

Testimony of

Joel M. Rinebold

Director of Energy Initiatives

Connecticut Center for Advanced Technology, Inc.

Before the

Energy and Technology Committee

February 21, 2017

Regarding

**Governor's Bill No. 7036 - An Act Promoting the Use of Fuel Cells for Electric Distribution  
System Benefits and Reliability.**

The Connecticut Center for Advanced Technology, Inc. ("CCAT"), offers this testimony in support of Governor's Bill No. 7036 - An Act Promoting the Use of Fuel Cells for Electric Distribution System Benefits and Reliability.

CCAT is a nonprofit corporation that provides services and resources to entrepreneurs, businesses, industry, academia, and government. 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. This CCAT Initiative also provides assistance to businesses and manufacturers regarding energy use and energy efficiency; promotes the use of sustainable and renewable distributed energy technologies; and undertakes energy planning, including planning for microgrid development.

CCAT strongly supports the concepts raised in this Bill that allows electric distribution companies to acquire new fuel cell generating capacity for the purpose of providing distribution system benefits, including, but not limited to, avoiding or deferring distribution capacity upgrades, and enhancing distribution system reliability through voltage or frequency improvements. CCAT also supports the provisions in this Bill to make efficient use of existing sites and supply infrastructure in Connecticut.

Therefore, if used as proposed, fuel cell generation will simultaneously leverage other significant benefits, including:

- Technology manufactured in the state that will provide significant jobs and revenues to Connecticut's economy;
- Classification as a Class I renewable energy resource as defined by Connecticut law;
- Technology that provides high capacity, availability, and reliability;
- Technology that provides high energy efficiency with heat and power for end users; and
- Technology that can be dispatched to support capacitance, voltage control, and maintenance of frequency on the grid and at end user facilities.

While we are supportive of this Bill, CCAT suggests expanding the aggregate fuel cell generating capacity that the electric distribution companies are allowed to acquire from ten megawatts to between 131 and 175 megawatts, consistent with the targets identified in the 2015 Hydrogen and Fuel Cell Development Plan (Roadmap) for Connecticut. We also suggest that this Hydrogen and Fuel Cell Development Plan be used as the basis for state planning and identification of locations for voltage and frequency improvements.

Further, this Bill would improve the relationship between customers and grid resources and establish a framework for sourcing significantly more Class I renewable energy in Connecticut to help meet the State's Renewable Portfolio Standards (RPS) goals. CCAT strongly supports the intent of the Bill to allow the electric distribution companies to invest in fuel cell generating capacity for power quality and energy reliability, with such investment leveraged to meet other state objectives, including:

- Economic goals for job retention and job creation associated with fuel cell manufacturing;
- Environmental goals to reduce emissions of nitrogen oxides (NOx) and the formation of ground level ozone;
- Class I renewable energy to meet Connecticut's RPS with in-state resources; and

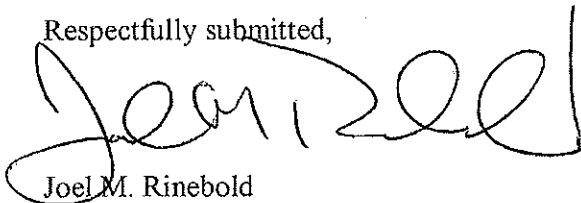
- Premium power needs for businesses and industries that require high quality/highly reliable power from compact on-site generation.

This Bill also appropriately recognizes that the use of fuel cell technology, which is manufactured in the state, can play a significant role in the state's economy. Connecticut's hydrogen and fuel cell industry supports over 600 supply chain companies, including two of the world's largest fuel cell manufacturers; produced \$726 million in total revenue and investment; and generated approximately \$40 million in state and local tax revenues (2015). Furthermore, a recent study conducted by the Connecticut Center for Economic Analysis at the University of Connecticut concluded that "sustaining Connecticut's leading role and market share in the industry, regardless of the growth path the industry takes over the next three decades, delivers significant new employment, strengthens population growth, and is on net beneficial to government revenues."<sup>[1]</sup>

In summary, CCAT strongly supports the intent of this Bill to use utility planned, and possibly utility owned fuel cells to enhance the distribution system through voltage or frequency improvements, and the leverage created to improve environmental performance and economic development. CCAT suggests increasing the aggregate cap on the fuel cell generating capacity from ten MW to at least 131 MW to 175 MW, possibly over a multi-year period.

CCAT will make itself available to the Committee and legislature upon request to assist in the refinement of this legislation and to use the Hydrogen and Fuel Cell Development Plan as a basis for energy reliability planning with use of fuel cell technology.

Respectfully submitted,



Joel M. Rinebold

Director of Energy Initiatives

---

<sup>[1]</sup> Projecting the Economic Impact of an Expanding Connecticut Fuel Cell Energy Sector 2017 -2042; CCEA, November 10, 2016