



BEFORE THE

SENATE COMMITTEE ON ENERGY AND ENVIRONMENT

Senator Mike Gabbard, Chair
Senator J. Kalani English, Vice Chair

**HB1678, HD1
RELATING TO SPECIAL PURPOSE REVENUE BONDS**

Testimony of

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Tuesday, March 17, 2009, 3:00 pm
State Capitol, Room 225

Chair Gabbard and members of the Committee on Energy & Environment:

My name is David Ushio, Vice Chair of LifeGrid Solutions LLC. LifeGrid **SUPPORTS** HB1678, HD1, which authorizes special purpose revenue bonds for our company to develop non-fossil fuel energy production in Hawaii.

ABOUT LIFEGRID SOLUTIONS, LLC

LifeGrid is a joint venture consortium that collectively possesses the latest and most proven patented technologies in the fields of biotechnology and biofuels. We provide turn-key waste conversion energy solutions that utilize the most advanced systems and processes to increase energy independence and improve environmental conditions. In particular, LifeGrid specializes in the production of biodiesel and ethanol production, as well as research and development in biofuel feedstock and processing. LifeGrid's patented reactor technology reduces the required biodiesel plant footprint by 50% as compared to traditional biodiesel production facilities; increases efficiency because of its ability to create reaction and separation simultaneously; and uses less sodium hydroxide and methanol, which results in a much purer byproduct.

LifeGrid currently operates five (5) biodiesel and ethanol plants throughout the U.S., including production facilities in Blountville, Tennessee (45 million gallons of biodiesel per year production capability); Aiken, South Carolina (12 million gallons of biodiesel per year production capability); Madison, Pennsylvania (65 million gallons of ethanol per year production capability); Tulsa, Oklahoma (100 million gallons per year production capability); and Mobile, Alabama (100 million gallons of ethanol per year production capability).

LifeGrid's current customers for its biodiesel and ethanol products are wide-reaching, including Alcoa, Inc., BAE Systems, Eastman Kodak, General Motors, and the states of Pennsylvania, Oklahoma and Alabama.

PLASMA GASIFICATION: SOLID WASTE TO ENERGY

LifeGrid utilizes a unique patented processing technology called plasma gasification. Plasma gasification can convert almost any waste material into usable products such as electricity, ethanol, vitrified glass and other salable products. Examples of potential feedstock include biomass, municipal landfill and industrial wastes, sludge from waste treatment processes, agricultural waste, forest products, energy crops, and bagasse. It is a true waste to energy system that goes beyond the traditional incinerator used at HPower, and beyond standard gasification processes like plasma arc. Plasma gasification allows for up to 97% conversion of waste to energy in a self-contained, safe and environmentally friendly manner.

Because LifeGrid's processes utilize municipal solid waste, it can also provide significant relief to Oahu's landfill at Waimanalo Gulch. For example, in 2006, Hawaii produced about 1.7 million tons of municipal solid waste. In order to produce 100 million gallons of ethanol per year, about 1.2 million tons of municipal solid waste would be required. Sludge from waste water treatment plants can also be converted into ethanol by gasification thereby reducing the disposal needs of waste water treatment facilities. Additionally, Hawaii has plentiful supplies of bagasse that are optimal for ethanol production via gasification.

OUR PLANS IN HAWAII

LifeGrid is engaging in the planning, design, and construction of a biofuel refinery capable of producing approximately one hundred million gallons of ethanol and approximately forty million gallons of biodiesel per year. We intend to utilize a variety of feedstock available for biodiesel and ethanol production, particularly municipal solid waste. Public-private partnerships will be pursued with waste management companies, agricultural feedstock producers as well as the City & County of Honolulu to obtain biodiesel feedstock for LifeGrid's plant operations. Long-term contracts with government agencies and other ethanol distributors could be pursued to ensure stable and reliable sources of locally produced ethanol over an extended period of time. Additionally, LifeGrid seeks to conduct important research and development activities to further biofuel feedstock production.

About \$550 million is anticipated to be invested by LifeGrid in Hawaii, including:

- Ethanol Facility (\$450 million; Plasma Gasification process)
- Biodiesel Facility (\$45 million)
- Research and Development Facility (\$4.0 million)

IMMEDIATE BENEFITS TO HAWAII

LifeGrid has chosen to locate its renewable energy business in the state of Hawaii. We have chosen to locate in Hawaii because we believe that Hawaii has demonstrated its commitment to become the "Showcase to the World for Green Technology" and we want to contribute to this effort.

As Hawaii sets its goal to generate 70% of its energy from renewable sources by 2030, LifeGrid's commitment to contribute to Hawaii's energy independence is unwavering. LifeGrid's executive committee seeks to ensure that both the company and residents of Hawaii benefit from LifeGrid's corporate activities.

A unique aspect of LifeGrid's activities is to meet the local demand for ethanol. With its 10% ethanol requirement in gasoline, Hawaii currently imports 100% of its ethanol. Hawaii lawmakers enacted such legislation in hopes of providing not only a renewable source of liquid fuel for Hawaii residents, but to promote local production of ethanol using locally grown agricultural feedstock. With no ethanol processing plants in Hawaii, the ethanol mandate is ineffective, and in many respects not producing the intended results when enacted. LifeGrid's proposed gasification plant will provide an immediate producer of ethanol. This will enable the state of Hawaii to meet its current mandate of 10% ethanol requirement for gasoline and the 20% requirement for ethanol by 2020.

LifeGrid's locally owned and operated "state of the art" ethanol/biodiesel production facility will also do the following;

1. Eliminate the additional cost to the consumer for imported ethanol from foreign sources;
2. Stimulate the demand for Hawaii grown renewable energy agricultural feedstock for ethanol production which will in turn create much needed green energy jobs in Hawaii.
3. Create engineering and construction jobs in Hawaii required to build the LifeGrid facilities.
4. Create DOD "dual use" technology spin offs using the Hawaii state of the art LifeGrid ethanol/biodiesel facility as a working model for Department of Defense mandated requirements for sustainable green technologies to reduce DOD's dependence on foreign oil.
5. Create exportable high tech jobs for LifeGrid's Hawaii based renewable energy workers.

LifeGrid's patented state of the art technologies can also help solve some of Hawaii's pressing environmental problems.

1. LifeGrid can use municipal solid waste as a feedstock for the production of renewable energy fuels such as biodiesel and ethanol.
2. LifeGrid has the capability to reclaim the solid waste in the filled to capacity landfills such as Waimanalo Gulch and use the reclaimed solid waste as feedstock in the production of renewable fuels. This has the added advantage of freeing up needed space in the current landfills while producing much needed renewable energy fuels.
3. LifeGrid can also use sludge generated by the waste water treatment plants as feedstock in the production of renewable energy fuels. Currently this sludge is being dumped in the landfills.
4. LifeGrid operates on a 97% efficiency rate and generates more useable output with virtually no ash and/or emissions into the air. The current solid waste to electricity plants operate on an approximate 55% efficiency rate which creates large quantities of ash which is dumped into the landfills.

We believe that our LifeGrid patented state of the art technology and proven production capability can be a major asset in solving the unique environmental and sustainability issues challenging the citizens of Hawaii.

LifeGrid's owners, officers, and staff are committed to making Hawaii a "Center of Excellence for Advanced Green Technology". The State of Hawaii has demonstrated the commitment to this effort and we wish to be a partner to fulfill this vision.

HOW WE PLAN TO USE THE SPRB

Funds raised from the special purpose revenue bond will be used to finance Phase I of LifeGrid's Hawaii activities. In particular, funds will be used to plan, design and construct its biodiesel facility capable of producing 45 million gallons of biodiesel. Further, an engineering feasibility study will be conducted to determine location, required production capacity, identification of feedstock types and sources, as well as economic and environmental impact of developing the plasma gasification ethanol plant (Phase II).

Thank you for the opportunity to testify in **SUPPORT** of HB1678, HD1.