

September 19, 2023

Via publicaccess.bpu.state.nj.us

Sherri L. Golden
Secretary of the Board
44 South Clinton Ave, 1st Floor
PO Box 350
Trenton, NJ 08625-0350

Re: Docket No. QO22080540

Dear Secretary Golden,

FuelCell Energy, Inc. submits these comments in response to the Request For Information published by the Board In the Matter of the New Jersey Energy Storage Incentive Program (NJ SIP). FuelCell Energy thanks the Board for this opportunity to provide these comments.

FuelCell Energy Overview

FuelCell Energy is proud to be among the companies that have been dedicated to clean energy innovations since our inception five decades ago. The company was founded in the United States in 1969, by two scientists devoted to pursuing technological innovations that address a wide variety of energy priorities through patent-protected U.S. innovation, compound combinations that produce and use energy in ways that are smarter and cleaner.

Our current product portfolio includes two dynamic electrochemical platforms: molten carbonate and solid oxide. Both platforms can support power generation and combined heat and power applications, CO₂ capture, and hydrogen generation from a variety of fuels, including natural gas, renewable biogas, or hydrogen. These fuel cells react with fuel electrochemically, without combusting the fuel, which avoids emissions produced by fuel combustion such as oxides of nitrogen, oxides of sulfur, and particulate emissions. In the electrochemical process, fuel and air are reacted in separate chambers in the fuel cell stack. As a result, the reactions producing CO₂ occur without mixing fuel and air. Thus, CO₂ remains concentrated and easy to remove. Both molten carbonate and solid oxide fuel cell systems can benefit from this unique feature, with modifications enabling the capture of their own CO₂ for use or sequestration before it is emitted into the air.

FuelCell Energy's molten carbonate fuel cell is unique in its ability to also capture CO₂ from an external source, such as a power plant or an industrial boiler. Our solid oxide fuel cell can operate on pure hydrogen as a feedstock, emitting zero CO₂, which will become increasingly important as the uses of hydrogen for fuel become more widely adopted, and which complements the nation's current emphasis on deploying technology that enables hydrogen-based energy storage. We are also currently

commercializing a solid oxide electrolyzer that will produce hydrogen from power and water, which will be well suited to partner with renewable energy projects and/or hydrogen storage infrastructure.

Simply put, our multi-featured platforms can be configured to provide multiple value streams, including electricity, hydrogen, high grade heat including steam, water, and CO₂ for sequestration and or utilization. The graphic below illustrates some of our key successes to date.

FuelCell Energy overview

Demand for clean, reliable electricity driving adoption of fuel cell technology



Headquarters Danbury, CT

- Corporate Headquarters
- Research labs
- Engineering design
- Global Service center



Manufacturing Torrington, CT

- Module assembly & stacking
- 167,000 sq. ft.

Other facilities Taufkirchen, Germany

- Final assembly for SubMW carbonate stack modules
- Carbonate SubMW power plant sales and service
- Sales and service for carbonate MW scale platforms made in US

Calgary, Canada

- Solid oxide R&D for power generation, electrolysis, and energy storage
- Solid oxide cell and stack manufacturing

Global customers



Company Highlights¹

HQ Danbury, Connecticut	>500 Employees	95 Platforms in commercial operation ²	3 Continents
FCEL Listing: NASDAQ	>220 MW Capacity in field	>13 Million MWh's generated with patented technology	



¹As of the year ended October 31, 2022.

²Note that certain sites have multiple platforms. As an example, our 14.9 MW Bridgeport project site has five 2.8MW platforms. As of 10/31/22, there were 33 sites with the Company's carbonate fuel cell platforms.

General Responses to RFI

At the outset, FuelCell Energy wishes to thank the BPU and Staff for continuing to dedicate substantial time, effort, expertise, and countless other resources to preparing the Straw and conducting stakeholder proceedings thereon. FuelCell Energy greatly appreciates the Board's willingness to solicit and consider feedback regarding the implementation of the Storage Incentive Program. As noted in our previous comment submission, FuelCell Energy finds the NJ SIP thorough, thoughtful, and tailored well to catalyzing the initial stages of New Jersey's transition to clean energy storage and meeting its 2030-goal of 2000 MW of energy storage. In particular, and worth re-emphasizing, FuelCell Energy appreciates the BPU's broad definition for energy storage within the Straw and agrees that that this definition will allow many applications and technologies to be considered and included. FuelCell Energy also reiterates its support for the Board's proposed definition of long-duration storage as any storage technology that is greater than 20 hours of storage.

The goals of the SIP outlined within the Straw are well-framed, and paramount among them is the need to ensure that energy storage devices are deployed in a manner that decreases greenhouse gas emissions. As the Board recognizes, certain battery storage technologies can lead to an increase in GHG emissions, and implementing the SIP to mitigate this potential result remains critically important. Ensuring that energy storage devices maximize reductions in GHG will not only catalyze investment in New Jersey's clean energy storage market, but it will also ensure that these investments effect meaningful change. Along those same lines, the Straw's recognition of the need for flexibility is of the utmost importance. Flexibility must remain a central feature in adopting technical considerations for projects, as it will allow promotion of new and emerging energy storage technologies that are cost-competitive with more established energy storage technologies.

As noted in our prior submission, although the BPU's initial focus may be on commercially available technologies, we encourage the BPU to keep in mind how rapidly storage technology has already changed, and how rapidly it continues to change. As the Fuel Cell Task Force Report¹ details well, hydrogen fuel cells can play a pivotal role in achieving the state's climate goals. The Report outlines key recommendations that will allow New Jersey to more fully realize the benefits that hydrogen fuel cells can provide to the clean energy transition. Of relevance to the SIP is Recommendation 2.11, which advocates for expanding net metering to include fuel cells that use feedstock other than renewable nature gas. FuelCell Energy hopes the Board will consider the Report's recommendations and the benefits of hydrogen fuel cells as key enablers of the SIP's goals throughout its implementation.

Along the same lines, the importance of pursuing a technology-neutral approach to energy storage solutions, which the Straw recognizes, cannot be overstated. FuelCell Energy commends the Board's commitment to incorporating this approach into the Storage Incentive Program in a central and foundational way. Not only will a technology-neutral approach align with the SIP's goals to catalyze investment in New Jersey's clean energy future, but it will further harmonize the SIP and projects implemented thereunder with other emerging programs and opportunities on both State and federal levels. This approach will allow the Board to create and implement the SIP in a way that is malleable enough to incorporate new and emerging technologies, yet fixed enough that it provides a clear pathway to reach New Jersey's clean energy storage goals. FuelCell Energy encourages the Board to maintain its emphasis on this key aspect in any future iterations of the Straw, as well as in its broader implementation of the SIP. FuelCell Energy hopes that this focus continues to play a substantial role in the BPU's implementation of the SIP.

FuelCell Energy wishes to offer the following perspectives and responses to the topics identified within the RFI.

Topic 1.0 - Utility Ownership/Dispatch Control

Given the Straw's purpose of encouraging investment in energy storage by private owners and operators, non-utility control of energy storage systems ostensibly promotes participation by a wider array of private investors and creates an avenue for implementation of new and emerging technologies.

¹ *Hydrogen and Fuel Cell Technology Towards Clean Energy Goals*, NEW JERSEY FUEL CELL TASK FORCE, accessible at: <https://www.nj.gov/bpu/pdf/reports/Fuel%20Cell%20Task%20Force-FInal.pdf>.

The advantages of non-utility control need not be considered mutually exclusive from the advantages of utility control, particularly given the important role EDCs will play in enhancing the grid infrastructure necessary to achieve implementation of energy storage devices.

Utility control of energy storage systems could provide several advantages, many of which stem from the utilities' expertise in siting and deploying storage, thereby maximizing reliability, resiliency, and environmental benefits, while simultaneously integrating storage with other clean energy technologies and goals. If the Board would prefer to retain the Straw's current structure allowing only non-utility ownership and operation, FuelCell Energy respectfully agrees with PSE&G's suggestion that the Board issue a statement permitting utilities to proceed with their own storage programs. The overarching goals of the Straw can ostensibly be achieved through programs run by the utilities that are similarly aimed towards investing in increased energy storage and efficiency in New Jersey. So long as the programs are guided by the same goals, New Jersey can begin to realize the benefits of investment in energy storage technology more quickly and effectively.

Topic 3.0 – Incentive Structure

Considering the inherent complexities between and among new and emerging energy storage technologies, FuelCell Energy respectfully suggests that some level of flexibility in incentives should be permitted. Distributed energy storage resources should be able to opt-in to either the Grid Supply or the Distributed storage program. For energy storage systems and technologies that can provide grid services, like fuel cells, the ability to opt-in to either program would increase the applications in which they can be deployed. FuelCell Energy's commercially available technologies are incredibly versatile, and the technologies FuelCell Energy is continuing to develop and moving toward commercial availability are equally as versatile. To ensure that the SIP remains flexible enough to allow meaningful integration of new and emerging technologies, energy storage resources that can provide grid services should be permitted to opt into either program.

For the same reasons, distributed resources should be able to opt-in to Grid Supply Performance-based Incentives because the respective capabilities of technologies differ greatly. If this flexibility is afforded, new and emerging technologies will be better able to participate in the program and to provide substantially more benefits to the New Jersey clean energy storage market. In turn, such participation will allow the most effective technologies to demonstrate their value, leading to faster market adoption at scale. The cumulative impact is that New Jersey's clean energy storage goals will be realized sooner and more fully, as the market will inherently reveal the best technologies and solutions in New Jersey.

Given the importance of early investment in energy storage and the increased costs associated with nascent markets, there should not be an initial cap set on incentives. By allowing the market to develop with initial support from incentives while still allowing competition to thrive around the incentive structures, the most efficient technologies and solutions will be able to demonstrate their cost-effectiveness and cost-savings potentials sooner. Because the regulations through which federal incentives will be made available remain unknown to some extent, the practical impact of setting a cap is that it may stifle investment and adoption of these technologies at scale. The Straw's goal to

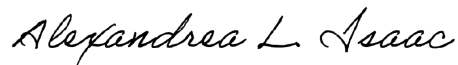
catalyze investment will be better served by allowing the market to develop freely within the existing incentive structures, at both state and federal levels.

Conclusion

At FuelCell Energy, we are particularly proud of our history as an energy technology innovator and we celebrate the men and women on our team who have, for decades, been driven to create and share new technologies that produce multiple value streams for our customers worldwide. We are proud to source the vast majority of our technical manufacturing equipment (i.e., the equipment we use daily that we have not invented) almost exclusively from U.S. based manufacturers across the country. We are also proud that we have an opportunity to demonstrate our commitment to empower a world with clean energy by partnering with the Department of State to deliver our differentiated highly efficient electrolysis platform to Ukraine for the production of hydrogen and ammonia, demonstrating America's energy technology leadership around the world.

We thank you for the opportunity to submit these comments and appreciate your willingness to consider our recommendations. Should you need any additional information, please contact the undersigned.

Sincerely,



Alexandrea L. Isaac
Assistant General Counsel
aisaac@fce.com