury Securities of $199.1 million.

Net cash used in investing activities during fiscal year 2022 included $25.6 million of project asset expenditures and $21.1 million of capital expenditures.

Net cash used in investing activities during fiscal year 2021 included $66.9 million of project asset expenditures and $6.4 million of capital expenditures.

Financing Activities – Net cash provided by financing activities was $151.1 million during fiscal year 2023, compared to $180.6 million in fiscal year 2022 and $411.9 million in fiscal year 2021.

Net cash provided by financing activities during fiscal year 2023 resulted from $100.5 million of proceeds from debt financings, $97.4 million of net proceeds from sales of common stock and $9.1 million of contributions received from the sale of a noncontrolling interest, offset by debt repayments of $47.8 million, payments of debt issuance costs of $3.5 million, payments for taxes related to net share settlement of equity awards of $0.9 million, payment of $3.2 million in preferred dividends to the holders of our Series B Preferred Stock and distribution to noncontrolling interests of $0.6 million.

Net cash provided by financing activities during fiscal year 2022 resulted from $183.6 million of net proceeds from sales of common stock and $11.9 million of net contributions received from the sale of a noncontrolling interest in the LIPA Yaphank Project, partially offset by debt repayments of $9.5 million, payment for taxes related to net share settlement of equity awards of $1.9 million, payment of $3.2 million of preferred dividends to the holders of our Series B Preferred Stock and distribution to noncontrolling interest of $0.3 million.

Net cash provided by financing activities during fiscal year 2021 resulted from $525.9 million of proceeds from common stock sales, net of fees and expenses, $10.2 million of proceeds from the sale-leaseback transaction with Crestmark Equipment Finance, a $3.0 million contribution received from a noncontrolling interest, and $0.9 million of proceeds received from warrant exercises, offset by debt repayments of $98.6 million primarily relating to the payoff of amounts owed under the Orion Credit Agreement and the PPP Note (in each case, as defined elsewhere herein), a prepayment penalty of $4.0 million for the early payoff of the debt outstanding under the Orion Credit Agreement, payment of preferred dividends of $3.2 million under the terms of the Series B Preferred Stock, payment of $21.5 million to repay all remaining obligations under the terms of the Series 1 Preferred Shares previously issued by one of the Company's indirect subsidiaries and the payment of deferred financing costs of $0.4 million.

Commitments and Significant Contractual Obligations

The following table provides a summary of our significant future commitments and contractual obligations as of October 31, 2023 and the related payments by fiscal year:

	Payments Due by Period				
(dollars in thousands)	Total	Less than 1 Year	1 – 3 Years	3 – 5 Years	More than 5 Years
Purchase commitments [1]	$ 102,203	$ 96,550	$ 5,596	$ 57	$ —
Term loans (principal and interest)	136,466	15,500	30,162	24,554	66,250
Capital and operating lease commitments [2]	18,884	1,069	2,538	2,559	12,718
Sale-leaseback finance obligations [3]	9,746	1,481	2,876	2,604	2,785
Gas supply contracts [4]	71,869	23,885	24,738	16,755	6,491
Series B Preferred dividends payable [5]	—	—	—	—	—
Totals	$ 339,168	$ 138,485	$ 65,910	$ 46,529	$ 88,244

(1) Purchase commitments with suppliers for materials, supplies and services incurred in the normal course of business.

(2) Future minimum lease payments on finance and operating leases.

(3) Represents payments due under sale-leaseback transactions and related financing agreements between certain of our wholly-owned subsidiaries and Crestmark Equipment Finance ("Crestmark"). Lease payments for each lease under these financing agreements are generally payable in fixed quarterly installments over a 10-year period.

(4) During fiscal year 2020, the Company entered into a 7-year natural gas contract for the Company's LIPA Yaphank project with an estimated annual cost per year of $2.0 million, under which service began on December 7, 2021. During fiscal year 2023, the Company entered into a 2-year Biomethane gas contract for the Company's Toyota project, under which service began on May 1, 2023. Also, during fiscal year 2023, the Company entered into (a) a 6-year natural gas contract for the Company's 14.0 MW Derby project, under which service began on June 1, 2023, and (b) a 6-year natural gas contract for the Company's SCEF Derby project, under which service began in November 2023. The costs of the contracts are expected to be offset by generation revenues.

(5) We pay $3.2 million in annual dividends on our Series B Preferred Stock, if and when declared. The $3.2 million annual dividend payment, if dividends are declared, has not been included in this table as we cannot reasonably determine when or if we will be able to convert the Series B Preferred Stock into shares of our common stock. We may, at our option, convert these shares into the number of shares of our common stock that are issuable at the then

prevailing conversion rate if the closing price of our common stock exceeds 150% of the then prevailing conversion price ($1,692 per share as of October 31, 2023) for 20 trading days during any consecutive 30 trading day period.

Outstanding Loans as of October 31, 2023

A discussion of the key terms and conditions of the loans outstanding as of October 31, 2023 is included in Note 11. "Debt" to the consolidated financial statements and is incorporated by reference herein. The information included under the headings "OpCo Financing Facility," "Back-Leverage Financing," "State of Connecticut Loan," and "Finance obligations for sale-leaseback agreements" in Note 11. "Debt" to the consolidated financial statements is incorporated herein by reference.

Restricted Cash

As of October 31, 2023, we have pledged approximately $49.6 million of our cash and cash equivalents as performance security and for letters of credit for certain banking requirements and contracts. As of October 31, 2023, outstanding letters of credit totaled $14.2 million. These expire on various dates through October 2029. Under the terms of certain contracts, we will provide performance security for future contractual obligations. The restricted cash balance as of October 31, 2023 also included $2.9 million primarily to support obligations under the power purchase and service agreements related to Crestmark sale-leaseback transactions, $9.3 million relating to future obligations associated with the Senior Back Leverage Loan Facility and the Subordinated Back Leverage Loan Facility and $19.7 million relating to future obligations associated with the OpCo Financing Facility. Refer to Note 11. "Debt" to our Consolidated Financial Statements for the year ended October 31, 2023 included in this Annual Report on Form 10-K for a more detailed discussion of the Company's restricted cash balance.

Power purchase agreements

Under the terms of our PPAs, customers agree to purchase power or other value streams delivered such as hydrogen, steam, water, and/or carbon from the Company's fuel cell power platforms at negotiated rates. Electricity rates are generally a function of the customers' current and estimated future electricity pricing available from the grid. We are responsible for all operating costs necessary to maintain, monitor and repair our fuel cell power platforms. Under certain agreements, we are also responsible for procuring fuel, generally natural gas or biogas, to run our fuel cell power platforms. In addition, under certain agreements, we are required to produce minimum amounts of power under our PPAs and we have the right to terminate PPAs by giving written notice to the customer, subject to certain exit costs. As of October 31, 2023, our generation operating portfolio was 43.7 MW (which includes 7.4 MW attributed to the design rated output of the Groton Project although the Groton Project has been operating below its rated capacity at an output of approximately 6.0 MW since commencement of commercial operations).

Service and warranty agreements

We warranty our products for a specific period of time against manufacturing or performance defects. Our standard U.S. warranty period is generally 15 months after shipment or 12 months after acceptance of the product. In addition to the standard product warranty, we have contracted with certain customers to provide services to ensure the power plants meet minimum operating levels for terms of up to 20 years. Pricing for service contracts is based upon estimates of future costs, which could be materially different from actual expenses. Refer to "Critical Accounting Policies and Estimates" for additional details.

Advanced Technologies contracts

We have contracted with various government agencies and certain companies from private industry to conduct research and development as either a prime contractor or sub-contractor under multi-year, cost-reimbursement and/or cost-share type contracts or cooperative agreements. Cost-share terms require that participating contractors share the total cost of the project based on an agreed upon ratio. In many cases, we are reimbursed only a portion of the costs incurred or to be incurred on the contract. While government research and development contracts may extend for many years, funding is often provided incrementally on a year-by-year basis if contract terms are met and Congress authorizes the funds. As of October 31, 2023, Advanced Technologies contract backlog totaled $15.3 million, of which $10.7 million is non-U.S. Government-funded, $4.3 million is U.S. Government-funded and $0.3 million is U.S. Government-unfunded.

Off-Balance Sheet Arrangements

We have no off-balance sheet debt or similar obligations which are not classified as debt. We do not guarantee any third-party debt. See Note 19. "Commitments and Contingencies" to our consolidated financial statements for the year ended October 31, 2023 included in this Annual Report on Form 10-K for further information.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The preparation of financial statements and related disclosures in conformity with accounting principles generally accepted in the U.S. ("U.S. GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities. Estimates are used in accounting for, among other things, revenue recognition, lease right-of-use assets and liabilities, loss accruals on service agreements, excess, slow-moving and obsolete inventories, product warranty accruals, loss accruals on service agreements, share-based compensation expense, allowance for doubtful accounts, depreciation and amortization, impairment of goodwill and in-process research and development intangible assets, impairment of long-lived assets (including project assets), valuation of derivatives, and contingencies. Estimates and assumptions are reviewed periodically, and the effects of revisions are reflected in the consolidated financial statements in the period they are determined to be necessary. Due to the inherent uncertainty involved in making estimates, actual results in future periods may differ from those estimates.

Our critical accounting policies are those that are both most important to our financial condition and results of operations and require the most difficult, subjective or complex judgments on the part of management in their application, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. Our accounting policies are set forth below.

Goodwill and Indefinite-Lived Intangibles

Goodwill represents the excess of the aggregate purchase price over the fair value of the net assets acquired in a business combination and is reviewed for impairment at least annually. The intangible asset represents indefinite-lived in-process research and development for cumulative research and development efforts associated with the development of solid oxide fuel cell stationary power generation and is also reviewed at least annually for impairment.

Accounting Standards Codification Topic 350, "Intangibles - Goodwill and Other" ("ASC 350") permits the assessment of qualitative factors to determine whether events and circumstances lead to the conclusion that it is necessary to perform the goodwill impairment test required under ASC 350.

The Company completed its annual impairment analysis of goodwill and in-process research and development assets as of July 31, 2023. The Company performed a qualitative assessment for fiscal year 2023 and determined that it was more likely than not that there was no impairment of goodwill or the in-process research and development assets.

Impairment of Long-Lived Assets (including Project Assets)

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset group which pertains to specific projects may not be recoverable. If events or changes in circumstances indicate that the carrying amount of the asset group may not be recoverable, we compare the carrying amount of an asset group to future undiscounted net cash flows, excluding debt service costs, expected to be generated by the asset group and its ultimate disposition. If the sum of the undiscounted cash flows is less than the carrying value, the impairment to be recognized is measured by the amount by which the carrying amount of the asset group exceeds the fair value of the asset group. During the years ended October 31, 2023 and 2022, the Company recorded certain project asset impairment charges.

Revenue Recognition

The Company recognizes revenue in accordance with the guidance in Accounting Standards Codification ("ASC") Topic 606: *Revenue from Contracts with Customers* ("ASC 606"). Under ASC 606, the amount of revenue recognized for any goods or services reflects the consideration that the Company expects to be entitled to receive in exchange for those goods and services. To achieve this core principle, the Company applies the following five-step approach: (1) identify the contract with the customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate

the transaction price to performance obligations in the contract; and (5) recognize revenue when or as a performance obligation is satisfied.

A contract is accounted for when there has been approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable. Performance obligations under a contract are identified based on the goods or services that will be transferred to the customer that are both capable of being distinct and are distinct in the context of the contract. In certain instances, the Company has concluded distinct goods or services should be accounted for as a single performance obligation that is a series of distinct goods or services that have the same pattern of transfer to the customer. To the extent a contract includes multiple promised goods or services, the Company must apply judgment to determine whether the customer can benefit from the goods or services either on their own or together with other resources that are readily available to the customer (the goods or services are capable of being distinct) and if the promise to transfer the goods or services to the customer is separately identifiable from other promises in the contract (the goods or services are distinct in the context of the contract). If these criteria are not met, the promised goods or services are accounted for as a single performance obligation. The transaction price is determined based on the consideration that the Company will be entitled to in exchange for transferring goods or services to the customer. To the extent the transaction price includes variable consideration, the Company estimates the amount of variable consideration that should be included in the transaction price, generally utilizing the expected value method. Determining the transaction price requires judgment. If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on a relative standalone selling price basis. Standalone selling price is determined by the price at which the performance obligation is sold separately. If the standalone selling price is not observable through past transactions, the Company estimates the standalone selling price by taking into account available information such as market conditions and internally approved pricing guidelines related to the performance obligations. Performance obligations are satisfied either over time or at a point in time as discussed in further detail below. In addition, the Company's contracts with customers generally do not include significant financing components or non-cash consideration. The Company has elected practical expedients in the accounting guidance that allow for revenue to be recorded in the amount that the Company has a right to invoice, if that amount corresponds directly with the value to the customer of the Company's performance to date, and that allow the Company not to disclose related unsatisfied performance obligations. The Company records any amounts that are billed to customers in excess of revenue recognized as deferred revenue and revenue recognized in excess of amounts billed to customers as unbilled receivables.

Revenue streams are classified as follows:

Product. Includes the sale of completed project assets, sale and installation of fuel cell power platforms including site engineering and construction services, and the sale of modules, BOP components and spare parts to customers.

Service. Includes performance under long-term service agreements for power platforms owned by third parties.

Generation. Includes the sale of electricity under PPAs and utility tariffs from project assets retained by the Company. This also includes revenue received from the sale of other value streams from these assets including the sale of heat, steam, capacity and renewable energy credits.

Advanced Technologies. Includes revenue from customer-sponsored and government-sponsored Advanced Technologies projects.

See below for a discussion of revenue recognition under ASC 606 by disaggregated revenue stream.

Completed project assets

Contracts for the sale of completed project assets include the sale of the project asset, the assignment of the service agreement, and the assignment of the PPA. The relative stand-alone selling price is estimated and is used as the basis for allocation of the contract consideration. Revenue is recognized upon the satisfaction of the performance obligations, which includes the transfer of control of the project asset to the customer, which is when the contract is signed and the PPA is assigned to the customer. See below for further discussion regarding revenue recognition for service agreements.

Contractual payments related to the sale of the project asset and assignment of the PPA are generally received up-front. Payment terms for service agreements are generally ratable over the term of the agreement.

Module Sales

Contracts for module sales represent the sale of a completed fuel cell module at a contracted selling price. These contracts are on a per unit basis and revenue is recognized as each unit is completed and ready to ship and the performance obligation is satisfied. Payment terms for module sales are generally based on milestones achieved through the manufacturing timeline of the module.

Service agreements

Service agreements represent a single performance obligation whereby the Company performs all required maintenance and monitoring functions, including replacement of modules, to ensure the power platform(s) under the service agreement generate a minimum power output. To the extent the power platform(s) under service agreements do not achieve the minimum power output, certain service agreements include a performance guarantee penalty. Performance guarantee penalties represent variable consideration, which is estimated for each service agreement based on past experience, using the expected value method. The consideration for each service agreement is recognized over time using costs incurred to date relative to total estimated costs at completion to measure progress.

The Company reviews its cost estimates on service agreements on an annual basis and records any changes in estimates on a cumulative catch-up basis.

Loss accruals for service agreements are recognized to the extent that the estimated remaining costs to satisfy the performance obligation exceed the estimated remaining unrecognized consideration. Estimated losses are recognized in the period in which losses are identified.

Payment terms for service agreements are generally ratable over the term of the agreement.

Advanced Technologies contracts

Advanced Technologies contracts include the promise to perform research and development services and, as such, this represents one performance obligation. Revenue from most government sponsored Advanced Technologies projects is recognized as direct costs are incurred plus allowable overhead less cost share requirements, if any. Revenue is only recognized to the extent the contracts are funded. Revenue from previous fixed price Advanced Technologies projects is recognized using the cost-to-cost input method. Revenue recognition for research performed under the EMTEC Joint Development Agreement (as defined elsewhere herein) also falls into the practical expedient category where revenue is recorded consistent with the amounts that are to be invoiced.

Payments are based on costs incurred for government sponsored Advanced Technologies projects and upon completion of milestones for previous fixed-price Advanced Technologies projects. Payments under the EMTEC Joint Development Agreement are based on time spent and material costs incurred.

Generation revenue

For certain project assets where customers purchase electricity from the Company under PPAs, the Company has determined that these agreements should be accounted for as operating leases pursuant to ASC 842, *Leases*. Revenue is recognized when electricity has been delivered based on the amount of electricity delivered at rates specified under the contracts. Generation revenue, to the extent the related PPAs are within the scope of ASC 606, include a performance obligation to provide 100% of the electricity output generated by the associated project asset to the customer. The promise to provide electricity over the term of the PPA represents a single performance obligation, as it is a promise to transfer a series of distinct goods or services that are substantially the same and that have the same pattern of transfer to the customer. Revenue is recognized over time as the customer simultaneously receives and consumes the benefits provided by the Company, and the Company satisfies its performance obligation. Revenue is recognized based on the output method as there is a directly observable output to the customer-electricity delivered to the customer and immediately consumed. Payments are based on actual power output and the contractual rate for electricity generated.

Variable Interest Entities and Noncontrolling Interests

The Company closed on a tax equity financing transaction on October 31, 2023 with Franklin Park 2023 FCE Tax Equity Fund, LLC ("Franklin Park"), a subsidiary of Franklin Park Infrastructure, LLC, for two fuel cell power plant installations - the 14.0 MW Derby Fuel Cell Project and the 2.8 MW SCEF Fuel Cell Project, both located in Derby, Connecticut (collectively, the "Derby Projects").

Under this partnership flip structure, a partnership, in this case Derby Fuel Cell Holdco, LLC (the "Derby Partnership"), was organized to acquire from FuelCell Energy Finance II, LLC, a wholly-owned subsidiary of the Company, all outstanding equity interests in the Derby Projects. We have determined we are the primary beneficiary in the Derby Partnership for accounting purposes as a Variable Interest Entity ("VIE") under U.S. GAAP. We have considered the provisions within the financing-related agreements (including the limited liability company agreement for the Derby Partnership) which grant us power to manage and make decisions affecting the operations of the Derby Partnership. We consider the rights granted to Franklin Park under the agreements to be more protective in nature than participatory. Therefore, we have determined under the power and benefits criterion of ASC Topic 810, *Consolidations* ("ASC 810") that we are the primary beneficiary of the Derby Partnership. As the primary beneficiary, we consolidate the financial position, results of operations and cash flows of the Derby Partnership in our consolidated financial statements, and all intercompany balances and transactions between us and the Derby Partnership are eliminated. We recognized Franklin Park's share of the net assets of the Derby Partnership as nonredeemable noncontrolling interests in our Consolidated Balance Sheets. The income or loss allocations reflected in our Consolidated Statements of Operations and Comprehensive Loss may create volatility in our reported results of operations, including potentially changing net loss attributable to stockholders to net income attributable to stockholders, or vice versa, from quarter to quarter.

In addition, the Company closed on a tax equity financing transaction in August 2021 with East West Bank for the 7.4 MW fuel cell project located on the U.S. Navy Submarine Base in Groton, CT (the "Groton Project"), which has been structured as a "partnership flip." A partnership (the "Groton Partnership") was organized with East West Bank to acquire from FuelCell Energy Finance II, LLC, a wholly-owned subsidiary of the Company, all of the outstanding equity interests in Groton Station Fuel Cell, LLC (the "Groton Project Company"). East West Bank has a conditional withdrawal right which they can exercise and which would require the Company to pay 101% of the amount contributed by East West Bank to date. In addition, under this partnership flip structure, the Company has an option to acquire all of the equity interests that East West Bank holds in the Groton Partnership starting approximately five and a half years after the Groton Project is operational. If the Company exercises this option, the exercise price to be paid by the Company will be the greater of (1) the fair market value of East West Bank's equity interest at the time the option is exercised, (2) five percent of the $15 million tax equity commitment and (3) East West Bank's claim in liquidation determined using the hypothetical liquidation at book value method.

The Groton Partnership is a VIE under U.S. GAAP. The Company has determined that it is the primary beneficiary in the Groton Partnership for accounting purposes. The Company has considered the provisions within the financing-related agreements (including the limited liability company agreement for the Groton Partnership) which grant the Company power to manage and make decisions affecting the operations of the Groton Partnership. The Company considers the rights granted to East West Bank under the agreements to be more protective in nature than participatory. Therefore, the Company has determined under the power and benefits criterion of ASC 810 that it is the primary beneficiary of the Groton Partnership. As the primary beneficiary, the Company consolidates in its consolidated financial statements the financial position, results of operations and cash flows of the Groton Partnership, and all intercompany balances and transactions between the Company and the Groton Partnership are eliminated in the consolidated financial statements. The Company recognized East West Bank's share of the net assets of the Groton Partnership, which was $3.0 million as of October 31, 2022, as a redeemable noncontrolling interest in mezzanine equity on its Consolidated Balance Sheets and reclassified the amount to nonredeemable noncontrolling interest upon commencement of operations of the related project asset in December 2022. Upon commandment of operations, the Company began to allocate profits and losses to the noncontrolling interest under the HLBV method.

Finally, the Company closed on a tax equity financing transaction in November 2021 with REI for the 7.4 MW fuel cell project (the "LIPA Yaphank Project") in Yaphank Long Island. REI's tax equity commitment totaled $12.4 million. This transaction was structured as a "partnership flip," which is a structure commonly used by tax equity investors in the financing of renewable energy projects. Under this partnership flip structure, a partnership, in this case YTBFC Holdco, LLC (the "Yaphank Partnership"), was organized to acquire from FuelCell Energy Finance II, LLC, a wholly-owned subsidiary of the Company, all outstanding equity interests in Yaphank Fuel Cell Park, LLC, which in turn owns the LIPA

Yaphank Project and is the party to the power purchase agreement and all project agreements. REI holds Class A Units in the Yaphank Partnership and a subsidiary of the Company holds the Class B Units. Under a partnership flip structure, tax equity investors agree to receive a minimum target rate of return, typically on an after-tax basis. Prior to receiving a contractual rate of return or a date specified in the contractual arrangements, REI will receive substantially all of the non-cash value attributable to the LIPA Yaphank Project, which includes accelerated depreciation and Section 48(a) investment tax credits; however, the Company will receive a majority of the cash distributions (based on the operating income of the LIPA Yaphank Project), which are paid quarterly. After REI receives its contractual rate of return, the Company will receive approximately 95% of the cash and tax allocations.

The Yaphank Partnership is a VIE under U.S. GAAP. The Company has considered the provisions within the financing-related agreements (including the limited liability company agreement for the Yaphank Partnership) which grant us power to manage and make decisions affecting the operations of the Yaphank Partnership. We consider the rights granted to REI under the agreements to be more protective in nature than participatory. Therefore, we have determined under the power and benefits criterion of ASC 810 that we are the primary beneficiary of the Yaphank Partnership. As the primary beneficiary, we consolidate the financial position, results of operations and cash flows of the Yaphank Partnership in our consolidated financial statements, and all intercompany balances and transactions between us and the Yaphank Partnership are eliminated. The Company recognized REI's share of the net assets of the Yaphank Partnership as noncontrolling interests in its Consolidated Balance Sheets. The income or loss allocations reflected in our Consolidated Statements of Operations and Comprehensive Loss may create volatility in our reported results of operations, including potentially changing net loss attributable to stockholders to net income attributable to stockholders, or vice versa, from quarter to quarter. The Company allocates profits and losses to REI's noncontrolling interest under the HLBV method.

See Note. 3 "Tax Equity Financing" for additional information regarding the tax equity financing transactions with Franklin Park, East West Bank and REI.

Sale-Leaseback Accounting

The Company, through certain wholly-owned subsidiaries, has entered into sale-leaseback transactions for commissioned project assets where we have entered into a PPA with a customer who is both the site host and end user of the power. Due to the Company not meeting criteria to account for the transfer of the project assets as a sale since the leases include a repurchase right, sale accounting is precluded. Accordingly, the Company uses the financing method to account for these transactions.

Under the financing method of accounting for a sale-leaseback, the Company does not derecognize the project assets and does not recognize as revenue any of the sale proceeds received from the lessor that contractually constitutes payment to acquire the assets subject to these arrangements. Instead, the sale proceeds received are accounted for as finance obligations and leaseback payments made by the Company are allocated between interest expense and a reduction to the finance obligation. Interest on the finance obligation is calculated using the Company's incremental borrowing rate at the inception of the arrangement on the outstanding finance obligation. While we receive financing for the related project asset, we have not recognized revenue on the sale-leaseback transactions. Instead, revenue is recognized with respect to the related PPAs in accordance with the Company's accounting policies for recognizing generation revenues.

Inventories

Inventories consist principally of raw materials and work-in-process. Cost is determined using the first-in, first-out cost method. Included in our inventory balance are used modules that are brought back into inventory upon installation of new modules. When a new module is installed, a determination is made as to whether the used module has remaining useful life or should be scrapped and materials recycled. Modules that are deemed to have remaining useful life are put into inventory at an estimated value based on the expected remaining life of the module and its projected output. In certain circumstances, we will make advance payments to vendors for future inventory deliveries. These advance payments are recorded as Other current assets on the Consolidated Balance Sheets. Inventories are reviewed to determine net realizable value. This review includes analyzing inventory levels of individual parts considering the current design of our products and production requirements as well as the expected inventory requirements for maintenance on installed power platforms.

Service Expense Recognition

We have entered into service agreements with certain customers to provide monitoring, maintenance and repair services for fuel cell power platforms. Under the terms of these service agreements, the power platform must meet a minimum operating output during the term. If the minimum output falls below the contract requirement, we may be subject to performance penalties or may be required to repair and/or replace the customer's fuel cell module(s).

The Company records loss accruals for service agreements when the estimated cost of future module exchanges and maintenance and monitoring activities exceeds the remaining unrecognized contract value. Estimates for future costs on service agreements are determined by a number of factors, including the estimated remaining life of the module(s), used replacement modules available, and future operating plans for the power platform. Our estimates are performed on a contract by contract basis and include cost assumptions based on what we anticipate the service requirements will be to fulfill obligations for each contract. As of October 31, 2023 and 2022, our loss accruals on service agreements totaled $9.5 million and $7.3 million, respectively.

ACCOUNTING GUIDANCE UPDATE

Recently Adopted Accounting Guidance

There is no recently adopted accounting guidance applicable to the Company's financial statements.

Recent Accounting Guidance Not Yet Effective

In November 2023, the Financial Accounting Standards Board ("FASB") issued guidance to improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. In addition, the guidance enhances interim disclosure requirements, clarifies circumstances in which an entity can disclose multiple segment measures of profit or loss, provides new segment disclosure requirements for entities with a single reportable segment and contains other disclosure requirements. The purpose of the guidance is to enable investors to better understand an entity's overall performance and assess potential future cash flows. The guidance is effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Early adoption is permitted. We are currently evaluating the impact that the new guidance will have on our consolidated financial statements.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Exposure Risk

We have invested in U.S. Treasury Securities with maturities of less than three months. We expect to hold these investments until maturity and accordingly, these investments are carried at amortized cost and not subject to mark-to-market accounting. At October 31, 2023, our U.S. Treasury Securities had a carrying value of $103.8 million, which approximated fair value. These investments have maturity dates ranging from November 2023 to January 2024 and a weighted average yield to maturity of 5.45%.

Cash is invested overnight with high credit quality financial institutions and therefore we are not exposed to market risk on our cash holdings from changing interest rates. Based on our overall interest rate exposure as of October 31, 2023, including all interest rate sensitive instruments, a change in interest rates of 1% would not have a material impact on our results of operations.

Foreign Currency Exchange Risk

As of October 31, 2023, approximately 0.5% of our total cash and cash equivalents were in currencies other than U.S. dollars (primarily the Euro, Canadian dollars and Korean Won) and we have no plans of repatriation. We make purchases from certain vendors and receive payment from certain customers in currencies other than U.S. dollars. Although we have not experienced significant foreign exchange rate losses to date, we may in the future, especially to the extent that we do not engage in currency hedging activities. The economic impact of currency exchange rate movements on our operating results is complex because such changes are often linked to variability in real growth, inflation, interest rates, governmental actions and other factors. These changes, if material, may cause us to adjust our financing and operating strategies.

Derivative Fair Value Exposure Risk

Interest Rate Swap

On May 16, 2019, an interest rate swap agreement was entered into with Fifth Third Bank in connection with the May 2019 Credit Agreement with Liberty Bank, as administrative agent and co-lead arranger, and Fifth Third Bank as co-lead arranger and interest rate swap hedger (the "BFC Credit Agreement") for the term of the loan. The net interest rate across the BFC Credit Agreement and the swap transaction resulted in a fixed rate of 5.09%. The interest rate swap was adjusted to fair value on a quarterly basis. The estimated fair value was based on Level 2 inputs including primarily the forward LIBOR curve available to swap dealers. The valuation methodology involved comparison of (i) the sum of the present value of all monthly variable rate payments based on a reset rate using the forward LIBOR curve and (ii) the sum of the present value of all monthly fixed rate payments on the notional amount, which was equivalent to the outstanding principal amount of the loan. On August 1, 2022, the Company entered into an amendment to its interest rate swap agreement that replaced LIBOR with Term Secured Overnight Financing Rate ("SOFR") effective as of June 2023. The fair value adjustment for the years ended October 31, 2023 and October 31, 2022 resulted in a $0.1 million loss and a $0.9 million gain, respectively. This interest rate swap agreement was terminated during fiscal year 2023 in connection with the payoff of the senior and subordinated indebtedness of the Company to Liberty Bank, Fifth Third Bank and Connecticut Green Bank related to the Bridgeport Fuel Cell Project.

On May 19, 2023, in connection with the closing of the OpCo Financing Facility, the Company entered into an ISDA 2002 Master Agreement (the "Investec Master Agreement") and an ISDA Schedule to the 2002 Master Agreement (the "Investec Schedule") with Investec Bank plc as a hedge provider, and an ISDA 2002 Master Agreement (the "BMO Master Agreement") and an ISDA Schedule to the 2002 Master Agreement (the "BMO Schedule") with Bank of Montreal (Chicago Branch) as a hedge provider. On May 22, 2023, OpCo Borrower executed the related trade confirmations for these interest rate swap agreements with these hedge providers to protect against adverse price movements in the floating SOFR rate associated with 100% of the aggregate principal balance of the Term Loan outstanding. Pursuant to the terms of such agreements, OpCo Borrower will pay a fixed rate of interest of 3.716%. The net interest rate across the Financing Agreement and the swap transaction is 6.366% in the first four years and 6.866% thereafter. The obligations of OpCo Borrower to the hedge providers under the interest rate swap agreements are treated as obligations under the Financing Agreement and, accordingly, are secured, on a pari passu basis, by the same collateral securing the obligations of OpCo Borrower under the Financing Agreement. The Company has not elected hedge accounting treatment and, as a result, the

derivative will be remeasured to fair value quarterly with the resulting gains/losses recorded to other income/expense. The fair value adjustments for the year ended October 31, 2023 resulted in a gain of $3.3 million.

Project Fuel Price Exposure Risk

Certain of our PPAs for project assets in our generation operating portfolio and project assets under construction expose us to fluctuating fuel price risks as well as the risk of being unable to procure the required amounts of fuel and the lack of alternative available fuel sources. We seek to mitigate our fuel risk using strategies including: (i) fuel cost reimbursement mechanisms in our PPAs to allow for pass through of fuel costs (full or partial) where possible, which we have done with our 14.9 MW operating project in Bridgeport, CT; (ii) procuring fuel under fixed price physical supply contracts with investment grade counterparties, which we have done for twenty years for our Tulare BioMAT project, the initial seven years of the eighteen year PPA for our LIPA Yaphank Project, six of the twenty year PPA for our 14.0 MW Derby project, and the initial two years of the twenty year hydrogen power purchase agreement for our Toyota project; and (iii) potentially entering into future financial hedges with investment grade counterparties to offset potential negative market fluctuations. The Company does not take a fundamental view on natural gas or other commodity pricing and seeks commercially available means to reduce commodity exposure.

There are currently three projects with fuel sourcing risk, which are the Toyota project, which requires procurement of RNG, and our Derby, CT 14.0 MW and 2.8 MW projects, both of which require natural gas for which there is no pass-through mechanism. A two-year (through May of 2025) fuel supply contract has been executed for the Toyota project. Six-year (through October 2029) fuel supply contracts have been executed for the 14.0 MW and 2.8 MW projects in Derby, CT. The Company will look to extend the duration of these contracts should market and credit conditions allow. If the Company is unable to secure fuel on favorable economic terms, it may result in impairment charges to the Derby project assets and further charges for the Toyota project asset.

Historically, this risk has not been material to our financial statements as our operating projects prior to October 31, 2023 either did not have fuel price risk exposure, had fuel cost reimbursement mechanisms in our related PPAs to allow for pass through of fuel costs (full or partial), or had established long term fixed price fuel physical contracts. To provide a meaningful assessment of the fuel price risk arising from price movements of natural gas, the Company performed a sensitivity analysis to determine the impact a change in natural gas commodity pricing would have on our Consolidated Statements of Operations and Comprehensive Loss (assuming that all projects with fuel price risk were operating). A $1/Metric Million British Thermal Unit ("MMBTu") increase in market pricing compared to our underlying project models would result in a cost impact of approximately $26,000 to our Consolidated Statements of Operations and Comprehensive Loss on an annual basis. We have also conducted a sensitivity analysis on the impact of RNG pricing and a $10/MMBTu increase in market pricing compared to our underlying project models would result in an impact of approximately $2.0 million to our Consolidated Statements of Operations and Comprehensive Loss on an annual basis.

The Company recorded a derivative gain during the year ended October 31, 2023 of $4.1 million as a result of net settling certain natural gas purchases under a previous normal purchase normal sale contract designation, which resulted in a change to mark-to-market accounting.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
FuelCell Energy, Inc.:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of FuelCell Energy, Inc. and subsidiaries (the Company) as of October 31, 2023 and 2022, the related consolidated statements of operations and comprehensive loss, changes in equity, and cash flows for each of the years in the three-year period ended October 31, 2023, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of October 31, 2023, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of October 31, 2023 and 2022, and the results of its operations and its cash flows for each of the years in the three-year period ended October 31, 2023, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of October 31, 2023 based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Estimated costs at completion for certain service agreements

As discussed in Note 1 to the consolidated financial statements, the Company's service agreements represent a single performance obligation whereby the Company performs all required maintenance and monitoring functions, including replacement of modules, to ensure the power platforms under the service agreement generate a minimum power output. The consideration for each service agreement is recognized over time using costs incurred to date relative to total estimated costs at completion to measure progress. The Company had service revenue of $49.1 million for the year ended October 31, 2023.

We identified the evaluation of total estimated costs at completion for certain service agreements as a critical audit matter. Specifically, evaluating the Company's total estimated costs at completion required complex auditor judgement to assess the estimated number of fuel cell modules to be replaced during the term of the agreements and their associated costs. These areas involved the application of significant estimation by management and contained significant measurement uncertainty.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls over the Company's process to develop total estimated costs at completion for service agreements. This included a control related to the estimated number of fuel cell modules to be replaced during the term of the agreement and their associated costs. For certain service agreements, we evaluated the estimated number of fuel cell modules to be replaced and their associated costs by:

- comparing the estimated number of fuel cell modules to be replaced to the replacement plan developed and maintained by the Company's service department
- comparing the total estimated costs to manufacture fuel cell modules to historical actual costs
- comparing current period total estimated costs at completion to previous total estimated costs at completion and assessing the cause of certain revisions
- assessing the number of fuel cell module replacements that are expected to occur during the contract term using the useful life of fuel cell modules.

/s/ KPMG LLP

We have served as the Company's auditor since 1995.

Hartford, Connecticut
December 19, 2023

FUELCELL ENERGY, INC.
Consolidated Balance Sheets
October 31, 2023 and 2022
(Amounts in thousands, except share and per share amounts)

	October 31, 2023	October 31, 2022
ASSETS		
Current assets:		
Cash and cash equivalents, unrestricted	$ 249,952	$ 458,055
Restricted cash and cash equivalents - short-term	5,159	4,423
Investments - short-term	103,760	—
Accounts receivable, net	3,809	4,885
Unbilled receivables	16,296	11,019
Inventories	84,456	90,909
Other current assets	12,881	10,989
Total current assets	476,313	580,280
Restricted cash and cash equivalents - long-term	44,465	18,566
Inventories - long-term	7,329	7,549
Project assets, net	258,066	232,886
Property, plant and equipment, net	89,668	58,137
Operating lease right-of-use assets, net	8,352	7,189
Goodwill	4,075	4,075
Intangible assets, net	16,076	17,373
Other assets	51,176	13,662
Total assets [1]	$ 955,520	$ 939,717
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term debt	$ 10,067	$ 13,198
Current portion of operating lease liabilities	599	650
Accounts payable	26,518	28,196
Accrued liabilities	26,313	27,415
Deferred revenue	2,406	16,341
Total current liabilities	65,903	85,800
Long-term deferred revenue and customer deposits	732	9,095
Long-term operating lease liabilities	8,992	7,575
Long-term debt and other liabilities	119,588	82,863
Total liabilities [1]	195,215	185,333
Redeemable Series B preferred stock (liquidation preference of $64,020 as of October 31, 2023 and October 31, 2022)	59,857	59,857
Redeemable noncontrolling interest	—	3,030
Total equity:		
Stockholders' equity:		
Common stock ($0.0001 par value); 1,000,000,000 shares and 500,000,000 shares authorized as of October 31, 2023 and October 31, 2022; 450,626,862 and 405,562,988 shares issued and outstanding as of October 31, 2023 and October 31, 2022, respectively	45	41
Additional paid-in capital	2,199,661	2,094,076
Accumulated deficit	(1,515,541)	(1,407,973)
Accumulated other comprehensive loss	(1,672)	(1,752)
Treasury stock, Common, at cost (246,468 and 142,837 shares as of October 31, 2023 and October 31, 2022, respectively)	(1,078)	(855)
Deferred compensation	1,078	855
Total stockholder's equity	682,493	684,392
Noncontrolling interest	17,955	7,105
Total equity	700,448	691,497
Total liabilities, redeemable noncontrolling interests and stockholders' equity	$ 955,520	$ 939,717

[1] As of October 31, 2023 and October 31, 2022, the combined assets of the variable interest entities ("VIEs") were $235,290 and $119,223, respectively, that can only be used to settle obligations of the VIEs. These assets include cash of $4,797, unbilled accounts receivable of $1,876, operating lease right of use assets of $1,680, other current assets of $50,713, restricted cash and cash equivalents of $526, project assets of $170,444, derivative asset of $4,127 and other assets of $1,125 as of October 31, 2023, and cash of $2,149, unbilled accounts receivable of $1,070, other current assets of $14,373, operating lease right of use assets of $1,184 and project assets of $100,448 as of October 31, 2022. The combined liabilities of the VIEs as of October 31, 2023 include short-term operating lease liabilities of $203, accounts payable of $165,824, long-term operating lease liability of $2,159 and other non-current liabilities of $187 and, as of October 31, 2022, include short-term operating lease liabilities of $157, accounts payable of $76,050, accrued liabilities of $824 and long-term operating lease liability of $1,478.

See accompanying notes to consolidated financial statements.

FUELCELL ENERGY, INC.
Consolidated Statements of Operations and Comprehensive Loss
For the Years Ended October 31, 2023, 2022, and 2021
(Amounts in thousands, except share and per share amounts)

	2023	2022	2021
Revenues:			
Product	$ 19,589	$ 60,000	$ —
Service	49,084	12,786	19,791
Generation	37,508	36,186	24,027
Advanced Technologies	17,213	21,512	25,767
Total revenues	123,394	130,484	69,585
Costs of revenues:			
Product	12,878	64,495	7,976
Service	44,953	17,233	24,735
Generation	62,913	63,147	36,017
Advanced Technologies	13,185	15,184	16,496
Total costs of revenues	133,929	160,059	85,224
Gross loss	(10,535)	(29,575)	(15,639)
Operating expenses:			
Administrative and selling expenses	64,528	79,620	37,948
Research and development expenses	61,021	34,529	11,315
Total costs and expenses	125,549	114,149	49,263
Loss from operations	(136,084)	(143,724)	(64,902)
Interest expense	(7,247)	(6,394)	(7,363)
Interest income	15,795	3,386	34
Change in fair value of common stock warrant liability	—	—	(15,974)
Extinguishment of Series 1 preferred share obligation	—	—	(934)
Gain (loss) on extinguishment of debt and finance obligations	15,337	—	(11,156)
Other income (expense), net	4,724	319	(728)
Loss before provision for income taxes	(107,475)	(146,413)	(101,023)
Provision for income taxes	(581)	(819)	(2)
Net loss	(108,056)	(147,232)	(101,025)
Net (loss) income attributable to noncontrolling interest	(488)	(4,510)	30
Net loss attributable to FuelCell Energy, Inc.	(107,568)	(142,722)	(101,055)
Series B preferred stock dividends	(3,200)	(3,200)	(3,200)
Net loss attributable to common stockholders	$ (110,768)	$ (145,922)	$ (104,255)
Loss per share basic and diluted:			
Net loss per share attributable to common stockholders	$ (0.26)	$ (0.38)	$ (0.31)
Basic and diluted weighted average shares outstanding	419,747,796	383,139,140	334,742,346

	2023	2022	2021
Net loss	$ (108,056)	$ (147,232)	$ (101,025)
Other comprehensive income (loss):			
Foreign currency translation adjustments	80	(933)	(80)
Total comprehensive loss	$ (107,976)	$ (148,165)	$ (101,105)
Comprehensive (loss) income attributable to noncontrolling interest	(488)	(4,510)	30
Comprehensive loss attributable to FuelCell Energy, Inc.	$ (107,488)	$ (143,655)	$ (101,135)

See accompanying notes to consolidated financial statements

FUELCELL ENERGY, INC.
Consolidated Statements of Changes in Equity
For the Years Ended October 31, 2023, 2022, and 2021
(Amounts in thousands, except share amounts)

	Common Stock									
	Shares		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Treasury Stock	Deferred Compensation	Total Stockholders' Equity	Noncontrolling Interests	Total Stockholders' Equity
Balance, October 31, 2020	294,706,758	$ 29	$ 1,359,454	$ (1,164,196)	$ (739)	$ (432)	$ 432	$ 194,548	$ —	$ 194,548
Sale of common stock, net of fees	69,074,573	8	525,887	—	—	—	—	525,895	—	525,895
Orion warrant exercises and other warrant exercises	2,714,026	—	22,093	—	—	—	—	22,093	—	22,093
Common stock issued, non-employee compensation	31,889	—	275	—	—	—	—	275	—	275
Share based compensation	—	—	4,293	—	—	—	—	4,293	—	4,293
Stock issued under benefit plans, net of taxes paid upon vesting of restricted stock awards	108,511	—	(331)	—	—	—	—	(331)	—	(331)
Preferred dividends — Series B	—	—	(3,200)	—	—	—	—	(3,200)	—	(3,200)
Effect of foreign currency translation	—	—		—	(80)	—	—	(80)	—	(80)
Adjustment for deferred compensation	(17,019)	—		—	—	(154)	154	—	—	—
Release of a share reserve	(45)	—		—	—	—	—	—	—	—
Net loss attributable to FuelCell Energy, Inc.	—	—		(101,055)	—	—	—	(101,055)	—	(101,055)
Balance, October 31, 2021	366,618,693	$ 37	$ 1,908,471 0	$ (1,265,251)	$ (819)	$ (586)	$ 586	$ 642,438	$ —	$ 642,438
Sale of common stock, net of fees	38,396,904	4	183,548	—	—	—	—	183,552	—	183,552
Common stock issued, non-employee compensation	76,848	—	305	—	—	—	—	305	—	305
Stock issued under benefit plans, net of taxes paid upon vesting of restricted stock awards	539,950	—	(1,840)	—	—	—	—	(1,840)	—	(1,840)
Share based compensation	—	—	6,792	—	—	—	—	6,792	—	6,792
Preferred dividends — Series B	—	—	(3,200)	—	—	—	—	(3,200)	—	(3,200)
Effect of foreign currency translation	—	—	—	—	(933)	—	—	(933)	—	(933)
Adjustment for deferred compensation	(69,407)	—	—	—	—	(269)	269	—	—	—
Reclassification of noncontrolling interest	—	—	—	—	—	—	—	—	12,419	12,419
Return of capital to noncontrolling interest	—	—	—	—	—	—	—	—	(496)	(496)
Distribution to noncontrolling interest	—	—	—	—	—	—	—	—	(308)	(308)
Net loss attributable to noncontrolling interest	—	—	—	4,510	—	—	—	4,510	(4,510)	—
Net Loss	—	—	—	(147,232)	—	—	—	(147,232)	—	(147,232)
Balance, October 31, 2022	405,562,988	$ 41	$ 2,094,076	$ (1,407,973)	$ (1,752)	$ (855)	$ 855	$ 684,392	$ 7,105	$ 691,497
Sale of common stock, net of fees	44,320,825	4	97,435	—	—	—	—	97,439	—	97,439
Common stock issued, non-employee compensation	103,631	—	225	—	—	—	—	225	—	225
Stock issued under benefit plans, net of taxes paid upon vesting of restricted stock awards	743,049	—	(829)	—	—	—	—	(829)	—	(829)
Share based compensation	—	—	11,954	—	—	—	—	11,954	—	11,954
Preferred dividends — Series B	—	—	(3,200)	—	—	—	—	(3,200)	—	(3,200)
Effect of foreign currency translation	—	—	—	—	80	—	—	80	—	80
Adjustment for deferred compensation	(103,631)	—	—	—	—	(223)	223	—	—	—
Contributions received for the sale of noncontrolling interest	—	—	—	—	—	—	—	—	9,052	9,052
Reclassification of noncontrolling interest	—	—	—	—	—	—	—	—	3,030	3,030
Distribution to noncontrolling interests	—	—	—	—	—	—	—	—	(744)	(744)
Net loss attributable to noncontrolling interests	—	—	—	488	—	—	—	488	(488)	—
Net Loss	—	—	—	(108,056)	—	—	—	(108,056)	—	(108,056)
Balance, October 31, 2023	450,626,862	$ 45	$ 2,199,661	$ (1,515,541)	$ (1,672)	$ (1,078)	$ 1,078	$ 682,493	$ 17,955	$ 700,448

See accompanying notes to consolidated financial statement

FUELCELL ENERGY, INC.
Consolidated Statements of Cash Flows
For the Years Ended October 31, 2023, 2022 and 2021
(Amounts in thousands)

	Year Ended October 31,		
	2023	**2022**	**2021**
Cash flows from operating activities:			
Net loss	$ (108,056)	$ (147,232)	$ (101,025)
Adjustments to reconcile net loss to net cash used in operating activities:			
Share-based compensation	11,954	6,792	4,293
Depreciation and amortization	25,375	21,274	19,872
Change in fair value of common stock warrant liability	—	—	15,974
Gain on Series 1 preferred stock extinguishment	—	—	934
Non-cash interest expense on preferred stock and debt and finance obligations	3,228	4,210	4,438
(Gain) loss on extinguishment of debt and finance obligations	(15,337)	—	11,156
Unrealized gain on derivative contract	(7,441)	(779)	(478)
Operating lease costs	1,486	1,521	1,545
Operating lease payments	(1,226)	(1,438)	(1,226)
Impairment of property, plant and equipment and project assets	2,375	1,782	5,024
Unrealized foreign currency (gains) losses	(57)	583	—
Other, net	456	2,632	996
Decrease (increase) in operating assets:			
Accounts receivable	1,076	9,199	(5,167)
Unbilled receivables	(21,921)	(231)	(3,609)
Inventories	4,686	(28,058)	(18,755)
Other assets	(13,090)	(2,092)	(1,529)
Increase (decrease) in operating liabilities:			
Accounts payable	3,001	6,332	1,988
Accrued liabilities	(4,461)	24,616	317
Deferred revenue	(22,298)	(11,278)	(5,186)
Net cash used in operating activities	(140,250)	(112,167)	(70,438)
Cash flows from investing activities:			
Capital expenditures	(39,355)	(21,078)	(6,353)
Project asset expenditures	(53,007)	(25,573)	(66,877)
Maturity of held-to-maturity debt securities	199,090	—	—
Purchases of held-to-maturity debt securities	(299,093)	—	—
Net cash used in investing activities	(192,365)	(46,651)	(73,230)
Cash flows from financing activities:			
Repayment of debt	(47,830)	(9,544)	(98,642)
Proceeds from the issuance of debt	100,500	—	10,175
Common stock issued for stock plans and related expenses	56	47	18
Contributions received from sale of noncontrolling interest, net of return of capital	9,052	11,923	3,000
Distribution to noncontrolling interests	(596)	(308)	—
Payments for taxes related to net share settlement of equity awards	(885)	(1,887)	(339)
Payment for early extinguishment of debt	—	—	(4,000)
Payment of deferred financing costs	(3,469)	—	(363)
Repayment of Series 1 preferred stock obligation	—	—	(21,541)
Proceeds from sale of common stock and warrant exercises, net of fees	97,439	183,552	526,800
Payment of preferred dividends	(3,200)	(3,200)	(3,200)
Net cash provided by financing activities	151,067	180,583	411,908
Effects on cash from changes in foreign currency rates	80	(933)	(80)
Net (decrease) increase in cash, cash equivalents and restricted cash	(181,468)	20,832	268,160
Cash, cash equivalents and restricted cash-beginning of period	481,044	460,212	192,052
Cash, cash equivalents and restricted cash-end of period	$ 299,576	$ 481,044	$ 460,212

See accompanying notes to the consolidated financial statements.

Note 1. Nature of Business, Basis of Presentation and Significant Accounting Policies

Nature of Business and Basis of Presentation

Headquartered in Danbury, Connecticut, FuelCell Energy, Inc. (together with its subsidiaries, the "Company" "FuelCell Energy," "we," "us," or "our") is a global leader in delivering environmentally responsible distributed baseload energy platform solutions through our proprietary fuel cell technology. Today, we offer commercial technology that produces clean electricity, heat, clean hydrogen, and water and is also capable of recovering and capturing carbon for utilization and/or sequestration, depending on product configuration and application. We also continue to invest in product development and commercializing technologies that are expected to add new capabilities to our platforms' abilities to deliver hydrogen and long duration hydrogen-based energy storage through our solid oxide technologies, as well as further enhance our existing platforms' carbon capture solutions.

FuelCell Energy is focused on advancing sustainable clean energy technologies that address some of the world's most critical challenges around energy access, security, resilience, reliability, affordability, safety and environmental stewardship. As a leading global manufacturer of proprietary fuel cell technology platforms, FuelCell Energy is uniquely positioned to serve customers worldwide with sustainable products and solutions for industrial and commercial businesses, utilities, governments, municipalities, and communities.

The consolidated financial statements include our accounts, those of our wholly-owned subsidiaries, and those of our consolidated variable interest entities. All intercompany accounts and transactions have been eliminated.

Certain reclassifications have been made to the prior year amounts to conform to the presentation for the year ended October 31, 2023. Interest income for the years ended October 31, 2022 and 2021, which was previously included within Other income (expense), net has been reclassified to Interest income in the Consolidated Statements of Operations and Comprehensive Loss.

Liquidity

Our principal sources of cash have been proceeds from the sale of our products and projects, electricity generation revenues, research and development and service agreements with third parties, sales of our common stock through public equity offerings, and proceeds from debt, project financing and tax monetization transactions. We have utilized this cash to accelerate the commercialization of our solid oxide platforms, develop new capabilities to separate and capture carbon, develop and construct project assets, invest in capital improvements and expansion of our operations, perform research and development, pay down existing outstanding indebtedness, and meet our other cash and liquidity needs.

As of October 31, 2023, unrestricted cash and cash equivalents totaled $250.0 million compared to $458.1 million as of October 31, 2022. During the year ended October 31, 2023, the Company invested in United States (U.S.) Treasury Securities. The amortized cost of the U.S. Treasury Securities outstanding totaled $103.8 million as of October 31, 2023 compared to $0 as of October 31, 2022 and is classified as Investments - short-term on the Consolidated Balance Sheets. The maturity dates for the outstanding U.S. Treasury Securities range from November 9, 2023 to January 23, 2024.

The Company, from time to time, offers and sells shares under its Open Market Sale Agreement (as defined in Note 12. "Stockholders' Equity and Warrant Liabilities"). During the fiscal year ended October 31, 2023, approximately 44.3 million shares were sold under the Open Market Sale Agreement resulting in gross proceeds of approximately $99.7 million. See Note 12. "Stockholders' Equity and Warrant Liabilities" for additional information regarding the Open Market Sale Agreement.

During the third quarter of fiscal year 2023, the Company (through one of its indirect subsidiaries) entered into a project financing facility (which is referred to as the "OpCo Financing Facility") in the amount of $80.5 million, which was partially used to extinguish certain existing debt, to partially repay other existing debt, and to repurchase project assets under sale-leaseback transactions, resulting in $46.1 million of net proceeds. See Note 11. "Debt" for additional information regarding the OpCo Financing Facility.

During the fourth quarter of fiscal year 2023, the Company (through one of its indirect subsidiaries) entered into two related term loan facilities (which are referred to herein as the "Senior Back Leverage Loan Facility" and the "Subordinated

Back Leverage Loan Facility") in the aggregate amount of $20.0 million. See Note 11. "Debt" for additional information regarding the Senior Back Leverage Loan Facility and the Subordinated Back Leverage Loan Facility.

During the fourth quarter of fiscal year 2023, the Company closed on a tax equity financing transaction with Franklin Park 2023 FCE Tax Equity Fund, LLC ("Franklin Park"), a subsidiary of Franklin Park Infrastructure, LLC, for two fuel cell power plant installations -- the 14.0 MW Derby Fuel Cell Project and the 2.8 MW SCEF Fuel Cell Project, both located in Derby, Connecticut (collectively the "Derby Projects"). Franklin Park's tax equity commitment with respect to the Derby Projects totals $30.2 million. Of this amount, approximately $9.1 million was received on October 31, 2023. In connection with the closing of this tax equity financing transaction, the Company paid closing costs of approximately $1.8 million, which included appraisal fees, title insurance expenses and legal and consulting fees. The balance of this commitment will be funded to the Company upon substantial completion of the Derby Projects. Net of estimated additional fees of $0.5 million, the Company anticipates additional funding of approximately $20.6 million.

We believe that our unrestricted cash and cash equivalents, expected receipts from our contracted backlog, funds received upon the maturity of U.S. Treasury Securities, and release of short-term restricted cash less expected disbursements over the next twelve months will be sufficient to allow the Company to meet its obligations for at least one year from the date of issuance of these financial statements.

To date, we have not achieved profitable operations or sustained positive cash flow from operations. The Company's future liquidity, for fiscal year 2024 and in the long-term, will depend on its ability to (i) timely complete current projects in process within budget, (ii) increase cash flows from its generation operating portfolio, including by meeting conditions required to timely commence operation of new projects, operating its generation operating portfolio in compliance with minimum performance guarantees and operating its generation operating portfolio in accordance with revenue expectations, (iii) obtain financing for project construction and manufacturing expansion, (iv) obtain permanent financing for its projects once constructed, (v) increase order and contract volumes, which would lead to additional product sales, service agreements and generation revenues, (vi) obtain funding for and receive payment for research and development under current and future Advanced Technologies contracts, (vii) successfully commercialize its solid oxide, hydrogen and carbon capture platforms, (viii) implement capacity expansion for solid oxide product manufacturing, (ix) implement the product cost reductions necessary to achieve profitable operations, (x) manage working capital and the Company's unrestricted cash balance and (xi) access the capital markets to raise funds through the sale of debt and equity securities, convertible notes, and other equity-linked instruments.

We are continually assessing different means by which to accelerate the Company's growth, enter new markets, commercialize new products, and enable capacity expansion. Therefore, from time to time, the Company may consider and enter into agreements for one or more of the following: negotiated financial transactions, minority investments, collaborative ventures, technology sharing, transfer or other technology license arrangements, joint ventures, partnerships, acquisitions or other business transactions for the purpose(s) of geographic or manufacturing expansion and/or new product or technology development and commercialization, including hydrogen production through our carbonate and solid oxide platforms and storage and carbon capture, sequestration and utilization technologies.

Our business model requires substantial outside financing arrangements and satisfaction of the conditions of such arrangements to construct and deploy our projects to facilitate the growth of our business. The Company has invested capital raised from sales of its common stock to build out its project portfolio. The Company has also utilized and expects to continue to utilize a combination of long-term debt and tax equity financing (e.g., sale-leaseback transactions, partnership flip transactions and the monetization and/or transfer of eligible investment and production tax credits) to finance its project asset portfolio as these projects commence commercial operations, particularly in light of the passage of the Inflation Reduction Act in August 2022. The Company may also seek to undertake private placements of debt securities to finance its project asset portfolio. The proceeds of any such financing, if obtained, may allow the Company to reinvest capital back into the business and to fund other projects. We may also seek to obtain additional financing in both the debt and equity markets in the future. If financing is not available to us on acceptable terms if and when needed, or on terms acceptable to us or our lenders, if we do not satisfy the conditions of our financing arrangements, if we spend more than the financing approved for projects, if project costs exceed an amount that the Company can finance, or if we do not generate sufficient revenues or obtain capital sufficient for our corporate needs, we may be required to reduce or slow planned spending, reduce staffing, sell assets, seek alternative financing and take other measures, any of which could have a material adverse effect on our financial condition and operations.

Summary of Significant Accounting Policies

Cash and Cash Equivalents

All cash equivalents consist of investments in money market funds with original maturities of three months or less at the date of acquisition. We place our temporary cash equivalent investments with high credit quality financial institutions.

Inventories and Advance Payments to Vendors

Inventories consist principally of raw materials and work-in-process. Cost is determined using the first-in, first-out cost method. Included in our inventory balance are used modules that are brought back into inventory upon installation of new modules. When a new module is installed, a determination is made as to whether the used module has remaining useful life or should be scrapped and materials recycled. Modules that are deemed to have remaining useful life are put into inventory at an estimated value based on the expected remaining life of the module and its projected output. In certain circumstances, we will make advance payments to vendors for future inventory deliveries. These advance payments are recorded as Other current assets on the Consolidated Balance Sheets.

Inventories are reviewed to determine net realizable value. This review includes analyzing inventory levels of individual parts considering the current design of our products and production requirements as well as the expected inventory requirements for maintenance on installed power platforms.

Investments – Short-Term

The Company invests in U.S. Treasury Securities which are held-to-maturity and are recorded at amortized cost.

Allowance for Doubtful Accounts and Credit Losses

The Company had no allowance for doubtful accounts or credit losses as of October 31, 2023 and 2022. Uncollectible accounts receivable are charged against the allowance for doubtful accounts when all collection efforts have failed and it is deemed unlikely that the amount will be recovered. The Company would record a specific reserve for individual accounts when the Company becomes aware of specific customer circumstances such as in the case of a bankruptcy filing or the deterioration in the customer's operating results or financial position.

Project Assets

Project assets consist of capitalized costs for fuel cell projects in various stages of development, including those projects with respect to which we have entered into power purchase agreements ("PPAs") and those projects with respect to which we expect to secure long-term contracts. Such development costs are generally incurred prior to entering into a definitive sales or long-term financing agreement for the project. Project assets also include capitalized costs for fuel cell projects which are the subject of sale-leaseback transactions with Crestmark Equipment Finance, a division of MetaBank ("Crestmark"). Project asset costs include costs for developing and constructing a complete turn-key fuel cell project. Development costs can include legal, consulting, permitting, interconnect, and other similar costs. To the extent we enter into a definitive sales agreement, we expense project assets to cost of sales after the respective project asset is sold to a customer and all revenue recognition criteria have been met.

Property, Plant and Equipment

Property, plant and equipment are stated at cost, less accumulated depreciation which is recorded based on the straight-line method over the estimated useful lives of the respective assets. Leasehold improvements are amortized on the straight-line method over the shorter of the estimated useful lives of the assets or the term of the lease. When property, plant or equipment is sold or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts and any resulting gain or loss is reflected in operations for the period.

Goodwill and Indefinite-Lived Intangibles

Goodwill represents the excess of the aggregate purchase price over the fair value of the net assets acquired in a business combination and is reviewed for impairment at least annually. The intangible asset represents indefinite-lived in-process

research and development ("IPR&D") for cumulative research and development efforts associated with the development of solid oxide fuel cell stationary power generation and is also reviewed at least annually for impairment.

Accounting Standards Codification ("ASC") Topic 350: *Intangibles - Goodwill and Other* ("ASC 350") permits the assessment of qualitative factors to determine whether events and circumstances lead to the conclusion that it is necessary to perform the goodwill impairment test required under ASC 350.

The Company completed its annual impairment analysis of goodwill and IPR&D as of July 31, 2023. The goodwill and IPR&D asset are both held by the Company's Versa Power Systems, Inc. ("Versa Inc.") reporting unit. Goodwill and the IPR&D asset are also reviewed for possible impairment whenever changes in conditions indicate that the fair value of a reporting unit or IPR&D asset is more likely than not below its respective carrying value. No impairment charges were recorded with respect to goodwill or the IPR&D asset during the fiscal years ended October 31, 2023, 2022 and 2021.

Impairment of Long-Lived Assets (including Project Assets)

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset group may not be recoverable. If events or changes in circumstances indicate that the carrying amount of the asset group may not be recoverable, we compare the carrying amount of the asset group to the future undiscounted net cash flows, excluding debt service costs, expected to be generated by the asset group and its ultimate disposition. If the sum of the undiscounted cash flows is less than the carrying value, the impairment to be recognized is measured by the amount by which the carrying amount of the asset group exceeds its fair value.

Revenue Recognition

The Company recognizes revenue in accordance with ASC Topic 606: *Revenue from Contracts with Customers* ("ASC 606"). Under ASC 606, the amount of revenue recognized for any goods or services reflects the consideration that the Company expects to be entitled to receive in exchange for those goods and services. To achieve this core principle, the Company applies the following five-step approach: (1) identify the contract with the customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to performance obligations in the contract; and (5) recognize revenue when or as a performance obligation is satisfied.

A contract is accounted for when there has been approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable. Performance obligations under a contract are identified based on the goods or services that will be transferred to the customer that are both capable of being distinct and are distinct in the context of the contract. In certain instances, the Company has concluded distinct goods or services should be accounted for as a single performance obligation that is a series of distinct goods or services that have the same pattern of transfer to the customer. To the extent a contract includes multiple promised goods or services, the Company must apply judgment to determine whether the customer can benefit from the goods or services either on their own or together with other resources that are readily available to the customer (the goods or services are capable of being distinct) and if the promise to transfer the goods or services to the customer is separately identifiable from other promises in the contract (the goods or services are distinct in the context of the contract). If these criteria are not met, the promised goods or services are accounted for as a single performance obligation. The transaction price is determined based on the consideration that the Company will be entitled to in exchange for transferring goods or services to the customer. To the extent the transaction price includes variable consideration, the Company estimates the amount of variable consideration that should be included in the transaction price, generally utilizing the expected value method. Determining the transaction price requires judgment. If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on a relative standalone selling price basis. Standalone selling price is determined by the price at which the performance obligation is sold separately. If the standalone selling price is not observable through past transactions, the Company estimates the standalone selling price by taking into account available information such as market conditions and internally approved pricing guidelines related to the performance obligations. Performance obligations are satisfied either over time or at a point in time as discussed in further detail below. In addition, the Company's contracts with customers generally do not include significant financing components or non-cash consideration. The Company has elected practical expedients in the accounting guidance that allow for revenue to be recorded in the amount that the Company has a right to invoice, if that amount corresponds directly with the value to the customer of the Company's performance to date, and that allow the Company not to disclose related unsatisfied performance obligations. The Company records any amounts that are billed

to customers in excess of revenue recognized as deferred revenue and revenue recognized in excess of amounts billed to customers as unbilled receivables.

Revenue streams are classified as follows:

Product. Includes the sale of completed project assets, sale and installation of fuel cell power platforms including site engineering and construction services, and the sale of modules, balance of plant ("BOP") components and spare parts to customers.

Service. Includes performance under long-term service agreements for power platforms owned by third parties.

Generation. Includes the sale of electricity under PPAs and utility tariffs from project assets retained by the Company. This also includes revenue received from the sale of other value streams from these assets including the sale of heat, steam, capacity and renewable energy credits.

Advanced Technologies. Includes revenue from customer-sponsored and government-sponsored Advanced Technologies projects.

See below for a discussion of revenue recognition under ASC 606 by disaggregated revenue stream.

Completed project assets

Contracts for the sale of completed project assets include the sale of the project asset, the assignment of the service agreement, and the assignment of the PPA. The relative stand-alone selling price is estimated and is used as the basis for allocation of the contract consideration. Revenue is recognized upon the satisfaction of the performance obligations, which includes the transfer of control of the project asset to the customer, which is when the contract is signed and the PPA is assigned to the customer. See below for further discussion regarding revenue recognition for service agreements.

Contractual payments related to the sale of the project asset and assignment of the PPA are generally received up-front. Payment terms for service agreements are generally ratable over the term of the agreement.

Module sales

Contracts for module sales represent the sale of a completed fuel cell module at a contracted selling price. These contracts are on a per unit basis and revenue is recognized as each unit is completed and ready to ship and the performance obligation is satisfied. Payment terms for module sales are generally based on milestones achieved through the manufacturing timeline of the module.

Service agreements

Service agreements represent a single performance obligation whereby the Company performs all required maintenance and monitoring functions, including replacement of modules, to ensure the power platform(s) under the service agreement generate a minimum power output. To the extent the power platform(s) under service agreements do not achieve the minimum power output, certain service agreements include a performance guarantee penalty. Performance guarantee penalties represent variable consideration, which is estimated for each service agreement based on past experience, using the expected value method. The consideration for each service agreement is recognized over time using costs incurred to date relative to total estimated costs at completion to measure progress.

The Company reviews its cost estimates on service agreements on an annual basis and records any changes in estimates on a cumulative catch-up basis.

Loss accruals for service agreements are recognized to the extent that the estimated remaining costs to satisfy the performance obligation exceed the estimated remaining unrecognized consideration. Estimated losses are recognized in the period in which losses are identified.

Payment terms for service agreements are generally ratable over the term of the agreement.

Advanced Technologies contracts

Advanced Technologies contracts include the promise to perform research and development services and, as such, this represents one performance obligation. Revenue from most government sponsored Advanced Technologies projects is recognized as direct costs are incurred plus allowable overhead less cost share requirements, if any. Revenue is only recognized to the extent the contracts are funded. Revenue recognition for research performed under the EMTEC Joint Development Agreement (as defined elsewhere herein) falls into the practical expedient category where revenue is recorded consistent with the amounts the Company has the right to invoice.

Payments are based on costs incurred for government sponsored Advanced Technologies projects and payments under the EMTEC Joint Development Agreement are based on contractual rates for time spent and material costs incurred.

Generation revenue

For certain project assets where customers purchase electricity from the Company under PPAs, the Company has determined that these agreements should be accounted for as operating leases pursuant to ASC 842, *Leases*. Revenue is recognized when electricity has been delivered based on the amount of electricity delivered at rates specified under the contracts. Generation revenue, to the extent the related PPAs are within the scope of ASC 606, include a performance obligation to provide 100% of the electricity output generated by the associated project asset to the customer. The promise to provide electricity over the term of the PPA represents a single performance obligation, as it is a promise to transfer a series of distinct goods or services that are substantially the same and that have the same pattern of transfer to the customer. Revenue is recognized over time as the customer simultaneously receives and consumes the benefits provided by the Company, and the Company satisfies its performance obligation. Revenue is recognized based on the output method as there is a directly observable output to the customer-electricity delivered to the customer and immediately consumed. Payments are based on actual power output and the contractual rate for electricity generated.

Variable Interest Entities and Noncontrolling Interests

The Company has entered into tax equity financing transactions with certain participating companies for three partnerships (as further described in Note 3. “Tax Equity Financings and Investment Tax Credit Sale”) as of October 31, 2023. These transactions are structured as “partnership flips.” A “partnership flip” is a structure commonly used by tax equity investors in financing renewable energy projects. The Company has determined, under the power and benefits criterion of ASC 810, *Consolidations*, that the Company is the primary beneficiary in these three partnerships since the rights under the agreements for the tax equity transactions are more protective in nature than participatory and, as such, these partnerships will be accounted for as Variable Interest Entities (“VIE’s”) under GAAP. As the primary beneficiary, the Company consolidates the financial position, results of operations and cash flows in our consolidated financial statements, and all intercompany balances and transactions between the Company and these partnerships are eliminated. The Company has recognized the share of the net assets of these partnerships as noncontrolling interests in its Consolidated Balance Sheets. The income or loss allocations reflected in our Consolidated Statements of Operations and Comprehensive Loss may create volatility in our reported results of operations, including potentially changing net loss attributable to stockholders to net income attributable to stockholders, or vice versa, from quarter to quarter. The Company allocates profits and losses to the participating companies’ noncontrolling interest under the HLBV method. See Note 3. “Tax Equity Financings and Investment Tax Credit Sale” for additional information regarding the tax equity financing transactions.

Sale-Leaseback Accounting

The Company, through certain wholly-owned subsidiaries, has entered into sale-leaseback transactions for commissioned project assets where we have entered into a PPA with a customer who is both the site host and end user of the power. Due to the Company not meeting criteria to account for the transfer of the project assets as a sale since the leases include a repurchase right, sale accounting is precluded. Accordingly, the Company uses the financing method to account for these transactions.

Under the financing method of accounting for a sale-leaseback, the Company does not derecognize the project assets and does not recognize as revenue any of the sale proceeds received from the lessor that contractually constitutes payment to acquire the assets subject to these arrangements. Instead, the sale proceeds received are accounted for as finance obligations and leaseback payments made by the Company are allocated between interest expense and a reduction to the finance obligation. Interest on the finance obligation is calculated using the Company’s incremental borrowing rate at the inception

of the arrangement on the outstanding finance obligation. While we receive financing for the related project asset, we have not recognized revenue on the sale-leaseback transactions. Instead, revenue is recognized with respect to the related PPAs in accordance with the Company's accounting policies for recognizing generation revenue.

Lease Accounting

Right-of-use ("ROU") assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the present value of the Company's obligation to make lease payments arising from the lease over the lease term at the commencement date of the lease. As most of the Company's leases do not provide an implicit rate, the Company estimated the incremental borrowing rate based on the information available at the date of adoption in determining the present value of lease payments and used the implicit rate when readily determinable. The Company determined incremental borrowing rates through market sources for secured borrowings including relevant industry rates. The Company's operating lease ROU assets also include any lease pre-payments and exclude lease incentives. Certain of the Company's leases include variable payments, which may vary based upon changes in facts or circumstances after the start of the lease. The Company excludes variable payments from lease ROU assets and lease liabilities to the extent not considered in-substance fixed, and instead, expenses variable payments as incurred. Variable lease expense and lease expense for short term contracts are not material components of lease expense. The Company's leases generally have remaining lease terms of 1 to 26 years, some of which include options to extend leases. The exercise of lease renewal options is at the Company's sole discretion and the Company's lease ROU assets and liabilities reflect only the options the Company is reasonably certain that it will exercise. We do not have leases with residual value guarantees or similar covenants.

Service Expense Recognition

We warranty our products for a specific period of time against manufacturing or performance defects. Our U.S. warranty is generally limited to a term of 15 months after shipment or 12 months after acceptance of our products. We accrue for estimated future warranty costs based on historical experience. We also provide for a specific accrual if there is a known issue requiring repair during the warranty period.

In addition to the standard product warranty, we have entered into service agreements with certain customers to provide monitoring, maintenance and repair services for fuel cell power platforms. Under the terms of these service agreements, the power platform must meet a minimum operating output during the term. If the minimum output falls below the contract requirement, we may be subject to performance penalties or may be required to repair and/or replace the customer's fuel cell module(s).

The Company records loss accruals for service agreements when the estimated cost of future module exchanges and maintenance and monitoring activities exceeds the remaining unrecognized contract value. Estimates for future costs on service agreements are determined by a number of factors, including the estimated remaining life of the module(s), used replacement modules available and future operating plans for the power platform. Our estimates are performed on a contract by contract basis and include cost assumptions based on what we anticipate the service requirements will be to fulfill obligations for each contract.

At the end of our service agreements, customers are expected to either renew the service agreement or, based on the Company's rights to title of the module, the module will be returned to the Company as the platform is no longer being maintained.

Research and Development Costs

We perform both customer-sponsored research and development projects based on contractual agreements with customers and company-sponsored research and development projects.

Costs incurred for customer-sponsored projects include manufacturing and engineering labor, applicable overhead expenses, materials to build and test prototype units and other costs associated with customer-sponsored research and development contracts. Costs incurred for customer-sponsored projects are recorded as cost of Advanced Technologies contract revenues in the Consolidated Statements of Operations and Comprehensive Loss.

Costs incurred for company-sponsored research and development projects consist primarily of labor, overhead, materials to build and test prototype units and consulting fees. These costs are recorded as research and development expenses in the Consolidated Statements of Operations and Comprehensive Loss.

Concentrations

We contract with a concentrated number of customers for the sale of our products, for service agreements, for power purchase agreements and for Advanced Technologies contracts. For the years ended October 31, 2023, 2022 and 2021, our top customers accounted for 68%, 74% and 61%, respectively, of our total annual consolidated revenue.

The percent of consolidated revenues from our top customers for the years ended October 31, 2023, 2022 and 2021, respectively, are presented below.

	2023	2022	2021
Korea Southern Power Company (KOSPO)	31 %	6 %	12 %
Korea Fuel Cell Co., Ltd (KFC)	16 %	46 %	— %
Connecticut Light and Power	13 %	14 %	20 %
ExxonMobil Technology and Engineering Company (f/k/a ExxonMobil Research and Engineering Company) (EMTEC)	8 %	8 %	29 %
Total	68 %	74 %	61 %

Derivatives

We do not use derivatives for speculative or trading purposes. The Company has an interest rate swap that is adjusted to fair value on a quarterly basis. The estimated fair value is based on Level 2 inputs including primarily the floating Secured Overnight Financing Rate ("SOFR") rate available to swap dealers. The valuation methodology involves comparison of (i) the sum of the present value of all quarterly variable rate payments based on a reset rate using the floating SOFR curve and (ii) the sum of the present value of all quarterly fixed rate payments on the notional amount, which is equivalent to the outstanding principal amount of the loan.

The Company has recorded a natural gas purchase contract at fair value which was the result of the net settling of certain natural gas purchases under a contract that was previously designated as normal purchase normal sale which resulted in a change to mark-to-market accounting. The fair value will be adjusted on a quarterly basis. The estimated fair value is based on Level 2 inputs including future prices available to commodity brokers and risk-free rates which are based on Federal reserve yields. The valuation methodology involves utilizing the industry-convention energy swap model.

Use of Estimates

The preparation of financial statements and related disclosures in conformity with accounting principles generally accepted in the U.S. ("U.S. GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities. Estimates are used in accounting for, among other things, revenue recognition, lease right-of-use assets and liabilities, excess, slow-moving and obsolete inventories, product warranty accruals, loss accruals on service agreements, share-based compensation expense, allowance for doubtful accounts, depreciation and amortization, impairment of goodwill and in-process research and development intangible assets, impairment of long-lived assets (including project assets), valuation of derivatives and contingencies. Estimates and assumptions are reviewed periodically, and the effects of revisions are reflected in the consolidated financial statements in the period they are determined to be necessary. Due to the inherent uncertainty involved in making estimates, actual results in future periods may differ from those estimates.

Foreign Currency Translation

The translation of the financial statements of FCE Korea Ltd., FCES GmbH and Versa Power Systems Ltd. results in translation gains or losses, which are recorded in Accumulated other comprehensive loss within Stockholders' equity on the accompanying Consolidated Balance Sheets.

We are also subject to foreign currency transaction gains and losses as certain transactions are denominated in foreign currencies. We recognized net foreign currency transaction losses of $(0.4) thousand, $(0.9) million and $(0.9) million for the years ended October 31, 2023, 2022 and 2021, respectively. These amounts have been included in Other income (expense), net in the Consolidated Statements of Operations and Comprehensive Loss.

Recently Adopted Accounting Guidance

There is no recently adopted accounting guidance applicable to the Company's financial statements.

Recent Accounting Guidance Not Yet Effective

In November 2023, the Financial Accounting Standards Board ("FASB") issued guidance to improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. In addition, the guidance enhances interim disclosure requirements, clarifies circumstances in which an entity can disclose multiple segment measures of profit or loss, provides new segment disclosure requirements for entities with a single reportable segment and contains other disclosure requirements. The purpose of the guidance is to enable investors to better understand an entity's overall performance and assess potential future cash flows. The guidance is effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Early adoption is permitted. We are currently evaluating the impact that the new guidance will have on our consolidated financial statements.

Note 2. Revenue Recognition

Contract Balances

Contract assets as of October 31, 2023 and 2022 were $42.1 million ($25.8 million long-term) and $20.7 million ($9.7 million long-term), respectively. The contract assets relate to the Company's rights to consideration for work completed but not yet billed. These amounts are included on a separate line item as Unbilled receivables, and balances expected to be billed later than one year from the balance sheet date are included within Other assets on the accompanying Consolidated Balance Sheets. We bill customers for power platform and power platform component sales based on certain contractual milestones being reached. We bill service agreements based on the contract price and billing terms of the contracts. Generally, our Advanced Technologies contracts are billed based on actual revenues recorded, typically in the subsequent month. Some Advanced Technologies contracts are billed based on contractual milestones or costs incurred. The net change in contract assets represents amounts recognized as revenue offset by customer billings. For the years ended October 31, 2023 and 2022, a total of $12.9 million and $5.3 million, respectively, was transferred to accounts receivable from contract assets recognized at the beginning of the period.

Contract liabilities as of October 31, 2023 and 2022 were $3.1 million and $25.4 million, respectively. The contract liabilities relate to the advance billings to customers for services that will be recognized over time and in some instances for deferred revenue relating to variable consideration for previously sold products. The net change in contract liabilities represents customer billings offset by revenue recognized.

Consideration Payable to a Customer

As of October 31, 2023, the Company has recorded $6.3 million ($6.0 million long-term) as consideration payable to a customer which is included within Other current assets and Other assets on the accompanying Consolidated Balance Sheets. The Company received payment for the sale of an investment tax credit during the year ended October 31, 2023 and the net amount of $6.3 million will be recorded as a reduction to revenue during the period of measurement.

Contract modification

As a result of the settlement reached with POSCO Energy Co., Ltd. ("POSCO Energy"), the Company evaluated its various license agreements with POSCO Energy as well as all of the terms of the settlement agreement with POSCO Energy, which was effective December 20, 2021 (the "Settlement Agreement"). As part of this analysis, the Company considered the accounting surrounding the execution of the Settlement Agreement, reviewed all elements related to its license agreements with POSCO Energy and the Settlement Agreement and considered any potential contingencies in these license agreements and whether any proceeds were related to the litigation settlement.

Under the terms of the Settlement Agreement, the Company agreed that its license agreements with POSCO Energy were not terminated, but instead were deemed to be amended such that POSCO Energy and its subsidiary, Korea Fuel Cell Co., Ltd. ("KFC", and with POSCO Energy, collectively, "PE Group"), only have the right (i) to provide maintenance and repair services to PE Group's then existing customers on then existing molten carbonate power generation and thermal projects under long-term service agreements then in force as well as long-term service agreements that had expired and were pending renewal as of the settlement date (collectively, "Existing LTSAs"), (ii) to supply replacement modules purchased from the Company only for their existing customers for existing molten carbonate power generation and thermal projects under Existing LTSAs and (iii) to own, operate and maintain all facilities and factories solely for the purposes set forth in (i) and (ii) above (collectively, the "Right to Service License") and further agreed to sell modules with a service warranty pursuant to a module sales agreement to be negotiated by the parties after execution of the Settlement Agreement. As such, the Company considers the execution of the Settlement Agreement to be a contract modification as it resulted in a change in both the scope and price of a contract with a customer. Therefore, the Company accounted for such modification under the contract modification guidance included within ASC 606 (Revenue from Contracts with Customers). Further, the Company noted that none of the parties to the Settlement Agreement specifically acknowledged any payment of damages or reimbursement of any costs related to the matters settled under the Settlement Agreement, which supports the conclusion that the overall settlement was a form of contract modification. Additionally, the transaction price allocated to the modified contract did not exceed the stand-alone selling prices ("SSP") of the performance obligations under the modified contract such that there was no indication of a premium that would indicate that a portion of the transaction price related to something other than the promised goods or services.

The Company identified two performance obligations in the Settlement Agreement which included the sale of 20 modules and an option to purchase an additional 14 modules. The Company assessed the SSP of the modules utilizing a cost-plus margin approach to arrive at $3.0 million per module which was recognized upon transfer of control of such modules to KFC via title transfer consistent with the Company's established revenue recognition policies. The Company is also providing a performance guarantee for up to seven years with each module to cover any annual output penalty that would need to be paid by PE Group to a customer. The Company determined that this performance guarantee represented variable consideration and estimated a value of $0.65 million per module, which resulted in accrual of $13.1 million as of October 31, 2022 upon the sale of twenty modules during the year ended October 31, 2022. A portion of this variable consideration was recognized as revenue when it was determined that there were no amounts due under the performance guarantee. In its analysis at the time of execution of the Settlement Agreement, the Company determined that it was probable that KFC would exercise its option to purchase an additional 14 modules (with a performance guarantee) beyond the firm order of 20 modules, to which it was contractually committed. KFC's right to purchase the additional 14 modules expired without being exercised on December 31, 2022, and as a result $9.1 million was recognized as product revenue during the year ended October 31, 2023.

The Company signed a long-term service agreement ("LTSA") with Noeul Green Energy Co., Ltd. ("Noeul Green Energy") in July 2023. Under this LTSA, once the Company, KFC/Posco International Company, and Noeul Green Energy (the "LTSA Parties") agreed to the technical transfer specifications under a Final Acceptance Test (the "FAT") with respect to the transfer to Noeul Green Energy of 16 of the 20 modules previously sold by the Company to KFC pursuant to the Settlement Agreement, the LTSA Parties signed a document that released KFC/POSCO International Company from any obligations to service these modules, and concurrently transferred that obligation to the Company. The FAT is effective for 16 of the 20 modules sold to KFC pursuant to the Settlement Agreement, which are now used by Noeul Green Energy. Because the Company is no longer obligated to perform any service or other obligations under the Settlement Agreement with respect to the 16 modules now used by Noeul Green Energy, the Company recognized a ratable portion of the previously accrued variable consideration of $13.1 million which resulted in recognition of $10.5 million of product revenue during the year ended October 31, 2023.

EMTEC Joint Development Agreement

Effective as of October 31, 2019, the Company entered into a Joint Development Agreement (as amended, the "EMTEC Joint Development Agreement") with ExxonMobil Technology and Engineering Company (formerly known as ExxonMobil Research and Engineering Company) ("EMTEC"), pursuant to which the Company has engaged in exclusive research and development efforts with EMTEC to evaluate and develop new and/or improved carbonate fuel cells to reduce carbon dioxide emissions from industrial and power sources, in exchange for (i) payment by EMTEC of certain fees and costs (including research costs of up to $45.0 million) as well as certain milestone-based payments, and (ii) certain licenses.

In Amendment No. 1 to the EMTEC Joint Development Agreement ("Amendment No. 1"), which was executed on October 29, 2021 and effective as of October 31, 2021, the Company and EMTEC agreed, among other things, to extend the term of the EMTEC Joint Development Agreement to April 30, 2022. Amendment No. 1 allowed for the continuation of research intended to enable incorporation of design improvements to Company fuel cell design in order to support a decision to use the improvements in a potential future demonstration of the technology for capturing carbon at an ExxonMobil refinery located in Rotterdam, Netherlands (such demonstration, the "Rotterdam Project") and provided additional time to achieve the first milestone under the EMTEC Joint Development Agreement.

In a related letter agreement between the Company and EMTEC, dated as of October 28, 2021 and executed on October 29, 2021 (the "2021 Letter Agreement"), the Company agreed to invest with EMTEC in the Rotterdam Project, should EMTEC move forward with the Rotterdam Project. In the 2021 Letter Agreement, the Company agreed that, if (i) the Company achieved the first milestone under the EMTEC Joint Development Agreement (which occurred in the first quarter of fiscal year 2022, resulting in a $5.0 million payment to the Company which the Company received in the second quarter of fiscal year 2022) and (ii) EMTEC and the Company execute a contractual agreement to proceed with the Rotterdam Project, then at EMTEC's option, the Company will either make an investment in the amount of $5.0 million in the Rotterdam Project or discount EMTEC's purchase of the Company's fuel cell module and detailed engineering design, as agreed to by the parties, required for the Rotterdam Project by said amount.

On April 29, 2022, the Company and EMTEC entered into Amendment No. 2 ("Amendment No. 2") to the EMTEC Joint Development Agreement, which was effective as of April 30, 2022 and which increased the maximum amount of research costs to be reimbursed by EMTEC from $45.0 million to $50.0 million and further extended the term to December 31, 2022. In Amendment No. 2, the Company and EMTEC also agreed to conduct a joint market study to (a) define application opportunities, commercialization strategies, and development requirements, (b) identify partners for potential pilot/demonstration projects and (c) assess fuel cell/stack/module manufacturing scale-up and cost reduction.

On December 19, 2022, the Company and EMTEC entered into Amendment No. 3 ("Amendment No. 3") to the EMTEC Joint Development Agreement, which was effective as of December 1, 2022. In Amendment No. 3, the Company and EMTEC agreed to further extend the term of the EMTEC Joint Development Agreement such that it would end on August 31, 2023 and to further increase the maximum amount of research costs to be reimbursed by EMTEC from $50.0 million to $60.0 million. Amendment No. 3 (i) allowed for continuation of research intended to enable the parties to finalize data collection in support of the project gate decision for the Rotterdam Project, (ii) allowed for the continuation of the development, engineering and mechanical derisking of the Generation 2 Technology fuel cell module prototype, and (iii) allowed for studying the manufacturing scale-up and cost reduction of a commercial Generation 2 Technology fuel cell carbon capture facility.

On August 25, 2023, the Company and EMTEC entered into Amendment No. 4 to the EMTEC Joint Development Agreement ("Amendment No. 4"), effective as of August 31, 2023. In Amendment No. 4, the Company and EMTEC agreed to further extend the term of the EMTEC Joint Development Agreement such that it will end on March 31, 2024 (unless terminated earlier) and to further increase the maximum amount of research costs to be reimbursed by EMTEC from $60.0 million to $67.0 million. Amendment No. 4 is intended to allow the parties the opportunity to continue (i) derisking of the Generation 2 Technology fuel cell module demonstration prototype and (ii) the joint marketing and sales efforts to inform development of a new business framework between the parties beyond the current joint development agreement structure.

During the year ended October 31, 2022, the Company achieved the first technical milestone under the EMTEC Joint Development Agreement and received payment of $5.0 million. At the time, the Company did not recognize revenue in connection with this milestone achievement as a result of its agreement with EMTEC to either make a $5.0 million investment in a demonstration of a Company fuel cell module for capturing carbon at Rotterdam Project or discount

EMTEC's purchase of the Company's fuel cell module and detailed engineering design for the Rotterdam Project by $5.0 million, should the Company enter into a contract with EMTEC to proceed with the Rotterdam Project.

In May 2023, the Company entered into a second letter agreement with EMTEC, pursuant to which the parties agreed that the conditions to the Company's agreement to invest in the Rotterdam Project were met in April 2023 and, as a result, the Company will recognize $2.5 million of the $5.0 million milestone payment received in fiscal year 2022 as revenue across future deliverables to EMTEC. Of this $2.5 million, the Company recognized revenue of $0.3 million during the year ended October 31, 2023. The other $2.5 million of the $5.0 million milestone payment received under the EMTEC Joint Development Agreement in fiscal year 2022 was applied to discount EMTEC's purchase of the Company's fuel cell module and detailed engineering design for the Rotterdam Project. As of October 31, 2023, EMTEC had not yet made the decision to proceed with the Rotterdam Project.

Remaining Performance Obligations

Remaining performance obligations are the aggregate amount of total contract transaction price that is unsatisfied or partially unsatisfied. As of October 31, 2023, the Company's total remaining performance obligations were $140.8 million for service agreements, $63.9 million for a generation PPA, $15.3 million for Advanced Technologies contracts and $0 for product revenues.

Note 3. Tax Equity Financings and Investment Tax Credit Sale

Derby Tax Equity Financing Transaction

The Company closed on a tax equity financing transaction on October 31, 2023 with Franklin Park for two fuel cell power plant installations -- the 14.0 MW Derby Fuel Cell Project and the 2.8 MW SCEF Fuel Cell Project, both located in Derby, Connecticut (collectively, the "Derby Projects"). Franklin Park's tax equity commitment totals $30.2 million. Of this amount, approximately $9.1 million was received on October 31, 2023. In connection with the closing of this tax equity financing transaction, the Company paid closing costs of approximately $1.8 million, which included appraisal fees, title insurance expenses and legal and consulting fees. The balance of this commitment will be funded to the Company upon substantial completion of the Derby Projects. Net of estimated additional fees of $0.5 million, the Company anticipates additional funding of approximately $20.6 million.

This transaction was structured as a "partnership flip", which is a structure commonly used by tax equity investors in the financing of renewable energy projects. Under this partnership flip structure, a partnership, in this case Derby Fuel Cell Holdco, LLC (the "Derby Partnership"), was organized to acquire from FuelCell Energy Finance II, LLC, a wholly-owned subsidiary of the Company, all outstanding equity interests in the Derby Projects. FuelCell Energy Finance II owns the Derby Projects and is the party to the power purchase agreements and all project agreements. At the closing of the transaction, the Derby Projects are owned by the Derby Partnership with Franklin Park, holding the Class A Units, and Fuel Cell Energy Derby Finance Holdco, LLC holding the Class B Units.

Under most partnership flip structures, tax equity investors agree to receive a minimum target rate of return, typically on an after-tax basis. Prior to receiving a contractual rate of return or a date specified in the contractual arrangements, Franklin Park will receive substantially all of the non-cash value attributable to the Derby Projects, which includes accelerated depreciation and Section 48(a) investment tax credits; however, the Company will receive a majority of the cash distributions (based on the operating income of the Derby Projects), which are to be paid quarterly. After Franklin Park receives its contractual rate of return, the Company will receive approximately 95% of the cash and tax allocations.

As of October 31, 2023, the Derby Projects were not operational and as a result the Company has not yet allocated profits or losses to the noncontrolling interest under the hypothetical liquidation at book value ("HLBV") method.

Groton Tax Equity Financing Transaction

The Company closed on a tax equity financing transaction in August 2021 with East West Bancorp, Inc. ("East West Bank") for the 7.4 MW fuel cell project located on the U.S. Navy Submarine Base in Groton, CT (the "Groton Project"). East West Bank's tax equity commitment totals $15 million.

This transaction was structured as a partnership flip. Under this partnership flip structure, a partnership, in this case Groton Station Fuel Cell Holdco, LLC (the "Groton Partnership"), was organized to acquire from FuelCell Energy Finance II, LLC, a wholly-owned subsidiary of the Company, all outstanding equity interests in Groton Station Fuel Cell, LLC (the "Groton Project Company") which in turn owns the Groton Project and is the party to the power purchase agreement and all project agreements. At the closing of the transaction, the Groton Partnership is owned by East West Bank, holding Class A Units, and Fuel Cell Energy Finance Holdco, LLC, a subsidiary of FuelCell Energy Finance, LLC, holding Class B Units. The acquisition of the Groton Project Company by the Groton Partnership was funded in part by an initial draw from East West Bank and funds contributed downstream to the Groton Partnership by the Company. The initial closing occurred on August 4, 2021, upon the satisfaction of certain conditions precedent (including the receipt of an appraisal and confirmation that the Groton Project would be eligible for the investment tax credit under Section 48 of the Internal Revenue Code of 1986, as amended). In connection with the initial closing, the Company drew down $3.0 million, of which approximately $0.8 million was used to pay closing costs including appraisal fees, title insurance expenses and legal and consulting fees. Under the original terms of the Company's agreement with East West Bank, the Company would have been eligible to draw the remaining amount of the commitment, approximately $12 million, once the Groton Project achieved commercial operations. In addition, under the original terms of the Company's agreement with East West Bank, the Groton Project had a required commercial operations deadline of October 18, 2021. The significance of the commercial operations deadline is that, if commercial operations were not achieved by such deadline, East West Bank would have the option to require an amount equal to 101% of its investment to be returned. East West Bank granted several extensions of the commercial operations deadline, which collectively extended the deadline to May 15, 2022, in exchange for the Company's agreement to pay fees of $0.4 million in the aggregate. The Company recognized a loss of $30 thousand for the fiscal year ended October 31, 2021, which is attributable to the noncontrolling interest reflecting the 1% conditional withdrawal.

On July 7, 2022, the Company and East West Bank amended their tax equity financing agreement and extended the commercial operations deadline to September 30, 2022. In addition, in the July 7, 2022 amendment to the tax equity financing agreement, the terms of East West Bank's remaining investment commitment of $12.0 million were modified such that East West Bank will contribute $4.0 million on each of the first, second and third anniversaries of the Groton Project achieving commercial operations, rather than contributing the full $12.0 million when the Groton Project achieved commercial operations. Such contributions are subject to certain customer conditions precedent, including a third-party certification by an independent engineer that the plant is operating in conformance with the amended and restated power purchase agreement. When such contributions are made by East West Bank, the funds will be distributed upstream to the Company, as a reimbursement of prior construction costs incurred by the Company. In conjunction with this amendment, the Company agreed to pay aggregate fees of $0.5 million (which are inclusive of the fees from the previous extensions described above), which were payable by the Company upon commencement of commercial operations of the plant.

On October 4, 2022, the Company and East West Bank further amended their tax equity financing agreement to extend the deadline by which commercial operations were to be achieved at the Groton Project from September 30, 2022 to November 30, 2022. In addition, modifications to the Groton Project documents between Connecticut Municipal Electric Energy Cooperative ("CMEEC") and the Company as a result of the agreement between those parties to commence operations at less than 7.4 MW required the approval of East West Bank as part of East West Bank's rights under the agreement between East West Bank and the Company. On December 16, 2022, the Company and CMEEC agreed that, for all purposes, the commercial operations date has occurred, and, accordingly, East West Bank no longer had a right to have its investment returned as a result of the Company's failure to achieve commercial operations in a timely fashion, and this investment became a non-redeemable noncontrolling interest as of December 16, 2022. In addition, on December 16, 2022, the Company paid the aggregate fees of $0.5 million described above to East West Bank.

On December 16, 2022, the Company declared and, per the terms of the Amended and Restated Power Purchase Agreement between the Company and CMEEC entered into on that date (the "Amended and Restated PPA"), CMEEC agreed that the Groton Project is commercially operational at 6.0 MW. As of December 16, 2022, the Groton Project is reported as a part of the Company's generation operating portfolio. The Amended and Restated PPA allows the Company to operate the plants at a reduced output of approximately 6.0 MW while a Technical Improvement Plan ("TIP") is implemented with the goal of bringing the platform to its rated capacity of 7.4 MW by December 31, 2023. In conjunction with entering into the Amended and Restated PPA, the Navy also provided its authorization to proceed with commercial operations at 6.0 MW. The Company paid CMEEC an amendment fee of $1.2 million and is incurring and will continue to incur performance guarantee fees under the Amended and Restated PPA as a result of operating at an output below 7.4 MW during implementation of the TIP. Although the Company believes it will successfully implement the TIP and bring the plants up to their nominal output of 7.4 MW by December 31, 2023, no assurance can be provided that such work will

be successful. In the event that the plants do not reach an output of 7.4 MW by December 31, 2023, the Amended and Restated PPA will continue in effect, and the Company will be subject to ongoing performance guarantee fees as set forth in the Amended and Restated PPA.

With the declaration of commercial operations, East West Bank's investment in the project was reclassified, as of December 16, 2022, from a redeemable noncontrolling interest to non-redeemable noncontrolling interests within the Total equity section of the Consolidated Balance Sheets.

Under most partnership flip structures, tax equity investors agree to receive a minimum target rate of return, typically on an after-tax basis. Prior to receiving a contractual rate of return or a date specified in the contractual arrangements, East West Bank will receive substantially all of the non-cash value attributable to the Groton Project, which includes accelerated depreciation and Section 48(a) investment tax credits; however, the Company will receive a majority of the cash distributions (based on the operating income of the Groton Project), which are paid quarterly. After East West Bank receives its contractual rate of return, the Company will receive approximately 95% of the cash and tax allocations. The Company (through a separate wholly owned entity) entered into a back leverage debt financing transaction during fiscal year 2023 and will use the cash distributions from the Groton Partnership to service the debt (refer to Note. 11. "Debt" for additional information).

Since the Groton Project became operational during the year ended October 31, 2023, we have begun to allocate profits and losses to noncontrolling interests under the HLBV method. For the year ended October 31, 2023, the net loss attributable to noncontrolling interests totaled $2.5 million. There were no amounts allocated to noncontrolling interest for the year ended October 31, 2022 for the Groton Partnership.

Yaphank Tax Equity Financing Transaction

The Company closed on a tax equity financing transaction in November 2021 with REI for the 7.4 MW fuel cell project (the "LIPA Yaphank Project") located in Yaphank Long Island. REI's tax equity commitment totaled $12.4 million.

This transaction was structured as a partnership flip. Under this partnership flip structure, a partnership, in this case YTBFC Holdco, LLC (the "Yaphank Partnership"), was organized to acquire from FuelCell Energy Finance II, LLC, a wholly-owned subsidiary of the Company, all outstanding equity interests in Yaphank Fuel Cell Park, LLC, which in turn owns the LIPA Yaphank Project and is the party to the power purchase agreement and all project agreements. REI holds Class A Units in the Yaphank Partnership and a subsidiary of the Company holds the Class B Units. The initial funding occurred on December 13, 2021, upon the satisfaction of certain conditions precedent (including the receipt of an appraisal and confirmation that the LIPA Yaphank Project would be eligible for the investment tax credit ("ITC") under Section 48 of the Internal Revenue Code of 1986, as amended). In connection with the initial closing, the Company was able to draw down approximately $3.2 million, of which approximately $0.4 million was used to pay closing costs, including title insurance expenses and legal and consulting fees. The Company drew down the remaining amount of the commitment, approximately $9.2 million, in December 2021 and January 2022, after the LIPA Yaphank Project achieved commercial operation. These proceeds were partially offset by legal and advisory fees of approximately $0.4 million.

The Company determined during the second quarter of fiscal year 2022 that there was an overpayment by REI of the Class A Member Capital Contribution of $0.5 million and as such the Company refunded this amount back to REI, reducing the REI tax equity commitment to $11.9 million. During the year ended October 31, 2022, the Company made priority return distributions to REI of $0.3 million, which was calculated at a 2.73% annual interest rate on invested tax equity capital.

Under a partnership flip structure, tax equity investors agree to receive a minimum target rate of return, typically on an after-tax basis. Prior to receiving a contractual rate of return or a date specified in the contractual arrangements, REI will receive substantially all of the non-cash value attributable to the LIPA Yaphank Project, which includes accelerated depreciation and Section 48(a) investment tax credits; however, the Company will receive a majority of the cash distributions (based on the operating income of the LIPA Yaphank Project), which are paid quarterly. After REI receives its contractual rate of return, the Company will receive approximately 95% of the cash and tax allocations.

Under this partnership flip structure, after the fifth anniversary following achievement of commercial operations, we have an option to acquire all of the equity interests that REI holds in the Yaphank Partnership starting after REI receives its contractual rate of return (the anticipated "flip" date) after the LIPA Yaphank Project is operational. If we exercise this option, we will be required to pay the greater of the following: (i) the fair market value of REI's equity interest at the time

the option is exercised or (ii) an amount equal to 10.3% of REI's capital contributions. This option payment is to be grossed up for federal taxes if it exceeds the tax basis of the Yaphank Partnership Class A Units.

For the years ended October 31, 2023 and 2022, net income (loss) attributable to noncontrolling interest for the Yaphank Partnership totaled $2.0 million and ($4.5) million, respectively.

Toyota Investment Tax Credit Sale

On October 31, 2023, REI purchased investment tax credits ("ITCs") from Long Beach Trigen, LLC ("LB Seller"), a subsidiary of the Company. The Toyota project qualified for $8.4 million of ITCs. The total amount of the purchase was $7.1 million or $0.85 per $1.00 of purchased ITCs. The Company incurred transaction costs of $0.4 million for legal costs and advisory fees. Toyota Motor North America ("Toyota") has a contractual right under the hydrogen production and power purchase agreement with the Company ("Toyota HPPA") to receive the benefit of the ITCs and, as a result, the Company recorded the value of the net amount due to Toyota as an accrued liability totaling $6.3 million, which will be reduced over time based on the performance under the terms of the contract with Toyota (see Note 9. "Accrued Liabilities" for further information).

Note 4. Investments – Short-Term

The Company's U.S. Treasury Securities outstanding as of October 31, 2023 have maturity dates ranging from November 9, 2023 to January 23, 2024. We have classified our investments in U.S. Treasury Securities as held-to-maturity and recorded them at amortized cost. The following table summarizes the amortized cost basis and fair value (based on quoted market prices) as of October 31, 2023 (in thousands).

	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
U.S. Treasury Securities				
As of October 31, 2023	$ 103,760	$ 1	$ —	$ 103,761

The weighted average yield to maturity is 5.45%.

Note 5. Inventories

Inventories (short and long-term) as of October 31, 2023 and 2022 consisted of the following (in thousands):

	October 31, 2023	October 31, 2022
Raw materials	$ 36,200	$ 30,624
Work-in-process [1]	55,585	67,834
Inventories	91,785	98,458
Inventories – current	(84,456)	(90,909)
Inventories – long-term [2]	$ 7,329	$ 7,549

(1) Work-in-process includes the standard components of inventory used to build the typical modules or module components that are intended to be used in future project asset construction or power platform orders or for use under the Company's service agreements.

(2) Long-term inventory includes modules that are contractually required to be segregated for use as replacement modules for a specific project asset.

Raw materials consist mainly of various nickel powders and steels, various other components used in producing cell stacks and purchased components for BOP. Work-in-process inventory is comprised of material, labor, and overhead costs incurred to build fuel cell stacks and modules, which are subcomponents of a power platform.

Note 6. Project Assets

Project assets as of October 31, 2023 and 2022 consisted of the following (in thousands):

	October 31, 2023	October 31, 2022	Estimated Useful Life
Project Assets – Operating	$ 213,753	$ 154,736	4-20 years
Accumulated depreciation	(46,263)	(29,546)	
Project Assets – Operating, net	167,490	125,190	
Project Assets – Construction in progress	90,576	107,696	7-20 years
Project Assets, net	$ 258,066	$ 232,886	

The estimated useful lives of these project assets are 20 years for BOP and site construction, and four to seven years for modules. Project assets as of October 31, 2023 and 2022 included nine and eight, respectively, completed, commissioned installations generating power with respect to which the Company has a PPA with the end-user of power and site host with a net aggregate value of $167.5 million and $125.2 million as of October 31, 2023 and 2022, respectively. Certain of these assets are the subject of sale-leaseback arrangements with Crestmark.

Project assets as of October 31, 2023 and 2022 also include installations with carrying values of $90.6 million and $107.7 million, respectively, which are being developed and constructed by the Company in connection with projects for which we have entered into PPAs or projects for which we expect to secure PPAs or otherwise recover the asset value and which have not yet been placed in service.

Fiscal Year 2023 Charges, Including Impairment Charges

The 2.3 MW Toyota project (the "Toyota Project") was included in "Construction in progress" as of October 31, 2023. It was determined in the fourth quarter of fiscal year 2021 that a potential source of renewable natural gas ("RNG") at favorable pricing was no longer sufficiently probable and that market pricing for RNG had significantly increased, resulting in the determination that the project is expected to generate negative cash flows and that, therefore, the carrying value of the project asset was no longer recoverable. Refer to Note 19. "Commitments and Contingencies" for more information regarding fuel risk exposure. As this project was being constructed, only inventory components that could be redeployed for alternative use were capitalized. For the year ended October 31, 2023, non-recoverable costs incurred of $22.9 million have been expensed as generation cost of revenues.

During fiscal year 2023, the Company recorded an impairment charge of $2.4 million related to a project for which a PPA was ultimately not awarded.

Fiscal Year 2022 Charges, Including Impairment Charges

In the fourth quarter of fiscal year 2022, the Company made the decision not to proceed with development of the 7.4 MW and 1.0 MW Hartford projects given the then current economic profile of these projects. As a result, the Company recorded a $0.8 million impairment charge.

Charges for the year ended October 31, 2022 relating to the Toyota Project were $22.1 million, which represented the carrying value of the project asset less the carrying value of inventory components that could be redeployed for alternative use.

Fiscal Year 2021 Impairment Charges

In the fourth quarter of fiscal year 2021, the Company recorded project asset impairment charges for (i) the Triangle Street Project, (ii) the LIPA Brookhaven and Clare Rose Projects, and (iii) the Toyota Project, which are further described as follows:

i. *Impairment charge for the Triangle Street Project:* In the fourth quarter of fiscal year 2021, based upon the carrying value of the components that could be removed and utilized to service similar project assets and due to the uncertainty as to whether the project asset would generate further cash flows, the Company recorded an impairment charge of $0.4 million. The remaining carrying value was $5.6 million as of October 31, 2021.

ii. *Impairment charge for the LIPA Brookhaven and Clare Rose Projects:* As previously reported, in July 2017, the Company was awarded three projects on Long Island, New York totaling 39.8 MW by the Long Island Power Authority ("LIPA"). In December 2018, the Company executed a power purchase agreement for one of the three awards (a 7.4 MW project in Yaphank, Long Island). The other two awards, for which there are no executed power purchase agreements (and which are referred to herein as the LIPA Brookhaven and Clare Rose Projects), had been progressing through the required interconnect process while the Company worked to find a commercial resolution and enter into such agreements with LIPA. Given the passage of time without a resolution, the Company made a decision to no longer pursue the interconnection process and will no longer pursue development of the LIPA Brookhaven and Clare Rose Projects. As a result of this decision, in the fourth quarter of fiscal year 2021, the Company recorded a charge of $1.8 million to impair the carrying value of the development costs for these two projects.

iii. *Impairment charge for the Toyota Project:* A $2.8 million charge was recorded in the fourth quarter of fiscal year 2021, which represented the carrying value of the project asset less the carrying value of inventory components that could be redeployed for alternative use.

Impairment charges are recorded as cost of generation revenues in the Consolidated Statements of Operations and Comprehensive Loss.

Depreciation expense for project assets was $19.0 million, $14.2 million and $13.7 million for the years ended October 31, 2023, 2022 and 2021, respectively.

Project construction costs incurred for long-term project assets are reported as investing activities in the Consolidated Statements of Cash Flows. The proceeds received from the sale and subsequent leaseback of project assets are classified as "Cash flows from financing activities" within the Consolidated Statements of Cash Flows and are classified as a finance obligation within "Current portion of long-term debt" and "Long-term debt and other liabilities" on the Consolidated Balance Sheets (refer to Note 11. "Debt" for more information).

Note 7. Property, Plant and Equipment

Property, plant and equipment as of October 31, 2023 and 2022 consisted of the following (in thousands):

	October 31, 2023	October 31, 2022	Estimated Useful Life
Land	$ 524	$ 524	—
Building and improvements	21,430	21,216	10-26 years
Machinery, equipment and software	136,554	108,656	3-8 years
Furniture and fixtures	5,211	4,354	10 years
Construction in progress	33,950	26,484	—
	197,669	161,234	
Accumulated depreciation	(108,001)	(103,097)	
Property, plant and equipment, net	$ 89,668	$ 58,137	

The Company recorded an impairment charge of approximately $1.0 million during the year ended October 31, 2022 (related to the cessation of operations at a conditioning facility in Danbury, CT, which was replaced by a new conditioning facility located at our Torrington, CT manufacturing facility). There were no impairments of property, plant and equipment for the years ended October 31, 2023 and 2021.

Depreciation expense for property, plant and equipment was $5.1 million, $5.8 million and $4.9 million for the years ended October 31, 2023, 2022 and 2021, respectively.

Note 8. Goodwill and Intangible Assets

As of October 31, 2023 and 2022, the Company had goodwill of $4.1 million and intangible assets of $16.1 million and $17.4 million, respectively, that were recorded in connection with the Company's 2012 acquisition of Versa Inc. and the 2019 Bridgeport Fuel Cell Project acquisition.

The Versa Inc. acquisition intangible asset represents indefinite-lived IPR&D for cumulative research and development efforts associated with the development of solid oxide fuel cell stationary power generation. The Company completed its annual impairment analysis of goodwill and IPR&D assets as of July 31, 2023. The Company performed a qualitative analysis for fiscal year 2023 and determined that there was no impairment of goodwill or the indefinite-lived intangible asset. Additionally, there were no impairments of goodwill or the indefinite-lived intangible asset during fiscal year 2022 and 2021.

Amortization expense for the Bridgeport Fuel Cell Project-related intangible asset was $1.3 million for each of the years ended October 31, 2023, 2022 and 2021.

The following tables summarize the Company's intangible assets as of October 31, 2023 and 2022 (in thousands):

As of October 31, 2023	Gross Amount	Accumulated Amortization	Net Amount
In-Process Research and Development	$ 9,592	$ —	$ 9,592
Bridgeport PPA	12,320	(5,836)	6,484
Total	$ 21,912	$ (5,836)	$ 16,076

As of October 31, 2022	Gross Amount	Accumulated Amortization	Net Amount
In-Process Research and Development	$ 9,592	$ —	$ 9,592
Bridgeport PPA	12,320	(4,539)	7,781
Total	$ 21,912	$ (4,539)	$ 17,373

Amortization expense is recorded on a straight-line basis and future amortization expense will be $1.3 million per year until the Bridgeport PPA is fully amortized.

Note 9. Accrued Liabilities

Accrued liabilities as of October 31, 2023 and 2022 consisted of the following (in thousands):

	October 31, 2023	October 31, 2022
Accrued payroll and employee benefits [1]	$ 7,752	$ 8,534
Consideration payable to a customer [2]	3,958	—
Accrued service agreement and PPA costs [3]	10,742	11,340
Accrued legal, taxes, professional and other	3,861	7,541
Accrued liabilities	$ 26,313	$ 27,415

(1) The balance in this account represents accrued payroll, payroll taxes and accrued bonus for both periods. The decrease in the account balance relates to a decrease in accrued bonus as of October 31, 2023.

(2) The balance represents the net amount due to Toyota as an accrued liability which will be reduced over time based on the performance under the terms of the Toyota HPPA.

(3) Accrued service agreement costs include loss accruals on service contracts of $9.5 million as of October 31, 2023, which increased from $7.3 million as of October 31, 2022. The increase is the result of changes in estimates regarding timing of future module exchanges and future module replacement costs. The accruals for performance guarantees on service agreements and PPAs decreased from $4.1 million as of October 31, 2022 to $1.2 million as of October 31, 2023.

Note 10. Leases

The Company enters into operating and finance lease agreements for the use of real estate, vehicles, information technology equipment, and certain other equipment. We determine if an arrangement contains a lease at inception, which is the date on which the terms of the contract are agreed to and the agreement creates enforceable rights and obligations. The impacts of accounting for operating leases are included in Operating lease right-of-use assets, Operating lease liabilities, and Long-term operating lease liabilities in the Company's Consolidated Balance Sheets. Finance leases are not considered significant to the Company's Consolidated Balance Sheets or Consolidated Statements of Operations and Comprehensive Loss.

Operating lease expense for each of the years ended October 31, 2023, 2022 and 2021 was $1.5 million. As of October 31, 2023, the weighted average remaining lease term (in years) was approximately 17 years and the weighted average discount rate was 7.0%. Lease payments made during the years ended October 31, 2023, 2022 and 2021 totaled $1.2 million, $1.4 million, and $1.2 million, respectively.

As of October 31, 2023, undiscounted maturities of operating lease and finance lease liabilities are as follows (in thousands):

	Operating Leases	Finance Leases
Due Year 1	$ 1,052	$ 16
Due Year 2	1,276	—
Due Year 3	1,262	—
Due Year 4	1,292	—
Due Year 5	1,267	—
Thereafter	12,718	—
Total undiscounted lease payments	18,867	16
Less imputed interest	(9,276)	(4)
Total discounted lease payments	$ 9,591	$ 12

Note 11. Debt

Debt as of October 31, 2023 and 2022 consisted of the following (in thousands):

	October 31, 2023	October 31, 2022
Connecticut Green Bank Loan	$ —	$ 4,800
Connecticut Green Bank Loan (Bridgeport Fuel Cell Project)	—	3,507
Liberty Bank Term Loan Agreement (Bridgeport Fuel Cell Project)	—	5,382
Fifth Third Bank Term Loan Agreement (Bridgeport Fuel Cell Project)	—	5,382
Connecticut Green Bank Loan (Subordinated Back Leverage Loan Facility)	8,000	—
Liberty Bank Loan (Senior Back Leverage Loan Facility)	5,876	—
Amalgamated Bank Loan (Senior Back Leverage Loan Facility)	5,873	—
Finance obligation for sale-leaseback transactions	18,814	56,625
State of Connecticut Loan	6,908	7,774
Finance lease obligations	12	57
OpCo Financing Facility	77,510	—
Deferred finance costs	(3,526)	(1,152)
Total debt and finance obligations	119,467	82,375
Current portion of long-term debt and finance obligations	(10,067)	(13,198)
Long-term debt and finance obligations	$ 109,400	$ 69,177

Aggregate annual principal payments under our loan agreements, finance obligation, and finance lease obligations for the years subsequent to October 31, 2023 are as follows (in thousands):

Year 1	$ 10,712
Year 2	12,534
Year 3	12,475
Year 4	8,487
Year 5	9,858
Thereafter [(1)]	59,858
	$ 113,924

(1) The annual principal payments included above only include sale-leaseback payments whereas the difference between debt outstanding as of October 31, 2023 and the annual principal payments represent accreted interest and amounts included in the finance obligation that exceed required principal payments.

During fiscal year 2023, the Company entered into the OpCo Financing Facility (described below), the proceeds of which were used, in part, to pay off (i) approximately $1.8 million of the Company's long-term indebtedness to Connecticut Green Bank (the "Connecticut Green Bank Loan"), and (ii) all of the outstanding senior and subordinated indebtedness of the Company and/or its subsidiaries to Liberty Bank, Fifth Third Bank and Connecticut Green Bank related to the Bridgeport Fuel Cell Project. In addition, during fiscal year 2023, the Company entered into new financing facilities for the Groton Project, a portion of the proceeds of which were used to repay, in full, all of the Company's remaining indebtedness under the Connecticut Green Bank Loan.

OpCo Financing Facility

On May 19, 2023, FuelCell Energy Opco Finance 1, LLC ("OpCo Borrower"), a wholly owned subsidiary of FuelCell Energy Finance, LLC ("FCEF"), which, in turn, is a wholly owned subsidiary of FuelCell Energy, Inc. ("Parent"), entered into a Financing Agreement (as amended, the "Financing Agreement") with, by and among Investec Bank plc in its capacities as a lender ("Investec Lender"), administrative agent ("Administrative Agent"), and collateral agent ("Collateral Agent"); Investec, Inc. as coordinating lead arranger and sole bookrunner; Bank of Montreal (Chicago Branch) in its capacity as a lender ("BMO Lender") and as mandated lead arranger; and each of Liberty Bank, Amalgamated Bank and Connecticut Green Bank as lenders (collectively with Investec Lender and BMO Lender, the "Lenders") for a term loan facility in an amount not to exceed $80.5 million (the "Term Loan Facility" and such term loan, the "Term Loan") and a letter of credit facility in an amount not to exceed $6.5 million (the "LC Facility" and together with the Term Loan Facility, the "OpCo Financing Facility").

OpCo Borrower's obligations under the Financing Agreement are secured by Parent's interest in six operating fuel cell generation projects: (i) the Bridgeport Fuel Cell Project, located in Bridgeport, Connecticut; (ii) the Central CT State University Project, located in New Britain, Connecticut; (iii) the Pfizer Project, located in Groton, Connecticut; (iv) the LIPA Yaphank Project, located in Long Island, New York; (v) the Riverside Regional Water Quality Control Plant Project, located in Riverside, California; and (vi) the Santa Rita Jail Project, located in Alameda County, California (each, a "Project" and collectively, the "Projects").

Immediately prior to the closing on the OpCo Financing Facility, which closing occurred on May 19, 2023, Parent caused to be transferred to OpCo Borrower all of the outstanding equity interests in: (i) Bridgeport Fuel Cell, LLC (the "Bridgeport Project Company"), the entity that owns the Bridgeport Fuel Cell Project; (ii) New Britain Renewable Energy, LLC (the "CCSU Project Company"), the entity that owns the Central CT State University Project; (iii) Groton Fuel Cell 1, LLC (the "Pfizer Project Company"), the entity that owns the Pfizer Project; (iv) Riverside Fuel Cell, LLC (the "Riverside Project Company"), the entity that owns the Riverside Regional Water Quality Control Plant Project; (v) SRJFC, LLC (the "Santa Rita Project Company"), the entity that owns the Santa Rita Jail Project; and (vi) Fuel Cell YT Holdco, LLC (the "Class B Member"), the entity that owns Parent's Class B membership interest in YTBFC Holdco, LLC (the "Yaphank Tax Equity Partnership"), the tax equity partnership with Renewable Energy Investors, LLC (the "Class A Member"), as tax equity investor, which Yaphank Tax Equity Partnership, in turn, owns Yaphank Fuel Cell Park, LLC (the "Yaphank Project Company"), the entity that owns the LIPA Yaphank Project.

At the time of closing on the OpCo Financing Facility: (i) the Bridgeport Fuel Cell Project was encumbered by senior and subordinated indebtedness to Liberty Bank, Fifth Third Bank and Connecticut Green Bank in the aggregate amount of approximately $11.4 million; and (ii) the Pfizer Project, the Riverside Regional Water Quality Control Plant Project and the Santa Rita Jail Project were subject to sale and leaseback transactions and agreements with PNC Energy Capital, LLC ("PNC") in which the lease buyout amounts, including sales taxes, were approximately $15.7 million, $3.7 million and $2.8 million, respectively. In connection with closing on the OpCo Financing Facility, all of the foregoing indebtedness and lease buyout amounts were repaid and extinguished with proceeds of the Term Loan and funds of approximately $7.3 million that were released from restricted and unrestricted reserve accounts held at PNC at the time of closing, resulting in the applicable project companies re-acquiring ownership of the three leased projects from PNC, the termination of the agreements with PNC related to the sale-leaseback transactions, and the termination of the senior and subordinated credit agreements with, the related promissory notes issued to, and the related pledge and security agreements with, Liberty Bank, Fifth Third Bank and Connecticut Green Bank related to the Bridgeport Fuel Cell Project. Further, in connection with the closing on the OpCo Financing Facility and the termination of the senior and subordinated credit agreements with Liberty Bank, Fifth Third Bank and Connecticut Green Bank related to the Bridgeport Fuel Cell Project, Fifth Third Bank and the Bridgeport Project Company agreed that the obligations arising out of the swap transactions contemplated by their related interest rate swap agreement were terminated and waived and the swap agreement was effectively terminated. In addition, in connection with closing on the OpCo Financing Facility, proceeds of the Term Loan were used to repay a portion of Parent's long-term indebtedness to Connecticut Green Bank in the amount of approximately $1.8 million.

At the closing, $80.5 million, the entire amount of the Term Loan portion of the OpCo Financing Facility, was drawn down. After payment of fees and transaction costs (including fees to the Lenders and legal costs) of approximately $2.9 million in the aggregate, the remaining proceeds of approximately $77.6 million were used as follows: (i) approximately $15.0 million was used (in addition to the approximately $7.3 million released from restricted and unrestricted reserve accounts held at PNC) to pay the lease buyout amounts and sales taxes referred to above and to re-acquire the three projects owned by PNC as referred to above; (ii) approximately $11.4 million was used to extinguish the indebtedness to Liberty Bank, Fifth Third Bank, and Connecticut Green Bank relating to the Bridgeport Fuel Cell Project; (iii) approximately $1.8 million was used to repay a portion of Parent's long-term indebtedness to Connecticut Green Bank; (iv) $14.5 million was used to fund a capital expenditure reserve account required to be maintained pursuant to the terms and conditions of the Financing Agreement (which is classified as restricted cash on the Company's Consolidated Balance Sheets); and (v) approximately $34.9 million was distributed to Parent for use as Parent determines in its sole discretion. In addition, in connection with the extinguishment of the Company's indebtedness to Liberty Bank and Fifth Third Bank referred to above, approximately $11.2 million of restricted cash was released to the Company from Liberty Bank and Fifth Third Bank. Taking into consideration the release of such funds, the total net proceeds to the Company from these transactions were approximately $46.1 million.

The Term Loan portion of the OpCo Financing Facility will accrue interest on the unpaid principal amount calculated from the date of such Term Loan until the maturity date thereof at a rate per annum during each Interest Period (as defined in

the Financing Agreement) for such Term Loan equal to (A) with respect to SOFR Rate Loans, (i) the Adjusted Daily Compounded SOFR for such Interest Period with respect to SOFR Rate Loans *plus* (ii) the Applicable Margin, and (B) with respect to Base Rate Loans, (i) the Base Rate from time to time in effect *plus* (ii) the Applicable Margin (in each case as defined in the Financing Agreement). The Applicable Margin for SOFR Rate Loans is 2.5% for the first four years of the term and thereafter, 3%. The Applicable Margin for Base Rate Loans is 1.5% for the first four years of the term and thereafter, 2%. At the closing, in connection with the draw down of the entire amount of the Term Loan, OpCo Borrower elected to make such draw down a SOFR Rate Loan with an initial Interest Period of three months. After the initial Interest Period of three months, OpCo Borrower may elect both the applicable Interest Period (i.e., one month, three months or six months) and whether the Term Loan will be treated as a SOFR Rate Loan or a Base Rate Loan for such Interest Period. Interest payments are required to be made quarterly.

Quarterly principal amortization obligations are also required to be made (based on 17-year principal amortization designed to be fully repaid in 2039), with quarterly amortization payments based on a 1.30x debt service coverage ratio sizing based on contracted cash flows (before giving effect to module replacement expenses and module replacement drawdown releases). The Term Loan has a seven-year term, maturing on May 19, 2030.

Pursuant to the terms and conditions of the Financing Agreement, OpCo Borrower is required to maintain a capital expenditures reserve to pay for expected module replacements. The total reserve balance is required to reach $29.0 million, $14.5 million of which was funded out of the closing advance of the Term Loan and the remainder of which is to be funded pursuant to an agreed upon funding schedule through cash flows generated by the Projects set forth in the Financing Agreement for the period of June 30, 2023 through December 31, 2029.

Pursuant to the terms and conditions of the Financing Agreement, OpCo Borrower is required to maintain a debt service reserve of not less than six months of the scheduled principal and interest payments. The letter of credit component of the OpCo Financing Facility is for the purpose of obtaining letters of credit to satisfy such obligation; at the closing, an Irrevocable Letter of Credit was issued by Investec Bank plc as the issuing bank in favor of the Collateral Agent for the benefit of the Lenders in the amount of $6.5 million to satisfy the debt service reserve funding obligation.

Pursuant to the Financing Agreement, within 30 days of the financial close of the Financing Agreement, OpCo Borrower was required to enter into one or more hedge transactions, with a Lender or an affiliate thereof pursuant to one or more interest rate agreements, to hedge OpCo Borrower's interest rate exposure relating to the Term Loan from floating to fixed. Such hedge transactions are required to be in effect at all times during the entire amortization period and have an aggregate notional amount subject to the hedge transactions at any time equal to at least 75% and no more than 105% of the aggregate principal balance of the Term Loan outstanding (taking into account scheduled amortization of the Term Loan).

Upon closing, on May 19, 2023, OpCo Borrower entered into an ISDA 2002 Master Agreement (the "Investec Master Agreement") and an ISDA Schedule to the 2002 Master Agreement (the "Investec Schedule") with Investec Bank plc as a hedge provider, and an ISDA 2002 Master Agreement (the "BMO Master Agreement") and an ISDA Schedule to the 2002 Master Agreement (the "BMO Schedule") with Bank of Montreal (Chicago Branch) as a hedge provider. On May 22, 2023, OpCo Borrower executed the related trade confirmations for these interest rate swap agreements with these hedge providers to protect against adverse price movements in the floating SOFR rate associated with 100% of the aggregate principal balance of the Term Loan outstanding. Pursuant to the terms of such agreements, OpCo Borrower will pay a fixed rate of interest of 3.716%. The net interest rate across the Financing Agreement and the swap transaction is 6.366% in the first four years and 6.866% thereafter. The obligations of OpCo Borrower to the hedge providers under the interest rate swap agreements are treated as obligations under the Financing Agreement and, accordingly, are secured, on a pari passu basis, by the same collateral securing the obligations of OpCo Borrower under the Financing Agreement, which collateral is described below. The Company has not elected hedge accounting treatment and, as a result, the derivative will be remeasured to fair value quarterly, with the resulting gains/losses recorded to other income/expense. The fair value adjustments for the year ended October 31, 2023 resulted in a gain of $3.3 million.

The Financing Agreement contains certain reporting requirements and other affirmative and negative covenants which are customary for transactions of this type. Included in the covenants are covenants that: (i) the Yaphank Project Company obtain ongoing three year extensions of its current gas agreement; (ii) any annual operating expense budget that exceeds 115% of the Base Case Model (as defined in the Financing Agreement) for that year be approved by the Required Lenders (i.e., Lenders constituting more than 50% of the amounts loaned); (iii) OpCo Borrower maintain a debt service coverage ratio of not less than 1.20:1.00 (based on the trailing 12 months and tested every six months); and (iv) the Class B Member is required to exercise its option to purchase the Class A Member's interest in the Yaphank Tax Equity Partnership during

the six month period following the "Flip Point" as set forth in the limited liability company agreement for the Yaphank Tax Equity Partnership. The Financing Agreement also contains customary representations and warranties and customary events of default that cause, or entitle the Lenders to cause, the outstanding loans under the Financing Agreement to become immediately due and payable.

The Term Loan may be prepaid at any time at the option of OpCo Borrower without premium or penalty other than any "liquidation costs" if such prepayment occurs other than at the end of an Interest Period. In addition, there are certain mandatory repayments required under the Financing Agreement, including in connection with any sale or disposition of all of the Projects or of any of the LIPA Yaphank Project, the Bridgeport Fuel Cell Project or the Pfizer Project. If the Company disposes of any of the Riverside Regional Water Quality Control Plant Project, the Santa Rita Jail Project or the Central CT State University Project, OpCo Borrower is required to prepay an amount of the Term Loan based on the then stipulated value of the disposed Project.

Simultaneously with OpCo Borrower entering into the Financing Agreement, FCEF (as pledgor), OpCo Borrower and each of the Bridgeport Project Company, the Pfizer Project Company, the Riverside Project Company, the Santa Rita Project Company, the CCSU Project Company and the Class B Member, each as a subsidiary grantor party and guarantor, entered into an Omnibus Guarantee, Pledge and Security Agreement (the "Security Agreement") with Investec Bank plc as Collateral Agent, pursuant to which, as collateral for the Term Loan Facility, the LC Facility and the hedge agreements (i) FCEF granted to Collateral Agent a security interest in all of FCEF's equity interest in OpCo Borrower; (ii) OpCo Borrower granted to Collateral Agent a security interest in all of OpCo Borrower's assets consisting of its equity interests in the Bridgeport Project Company, the Pfizer Project Company, the Riverside Project Company, the Santa Rita Project Company, the CCSU Project Company and the Class B Member; (iii) each of the Bridgeport Project Company, the Pfizer Project Company, the Riverside Project Company, the Santa Rita Project Company and the CCSU Project Company granted to Collateral Agent a security interest in all of each such entity's assets consisting principally of the respective generation facilities and project agreements; and (iv) the Class B Member granted to Collateral Agent a security interest in all of such Class B Member's assets, consisting principally of its equity interest in the Yaphank Tax Equity Partnership. Pursuant to the Security Agreement, each of the subsidiary grantor parties jointly and severally guaranteed payment of all of the obligations secured by the Security Agreement.

Simultaneously with the execution of the Financing Agreement, OpCo Borrower, Investec Bank plc as Collateral Agent and Administrative Agent and Liberty Bank as Depositary Agent entered into a Depositary Agreement (the "Depositary Agreement") pursuant to which OpCo Borrower established certain accounts at Liberty Bank, all of which were pledged to Collateral Agent as security for the Term Loan Facility, the LC Facility and the hedge agreements, including a Revenue Account; a Debt Service Reserve Account; a Redemption Account (for prepayments); a Capital Expenditure Reserve Account; and a Distribution Reserve Account (in each case as defined in the Depositary Agreement). Pursuant to the terms of the Financing Agreement and the Depositary Agreement, OpCo Borrower may make quarterly distributions to FCEF and Parent provided that: (i) no Event of Default or Default (in each case as defined in the Financing Agreement) exists under the OpCo Financing Facility; (ii) all reserve accounts have been funded; (iii) no letter of credit loans or unpaid drawings are outstanding with regard to any drawn down letter of credit under the LC Facility; (iv) OpCo Borrower has maintained a greater than 1.20:1.00 debt service coverage ratio for the immediate 12 month period; and (v) no Cash Diversion Event (i.e., certain events that would adversely impact distributions to the Class B Member in connection with the LIPA Yaphank Project, as further defined in the Financing Agreement) has occurred. Beginning with the quarter ending June 2025 and continuing until the quarter ending March 2026, prior to making contributions to the Debt Service Reserve Account or the Capital Expenditure Reserve Account or having funds available for distribution, out of operating cash flow, OpCo Borrower is required to make a quarterly payment to the Administrative Agent (on behalf of the Lenders) in the amount of $675,000 per quarter to be applied to outstanding principal.

Back Leverage Financing

On August 18, 2023, FuelCell Energy Finance Holdco, LLC ("Holdco Borrower"), a wholly owned subsidiary of FCEF, which, in turn, is a wholly owned subsidiary of Parent, entered into: (i) a Credit Agreement (the "Senior Back Leverage Credit Agreement") with, by and among Liberty Bank, in its capacities as a lender ("Liberty Lender"), administrative agent (the "Senior Administrative Agent"), and lead arranger, and Amalgamated Bank, in its capacity as a lender ("Amalgamated Lender" and, collectively with Liberty Lender, the "Senior Back Leverage Lenders"), for a term loan facility in an amount not to exceed an aggregate of $12.0 million to be provided 50% by Liberty Lender and 50% by Amalgamated Lender (such facility, the "Senior Back Leverage Loan Facility," each such term loan, a "Senior Back Leverage Loan" and such term loans together, the "Senior Back Leverage Loans"); and (ii) a Credit Agreement (the "Subordinated Back Leverage Credit Agreement") with Connecticut Green Bank, as administrative agent (the

"Subordinated Administrative Agent") and lender ("Subordinated Back Leverage Lender"), for a term loan facility in an amount not to exceed $8.0 million (such facility, the "Subordinated Back Leverage Loan Facility" and such term loan, the "Subordinated Back Leverage Loan"). The Senior Back Leverage Lenders and the Subordinated Back Leverage Lender are referred to collectively as the "Back Leverage Lenders."

Holdco Borrower's obligations under the Senior Back Leverage Credit Agreement and the Subordinated Back Leverage Credit Agreement are secured by a lien on all of Holdco Borrower's assets, consisting principally of its Class B Member Interests (the "Class B Interests") in Groton Station Fuel Cell Holdco, LLC (the "Groton Tax Equity Holdco"). Class A Membership Interests (the "Class A Interests") in the Groton Tax Equity Holdco are held by East West Bank. Holdco Borrower is also the Managing Member of the Groton Tax Equity Holdco. The Groton Tax Equity Holdco's primary asset is ownership of all of the outstanding equity interests in Groton Station Fuel Cell, LLC (the "Groton Project Company"). The Groton Project Company, in turn, is the owner of the fuel cell power plant at the U.S. Navy Submarine Base New London located in Groton, Connecticut (the "Groton Project"). As additional context concerning the relationship among the parties with respect to the Senior Back Leverage Loan Facility and the Subordinated Back Leverage Loan Facility more fully described below, on December 16, 2022, the Groton Project Company and Parent entered into an Amended and Restated Power Purchase Agreement (the "Amended and Restated PPA") with Connecticut Municipal Electric Energy Cooperative ("CMEEC"), pursuant to which the Groton Project Company agreed to sell to CMEEC, and CMEEC agreed to purchase from the Groton Project Company, all of the electricity output produced by the Groton Project pursuant to the terms and conditions of the Amended and Restated PPA.

At the closing (the "Closing") of each of the Senior Back Leverage Loan Facility and the Subordinated Back Leverage Loan Facility, which occurred simultaneously on August 18, 2023 (the "Closing Date"), the entire amount of each of the Senior Back Leverage Loan Facility and the Subordinated Back Leverage Loan Facility was drawn down in the aggregate amount of $20.0 million. After payment of fees and transaction costs (including fees to the Back Leverage Lenders and legal costs) of approximately $0.4 million in the aggregate, the remaining proceeds of approximately $19.6 million were used as follows: (i) approximately $1.7 million was used to fund debt service reserve accounts ("DSCR Reserve Accounts") for the Senior Back Leverage Lenders in equal amounts of approximately $0.83 million for Liberty Lender and approximately $0.83 million for Amalgamated Lender; (ii) approximately $6.5 million was used to fund operations and maintenance and module replacement reserve accounts for the Senior Back Leverage Lenders in equal amounts of approximately $3.25 million for Liberty Lender and approximately $3.25 million for Amalgamated Lender; (iii) approximately $0.3 million was used to fund a DSCR Reserve Account for the Subordinated Back Leverage Lender; and (iv) the remaining amount of approximately $11.1 million was released to Parent from the Back Leverage Lenders. As discussed in additional detail below, simultaneous with the Closing, a portion of the proceeds were used to: (a) make Output Shortfall Payments (which are cash payments required to be made by the Groton Project Company in the event that the Groton Project produces electricity in any year less than the minimum required amount for such year) totaling approximately $1.3 million, which were deposited into a payment reserve account, and (b) pay approximately $3.0 million to Connecticut Green Bank, which represented payment, in full, of all outstanding obligations under Parent's loan agreement with Connecticut Green Bank. After taking into account such Output Shortfall Payments and such payment to Connecticut Green Bank, approximately $6.8 million will be classified as unrestricted cash on the Company's Consolidated Balance Sheet.

The portion of the Senior Back Leverage Loan provided by Liberty Lender will accrue interest on the unpaid principal amount calculated from the date of such Senior Back Leverage Loan until the maturity date at a rate per annum equal to 6.75%. The portion of the Senior Back Leverage Loan provided by Amalgamated Lender will accrue interest on the unpaid principal amount calculated from the date of such Senior Back Leverage Loan until the maturity date thereof at 6.07% during all times at which a "Carbon Offset Event" is not continuing and 7.32% at all times at which a "Carbon Offset Event" has occurred and is continuing. A "Carbon Offset Event" is deemed to occur if Holdco Borrower, Parent or any direct or indirect subsidiary thereof does not purchase carbon offsets from an Acceptable Carbon Offset Provider (as defined below) each fiscal year in an amount equal to the lesser of (i) the Annual Carbon Offset Requirement for such fiscal year, which is derived based on a formula equal to the outstanding balance of the Senior Back Leverage Loan provided by Amalgamated Lender multiplied by the Groton Project's annual carbon emissions for such year and divided by the total project costs of the Groton Project, and (ii) the Annual Carbon Offset Cap for such fiscal year, which is $12.66 multiplied by the Annual Carbon Offset Requirement and divided by the Carbon Offset Price for such fiscal year. The "Carbon Offset Price" means the price, per metric ton of carbon dioxide, of the carbon offsets available for purchase from an Acceptable Carbon Offset Provider. An "Acceptable Carbon Offset Provider" is either Climate Vault or any other seller of carbon offsets acceptable to Amalgamated Lender.

Quarterly principal amortization and interest payments are required to be made by Holdco Borrower on the Senior Back Leverage Loans based on a ten-year amortization period. The Senior Back Leverage Loans have a seven-year term, maturing on August 18, 2030, at which time all outstanding principal is due.

The Subordinated Back Leverage Loan will accrue interest at a rate per annum equal to 8% for the period of time prior to the "Step Down Date" and, after the "Step Down Date," at the lesser of 8% or the interest rate on a 10 year U.S. Treasury Note plus 275 basis points (subject to a minimum floor of 5% per annum). The "Step Down Date" is the date on which both of the following events have occurred: Holdco Borrower has purchased East West Bank's Class A Interests in the Groton Tax Equity Holdco and the Senior Back Leverage Loans have been repaid in full. Interest is payable each quarter based on an agreed upon schedule.

Pursuant to the Subordinated Back Leverage Loan Facility, during the "Interest Only Period" (as defined below), Holdco Borrower is required to make quarterly payments of principal in amounts equal to 50% of excess cash flow available to Holdco Borrower. For purposes of the foregoing, excess cash flow is all excess cash flow of Holdco Borrower after the payment of required principal and interest on the Senior Back Leverage Loans, required deposits in the various reserve accounts, the payment of interest on the Subordinated Back Leverage Loan and payment of Holdco Borrower's operating expenses. Following the end of the "Interest Only Period," principal and interest payments are required to be made quarterly in quarterly level payments ("mortgage style") of principal and interest until the maturity date, which is the first to occur of 20 years following the Groton Project's commercial operations date and termination of the Amended and Restated PPA. The maturity date of the Subordinated Back Leverage Loan Facility is currently contemplated to be September 30, 2038. The "Interest Only Period" is the period beginning on the Closing Date and ending the first to occur of (i) eighty-four months after the Closing Date; or (ii) the date the Senior Back Leverage Loan Facility has been fully repaid.

Each of the Senior Back Leverage Credit Agreement and the Subordinated Back Leverage Credit Agreement contains certain reporting requirements and other affirmative and negative covenants which are customary for transactions of this type. Included in the covenants are covenants that: (i) Holdco Borrower maintain a "Senior" debt service coverage ratio (which is computed taking into account debt service obligations on the Senior Back Leverage Loans) of not less than 1.20:1.00 (based on the trailing 12 months and tested every quarter) and a "Total" debt service coverage ratio (which is computed taking into account debt service obligations on both the Senior Back Leverage Loans and the Subordinated Back Leverage Loan) of not less than 1.10:1.00 (based on the trailing 12 months and tested on a quarterly basis); (ii) Holdco Borrower may make distributions or dividends only if the foregoing debt to equity coverage ratios have been satisfied and Holdco Borrower is not in default under any provisions of either the Senior Back Leverage Credit Agreement or the Subordinated Back Leverage Credit Agreement, including having made all required deposits into reserve accounts; (iii) Holdco Borrower is required to exercise its right under the Groton Tax Equity Holdco limited liability company agreement to acquire the Class A Interests from East West Bank during the ninety day period beginning on the "Flip Point" (which, pursuant to the Groton Tax Equity Holdco limited liability company agreement, is the date on which the holder of Class A Interests has realized a certain return on investment and, accordingly, Holdco Borrower, as holder of the Class B Interests, has the right to purchase the Class A Interests); and (iv) the consent of the Senior Administrative Agent is required prior to Holdco Borrower's taking certain material actions under the Groton Tax Equity Holdco limited liability company agreement. Each of the Senior Back Leverage Credit Agreement and the Subordinated Back Leverage Credit Agreement also contains customary representations and warranties and customary events of default that cause, or entitle the Back Leverage Lenders to cause, the outstanding loans to become immediately due and payable. In addition to customary events of default for transactions of this kind, the events of default include if a Change of Control occurs (meaning Parent no longer directly or indirectly owns Holdco Borrower), a cross default (meaning that a default under the Senior Back Leverage Loan Facility shall be deemed a default under the Subordinated Back Leverage Loan Facility and vice versa) or if CMEEC should become insolvent, is in bankruptcy or commits a specified number of payment defaults with regard to its payment obligations to the Groton Project Company.

The Senior Back Leverage Loans may be prepaid at any time at the option of Holdco Borrower provided that (i) each prepayment on or prior to the second anniversary of the Closing Date shall require a prepayment fee of 3% of the principal amount being prepaid; (ii) each prepayment after the second anniversary of the Closing Date but on or prior to the fourth anniversary of the Closing Date shall require a prepayment fee of 2% of the principal amount being prepaid; and (iii) each prepayment after the fourth anniversary of the Closing Date but on or prior to the seventh anniversary of the Closing Date

shall require a prepayment fee of 1% of the principal amount being prepaid. The Subordinated Back Leverage Loan may be prepaid at any time without premium or penalty.

Orion Energy Partners Investment Agent, LLC Credit Agreement

On October 31, 2019, the Company and certain of its affiliates as guarantors entered into a Credit Agreement (as amended, the "Orion Credit Agreement") with Orion Energy Partners Investment Agent, LLC, as Administrative Agent and Collateral Agent (the "Orion Agent "), and certain lenders affiliated with the Orion Agent for a $200.0 million senior secured credit facility (the "Orion Facility"). On November 30, 2020, the Company, its subsidiary guarantors, and the Orion Agent entered into a payoff letter with respect to the Orion Credit Agreement (the "Orion Payoff Letter"). Pursuant to the Orion Payoff Letter, on December 7, 2020, the Company paid a total of $87.3 million to the Orion Agent, representing the outstanding principal, accrued but unpaid interest, prepayment premium, fees, costs and other expenses due and owing under the Orion Facility and the Orion Credit Agreement and related loan documents, in full repayment of the Company's outstanding indebtedness under the Orion Facility and the Orion Credit Agreement and related loan documents. In accordance with the Orion Payoff Letter, the aggregate prepayment premium set forth in the Orion Credit Agreement was reduced from approximately $14.9 million to $4.0 million and the Orion Agent, on behalf of itself and the lenders, agreed that any portion of the prepayment premium that would otherwise be required to be paid pursuant to the Orion Credit Agreement in excess of $4.0 million was waived by the Orion Agent and the lenders. The Company expensed the remaining deferred finance costs and debt discount of $7.1 million. The Company classified the $4.0 million prepayment premium and the deferred finance costs and debt discount expense as loss in Gain (loss) on extinguishment of debt and finance obligations on the Consolidated Statements of Operations and Comprehensive Loss.

Connecticut Green Bank Loans

The outstanding balance under the Company's long term loan agreement with the Connecticut Green Bank related to the Bridgeport Fuel Cell Project of $4.8 million was paid off in full during fiscal year 2023 (refer to the sections above entitled "OpCo Financing Facility" and "Back-Leverage Financing" for additional information regarding the payoffs).

Bridgeport Fuel Cell Project Loans

The outstanding balance of $3.5 million under the subordinated credit agreement with Connecticut Green Bank (which was entered into in May 2019 in connection with the closing of the purchase of the 14.9 MW Bridgeport Fuel Cell Project) was paid off on May 19, 2023 using a portion of the proceeds received from the OpCo Financing Facility. In addition, the outstanding balance of an aggregate of $8.4 million under the senior credit agreement with Liberty Bank and Fifth Third Bank (which was entered into in May 2019 in connection with the closing of the purchase of the 14.9 MW Bridgeport Fuel Cell Project) was paid off on May 19, 2023 using a portion of the proceeds received from the OpCo Financing Facility.

In addition, the May 2019 interest rate swap agreement with Fifth Third Bank, which was entered into in connection with the May 2019 senior credit agreement with Liberty Bank and Fifth Third Bank and the May 2019 subordinated credit agreement with Connecticut Green Bank (each of which was entered into in connection with the purchase of the Bridgeport Fuel Cell Project), was terminated during the year ended October 31, 2023 in connection with the payoff of the senior and subordinated indebtedness of the Company to Liberty Bank, Fifth Third Bank and Connecticut Green Bank related to the Bridgeport Fuel Cell Project (as discussed above).

Finance obligations for sale-leaseback agreements

Several of the Company's project subsidiaries previously entered into sale-leaseback agreements with PNC and Crestmark for commissioned projects where the Company had entered into a PPA with the site host/end-user of produced power. The Company did not recognize as revenue any of the proceeds received from the lessor that contractually constitute payments to acquire the assets subject to these arrangements. Instead, the sale proceeds received were accounted for as finance obligations. The outstanding finance obligation balance as of October 31, 2023 and 2022 was $18.8 million and $56.6 million, respectively. The decrease in the balance reflects the extinguishment of the sale-leasebacks for the PNC owned projects (refer to the section above entitled "OpCo Financing Facility" for more information on the lease buyouts). The outstanding finance obligation for the remaining leases includes $9.1 million in excess of future required payments which represents imputed interest, not including amounts for the potential repurchase price of the project assets which is based on fair value. The sale-leaseback arrangements with Crestmark include a purchase right for the greater of fair market value or 31% of the purchase price.

State of Connecticut Loan

In November 2015, the Company closed on a definitive Assistance Agreement with the State of Connecticut (the "Assistance Agreement") and received a disbursement of $10.0 million, which was used for the first phase of the expansion of the Company's Torrington, Connecticut manufacturing facility. In conjunction with this financing, the Company entered into a $10.0 million promissory note and related security agreements securing the loan with equipment liens and a mortgage on its Danbury, Connecticut location. Interest accrues at a fixed interest rate of 2.0%, and the loan is repayable over 15 years from the date of the first advance, which occurred in November of 2015. Principal payments were deferred for four years from disbursement and began on December 1, 2019. Under the Assistance Agreement, the Company was eligible for up to $5.0 million in loan forgiveness if the Company created 165 full-time positions and retained 538 full-time positions for two consecutive years (as amended from time to time, the "Employment Obligation") as measured on October 28, 2017 (as amended from time to time, the "Target Date"). The Assistance Agreement was subsequently amended in April 2017 to extend the Target Date by two years to October 28, 2019.

In January 2019, the Company and the State of Connecticut entered into a Second Amendment to the Assistance Agreement (the "Second Amendment"). The Second Amendment extended the Target Date to October 31, 2022 and amended the Employment Obligation to require the Company to continuously maintain a minimum of 538 full-time positions for 24 consecutive months. If the Company met the Employment Obligation, as modified by the Second Amendment, and created an additional 91 full-time positions, the Company would have received a credit in the amount of $2.0 million to be applied against the outstanding balance of the loan. The Second Amendment deleted and canceled the provisions of the Assistance Agreement related to the second phase of the expansion project and the loans related thereto, but the Company had not drawn any funds or received any disbursements under those provisions.

In April 2023, the Company signed a Third Amendment to the Assistance Agreement (the "Third Amendment"). The Third Amendment was approved by the State of Connecticut Office of Attorney General on May 18, 2023, and the State of Connecticut Office of Attorney General released, and the Company received, the countersigned Third Amendment on May 24, 2023, at which time the Third Amendment became effective. The Third Amendment further extended the Target Date to October 31, 2024 and amended the Employment Obligation to require the Company to retain 538 full-time positions in Connecticut on or before October 31, 2024 and to maintain such positions for 24 consecutive months. The 24 consecutive month period ending on or before the Target Date (as extended by the Third Amendment) that yields the highest annual average positions will be used to determine compliance with the amended Employment Obligation, provided that no portion of such 24 consecutive months may begin before the date of the Third Amendment. The Third Amendment also requires the Company to furnish a job audit (the "Job Audit") to the Commissioner of Economic and Community Development (the "Commissioner") no later than 90 days following the 24-month period described above.

If, as a result of the Job Audit, the Commissioner determines that the Company has failed to meet the Employment Obligation (as amended by the Third Amendment), the Company will be required to immediately repay a penalty of $14,225.00 per each full-time employment position below the amended Employment Obligation. The amount repaid will be applied first to any outstanding fees, penalties or interest due, and then against the outstanding balance of the loan.

If, as a result of the Job Audit, the Commissioner determines that the Company has met the amended Employment Obligation and has created an additional 91 full-time employment positions, for a total of 629 full-time employees, the Company may receive a credit in the amount of $2.0 million, which will be applied against the then-outstanding principal balance of the loan. Upon application of such credit, the Commissioner will recalculate the monthly payments of principal and interest such that such monthly payments shall amortize the then remaining principal balance over the remaining term of loan.

In April of 2020, as a result of the COVID-19 pandemic, the State of Connecticut agreed to defer three months of principal and interest payments under the Assistance Agreement, beginning with the May 2020 payment. These deferred payments will be added at the end of the loan, thus extending out the maturity date by three months.

Deferred Finance Costs

As of October 31, 2023, deferred finance costs related primarily to sale-leaseback transactions entered into with Crestmark, which are being amortized over the 10-year terms of the lease agreements, and payments under the OpCo Financing Facility, the Subordinated Back Leverage Loan Facility, and the Subordinated Back Leverage Loan Facility, which are being amortized using the effective interest rate method. Any deferred finance costs remaining during fiscal year 2023

which related to the debt payoffs mentioned above were written off as a loss on extinguishment of finance obligations and debt.

Note 12. Stockholders' Equity and Warrant Liabilities

Increase in Authorized Shares

The Company obtained stockholder approval on October 10, 2023 at a Special Meeting of Stockholders to increase the number of shares of common stock the Company is authorized to issue under the Company's Certificate of Incorporation, as amended. The Company's stockholders approved a 500.0 million increase in the number of authorized shares of common stock. Accordingly, on October 11, 2023, the Company filed a Certificate of Amendment of the Certificate of Incorporation of the Company with the Delaware Secretary of State increasing the total number of authorized shares of common stock from 500.0 million to 1.0 billion shares.

The Company previously obtained stockholder approval on April 8, 2021 at the 2021 Annual Meeting of Stockholders to increase the number of shares of common stock the Company is authorized to issue under the Company's Certificate of Incorporation, as amended. At that time, the Company's stockholders approved a 162.5 million increase in the number of authorized shares of common stock. Accordingly, on April 8, 2021, the Company filed a Certificate of Amendment of the Certificate of Incorporation of the Company with the Delaware Secretary of State increasing the total number of authorized shares of common stock from 337.5 million shares to 500.0 million shares.

Open Market Sale Agreements and At Market Issuance Sales Agreement

2022 Open Market Sale Agreement

On July 12, 2022, the Company entered into an Open Market Sale Agreement with Jefferies LLC, B. Riley Securities, Inc., Barclays Capital Inc., BMO Capital Markets Corp., BofA Securities, Inc., Canaccord Genuity LLC, Citigroup Global Markets Inc., J.P. Morgan Securities LLC and Loop Capital Markets LLC (the "Open Market Sale Agreement") with respect to an at the market offering program under which the Company may, from time to time, offer and sell up to 95.0 million shares of the Company's common stock. Pursuant to the Open Market Sale Agreement, the Company is required to pay each agent a commission equal to 2.0% of the gross proceeds from each sale of shares made by such agent under the Open Market Sale Agreement. From the date of the Open Market Sale Agreement through October 31, 2023, the Company sold approximately 62.8 million shares under the Open Market Sale Agreement at an average sale price of $2.66 per share, resulting in gross proceeds of approximately $166.8 million before deducting sales commissions and fees, and net proceeds to the Company of approximately $162.7 million after deducting commissions and fees totaling approximately $4.1 million. During the year ended October 31, 2023, approximately 44.3 million shares were sold under the Open Market Sale Agreement at an average sale price of $2.25 per share, resulting in gross proceeds of approximately $99.7 million before deducting sales commissions and fees, and net proceeds to the Company of approximately $97.4 million after deducting sales commissions and fees totaling approximately $2.3 million. As of October 31, 2023, approximately 32.2 million shares were available for issuance under the Open Market Sale Agreement.

2021 Open Market Sale Agreement

On June 11, 2021, the Company entered into an Open Market Sale Agreement with Jefferies LLC and Barclays Capital Inc. (the "2021 Sales Agreement") with respect to an at the market offering program under which the Company could, from time to time, offer and sell shares of the Company's common stock having an aggregate offering price of up to $500 million. Pursuant to the 2021 Sales Agreement, the Company paid the agent making each sale a commission equal to 2.0% of the aggregate gross proceeds it received from such sale by such agent of shares under the 2021 Sales Agreement. From the date of the 2021 Sales Agreement through April 30, 2022, approximately 64.0 million shares of the Company's common stock were sold under the 2021 Sales Agreement at an average sales price of $7.79 per share, resulting in aggregate gross proceeds of approximately $498.1 million, before deducting sales commissions. Commissions of approximately $10.0 million in the aggregate were paid to Jefferies LLC and Barclays Capital Inc. in connection with these sales, resulting in aggregate net proceeds to the Company of approximately $488.1 million. Of these sales, approximately 19.9 million shares were sold under the 2021 Sales Agreement during the fiscal year ended October 31, 2022 at an average sales price of $6.07 per share, resulting in gross proceeds during the fiscal year ended October 31, 2022 of $120.8 million, before deducting expenses and sales commissions, and net proceeds to the Company during the fiscal year ended October 31, 2022 of approximately $118.3 million after deducting commissions and offering expenses totaling approximately $2.4 million.

No sales of common stock were made under the 2021 Sales Agreement after April 30, 2022, and no additional sales of common stock can or will be made under the 2021 Sales Agreement, as the Company, Jefferies LLC and Barclays Capital Inc. mutually agreed to terminate the 2021 Sales Agreement as of July 12, 2022.

Public Offerings and Warrants

December 2020 Common Stock Offering

In December of 2020, the Company and Orion Energy Credit Opportunities Fund II, L.P., Orion Energy Credit Opportunities Fund II GPFA, L.P., Orion Energy Credit Opportunities Fund II PV, L.P., and Orion Energy Credit Opportunities FuelCell Co-Invest, L.P. (the lenders under the Orion Credit Agreement) (the "Selling Stockholders") completed a public offering of the Company's common stock. In connection with this public offering, the Company and the Selling Stockholders entered into an underwriting agreement pursuant to which (i) the Company agreed to issue and sell to the underwriters 19,822,219 shares of the Company's common stock, plus up to 5,177,781 shares of common stock pursuant to an option to purchase additional shares, and (ii) the Selling Stockholders agreed to sell to the underwriters 14,696,320 shares of common stock, in each case at a price to the public of $6.50 per share. The underwriters exercised their option to purchase additional shares, resulting in the issuance and sale by the Company at the closing of the offering of a total of 25,000,000 shares of common stock. The offering closed on December 4, 2020.

Gross proceeds from the sale of common stock by the Company in the offering were $162.5 million. The Company did not receive any proceeds from the sale of common stock in the offering by the Selling Stockholders.

The Company and the Selling Stockholders paid underwriting discounts and commissions of $0.2275 per share, and net proceeds to the Company were approximately $156.4 million after deducting such underwriting discounts and commissions and other offering expenses.

May 2017 Public Offering and Related Warrants

On May 3, 2017, the Company completed an underwritten public offering that included the offering and sale of Series C warrants to purchase 1,000,000 shares of its common stock. The Series C warrants had an exercise price of $19.20 per share and a term of five years. During the year ended October 31, 2021, Series C warrants were exercised to purchase a total of 14,026 shares of the Company's common stock, resulting in cash proceeds to the Company of $0.3 million during fiscal year 2021. No Series C warrants were exercised during the fiscal year ended October 31, 2022, and the Series C warrants expired in May 2022.

Orion Warrants

In connection with the closing of, and the initial funding under, the Orion Credit Agreement, on October 31, 2019, the Company issued warrants to the lenders under the Orion Credit Agreement to purchase up to a total of 6,000,000 shares of the Company's common stock, at an exercise price of $0.310 per share (the "Initial Funding Warrants"). In addition, on the date of the second funding under the Orion Credit Agreement (November 22, 2019), the Company issued warrants to the lenders under the Orion Credit Agreement to purchase up to a total of 14,000,000 shares of the Company's common stock, with an exercise price with respect to 8,000,000 of such shares of $0.242 per share and with an exercise price with respect to 6,000,000 of such shares of $0.620 per share (the "Second Funding Warrants", and together with the Initial Funding Warrants, the "Orion Warrants").

On December 7, 2020, all of the then remaining Orion Warrants were exercised to purchase a total of 2,700,000 shares of the Company's common stock for an aggregate exercise price of approximately $0.6 million (or $0.242 per share). The Orion Warrants that were converted on December 7, 2020 were remeasured to fair value immediately preceding the conversion which resulted in a $16.0 million charge for the year ended October 31, 2021. The estimated fair value of the converted Orion Warrants as of the December 7, 2020 date of conversion of $21.2 million was reclassified to Additional paid-in capital.

Note 13. Redeemable Preferred Stock

The Company is authorized to issue up to 250,000 shares of preferred stock, par value $0.01 per share, in one or more series, of which 105,875 shares were designated as 5% Series B Cumulative Convertible Perpetual Preferred Stock (referred to herein as Series B Preferred Stock) in March 2005.

Redeemable Series B Preferred Stock

The Company has designated 105,875 shares of its authorized preferred stock as Series B Preferred Stock (liquidation preference $1,000.00 per share). As of October 31, 2023 and 2022, there were 64,020 shares of Series B Preferred Stock issued and outstanding, with a carrying value of $59.9 million. The following is a summary of certain terms of the Series B Preferred Stock.

Ranking. Shares of the Company's Series B Preferred Stock rank with respect to dividend rights and rights upon the Company's liquidation, winding up or dissolution:

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

Dividends. The Series B Preferred Stock pays cumulative annual dividends of $50.00 per share, which are payable quarterly in arrears on February 15, May 15, August 15, and November 15. Dividends accumulate and are cumulative from the date of original issuance. Unpaid accumulated dividends do not bear interest.

The dividend rate is subject to upward adjustment as set forth in the Amended Certificate of Designation for the Series B Preferred Stock (the "Series B Certificate of Designation") if the Company fails to pay, or to set apart funds to pay, any quarterly dividend on the Series B Preferred Stock.

No dividends or other distributions may be paid or set apart for payment on the Company's common stock (other than a dividend payable solely in shares of a like or junior ranking), nor may any stock junior to or on parity with the Series B Preferred Stock be redeemed, purchased or otherwise acquired for any consideration (or any money paid to or made available for a sinking fund for such stock) by the Company or on its behalf (except by conversion into or exchange for shares of a like or junior ranking), unless all accumulated and unpaid dividends on the Series B Preferred Stock have been paid or funds or shares of common stock have been set aside for payment of such accumulated and unpaid dividends.

The dividends on the Series B Preferred Stock will be paid in cash, unless a registered holder elects (pursuant to the procedures set forth in the Series B Certificate of Designation) to receive such dividends in shares of the Company's common stock. Any such shares of common stock paid in lieu of cash dividends will be treated as restricted securities and will not be transferable by the recipient thereof except pursuant to an effective registration statement or pursuant to an exemption from the registration requirements of the Securities Act of 1933, as amended (the "Securities Act"). Dividends of $3.2 million were paid in cash during each of the fiscal years ended October 31, 2023 and 2022. Cumulative declared and unpaid dividends as of October 31, 2023 and 2022 were $0.8 million.

Liquidation. The holders of Series B Preferred Stock are entitled to receive, in the event that the Company is liquidated, dissolved or wound up, whether voluntarily or involuntarily, $1,000.00 per share plus all accumulated and unpaid dividends up to but excluding the date of such liquidation, dissolution, or winding up (the "Liquidation Preference"). Until the holders of Series B Preferred Stock receive the Liquidation Preference with respect to their shares of Series B Preferred Stock in full, no payment will be made on any junior shares, including shares of the Company's common stock. After the Liquidation Preference is paid in full, holders of the Series B Preferred Stock will not be entitled to receive any further distribution of the Company's assets. (For the avoidance of doubt, neither the voluntary sale of all or substantially all of the Company's assets, nor a merger involving the Company, shall be deemed to be a voluntary or involuntary liquidation, dissolution or winding up of the Company.) As of October 31, 2023 and 2022, the issued and outstanding shares of Series B Preferred Stock had an aggregate Liquidation Preference of $64.0 million.

Conversion Rights. Each share of Series B Preferred Stock may be converted at any time, at the option of the holder, into 0.591 shares of the Company's common stock (which is equivalent to an initial conversion price of $1,692.00 per share) plus cash in lieu of fractional shares. The conversion rate is subject to adjustment upon the occurrence of certain events, as described in the Series B Certificate of Designation. The conversion rate is not adjusted for accumulated and unpaid dividends. If converted, holders of Series B Preferred Stock do not receive a cash payment for all accumulated and unpaid dividends; rather, all accumulated and unpaid dividends are canceled.

The Company may, at its option, cause shares of Series B Preferred Stock to be automatically converted into that number of shares of its common stock that are issuable at the then-prevailing conversion rate. The Company may exercise its conversion right only if the closing price of its common stock exceeds 150% of the then-prevailing conversion price ($1,692.00 per share as of October 31, 2023) for 20 trading days during any consecutive 30 trading day period, as described in the Series B Certificate of Designation.

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

The adjustment of the conversion price is to prevent dilution of the interests of the holders of the Series B Preferred Stock from certain dilutive transactions with holders of the Company's common stock.

Redemption. The Company does not have the option to redeem the Series B Preferred Stock. However, holders of the Series B Preferred Stock can require the Company to redeem all or a portion of their shares of Series B Preferred Stock at a redemption price equal to the Liquidation Preference of the shares to be redeemed in the case of a "fundamental change" (as further described in the Series B Certificate of Designation). A fundamental change will be deemed to have occurred if any of the following occurs:

- 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 the Company's capital stock then outstanding and normally entitled to vote in the election of directors;

- during any period of two consecutive years, individuals who at the beginning of such period constituted the board of directors of the Company (together with any new directors whose election to the Company's board of directors or whose nomination for election by the stockholders was approved by a vote of 66 2/3% of the Company's 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 the directors of the Company then in office;

- the termination of trading of the Company's common stock on The Nasdaq Stock Market and the common stock is not approved for trading or quoted on any other U.S. securities exchange or established over-the-counter trading market in the U.S.; or

- the Company (i) consolidates with or merges with or into another person or another person merges with or into the Company or (ii) sells, assigns, transfers, leases, conveys or otherwise disposes of all or substantially all of the assets of the Company and certain of its subsidiaries, taken as a whole, to another person and, in the case of any such merger or consolidation described in clause (i), the securities that are outstanding immediately prior to such transaction (and which represent 100% of the aggregate voting power of the Company's voting stock) are changed into or exchanged for cash, securities or property, unless pursuant to the transaction such securities are changed into or exchanged for 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 the Series B Preferred Stock will not have the right to require the Company to redeem their shares if:

- the last reported sale price of shares of the Company's 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 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 or transactions constituting the fundamental change consists of shares of capital stock traded on a U.S. national securities exchange or quoted on The Nasdaq Stock Market, 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 or transactions, shares of Series B Preferred Stock become convertible into such publicly traded securities; or

- in the case of a merger or consolidation constituting a fundamental change (as described in the fourth bullet above), the transaction is affected solely to change the Company's jurisdiction of incorporation.

Moreover, the Company will not be required to redeem any Series B Preferred Stock upon the occurrence of a fundamental change if a third party makes an offer to purchase the Series B Preferred Stock in the manner, at the price, at the times and otherwise in compliance with the requirements set forth above and such third party purchases all shares of Series B Preferred Stock validly tendered and not withdrawn.

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

Voting Rights. Holders of Series B Preferred Stock currently have no voting rights; however, holders may receive certain voting rights, as described in the Series B Certificate of Designation, if (a) dividends on any shares of Series B Preferred Stock, or any other class or series of stock ranking on parity with the Series B Preferred Stock with respect to the payment of dividends, shall be in arrears for dividend periods, whether or not consecutive, containing in the aggregate a number of days equivalent to six calendar quarters or (b) the Company fails to pay the redemption price, plus accrued and unpaid dividends, if any, on the redemption date for shares of Series B Preferred Stock following a fundamental change. In each such event, the holders of Series B Preferred Stock (voting separately as a class with all other classes or series of stock ranking on parity with the Series B Preferred Stock with respect to the payment of dividends and upon which like voting rights have been conferred and are exercisable) will be entitled to elect two directors to the Company's board of directors in addition to those directors already serving on the Company's board of directors at such time (the "Series B Directors"), at the next annual meeting of the Company's stockholders (or at a special meeting of the Company's stockholders called for such purpose, whichever is earlier). The right to elect the Series B Directors will continue for each subsequent annual meeting of the Company's stockholders until all dividends accumulated on the shares of Series B Preferred Stock have been fully paid or set aside for payment or the Company pays in full or sets aside for payment such redemption price, plus accrued but unpaid dividends, if any, on the redemption date for the shares of Series B Preferred Stock following a fundamental change. The term of office of any Series B Directors will terminate immediately upon the termination of the right of holders of Series B Preferred Stock to elect such Series B Directors, as described in this paragraph. Each holder of Series B Preferred Stock will have one vote for each share of Series B Preferred Stock held in the election of Series B Directors. The Company previously failed to make timely payment of the accrued dividends on the Series B Preferred Stock with respect to the May 15, 2019 and August 15, 2019 dividend payment dates. Such amounts were fully paid on or about November 15, 2019.

So long as any shares of Series B Preferred Stock remain outstanding, the Company will not, without the consent of the holders of at least two-thirds of the shares of Series B Preferred Stock outstanding at the time (voting separately as a class with all other series of preferred stock, if any, on parity with the Series B Preferred Stock upon which like voting rights have been conferred and are exercisable) issue or increase the authorized amount of any class or series of shares ranking senior to the outstanding shares of the Series B Preferred Stock as to dividends or upon liquidation. In addition, the Company will not, subject to certain conditions, amend, alter or repeal provisions of the Company's certificate of

incorporation, as amended, including the Series B Certificate of Designation, whether by merger, consolidation or otherwise, so as to adversely amend, alter or affect any power, preference or special right of the outstanding shares of Series B Preferred Stock or the holders thereof without the affirmative vote of not less than two-thirds of the issued and outstanding shares of Series B Preferred Stock. The amendment of the Company's certificate of incorporation in October 2023 did not trigger this provision.

Note 14. Segment Information

We are engaged in the development, design, production, construction, and servicing of high temperature fuel cells for clean electric power generation. Critical to the success of our business is, among other things, our research and development efforts, both through customer-sponsored projects and Company-sponsored projects. The research and development activities are viewed as another product line that contributes to the development, design, production and sale of fuel cell products, however, it is not considered a separate operating segment. The chief operating decision maker does not review and assess financial information at a discrete enough level to be able to assess performance of research and development activities as if they operated as a standalone business segment, therefore, the Company has identified one business segment: fuel cell power plant production and research.

Revenues, by geographic location (based on the customer's ordering location) for the years ended October 31, 2023, 2022 and 2021 were as follows (in thousands):

	2023	2022	2021
United States	$ 63,289	$ 60,290	$ 58,393
South Korea	58,432	68,341	8,161
Europe	1,673	1,853	3,031
Total	$ 123,394	$ 130,484	$ 69,585

Long-lived assets located outside of the United States as of October 31, 2023 and 2022 are not significant individually or in the aggregate.

Note 15. Benefit Plans

We have stockholder approved equity incentive plans, a stockholder approved Employee Stock Purchase Plan and an employee tax-deferred savings plan, which are described in more detail below.

Third Amended and Restated 2018 Omnibus Incentive Plan

At the Company's 2023 Annual Meeting of Stockholders, which was called to order and adjourned on April 6, 2023 and April 27, 2023 and was reconvened and concluded on May 22, 2023 (the "Annual Meeting"), the Company's stockholders approved the amendment and restatement of the FuelCell Energy, Inc. Second Amended and Restated 2018 Omnibus Incentive Plan (as so amended and restated, the "Third Amended and Restated Incentive Plan"), which had previously been approved by the Company's Board of Directors (the "Board"), subject to stockholder approval.

The purpose of the amendment and restatement of the Second Amended and Restated 2018 Omnibus Incentive Plan was to authorize the Company to issue up to 6,000,000 additional shares of the Company's common stock pursuant to awards under the Third Amended and Restated Incentive Plan.

Following the approval of the amendment and restatement (and therefore the Third Amended and Restated Incentive Plan) by the Company's stockholders at the Annual Meeting, the Third Amended and Restated Incentive Plan provides the Company with the authority to issue a total of 18,333,333 shares of the Company's common stock. The Third Amended and Restated Incentive Plan authorizes grants of stock options, stock appreciation rights ("SARs"), restricted stock awards ("RSAs"), restricted stock units ("RSUs"), shares, performance shares, performance units, incentive awards and dividend equivalent units to officers, other employees, directors, consultants and advisors. Up to 1,833,333 shares of the Company's common stock may be issued pursuant to the exercise of incentive stock options. Stock options, RSAs, RSUs and SARs have restrictions as to transferability. Stock option exercise prices are fixed by the Board but shall not be less than the fair market value of our common stock on the date of the grant. SARs may be granted in conjunction with stock options. The Board or the administrator of the Third Amended and Restated Incentive Plan may terminate the Third Amended and Restated Incentive Plan at any time. No award may be granted under the Third Amended and Restated Plan after the tenth anniversary of the approval of the Third Amended and Restated Plan by stockholders at the Annual Meeting.

Of the 18,333,333 shares of the Company's common stock authorized to be issued under the Third Amended and Restated Incentive Plan as of October 31, 2023, 9,069,450 remained available for grant as of October 31, 2023. Of the shares remaining available for grant, the Company had reserved, for potential future grant, up to 1,481,395 performance stock units if maximum performance is achieved.

Amended and Restated 2018 Employee Stock Purchase Plan

At the Annual Meeting, the Company's stockholders approved the amendment and restatement of the FuelCell Energy, Inc. 2018 Employee Stock Purchase Plan (as so amended and restated, the "Amended and Restated ESPP"), which had previously been approved by the Board, subject to stockholder approval.

The purpose of the amendment and restatement of the 2018 Employee Stock Purchase Plan was to authorize the Company to issue up to 500,000 additional shares of the Company's common stock under the Amended and Restated ESPP.

Following the approval of the amendment and restatement (and therefore the Amended and Restated ESPP) by the Company's stockholders at the Annual Meeting, the Amended and Restated ESPP provides the Company with the authority to issue a total of 541,667 shares of the Company's common stock. The Amended and Restated ESPP also increases the limit on the number of shares of the Company's common stock that any individual participant may purchase during an offering period to 1,000 shares.

The Amended and Restated ESPP, which is intended to satisfy the requirements of Section 423 of the Internal Revenue Code of 1986, as amended, allows the Company to provide eligible employees of the Company and of certain designated subsidiaries with the opportunity to voluntarily participate in the Amended and Restated ESPP, enabling such participants to purchase shares of the Company's common stock at a discount to market price at the time of such purchase. The Board may, in its sole discretion, terminate the Amended and Restated ESPP at any time. If the Board does not earlier terminate the Amended and Restated ESPP, the Amended and Restated ESPP will terminate on the date on which all shares of common stock available for issuance have been sold pursuant to purchase rights exercised under the Amended and Restated ESPP.

Under the Amended and Restated ESPP, eligible employees have the right to purchase shares of common stock at the lesser of (i) 85% of the last reported sale price of our common stock on the first business day of the offering period, or (ii) 85% of the last reported sale price of the common stock on the last business day of the offering period, in either case rounded up to avoid impermissible trading fractions. Shares issued pursuant to the ESPP contain a legend restricting the transfer or sale of such common stock for a period of 0.5 year after the date of purchase.

The ESPP activity for the years ended October 31, 2023, 2022 and 2021 was de minimis.

Long-Term Incentive Plans

The Company's Board of Directors (the "Board") periodically approves Long Term Incentive Plans which include performance-based awards tied to the Company's common stock price as well as time-vesting awards. None of the awards granted as part of Long-Term Incentive Plans include any dividend equivalent or other stockholder rights. To the extent the awards are earned, they may be settled in shares or cash of an equivalent value at the Company's option. These plans are further described below.

Fiscal Year 2023 Long-Term Incentive Plan:

On December 5, 2022, the Board approved a Long-Term Incentive Plan for fiscal year 2023 (the "FY 2023 LTI Plan") as a sub-plan consisting of awards made under the 2018 Incentive Plan. The participants in the FY 2023 LTI Plan are members of senior management. The FY 2023 LTI Plan consists of two award components:

1) Relative Total Shareholder Return ("TSR") Performance Share Units ("PSU"). The PSUs granted during the year ended October 31, 2023 will be earned over the performance period ending on October 31, 2025, but will remain subject to a continued service-based vesting requirement until the third anniversary of the date of grant. The performance measure for the relative TSR PSUs is the TSR of the Company relative to the TSR of the Russell 2000 from November 1, 2022 through October 31, 2025. The Compensation Committee of the Board established the performance assessment criteria for the relative TSR PSUs as the TSR of the Company relative to the TSR of the Russell 2000, with the award calibration being 100% plus or minus 0.5x the difference between the Company's TSR and the Russell 2000 Index composite TSR. The award is capped at 200% of the target number

of PSUs, and the award is further capped at 100% of the target number of PSUs if the Company's absolute TSR over the performance period is negative. The Company's TSR is calculated by subtracting the Company's beginning stock price (defined as the average closing price of the Company's common stock over the 60 consecutive trading days ending on October 31, 2022) from the ending stock price (defined as the average closing price of the Company's common stock over the 60 consecutive trading days ending on October 31, 2025), adding any dividends during the period, and then dividing the result by the Company's beginning stock price. Given that the performance period is still open, the Company has reserved shares equal to 200% of the target number of PSUs, subject to performance during the remaining performance period as well as vesting based on continued service until December 5, 2025 (the third anniversary of the grant date).

2) Time-vesting RSUs. The time-vesting RSUs granted during the year ended October 31, 2023 will vest at a rate of one-third of the total number of RSUs on each of the first three anniversaries of the date of grant.

Fiscal Year 2022 Long Term Incentive Plan:

On December 10, 2021, the Board approved a Long-Term Incentive Plan for fiscal year 2022 (the "FY 2022 LTI Plan") as a sub-plan consisting of awards made under the 2018 Incentive Plan. The participants in the FY 2022 LTI Plan are members of senior management. The FY 2022 LTI Plan consists of two award components:

1) Relative TSR PSU awards. The PSUs granted during the year ended October 31, 2022 will be earned over the performance period ending on October 31, 2024, but will remain subject to a continued service-based vesting requirement until the third anniversary of the date of grant. The performance measure for the relative TSR performance units is the TSR of the Company relative to the TSR of the Russell 2000 from November 1, 2021 through October 31, 2024. The Compensation Committee established the performance assessment criteria for the relative TSR PSUs as the TSR of the Company relative to the TSR of the Russell 2000, with the award calibration being 100% plus or minus 0.5x the difference between the Company's TSR and the Russell 2000 Index composite TSR. The award is capped at 200% of the target number of PSUs, and the award is further capped at 100% of the target number of PSUs if the Company's absolute TSR over the performance period is negative. The Company's TSR is calculated by subtracting the Company's beginning stock price (defined as the average closing price of the Company's common stock over the 20 consecutive trading days ending on October 31, 2021) from the ending stock price (defined as the average closing price of the Company's common stock over the 20 consecutive trading days ending on October 31, 2024), adding any dividends during the period, and then dividing the result by the Company's beginning stock price. Given that the performance period is still open, the Company has reserved shares equal to 200% of the target number of PSUs, subject to performance during the remaining performance period as well as vesting based on continued service until December 10, 2024 (the third anniversary of the grant date).

2) Time-vesting restricted stock units. The time-vesting RSUs granted during the year ended October 31, 2022 will vest at a rate of one-third of the total number of RSUs on each of the first three anniversaries of the date of grant.

Fiscal Year 2021 Long Term Incentive Plan:

On November 24, 2020, the Board approved a Long-Term Incentive Plan for fiscal year 2021 (the "FY 2021 LTI Plan") as a sub-plan consisting of awards made under the 2018 Incentive Plan. The participants in the FY 2021 LTI Plan are members of senior management. The FY 2021 LTI Plan consists of three award components:

1) Relative TSR PSU awards. The PSUs granted during the year ended October 31, 2021 were earned over the performance period ended on October 31, 2023, but remained subject to a continued service-based vesting requirement until the third anniversary of the date of grant (November 24, 2023). The performance measure for the relative TSR PSUs was the TSR of the Company relative to the TSR of the Russell 2000 from November 1, 2020 through October 31, 2023. The Compensation Committee established the performance assessment criteria for the relative TSR PSUs as the TSR of the Company relative to the TSR of the Russell 2000, with the award calibration being 100% plus or minus 0.5x the difference between the Company's TSR and the Russell 2000 Index composite TSR. The award was capped at 200% of the target number of PSUs, and the award was further capped at 100% of the target number of PSUs if the Company's absolute TSR over the performance period was negative. The Company's TSR was calculated by subtracting the Company's beginning stock price (defined as the average closing price of the Company's common stock over the 20 consecutive trading days ending on

October 30, 2020) from the ending stock price (defined as the average closing price of the Company's common stock over the 20 consecutive trading days ending on October 31, 2023), adding any dividends during the period, and then dividing the result by the Company's beginning stock price. On November 17, 2023, based on the calculations described above, the Compensation Committee certified awards at 73.541% of the target amount, subject to continued service until November 24, 2023 (the third anniversary of the grant date).

2) Absolute TSR PSU awards. The performance measure for the absolute TSR PSUs was an increase in the Company's stock price during the performance period of November 1, 2020 through October 31, 2023, with the award calibration being based on a specified percentage increase in the price of the Company's common stock over the average closing price of the Company's common stock over the 20 consecutive trading days ending on October 30, 2020, which was $2.27. Specifically, a 25% increase would earn 50% of the target award, a 50% increase would earn 100% of the target award and a 100% increase would earn 200% of the target award. Each price hurdle was required to be met and was met for 20 consecutive trading days during the performance period. The Compensation Committee certified achievement of a 150% increase during fiscal year 2021, resulting in an award percentage of 200%. As a result, the Company reserved shares equal to 200% of the target number of PSUs, subject to continued service until November 24, 2023 (the third anniversary of the grant date).

3) Time-vesting restricted stock units. The time-vesting RSUs granted during the year ended October 31, 2021 vest at a rate of one-third of the total number of RSUs on each of the first three anniversaries of the date of grant.

Other Equity Incentive Plans

The Company's 2006 and 2010 Equity Incentive Plans remain in effect only to the extent of awards outstanding under the plans as of October 31, 2023.

Share-Based Compensation

Share-based compensation was reflected in the Consolidated Statements of Operations and Comprehensive Loss as follows (in thousands):

	Year Ended October 31,		
	2023	2022	2021
Cost of revenues	$ 1,502	$ 706	$ 493
Administrative and selling expense	8,657	5,418	3,593
Research and development expense	1,429	456	111
	$ 11,588	$ 6,580	$ 4,197

Restricted Stock Units Including Performance Based Awards

The following table summarizes our RSU and PSU activity for the year ended October 31, 2023:

Restricted Stock Units	Shares	Weighted-Average Fair Value
Outstanding as of October 31, 2022	2,520,881	$ 7.93
Granted - PSUs	1,124,953	5.50
Granted - time-vesting RSUs	4,538,236	3.36
Vested	(1,207,881)	5.39
Forfeited	(433,051)	5.01
Outstanding as of October 31, 2023	6,543,138	$ 5.06

On December 5, 2022, 2,249,890 RSUs were awarded to senior management under the FY 2023 LTI Plan, which included 1,124,953 PSUs and 1,124,937 time-based vesting RSUs. The PSUs were valued based on a Monte-Carlo Simulation, and the estimated fair value of the relative TSR PSUs was $5.50 per share. The PSUs and time-based vesting RSUs are expensed over the three-year service period.

In addition to the awards granted to senior management, during the year ended October 31, 2023, the Board also granted a total of 3,413,299 time-based vesting RSU awards to certain salaried employees to promote ownership of the Company's

equity and retention. The time-based vesting RSUs granted during the year ended October 31, 2023 vest at a rate of one-third of the total number of RSUs granted on each of the first three anniversaries of the date of grant.

PSUs are issued assuming participants achieve 100% target performance. The Company also reserves additional shares assuming the maximum performance targets are met. As of October 31, 2023, the Company had reserved an additional 210,190 shares for potential issuance under the FY 2021 LTI Plan, an additional 175,548 shares for potential issuance under the FY 2022 LTI Plan and an additional 1,095,657 shares for potential issuance under the FY 2023 LTI Plan.

RSU and PSU expense is based on the fair value of the award at the date of grant and is amortized over the vesting period, which is generally over 3 or 4 years.

As of October 31, 2023, total unrecognized compensation cost related to RSUs and PSUs was $17.0 million, which is expected to be recognized over approximately the next two years on a weighted-average basis.

Stock Awards

During the years ended October 31, 2023, 2022 and 2021, we awarded 103,631, 76,848 and 31,889 shares, respectively, of fully vested, unrestricted common stock to the independent members of our Board as a component of Board compensation, which resulted in recognizing $0.2 million, $0.2 million and $0.3 million of expense for the years ended October 31, 2023, 2022 and 2021, respectively.

Employee Tax-Deferred Savings Plans

We offer a 401(k) plan (the "401(k) Plan") to all full time employees that provides for tax-deferred salary deductions for eligible employees (beginning the first month following an employee's hire date). Employees may choose to make voluntary contributions of their annual compensation to the 401(k) Plan, limited to an annual maximum amount as set periodically by the U.S. Internal Revenue Service ("IRS"). Employee contributions are fully vested when made. Under the 401(k) Plan, there is no option available to the employee to receive or purchase our common stock. Matching contributions of 2% under the 401(k) Plan aggregated $1.1 million, $0.5 million, and $0.4 million for the years ended October 31, 2023, 2022, and 2021, respectively.

Note 16. Income Taxes

The components of loss before income taxes for the years ended October 31, 2023, 2022, and 2021 were as follows (in thousands):

	2023	2022	2021
U.S.	$ (95,910)	$ (145,439)	$ (96,959)
Foreign	(11,565)	(974)	(4,064)
Loss before income taxes	$ (107,475)	$ (146,413)	$ (101,023)

The Company recorded an income tax provision totaling $0.6 million, $0.8 million and $0 for the years ended October 31, 2023, 2022 and 2021, respectively. The income tax expense primarily relates to foreign income taxes in South Korea.

Franchise tax expense, which is included in administrative and selling expenses, was $0.9 million, $1.0 million and $0.5 million for the years ended October 31, 2023, 2022 and 2021, respectively.

The reconciliation of the federal statutory income tax rate to our effective income tax rate for the years ended October 31, 2023, 2022 and 2021 was as follows:

	2023	2022	2021
Statutory federal income tax rate	(21.0)%	(21.0)%	(21.0)%
Increase (decrease) in income taxes resulting from:			
State taxes, net of Federal benefits	(3.2)%	(3.6)%	(5.2)%
Foreign withholding tax	0.5 %	0.6 %	0.2 %
Net operating loss expiration, impairment and true-ups	6.1 %	8.7 %	3.6 %
Nondeductible expenditures	2.1 %	1.4 %	1.9 %
Change in tax rates	2.8 %	0.3 %	(1.3)%
Fair value adjustment on warrants	— %	— %	3.3 %
Other, net	0.6 %	0.7 %	— %
Deferred only adjustment	(0.1)%	(0.1)%	0.8 %
Valuation allowance	12.7 %	13.6 %	17.9 %
Effective income tax rate	0.5 %	0.6 %	0.2 %

Our deferred tax assets and liabilities consisted of the following as of October 31, 2023 and 2022 (in thousands):

	2023	2022
Deferred tax assets:		
Compensation and benefit accruals	$ 6,026	$ 8,523
Bad debt and other allowances	1,945	2,453
Capital loss and tax credit carry-forwards	14,701	14,310
Net operating losses (domestic and foreign)	139,900	123,825
Deferred license revenue	1,148	1,548
Accumulated depreciation	14,051	20,229
Grant revenue	323	475
Excess business interest	6,406	10,424
Operating lease liabilities	1,879	2,085
Capitalized research and development	9,729	—
Mark-to-market	987	—
Other	4	—
Gross deferred tax assets:	197,099	183,872
Valuation allowance	(193,477)	(180,048)
Deferred tax assets after valuation allowance	3,622	3,824
Deferred tax liability:		
In process research and development	(2,293)	(2,475)
Right of use assets	(1,600)	(1,809)
Other	(9)	—
Net deferred tax liability	$ (280)	$ (460)

We continually evaluate our deferred tax assets as to whether it is "more likely than not" that the deferred tax assets will be realized. In assessing the realizability of our deferred tax assets, management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies. Based on the projections for future taxable income over the periods in which the deferred tax assets are realizable, management believes the deferred tax assets are not more likely than not to be realized. As a result, we recorded a valuation allowance against our net deferred tax assets. As of October 31, 2023, we had $481.5 million of federal net operating loss ("NOL") carryforwards that expire in the years 2024 to 2038 and $516.4 million of state NOL carryforwards that expire in the years 2024 through 2041. Additionally, we had $11.7 million of state tax credits available that will expire from tax years 2024 to 2040.

During the 2020 tax year, the Company experienced an "ownership change" as defined by Internal Revenue Code Section 382. As a result, the utilization of federal and state NOLs generated prior to October of 2020 is subject to limitation and a reduction was made in fiscal year 2020 to the carrying balance of the federal and state NOLs to reflect the future limitation on utilization. The Company has updated its analysis of potential ownership changes through October 31, 2023 and concluded that no additional ownership changes have occurred subsequent to October 2020. In addition, the acquisition of Versa Inc. in fiscal year 2013 triggered a Section 382 ownership change at the level of Versa Inc. which will limit the

future usage of some of the federal and state NOLs that we acquired in that transaction. Accordingly, a valuation allowance has been recorded against the deferred tax asset associated with these attributes to reflect the future limitation on utilization.

The Company's financial statements reflect expected future tax consequences of uncertain tax positions that the Company has taken or expects to take on a tax return (including a decision whether to file or not file a return in a particular jurisdiction) presuming the taxing authorities' full knowledge of the position and all relevant facts.

The Company did not have any unrecognized tax benefits as of October 31, 2023 and 2022. It is our policy to record interest and penalties on unrecognized tax benefits as income taxes; however, because of our significant NOLs, no provision for interest or penalties has been recorded.

We file income tax returns in the U.S. and certain states, primarily Connecticut and California, as well as income tax returns required internationally for South Korea and Germany. We are open to examination by the IRS and various states in which we file for fiscal year 2003 to the present.

Note 17. Loss Per Share

Basic earnings (loss) per common share ("EPS") are generally calculated as income (loss) available to common stockholders divided by the weighted average number of common shares outstanding. Diluted EPS is generally calculated as income (loss) available to common stockholders divided by the weighted average number of common shares outstanding plus the dilutive effect of common share equivalents.

The calculation of basic and diluted EPS for the years ended October 31, 2023, 2022 and 2021 was as follows (amounts in thousands, except share and per share amounts):

	Year ended October 31,		
	2023	2022	2021
Numerator			
Net loss attributable to FuelCell Energy, Inc.	$ (107,568)	$ (142,722)	$ (101,055)
Series B preferred stock dividends	(3,200)	(3,200)	(3,200)
Net loss attributable to common stockholders	$ (110,768)	$ (145,922)	$ (104,255)
Denominator			
Weighted average common shares outstanding – basic	419,747,796	383,139,140	334,742,346
Effect of dilutive securities [(1)]	—	—	—
Weighted average common shares outstanding – diluted	419,747,796	383,139,140	334,742,346
Net loss to common stockholders per share – basic	$ (0.26)	$ (0.38)	$ (0.31)
Net loss to common stockholders per share – diluted [(1)]	$ (0.26)	$ (0.38)	$ (0.31)

(1) Due to the net loss to common stockholders in each of the years presented above, diluted earnings per share was computed without consideration to potentially dilutive instruments as their inclusion would have been antidilutive. As of October 31, 2023, 2022 and 2021, potentially dilutive securities excluded from the diluted loss per share calculation are as follows:

	October 31, 2023	October 31, 2022	October 31, 2021
May 2017 Offering – Series C Warrants	—	—	950,102
Outstanding options to purchase common stock	18,291	20,231	22,388
Unvested Restricted Stock Units	6,543,138	2,520,881	2,543,541
5% Series B Cumulative Convertible Perpetual Preferred Stock	37,837	37,837	37,837
Total potentially dilutive securities	6,599,266	2,578,949	3,553,868

Note 18. Restricted Cash

As of October 31, 2023 and 2022, there was $49.6 million and $23.0 million, respectively, of restricted cash and cash equivalents pledged as performance security, reserved for future debt service requirements, and reserved for letters of credit for certain banking requirements and contracts. The allocation of restricted cash is as follows (in thousands):

	October 31, 2023	October 31, 2022
Cash Restricted for Outstanding Letters of Credit [1]	$ 14,152	$ 4,993
Cash Restricted for PNC Sale-Leaseback Transactions	—	5,010
Cash Restricted for Crestmark Sale-Leaseback Transactions	2,901	2,894
Bridgeport Fuel Cell Park Project Debt Service and Performance Reserves	—	8,746
Debt Service and Performance Reserves related to OpCo Financing Facility	19,698	—
Debt Service and Performance Reserves related to the Senior and Subordinated Back Leverage Loan Facilities	9,294	—
Other	3,579	1,346
Total Restricted Cash	49,624	22,989
Restricted Cash and Cash Equivalents – Short-Term [2]	(5,159)	(4,423)
Restricted Cash and Cash Equivalents – Long-Term	$ 44,465	$ 18,566

(1) Letters of credit outstanding as of October 31, 2023 expire on various dates through August 2028.
(2) Short-term restricted cash and cash equivalents are amounts expected to be released and categorized as unrestricted cash within twelve months of the balance sheet date.

Note 19. Commitments and Contingencies

Service Agreements

Under the provisions of its service agreements, the Company provides services to maintain, monitor, and repair customer power plants to meet minimum operating levels. Under the terms of such service agreements, the particular power plant must meet a minimum operating output during defined periods of the term. If minimum output falls below the contract requirement, the Company may be subject to performance penalties and/or may be required to repair or replace the customer's fuel cell module(s).

Power Purchase Agreements

Under the terms of the Company's PPAs, customers agree to purchase power from the Company's fuel cell power plants at negotiated rates. Electricity rates are generally a function of the customers' current and estimated future electricity pricing available from the grid. As owner or lessee of the power plants, the Company is responsible for all operating costs necessary to maintain, monitor and repair the power plants. Under certain agreements, the Company is also responsible for procuring fuel, generally natural gas or biogas, to run the power plants. In addition, under the terms of some of the PPAs, the Company may be subject to a performance penalty if the Company does not meet certain performance requirements.

Project Fuel Exposure

Certain of our PPAs for project assets in our generation operating portfolio and project assets under construction expose us to fluctuating fuel price risks as well as the risk of being unable to procure the required amounts of fuel and the lack of alternative available fuel sources. We seek to mitigate our fuel risk using strategies including: (i) fuel cost reimbursement mechanisms in our PPAs to allow for pass through of fuel costs (full or partial) where possible, which we have done with

our 14.9 MW operating project in Bridgeport, CT; (ii) procuring fuel under fixed price physical supply contracts with investment grade counterparties, which we have done for twenty years for our Tulare BioMAT project, the initial seven years of the eighteen year PPA for our LIPA Yaphank Project, six years of the twenty year PPA for our 14.0 MW Derby project, and the initial two years of the twenty year hydrogen power purchase agreement for our Toyota project; and (iii) potentially entering into future financial hedges with investment grade counterparties to offset potential negative market fluctuations.

There are currently three projects with fuel sourcing risk, which are the Toyota project, which requires procurement of RNG, and our Derby, CT 14.0 MW and 2.8 MW projects, both of which require natural gas for which there is no pass-through mechanism. A two-year (through May of 2025) fuel supply contract has been executed for the Toyota project. Six-year (through October 2029) fuel supply contracts have been executed for the 14.0 MW and 2.8 MW projects in Derby, CT. The Company will look to extend the duration of these contracts should market and credit conditions allow. If the Company is unable to secure fuel on favorable economic terms, it may result in impairment charges to the Derby project assets and further charges for the Toyota project asset.

The Company recorded a derivative gain during the year ended October 31, 2023 of $4.1 million as a result of net settling certain natural gas purchases under a previous normal purchase normal sale contract designation which resulted in a change to mark-to-market accounting. The Company has recorded the derivative asset within other assets on the Consolidated Balance Sheets.

Other

As of October 31, 2023, the Company had unconditional purchase commitments aggregating $102.2 million, for materials, supplies and services in the normal course of business.

Legal Proceedings

From time to time, the Company is involved in legal proceedings, including, but not limited to, regulatory proceedings, claims, mediations, arbitrations and litigation, arising out of the ordinary course of its business ("Legal Proceedings"). Although the Company cannot assure the outcome of such Legal Proceedings, management presently believes that the result of such Legal Proceedings, either individually, or in the aggregate, will not have a material adverse effect on the Company's consolidated financial statements, and no material amounts have been accrued in the Company's consolidated financial statements with respect to these matters.

Note 20. Supplemental Cash Flow Information

The following represents supplemental cash flow information (dollars in thousands):

	Year Ended October 31,		
	2023	2022	2021
Cash interest paid	$ 3,088	$ 1,556	$ 5,765
Income taxes paid	6	2	6
Noncash financing and investing activity:			
Noncash reclassifications between inventory and project assets	1,987	1,260	7,052
Noncash reclassifications from inventory to fixed assets	—	1,552	—
Noncash reclassifications from other assets to project assets	—	2,375	—
Director stock compensation	225	305	275
Accrued noncontrolling interest distribution	148	—	—
Addition of operating lease liabilities	1,952	—	1,459
Addition of operating lease right-of-use assets	1,952	—	1,459
Reclassification to equity of warrant liability for warrant exercises	—	—	21,170
Noncash reduction in basis of project assets	6,330	—	—
Accrued purchase of fixed assets, cash paid to be paid in subsequent period	1,646	4,396	1,537
Accrued purchase of project assets, cash to be paid in subsequent period	4,515	6,444	6,707

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

Item 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures.

The Company maintains disclosure controls and procedures, which are designed to provide reasonable assurance that information required to be disclosed in the Company's periodic SEC reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to its principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

We carried out an evaluation, under the supervision and with the participation of our principal executive officer and principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this report. Based on that evaluation, the Company's principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures were effective as of the end of the period covered by this report.

Management's Annual Report on Internal Control Over Financial Reporting.

Management of FuelCell Energy, Inc. and its subsidiaries (the "Company") is responsible for establishing and maintaining adequate internal control over financial reporting. The Company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States of America. Internal control over financial reporting includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles in the United States of America, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Under the supervision and with the participation of management, including our principal executive and principal financial officers, we evaluated the Company's internal control over financial reporting as of October 31, 2023, based on criteria for effective internal control over financial reporting established in the *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on this assessment, we have concluded that the Company maintained effective internal control over financial reporting as of October 31, 2023 based on the specified criteria. The Company's independent registered public accounting firm, KPMG LLP, has issued an audit report on the Company's internal control over financial reporting, which appears in Part II, Item 8 of this Form 10-K.

Changes in Internal Control Over Financial Reporting.

There have been no changes in our internal control over financial reporting that occurred during the fourth quarter of fiscal year 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. OTHER INFORMATION

(b) During the three months ended October 31, 2023, no director or Section 16 officer of the Company adopted or terminated a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement," as each term is defined in Item 408(a) of Regulation S-K.

Item 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item 10, with respect to our executive officers, is included in Part I of this Annual Report on Form 10-K under the heading "*Information about our Executive Officers*". The other information required by this Item 10 is incorporated by reference to the Company's 2024 Proxy Statement to be filed with the SEC within 120 days after fiscal year end.

Our board of directors has adopted a Code of Ethics (the "Code"), which applies to the board of directors, named executive officers, and all employees. The Code provides a statement of certain fundamental principles and key policies and procedures that govern the conduct of our business. The Code covers all major areas of professional conduct, including employment policies, conflicts of interest, intellectual property and the protection of confidential information, as well as strict adherence to all laws and regulations applicable to the conduct of our business. As required by the Sarbanes-Oxley Act of 2002, our Audit and Finance Committee has procedures to receive, retain, investigate and resolve complaints received regarding our accounting, internal accounting controls or auditing matters and to allow for the confidential and anonymous submission by employees of concerns regarding questionable accounting or auditing matters. The Code can be found in the Corporate Governance sub-section of the section entitled "Investors" on our website at *www.fuelcellenergy.com*. We intend to disclose any changes in, or waivers from, the Code by posting such information on the same website or by filing a Current Report on Form 8-K, in each case to the extent such disclosure is required by rules of the SEC or Nasdaq.

Item 11. EXECUTIVE COMPENSATION

Information required under this Item is incorporated by reference to the Company's 2024 Proxy Statement to be filed with the SEC within 120 days after fiscal year end.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information required under this Item is incorporated by reference to the Company's 2024 Proxy Statement to be filed with the SEC within 120 days after fiscal year end.

Equity Compensation Plan Information

The following table sets forth information with respect to the Company's equity compensation plans as of the end of the fiscal year ended October 31, 2023.

Plan Category	Number of Common Shares to be issued upon exercise of outstanding options and rights	Weighted-average exercise price of outstanding options and rights	Number of securities remaining available for future issuance under equity compensation plans
Equity compensation plans approved by security holders:			
Equity incentive plans [(1)]	18,291	$ 59.63	9,069,450
Employee stock purchase plan	—	—	481,278
Total	18,291	$ 59.63	9,550,728

(1) Includes the Company's 2018 Omnibus Incentive Plan, as amended and restated.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information required under this Item is incorporated by reference to the Company's 2024 Proxy Statement to be filed with the SEC within 120 days after fiscal year end.

Item 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information required under this Item is incorporated by reference to the Company's 2024 Proxy Statement to be filed with the SEC within 120 days after fiscal year end.

PART IV

Item 15. EXHIBIT AND FINANCIAL STATEMENT SCHEDULES

The following documents are filed as part of this report:

1 Financial Statements — See Index to Consolidated Financial Statements in Item 8 of this Annual Report on Form 10-K.

2 Financial Statement Schedules — Supplemental schedules are not provided because of the absence of conditions under which they are required or because the required information is given in the financial statements or notes thereto.

3 Exhibits — The following exhibits are filed as part of, or incorporated by reference into, this Annual Report on Form 10-K.

EXHIBIT INDEX

Exhibit No.	Description
3.1	Certificate of Incorporation of the Company, as amended, July 12, 1999 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K dated September 21, 1999).
3.2	Certificate of Amendment of the Certificate of Incorporation of the Company, dated November 21, 2000 (incorporated by reference to Exhibit 3.3 to the Company's Annual Report on Form 10-K dated January 12, 2017).
3.3	Certificate of Amendment of the Certificate of Incorporation of the Company, dated October 31, 2003 (incorporated by reference to Exhibit 3.1.1 to the Company's Current Report on Form 8-K dated November 3, 2003).
3.4	Certificate of Designation for the Company's 5% Series B Cumulative Convertible Perpetual Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report Form 8-K, dated November 22, 2004).
3.5	Amended Certificate of Designation of 5% Series B Cumulative Convertible Perpetual Preferred Stock, dated March 14, 2005 (incorporated by reference to Exhibit 3.4 to the Company's Annual Report on Form 10-K dated January 12, 2017).
3.6	Certificate of Amendment of the Certificate of Incorporation of the Company, dated April 8, 2011 (incorporated by reference to Exhibit 3.5 to the Company's Annual Report on Form 10-K dated January 12, 2017).
3.7	Certificate of Amendment of the Certificate of Incorporation of the Company, dated April 5, 2012 (incorporated by reference to Exhibit 3.6 to the Company's Annual Report on Form 10-K dated January 12, 2017).
3.8	Certificate of Amendment of the Certificate of Incorporation of the Company, dated December 3, 2015 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K dated December 3, 2015).
3.9	Certificate of Amendment of the Certificate of Incorporation of the Company, dated April 18, 2016 (incorporated by reference to Exhibit 3.9 to the Company's Quarterly Report on Form 10-Q for the period ended April 30, 2016).
3.10	Certificate of Amendment of the Certificate of Incorporation of the Company, dated April 7, 2017 (incorporated by reference to Exhibit 3.10 to the Company's Quarterly Report on Form 10-Q for the period ended April 30, 2017).
3.11	Certificate of Designations for the Company's Series C Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, dated September 5, 2017).

Exhibit No.	Description
3.12	Certificate of Amendment of the Certificate of Incorporation of the Company, dated December 14, 2017 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K dated December 14, 2017).
3.13	Certificate of Designations, Preferences and Rights for the Company's Series D Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K dated August 27, 2018).
3.14	Certificate of Amendment of the Certificate of Incorporation of FuelCell Energy, Inc., dated May 8, 2019 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on May 8, 2019).
3.15	Certificate of Amendment of the Certificate of Incorporation of FuelCell Energy, Inc., dated May 11, 2020 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on May 12, 2020).
3.16	Certificate of Amendment of the Certificate of Incorporation of FuelCell Energy, Inc. dated April 8, 2021 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K/A filed on April 14, 2021).
3.17	Certificate of Amendment of the Certificate of Incorporation of FuelCell Energy, Inc., dated October 11, 2023 (incorporated by reference to Exhibit 3.1 to the Company Current Report on Form 8-K filed on October 11, 2023).
3.18	Second Amended and Restated By-Laws of the Company, effective as of July 17, 2023 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on July 18, 2023).
4.1	Description of Securities Registered Under Section 12 of the Securities Exchange Act of 1934, as amended.
10.1	**Alliance Agreement between FuelCell Energy, Inc. and POSCO Energy, dated as of February 7, 2007 (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q/A for the period ended January 31, 2009).
10.2	**Technology Transfer, License and Distribution Agreement between FuelCell Energy, Inc. and POSCO Energy, dated as of February 7, 2007 (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q/A for the period ended January 31, 2009).
10.3	**Stack Technology Transfer and License Agreement dated as of October 27, 2009, by and between FuelCell Energy, Inc. and POSCO Energy (incorporated by reference to Exhibit 10.1 of the Company's Current Report Form 8-K, dated October 27, 2009).
10.4	Lease agreement, dated March 8, 2000, between the Company and Technology Park Associates, L.L.C. (incorporated by reference to Exhibit 10.55 to the Company's Quarterly Report on Form 10-Q for the period ended April 30, 2000).
10.5	*FuelCell Energy, Inc. Amended and Restated 2010 Equity Incentive Plan (incorporated by reference to Exhibit 10.59 to the Company's Annual Report on Form 10-K for the period ended October 31, 2015).
10.6	Letter agreement, dated September 28, 2015, between the Company and Technology Park Associates, L.L.C. exercising the extension option per the terms of the Lease Agreement, dated March 8, 2000, between the Company and Technology Park Associates, L.L.C. (incorporated by reference to Exhibit 10.60 to the Company's Annual Report on Form 10-K for the period ended October 31, 2015).
10.7	*Employment Agreement, dated March 21, 2012 and effective as of January 1, 2012 between the Company and Michael Bishop, Chief Financial Officer (incorporated by reference to the Exhibit 10.68 to the Company's Current Report Form 8-K, dated March 21, 2012).
10.8	Cell Technology Transfer and License Agreement dated October 31, 2012 by and between the Company and POSCO Energy, Co., Ltd. (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K/A dated as of October 31, 2012 and filed on January 7, 2013).

Exhibit No.	Description
10.9	Amendment to Technology Transfer Distribution and Licensing Agreement dated as of February 7, 2007 and the Stack Technology Transfer License Agreement dated as of October 27, 2009, each by and between the Company and POSCO Energy, Co., Ltd. (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K dated as of October 31, 2012).
10.10	Loan Agreement, dated as of March 5, 2013, between Clean Energy Finance and Investment Authority, as Lender, and the Company, as Borrower (incorporated by reference to Exhibit 10.69 to the Company's Quarterly Report on Form 10-Q for the period ended January 31, 2013).
10.11	Security Agreement, dated March 5, 2013, by the Company in favor of the Clean Energy Finance and Investment Authority (incorporated by reference to Exhibit 10.70 to the Company's Quarterly Report on Form 10-Q for the quarter ended January 31, 2013).
10.12	Assistance Agreement, dated November 19, 2015, by and between the State of Connecticut Acting by the Department of Economic Community and Development and the Company (incorporated by reference to Exhibit 10.84 to the Company's Annual Report on Form 10-K for the period ended October 31, 2015).
10.13	Phase 1 Promissory Note, dated November 19, 2015, between the Company and the State of Connecticut Acting by and through the Department of Economic Community and Development (incorporated by reference to Exhibit 10.85 to the Company's Annual Report on Form 10-K for the period ended October 31, 2015).
10.14	Amendment to Alliance Agreement, dated as of October 10, 2016, by and between the Company and POSCO Energy Co., Ltd. (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated October 10, 2016).
10.15	Amendment to Technology Transfer, Distribution and Licensing Agreement, dated as of October 10, 2016, by and between the Company and POSCO Energy Co., Ltd. (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K dated October 10, 2016).
10.16	Amendment to Stack Technology Transfer and License Agreement, dated as of October 10, 2016, by and between the Company and POSCO Energy Co., Ltd. (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K dated October 10, 2016).
10.17	Memorandum of Understanding for Market Transition dated as of March 17, 2017, by and between the Company and POSCO Energy Co., Ltd. (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated March 17, 2017).
10.18	First Amendment to Assistance Agreement, dated as of April 3, 2017, and approved by the State of Connecticut, Office of the Attorney General on April 17, 2017 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated April 17, 2017).
10.19	*Form of Restricted Stock Award Agreement (U.S. Employees) (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K dated April 5, 2018).
10.20	*Form of Restricted Stock Unit Award Agreement (U.S. Employees) (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K dated April 5, 2018).
10.21	*Form of Restricted Stock Unit Award Agreement (Non-Employee Directors) (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated November 8, 2018).
10.22	*Form of Option Award Agreement (Non-Employee Directors) (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K dated April 5, 2018).
10.23	Second Amendment to Assistance Agreement, dated as of January 24, 2019, and approved by the State of Connecticut, Office of the Attorney General on January 28, 2019 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on February 5, 2019).
10.24	License Agreement, effective as of June 11, 2019, between ExxonMobil Research and Engineering Company and FuelCell Energy, Inc. (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on June 12, 2019).

Exhibit No.	Description
10.25	*Employment Agreement, dated as of July 30, 2019, by and between FuelCell Energy, Inc. and Michael Lisowski (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on July 30, 2019).
10.26	*Employment Agreement, dated as of July 30, 2019, by and between FuelCell Energy, Inc. and Anthony Leo (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on July 30, 2019).
10.27	*Employment Agreement, effective as of August 26, 2019, by and between FuelCell Energy, Inc. and Jason B. Few (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on August 20, 2019).
10.28	Joint Development Agreement, effective October 31, 2019, by and between FuelCell Energy, Inc. and ExxonMobil Research and Engineering Company (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 6, 2019).
10.29	Amendment to Loan Agreement, dated as of December 19, 2019, by and among FuelCell Energy, Inc. and Connecticut Green Bank (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 20, 2019).
10.30	Purchase and Sale Agreement, dated February 11, 2020, by and between Central CA Fuel Cell 2, LLC and Crestmark Equipment Finance (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on February 13, 2020).
10.31	Equipment Lease Agreement, dated February 11, 2020, by and between Central CA Fuel Cell 2, LLC and Crestmark Equipment Finance (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on February 13, 2020).
10.32	Assignment Agreement, dated February 11, 2020, by Central CA Fuel Cell 2, LLC in favor of Crestmark Equipment Finance (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on February 13, 2020).
10.33	Pledge Agreement, dated February 11, 2020, by and between FuelCell Energy Finance, LLC and Crestmark Equipment Finance (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed on February 13, 2020).
10.34	Guaranty Agreement, dated February 11, 2020, by FuelCell Energy, Inc. in favor of Crestmark Equipment Finance (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K filed on February 13, 2020).
10.35	Technology License and Access Agreement for Tulare BioMAT Fuel Cell Power Plant, dated February 11, 2020, by and among Crestmark Equipment Finance, Central CA Fuel Cell 2, LLC and FuelCell Energy, Inc. (incorporated by reference to Exhibit 10.6 to the Company's Current Report on Form 8-K filed on February 13, 2020).
10.36	Paycheck Protection Program Promissory Note, entered into on April 20, 2020 and dated April 16, 2020, between Liberty Bank and FuelCell Energy, Inc. (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 24, 2020).
10.37	*First Amendment, dated as of April 23, 2020, to the Employment Agreement, effective as of August 26, 2019, between FuelCell Energy, Inc. and Jason B. Few (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on April 24, 2020).
10.38	*FuelCell Energy, Inc. Long Term Incentive Plan as approved August 24, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on August 24, 2020).
10.39	*Form of FuelCell Energy, Inc. 2018 Omnibus Incentive Plan Performance Share Award (Relative TSR) (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on August 24, 2020).

Exhibit No.	Description
10.40	*Form of FuelCell Energy, Inc. 2018 Omnibus Incentive Plan Performance Share Award (Absolute TSR) (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on August 24, 2020).
10.41	*FuelCell Energy, Inc. Fiscal Year 2021 Long Term Incentive Plan, as approved November 24, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 27, 2020).
10.42	*Form of FuelCell Energy, Inc. 2018 Omnibus Incentive Plan Relative TSR Performance Share Award Agreement (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on November 27, 2020).
10.43	*Form of FuelCell Energy, Inc. 2018 Omnibus Incentive Plan Absolute TSR Performance Share Award Agreement (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on November 27, 2020).
10.44*	Second Amendment, dated as of January 19, 2021, to the Employment Agreement, effective as of August 26, 2019, between FuelCell Energy, Inc. and Jason B. Few (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on January 20, 2021).
10.45	Open Market Sale Agreement[SM] between FuelCell Energy, Inc. and Jefferies LLC and Barclays Capital Inc., dated June 11, 2021 (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on June 11, 2021).
10.46*	Employment Agreement, dated August 2, 2021, between Joshua Dolger and FuelCell Energy, Inc. (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the period ended July 31, 2021).
10.47	Amendment No. 1 to Joint Development Agreement between FuelCell Energy, Inc. and ExxonMobil Research and Engineering Company, fully executed on October 29, 2021 and effective as of October 31, 2021 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 2, 2021).
10.48	Letter Agreement, dated as of October 28, 2021 and effective as of October 29, 2021, between FuelCell Energy, Inc. and ExxonMobil Research and Engineering Company (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on November 2, 2021).
10.49	Settlement Agreement, dated December 20, 2021, by and between FuelCell Energy, Inc., POSCO Energy Co., Ltd., and Korea Fuel Cell Co., Ltd. (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 27, 2021).
10.50*	Employment Agreement, dated as of March 31, 2022 and effective as of April 18, 2022, by and between FuelCell Energy, Inc. and Mark Feasel (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 5, 2022).
10.51	Amendment No. 2 to Joint Development Agreement between FuelCell Energy, Inc. and ExxonMobil Technology and Engineering Company, effective as of April 30, 2022 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 5, 2022).
10.52	Open Market Sale Agreement[SM] among FuelCell Energy, Inc., Jefferies LLC, B. Riley Securities, Inc., Barclays Capital Inc., BMO Capital Markets Corp., BofA Securities, Inc., Canaccord Genuity LLC, Citigroup Global Markets Inc., J.P. Morgan Securities LLC and Loop Capital Markets LLC, dated July 12, 2022 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on July 12, 2022).
10.53	Amendment No. 3 to Joint Development Agreement between FuelCell Energy, Inc. and ExxonMobil Technology and Engineering Company, fully executed on December 19, 2022 and effective as of December 1, 2022 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 19, 2022).

Exhibit No.	Description
10.54	Lease, dated May 20, 2005, between Westpen Properties Ltd. and Versa Power Systems Ltd. (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on March 9, 2023).
10.55	Lease Amending Agreement, dated April 20, 2006, between Westpen Properties Ltd. and Versa Power Systems Ltd. (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed on March 9, 2023).
10.56	Lease Renewal Agreement, dated November 11, 2010, between 52nd Street Business Centre LP, by its General Partner, 52nd Street Business Centre GP Inc., and Versa Power Systems Ltd. (incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed on March 9, 2023).
10.57	Lease Extension and Amending Agreement, dated October 29, 2013, between 52nd Street Business Centre LP, by its General Partner, 52nd Street Business Centre GP Inc., and Versa Power Systems Ltd. (incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed on March 9, 2023).
10.58	Lease Extension Agreement, dated November 9, 2016, between 52nd Street Business Centre LP, by its General Partner, 52nd Street Business Centre GP Inc., and Versa Power Systems Ltd. (incorporated by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q filed on March 9, 2023).
10.59	Lease Extension Agreement, dated January 10, 2020, between 52nd Street Business Centre LP, by its General Partner, 52nd Street Business Centre GP Inc., and Versa Power Systems Ltd. (incorporated by reference to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q filed on March 9, 2023).
10.60	Lease Expansion, Extension and Amending Agreement, dated January 5, 2023, between 52nd Street Business Centre LP, by its General Partner, 52nd Street Business Centre GP Inc., and Versa Power Systems Ltd. (incorporated by reference to Exhibit 10.8 to the Company's Quarterly Report on Form 10-Q filed on March 9, 2023).
10.61	Lease Expansion and Amending Agreement – Short Term, dated February 20, 2023, between 52nd Street Business Centre LP, by its General Partner, 52nd Street Business Centre GP Inc., and Versa Power Systems Ltd. (incorporated by reference to Exhibit 10.9 to the Company's Quarterly Report on Form 10-Q filed on March 9, 2023).
10.62	Letter Agreement between ExxonMobil Technology and Engineering Company and FuelCell Energy, Inc. dated May 8, 2023 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on June 8, 2023).
10.63	FuelCell Energy, Inc. 2018 Employee Stock Purchase Plan, as amended and restated effective as of May 22, 2023 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated May 23, 2023).
10.64	FuelCell Energy, Inc. Third Amended and Restated 2018 Omnibus Incentive Plan, effective as of May 22, 2023 (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K dated May 23, 2023).
10.65	Financing Agreement, dated May 19, 2023, among FuelCell Energy Opco Finance 1, LLC (as Borrower), the Lenders party thereto, the LC Issuing Banks party thereto, and Investec Bank plc (as Administrative Agent and Collateral Agent) (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed May 25, 2023).
10.66	Omnibus Guarantee, Pledge and Security Agreement, dated May 19, 2023, made by FuelCell Energy Finance, LLC (as Pledgor), FuelCell Energy Opco Finance 1, LLC (as Borrower), and Bridgeport Fuel Cell, LLC, Groton Fuel Cell 1, LLC, Riverside Fuel Cell, LLC, SRJFC, LLC, FuelCell YT HoldCo, LLC, and New Britain Renewable Energy, LLC (as Subsidiary Guarantors) in favor of Investec Bank plc (as Collateral Agent) (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed May 25, 2023).

Exhibit No.	Description
10.67	Depositary Agreement, dated May 19, 2023, by and among FuelCell Energy Opco Finance 1, LLC (as Borrower), Investec Bank plc (as Collateral Agent and Administrative Agent), and Liberty Bank (as Depositary Agent) (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed May 25, 2023).
10.68	ISDA 2002 Master Agreement, dated May 19, 2023, between Investec Bank plc and FuelCell Energy Opco Finance 1, LLC (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed May 25, 2023).
10.69	ISDA Schedule to the 2002 Master Agreement, dated May 19, 2023, between Investec Bank plc and FuelCell Energy Opco Finance 1, LLC (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K filed May 25, 2023).
10.70	ISDA 2002 Master Agreement, dated May 19, 2023, between Bank of Montreal and FuelCell Energy Opco Finance 1, LLC (incorporated by reference to Exhibit 10.6 to the Company's Current Report on Form 8-K filed May 25, 2023).
10.71	ISDA Schedule to the 2002 Master Agreement, dated May 19, 2023, between Bank of Montreal and FuelCell Energy Opco Finance 1, LLC (incorporated by reference to Exhibit 10.7 to the Company's Current Report on Form 8-K filed May 25, 2023).
10.72	Third Amendment to Assistance Agreement by and between the State of Connecticut Acting by the Department of Economic and Community Development, and FuelCell Energy, Inc., effective May 24, 2023 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed May 30, 2023).
10.73	Amendment No. 1 to Financing Agreement, dated as of August 11, 2023, among FuelCell Energy Opco Finance 1, LLC (as Borrower), Investec Bank plc (as Administrative Agent and Lender), Liberty Bank (as Lender), Bank of Montreal (as Lender), Amalgamated Bank (as Lender), and Connecticut Green Bank (as Lender) (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed August 17, 2023).
10.74	Credit Agreement, dated August 18, 2023, among FuelCell Energy Finance Holdco, LLC (as Borrower), Liberty Bank (as Administrative Agent and Lead Arranger), and the Lenders party thereto (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed August 24, 2023).
10.75	Credit Agreement, dated August 18, 2023, among FuelCell Energy Finance Holdco, LLC (as Borrower), Connecticut Green Bank (as Administrative Agent), and the Lender party thereto (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed August 24, 2023).
10.76	Security Agreement, dated August 18, 2023, by FuelCell Energy Finance Holdco, LLC for the benefit of Liberty Bank (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed August 24, 2023).
10.77	Pledge and Security Agreement dated August 19, 2023, by FuelCell Energy Finance Holdco, LLC for the benefit of Liberty Bank (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed August 24, 2023).
10.78	Deposit Account Security and Pledge Agreement, dated August 18, 2023, among FuelCell Energy Finance Holdco, LLC, Groton Station Fuel Cell, LLC, and Liberty Bank (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K filed August 24, 2023).
10.79	Security Agreement, dated, August 18, 2023, by FuelCell Energy Finance Holdco, LLC for the benefit of Connecticut Green Bank (incorporated by reference to Exhibit 10.6 to the Company's Current Report on Form 8-K filed August 24, 2023).
10.80	Pledge and Security Agreement, dated August 18, 2023, by FuelCell Energy Finance Holdco, LLC for the benefit of Connecticut Green Bank (incorporated by reference to Exhibit 10.7 to the Company's Current Report on Form 8-K filed August 24, 2023).

Exhibit No.	Description
10.81	Deposit Account Security and Pledge Agreement, dated August 18, 2023, among FuelCell Energy Finance Holdco, LLC, Groton Station Fuel Cell, LLC, and Connecticut Green Bank (incorporated by reference to Exhibit 10.8 to the Company's Current Report on Form 8-K filed August 24, 2023).
10.82	Subordination Agreement, dated August 18, 2023, among Connecticut Green Bank, Liberty Bank, and the Senior Lenders party thereto (incorporated by reference to Exhibit 10.9 to the Company's Current Report on Form 8-K filed August 24, 2023).
10.83	Interparty Agreement, dated August 18, 2023, among East West Bank, FuelCell Energy Finance Holdco, LLC, Amalgamated Bank, Liberty Bank, and Connecticut Green Bank (incorporated by reference to Exhibit 10.10 to the Company's Current Report on Form 8-K filed August 24, 2023).
10.84	Limited Guaranty and Subordination Agreement, dated August 18, 2023, by FuelCell Energy, Inc. for the benefit of Liberty Bank (incorporated by reference to Exhibit 10.11 to the Company's Current Report on Form 8-K filed August 24, 2023).
10.85	Limited Guaranty and Subordination Agreement, dated August 18, 2023, by FuelCell Energy, Inc. for the benefit of Connecticut Green Bank (incorporated by reference to Exhibit 10.12 to the Company's Current Report on Form 8-K filed August 24, 2023).
10.86	Amendment No. 4 to Joint Development Agreement between FuelCell Energy, Inc. and ExxonMobil Technology and Engineering Company, executed on August 25, 2023 and effective as of August 31, 2023 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed August 28, 2023).
10.87	Lease Amending Agreement, dated September 25, 2023, between 52nd Street Business Centre LP, by its General Partner, 52nd Street Business Centre GP Inc., and Versa Power Systems Ltd.
10.88	Amendment No. 1 to Credit Agreement, dated as of October 23, 2023, between Connecticut Green Bank (as administrative agent and lender party) and FuelCell Energy Finance HoldCo, LLC.
10.89	*Form of FuelCell Energy, Inc. 2018 Omnibus Incentive Plan Performance Share Award Agreement (Relative TSR – Contingent Award) (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed December 15, 2023).
21	Subsidiaries of the Registrant
23.1	Consent of Independent Registered Public Accounting Firm
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes Oxley Act of 2002
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes Oxley Act of 2002
32.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes Oxley Act of 2002
32.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes Oxley Act of 2002
97	FuelCell Energy, Inc. Compensation Recovery Policy
101.INS#	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH#	Inline XBRL Schema Document
101.CAL#	Inline XBRL Calculation Linkbase Document
101.LAB#	Inline XBRL Labels Linkbase Document
101.PRE#	Inline XBRL Presentation Linkbase Document
101.DEF#	Inline XBRL Definition Linkbase Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Management Contract or Compensatory Plan or Arrangement

** Confidential Treatment has been granted for portions of this document

Filed with this Annual Report on Form 10-K are the following documents formatted in iXBRL (Inline Extensible Business Reporting Language): (i) the Consolidated Balance Sheets as of October 31, 2023 and 2022, (ii) the Consolidated Statements of Operations and Comprehensive Loss for the fiscal years ended October 31, 2023, 2022 and 2021, (iii) the Consolidated Statements of Changes in Equity for the fiscal years ended October 31, 2023, 2022 and 2021, (iv) the Consolidated Statements of Cash Flows for the fiscal years ended October 31, 2023, 2022 and 2021, (v) Notes to the Consolidated Financial Statements and (vi) the information included in Part II, Item 9B(b).

Item 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

FUELCELL ENERGY, INC.

/s/ Jason B. Few
Jason B. Few
President and Chief Executive Officer

Dated: December 19, 2023

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Capacity	Date
/s/ Jason B. Few Jason B. Few	President, Chief Executive Officer and Director (Principal Executive Officer)	December 19, 2023
/s/ Michael S. Bishop Michael S. Bishop	Executive Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)	December 19, 2023
/s/ James H. England James H. England	Director – Chairman of the Board	December 19, 2023
/s/ Betsy Bingham Betsy Bingham	Director	December 19, 2023
/s/ Cynthia Hansen Cynthia Hansen	Director	December 19, 2023
/s/ Matthew Hilzinger Matthew Hilzinger	Director	December 19, 2023
/s/ Donna Sims Wilson Donna Sims Wilson	Director	December 19, 2023
/s/ Natica von Althann Natica von Althann	Director	December 19, 2023

Stockholder Information

Corporate Offices
FuelCell Energy, Inc.
3 Great Pasture Road
Danbury, CT 06810

Form 10-K
A copy of the Annual Report on Form 10-K for the year ended October 31, 2023, which is filed with the U.S. Securities and Exchange Commission, can be accessed from our website at www.fuelcellenergy.com. We will provide, without charge, a copy of the Annual Report on Form 10-K for the year ended October 31, 2023. You may request a copy by writing to Investor Relations at the address below.

Company Contacts
For additional information about FuelCell Energy, Inc. please contact:

FuelCell Energy, Inc. Investor Relations
3 Great Pasture Road, Danbury, CT 06810
IR@fce.com

Corporate Website
www.fuelcellenergy.com

Registrar and Transfer Agent
Stockholders with questions regarding lost certificates, address changes or changes of ownership should contact:

Equiniti Trust Company, LLC ("EQ")
48 Wall Street, Floor 23
New York, NY 10005

Mailing address:
EQ
PO Box 500
Newark, NJ 07101

800.468.9716
helpAST@equiniti.com
www.equiniti.com

Independent Registered Public Accounting Firm
KPMG LLP

Legal Counsel
Foley & Lardner LLP

Annual Meeting
The Annual Meeting of Stockholders will be held Thursday, April 4, 2024 at 1:00 p.m. Eastern Daylight Time.

The Annual Meeting will be completely virtual, conducted via live audio webcast on the internet. You will be able to attend the Annual Meeting as well as vote and submit your questions during the live audio webcast of the meeting by visiting **www.virtualshareholdermeeting.com/FCEL2024** and entering the 16-digit control number included in our notice of internet availability of the proxy materials, on your proxy card, or in the instructions that accompanied your proxy materials.

Non-Discrimination Statement
FuelCell Energy, Inc. is an Equal Opportunity/Affirmative Action employer. In order to provide equal employment and advancement opportunities to all individuals, our employment decisions will be based on merit, qualifications and abilities. We do not discriminate in employment opportunities or practices on the basis of race, color, religion, creed, age, sex, marital status, national origin, disability, protected veteran status, sexual orientation, gender identification, genetic information, or any other characteristic protected by federal, state or local law.

Directors and Officers

Board of Directors

James H. England [1,2,4,5]
Chief Executive Officer of Stahlman-England Irrigation, Inc. (landscape, innovative and artificial turf services company)

Jason Few [2]
President, Chief Executive Officer of FuelCell Energy, Inc.

Matthew F. Hilzinger [2,3,4]
Former Executive Vice President and Chief Financial Officer of USG Corporation (international building products company)

Natica von Althann [2,3,5]
Founding Partner of C&A Advisors (consulting firm for financial services and risk management) and a former Financial Executive at Bank of America and Citigroup

Cynthia Hansen [3,5]
Executive Vice President and President, Gas Transmission and Midstream with Enbridge, Inc. (multinational pipeline and energy company)

Donna Sims Wilson [3,4,5]
Chief Operating Officer of Kah Capital Management (alternative asset management firm)

Betsy Bingham [3,4]
Lean Operations Leader for GE Aviation (aircraft engine supplier)

[1] Chairman of the Board of Directors
[2] Executive Committee
[3] Audit, Finance and Risk Committee
[4] Compensation Committee
[5] Environmental, Social, Governance and Nominating Committee

Corporate Leadership Team

Jason Few *
President, Chief Executive Officer

Michael S. Bishop *
Executive Vice President, Chief Financial Officer and Treasurer

Joshua Dolger *
Executive Vice President, General Counsel and Corporate Secretary

Mark Feasel *
Executive Vice President, Chief Commercial Officer

Anthony J. Leo *
Executive Vice President, Chief Technology Officer

Michael J. Lisowski *
Executive Vice President, Chief Operating Officer

Jill Crossman
Senior Vice President, Global Controller

Karen Farrell
Senior Vice President, Chief Human Resources Officer

Tom Gelston
Senior Vice President, Finance and Investor Relations

Lilyanne McClean
Senior Vice President, Global Public Policy and Government Affairs

Parimal
Chief Strategy and Corporate Development Officer

Betsy Schaefer
Chief Marketing and Sustainability Officer

John Torrance
Senior Vice President, Chief Commercialization and Solid Oxide Manufacturing Officer

* Executive Officer

Statements in this Report, other than statements of historical fact, are forward-looking statements that are not guarantees of future performance and are subject to important factors, risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such forward-looking statements. Such important factors, risks and uncertainties that could cause such a difference are described in our reports, including the Form 10-K for the fiscal year ended October 31, 2023, filed by FuelCell Energy, Inc. with the Securities and Exchange Commission and available at www.fuelcellenergy.com. Shareholders should consider these factors, risks and uncertainties in evaluating the forward-looking statements and should not place undue reliance on such statements.

FuelCell Energy

3 Great Pasture Road
Danbury, CT 06810
203.825.6000

www.FuelCellEnergy.com