

Testimony of

Dan Connors

Vice President of Business Development and Operation

Agni GenCell

before

Energy and Technology Committee

February 26, 2009

regarding

House Bill No. 5212
An Act Concerning Fuel Cells

Introduction

House Bill 5212 - An Act Concerning Fuel Cells.

As Vice President of Business Development and Operation at Agni GenCell, and Chairman of the Connecticut Hydrogen Fuel Cell Coalition, I stand in support of House Bill 5212 – An Act Concerning Fuel Cells.

Agni GenCell is a manufacturer of Molten Carbonate Fuel Cells and Integrated Fuel Cell Power Generators using proprietary manufacturing processes providing for mass production and customization of fuel cells.

Agni Gencell operates out of a leased factory in Southbury, CT, fully equipped 6,000 sqft Production Facility. We have a second manufacturing facility at Naugatuck Industrial complex, 8800 sqft for manufacture of bipolar plates and active components with options to expand another 4000 sqft for testing facility.

The establishment of a fuel cell program is consistent with the goals for Connecticut identified in the state's Hydrogen Roadmap.

The state's Hydrogen Roadmap identified the following goals:

- Support the development of fuel cell technology manufactured in Connecticut including vehicles, refueling stations, and other infrastructure in order to maximize jobs and economic development;
- Attract automobile and bus companies to demonstrate in Connecticut;

- Support the development of fuel cells in government buildings such as the Capitol and the Legislative Office Building;
- Reduce air pollutants and greenhouse gas emissions (GHG);
- Increase energy security and efficiency; and
- Increase local sales to increase opportunities for global market penetration.

The development of a fuel cell program to promote the development and use of fuel cell vehicles and hydrogen is consistent with federal policy.

The U.S. Department of Transportation (USDOT) has issued a plan for development and demonstration of fuel cell buses.¹ The USDOT has established a goal to have ten percent of transit bus purchases be hydrogen fuel cell buses in 2015.² The development and implementation of a fuel cell program to promote the development and use of fuel cell vehicles and hydrogen would position Connecticut to capture federal and other grant funding for research, development, demonstration and deployment of hydrogen infrastructure and fuel cell vehicles. The establishment of a fuel cell transportation program for Connecticut would complement global efforts, vehicle manufacturers, fuel cell manufacturers and hydrogen equipment infrastructure manufacturers to develop and demonstrate the functional, cost, durability and reliability capabilities of hydrogen infrastructure and fuel cell powered vehicles.

¹ U.S. Department of Transportation. 2005, "Research, Development, Demonstration and Deployment Roadmap for Hydrogen Vehicles & Infrastructure to Support a Transition to a Hydrogen Economy"

² Sisson, Barbara A. "Hydrogen and Fuel Cell Bus Initiative, Paving the Way Nationally and Internationally", U.S. Department of Transportation, Federal Transit Administration

Fuel cell applications can improve energy efficiency, while also improving air quality and environmental performance, enhancing economic development, and increasing employment in Connecticut.

The Hydrogen Roadmap identified and quantified the benefits of using hydrogen and fuel cell technology for stationary and transportation applications to improve efficiency, reduce consumption of fuel, improve the environment, and enhance near-term and long-term economic development, as outlined below:

- Fuel cells and hydrogen technology are clean and nearly emission free. Fuel cell vehicles running on hydrogen produced from renewable resources virtually eliminates all GHG compared to conventional fossil fuel powered vehicles. Replacement of one conventional diesel transit bus with a hydrogen powered fuel cell transit bus would reduce NOx emissions by 1,019.9 pounds, SO₂ emissions by 1.746 pounds, and CO₂ emissions by 182,984 pounds, annually.
- Fuel cells and hydrogen technology are efficient, will conserve fuel and the import of foreign oil, and reduce energy costs. The average expected energy efficiency using fuel cells for transit buses will be approximately twelve (12) miles per gallon equivalent versus four (4) miles per gallon using diesel fuel.
- Assuming full scale mass production of alternative fueled vehicles, fuel cell powered vehicle total societal lifecycle costs are slightly less than hybrid electric vehicles and are significantly lower than vehicles with fossil fuel burning internal combustion engines; and
- Connecticut's hydrogen and fuel cell industry employs approximately 1,160 employees; an increase of 229 jobs since early 2006. Under existing trends, it is projected that by the year 2010, Connecticut would be positioned to increase direct employment to over 1,600 jobs;

- It has been estimated that the global fuel cell/hydrogen market, when mature, could generate between \$43 billion and \$139 billion annually. If fuel cells are deployed as distributed generation and if Connecticut's fuel cell and hydrogen industry captures a significant share of the transportation market, revenues to Connecticut companies in a mature global market could be between approximately \$14 billion and \$54 billion annually, which would require an employment base of tens of thousands.

Conclusion

I am supportive of this Bill that would establish a fuel cell program to promote the development and use of hydrogen and fuel cell technologies to improve energy efficiency to reduce consumption of fuel, improve the environment, and enhance near-term and long-term economic development. The use of fuel cell powered buses and stationary fuel cells would accelerate the commercial deployment of hydrogen technology and provide jobs and economic benefits to the state of Connecticut.

Respectfully submitted,

Dan Connors

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Chairman – Connecticut Hydrogen Fuel Cell Coalition