

Testimony of

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before

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regarding

Raised House Bill No. 5362

An Act Concerning Renewable Energy

Introduction

The Connecticut Center for Advanced Technology, Inc. ("CCAT"), offers this testimony for Raised House Bill No. 5362 - An Act Concerning Renewable Energy.

CCAT is a nonprofit corporation that provides services and resources to entrepreneurs and businesses and, through collaboration with industry, academia, and government, helps companies innovate and compete, thereby strengthening our nation in the global market. The Energy Initiative of CCAT has been established to improve the economic competitiveness of the region through solutions that lower energy costs and increase long-term energy reliability. CCAT administers the Connecticut Hydrogen-Fuel Cell Coalition; provides assistance to small and medium sized manufacturers to assess opportunities for the application of enhanced demand-side management technologies, such as combined heat and power systems, undertakes energy planning; and promotes renewable energy, including fuel cells and sustainable fuels.

This Bill contains many components that are favorable to the expansion of Class I renewable energy development. However, applying the favorable components of the Bill outlined below to other Class I renewable energy technologies, such as fuel cells that are engineered and manufactured in Connecticut could provide substantial opportunities for economic development and job creation.

- ***Mechanisms to promote the development and use of Class I renewable solar energy capacity:***
The use of provisions including direct incentives, long term power purchase contracts, tariffs, and utility investment and ownership would provide opportunities for long term financing to facilitate the development of Class I renewable solar energy sources to meet Connecticut's renewable portfolio standards (RPS) requirements. Assuming a statewide load growth from 33,711 GWh in 2007 to 38,276 GWh in 2020 and a 100 percent capacity factor, an average of 57 MW of new Class I renewable capacity would need to be developed each year to meet the state's RPS Class I requirements. With a capacity factor of 14 percent, approximately 407 MW of solar capacity would be needed to meet this annual requirement. With a capacity factor exceeding 90 percent, approximately 63 MW of fuel cell capacity would be needed to meet this annual requirement.
- ***Create jobs and encourage economic development:***
The Bill contains provisions that would increase the development of Class I renewable solar energy facilities, which will increase opportunities for economic development and job creation.

Such jobs would be largely associated with installation and service. Fuel cells would provide jobs in Connecticut for engineering, manufacturing, installation and service. For each MW of fuel cell capacity manufactured in the state and deployed at sites in Connecticut, over 148 jobs and approximately \$20 - \$22 million in gross state product would be generated.

- ***Effective merger of energy management with environmental benefits:***

The development of Class I renewable solar energy facilities will provide additional public dividends to improve air quality. As a combined heat and power system, fuel cells could be used to displace both conventional electric generation and inefficient boilers. The potential average annual emissions reductions for each MW of fuel cell capacity, compared to existing New England fossil fuel electric generation, would be approximately 8,750 lbs of NO_x, 32,000 lbs of SO_x, and 7 million lbs of CO₂. The emission reductions would be substantially greater with the displacement of inefficient boilers and furnaces.

Conclusion

CCAT is supportive of the concepts raised in this Bill to increase the development of Class I renewable solar energy sources in the State. Such development would help meet the state's RPS requirements and greenhouse gas reduction goals. Applying the concepts identified above to all Class I renewable energy technologies would increase opportunities for renewable technology development in the state at facilities that require a high availability factor and could provide substantial opportunities for economic development and job creation.

CCAT will make itself available to the Committee and legislature upon request to assist in the refinement of this legislation.

Respectfully submitted,

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