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Public Hearing – Monday, March 4, 2013
FINANCE, REVENUE AND BONDING COMMITTEE

Testimony Submitted and Presented by Paul Hoar

S.B. No. 840 - An Act Concerning Next Generation Connecticut

Thank you for the opportunity to present testimony in favor of S.B. No. 840 - An Act Concerning Next Generation Connecticut.

Through its proposed 10-year, \$1.5 billion investment in the University of Connecticut's science, technology, engineering and mathematics (STEM) programs, this bill will fuel Connecticut's economy with new technologies, patents, licenses, and high-wage STEM jobs. This bill calls for a major investment in UConn—increasing enrollments in STEM disciplines, adding new faculty, and improving infrastructure.

AgriFuels relies upon ready access to a highly skilled workforce of engineers who can help us innovate new products and services and embark on new technological frontiers to effectively compete in the global arena. If enacted, the bill will support:

- A 30 percent increase in enrollment at UConn, to include more than 6,500 students and 200 new STEM faculty at the UConn Storrs and Stamford campuses;
- A 70 percent increase in engineering undergraduate enrollments;
- A 47 percent expansion in the total number of STEM graduates;
- Addition of 50 STEM doctoral fellowships and creation of a premier STEM honors program;
- \$1.54 billion in bonding to construct new STEM facilities, build out teaching and research labs, upgrade information technology, and renovate and build additional housing and parking.

AgriFuels has been in the alternative energy business, specifically in the biodiesel quality consulting business since 2006. In 2010 we decided to expand by getting into algae production with the intent of replacing soybean oil with algal oil because of rising feedstock costs and the food vs. fuel controversy. Subsequently, we licensed a Canadian technology for a unique photobioreactor to grow algae in the US. Algae production consumes wasted resources and creates value from them. Algae consume twice its weight in Carbon Dioxide and some species

contain 50% oil. Power plants produce wasted resources of carbon dioxide and waste heat and we plan to grow large amounts of algae biomass near them.

We will be hiring workers in fields where none exist today in the state and very few in the nation. We plan to spawn new businesses from the myriad products we can generate and stimulate the Connecticut economy and create new jobs by launching this new industry in the state. We will need highly skilled graduates to meet our future workforce needs and require the targeted research that UConn will be able to provide to enhance our capabilities and the ability to grow these new businesses. By teaming with UConn and their newly hired scientists we will be able to provide jobs for their graduates, many of whom we hope to engage in internships during their academic careers at UConn. Scientists at UConn will collaborate with us in microbiology, chemistry, engineering and animal science and biofuels arenas. We are in the early stages of a new industry as algae have the ability to yield products in the pharmaceutical, nutraceuticals, chemical, animal and fish feed and biofuels areas.

AgriFuels hopes to grow a number of new companies in the state through Joint Venture projects, most of which will depend on the intellectual capabilities developed at UConn and other academic institutions. Besides the skill of growing algae to commercial scale in our closed photobioreactors, we need complimentary capabilities in carbon capture, harvesting and extraction of valuable protein, carbohydrate and lipid based products from the biomass that we grow.

Our company is expanding in CT and we need the talents that this bill can provide. AgriFuels has applied for a Connecticut Innovations grant to prove out the unique technology embodied in our patent pending photobioreactor at pilot scale at the NOAA Fisheries Services lab in Milford, CT where they have grown algae for shellfish food for over 70 years. UConn has agreed to help us with a new harvesting technology in Phase I and will host our mid size unit in a demonstration project at the Center for Clean Energy Engineering at Storrs in Phase II. Our company will grow large quantities of algae consuming the wasted resources of carbon dioxide, and heat from power generators and potentially nitrogen and phosphates from waste treatment plants. We anticipate creating revenues from wasted resources in many industries and will rely on the scientific help of those in the STEM fields to wrest these valuable products from the hundreds of species of algae that can be grown here. We would like to partner with power generators and Wheelabrator Bridgeport has agreed to host our first full size photobioreactor once we successfully complete our Phase I and Phase II pilot projects. UConn will be right in the middle of these successes as we work with the professors and doctoral and graduate students in many of these fields that this funding will provide.

Thank you for the opportunity to present testimony on this proposal. If you should require any additional information, please contact me at paulhoar@agrifuels.com.

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