FuelCell Energy

March 15, 2011

To: The Honorable John Fonfara
The Honorable Vicky Nardello
Co-Chairs, Energy and Technology Committee

Re: CB – 1 "AN ACT CONCERNING CONNECTICUT'S ENERGY FUTURE"

Comments of FuelCell Energy, Inc.

INTRODUCTION

FuelCell Energy, Inc. (FCE) is a manufacturer of clean, high efficiency Class I fuel cell power plants with operations in Danbury and Torrington. FCE has over 50 installations around the globe, all with fuel cell technology manufactured in Torrington.

FCE has nearly 450 employees directly employed in the research, development manufacturing, installation, and servicing of clean energy technology. FCE is one of eight (8) original equipment manufacturers in the state that manufacture hydrogen and fuel cell technology. Together these companies directly provide over 1,100 high tech jobs that contribute to Connecticut's economy. In addition, there are also over 500 companies in the state that are part of the hydrogen and fuel cell supply chain, contributing approximately 1,500 additional indirect jobs. Connecticut's fuel cell industry is composed of the types of innovative businesses, large and small, necessary to enable long lasting economic growth for our state, region and nation. The technologies being developed and manufactured here have excellent export potential. The supply chain offers cross– industry support, also serving the state's aerospace and defense industry adding economic diversity and stability.

We applaud the efforts of the Committee, embodied in CB-1, to undertake sweeping changes that will make Connecticut more energy efficient, sustain our innovation in supporting and deploying Class I resources and offer a more streamlined approach to planning and managing our energy and environmental policies.

Fuel cell technology manufactured in Connecticut is a valuable part of Connecticut's Class I energy mix, offers a unique asset for our clean energy future, and needs to be clearly recognized as part of the solution set.

SPECIFIC COMMENTS

CB - 1 contains many components that are favorable to the expansion of Class I renewable energy development. The provisions that include direct incentives, long term power purchase contracts, tariffs, and utility investment offer an innovated and effective set of incentives but as they are exclusive to solar energy sources, exclude the benefits to CT from non-solar resources. Applying these to all Class I renewable energy technologies, such as fuel cells that are engineered and manufactured in Connecticut, would provide substantial opportunities for economic development and job creation.

Sections 61 and 89 – Feed In-Tariff

Section 61 outlines a specific structure for a PV feed-in tariff. Section 89 requires the development of a feed in tariff for other Class I renewables. Since a detailed structure is defined in Section 61 that is ready to be implemented, FCE recommends that Section 61 be modified to include all Class I resources, including fuel cells, rather than an independent evaluation as called out in Section 89.

Allow Broader Utility Ownership - The provision of Section 61 that allows for Utility ownership of solar PV is limited to brown fields or other locations in a targeted investment community. In addition to expanding Section 61 to include fuel cells and other Class I technologies, the utility ownership should be broadened to offer utilities ownership at locations on a natural gas or electric utility distribution system where service reliability or operational efficiency improvements of the gas or electric system can be realized.

Section 8 Class I Definitions

The Connecticut REC market was established to provide cost effective access to clean Class I resources. It was also designed to foster the development of in state Class I capacity. A reasonable expectation of stable REC prices is necessary for investment in Class I resources in state. Modifying the definition of Class I to include large out of state hydroelectricity will offer the potential of long-term low cost RECs, but also holds the potential to create an import-only market, undermining the ability for in-state resources to be developed. The REC market needs to continue offer a balance of bulk out of state purchases as well as pricing that allows for the development of smaller, diverse and distributed technologies in Connecticut.

FCE recommends that there be created floors pricing or other incentives for in- state Class I generation while still allowing for imported RECs from the region. Connecticut's goals 20% Class I electricity by 2020 is equivalent to nearly 1000 MW based load equivalent generation capacity (or nearly 3000 MW of low capacity factor solar or wind). In the absence of in-state generation, RPS compliance will be achieved solely through payment

of penalties or exporting ratepayer funds with no resulting benefits from in-state manufacturing jobs, construction, or property and sales taxes.

RATIONALE FOR FUEL CELLS IN CB-1

Cost Rationale

Installed commercial solar energy and fuel cells are approximately the same cost on a $/kW basis, but fuel cells provide a significantly higher capacity utilization factor (nearly 90-95% vs 15-20% for solar). When all factors are taken to account including capital recovery, fuel, avoided wholesale generation and RPS compliance contribution, solar PV is 6 times more costly per KWH than distributed fuel cell technology. This difference does not take into consideration the direct and indirect job or economic development attributable to the unique position that stationary fuel cell technology is coincidentally a Connecticut Industry.

Jobs Rationale

Jobs associated with the solar industry are largely installation and service. These are important. However, fuel cell technology supports jobs in Connecticut in research and development, engineering and manufacturing as well as installation and service. Fuel cell investment creates 22 direct and indirect manufacturing, service and installation jobs for every 6 jobs for solar installation only. These figured are derived from the 2009 Navigant study for CCEF and DECD.

Environmental Rationale

Class I renewable solar energy facilities improve air quality when solar is operational and displacing traditional fossil generation. Fuel cells operating as a complement to solar, especially as combined heat and power systems, displace energy from both conventional electric generation and inefficient boilers. The potential average annual emissions reductions for each 100 MW of fuel cell CHP capacity, compared to existing New England fossil fuel electric generation, would be in excess of 1,250 Tons of NOx, 3,250 Tons of SOx, and 400,000 tons of CO2.

CONCLUSIONS

In defining its Class 1 technologies Connecticut has already taken an analyzed and practical step towards a broad clean energy portfolio. It is sound policy to continue previously efforts, rather than divert emphasis toward a single technology, especially when the facts of the marketplace offer compelling evidence to the contrary. CB 1 should provide the marketplace the opportunity to evaluate which source creates the greatest efficiencies, economic value and environmental benefits

Installation of Solar PV and fuel cell technology offers an un-matched combination of environmental benefit, efficient in-state distributed generation and economic investment.

Consideration must be given to all Class 1 renewable energy sources and the unique benefits of fuel cell technology.

It is a discredit to Connecticut's manufacturing and innovation base to consider a bill that would authorize up to $60 Million annually of new ratepayer costs for upwards of 20 years to create programs exclusively for imported solar PV technology without recognizing the greater economic and energy value to Connecticut through fuel cell technology.

Fuel cell technologies are a crucial part of the portfolio of advanced energy technologies that will help achieve the state and nation more efficiently use our resources and reduce and greenhouse gas emissions. They are arguably the last clean energy technology in which the United States has a technical and manufacturing lead.

And they are uniquely Connecticut.

FuelCell Energy appreciates the opportunity to provide these comments.

Respectfully Submitted,

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