

**LATE TESTIMONY**

Statement of  
**John DeLong**  
**Board Chair**

Natural Energy Laboratory of Hawaii Authority  
before the

**HOUSE COMMITTEES ON ECONOMIC REVITALIZATION, BUSINESS AND  
MILITARY AFFAIRS**

**AND**

**ENERGY AND ENVIRONMENTAL PROTECTION**

**March 23, 2010**

**11:30 a.m.**

**State Capitol Conference Room 325**

in consideration of **HR 153 and HCR 224**

**REAFFIRMING THE SUPPORT OF THE HAWAII STATE LEGISLATURE FOR THE  
NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY AS AN INCUBATOR  
FOR RESEARCH AND COMMERCIALIZATION OF ENERGY, HIGH  
TECHNOLOGY, AND ECONOMIC DEVELOPMENT IN THE STATE OF HAWAII**

Chair McKelvey, Vice-Chair Choy, Chair Morita and Vice-Chair Coffman, and members of the House Committees on Economic Revitalization, Business & Military Affairs and Energy And Environmental Protection, I am John DeLong, Board Chair of the Natural Energy Laboratory of Hawaii Authority (NELHA), located in Kailua-Kona on Hawaii island.

HR 153 and HCR 224 recognize the increased efforts on NELHA's part over the past few years to re-invigorate and re-initiate leading edge energy research for the benefit of the people of Hawaii and the continued institution of new businesses for an improved economic climate.

NELHA is proud of its contribution to the local economy and its 43 tenants that are engaged in a very diverse range of business and research ventures. They all share an interest in the unique feature of NELHA which is the ability to provided larger quantities of deep ocean seawater. More than 325 families are provided employment at NELHA. Annual revenue is estimated at \$70 million.

Ongoing NELHA projects include raising a variety of specialty sea foods that are served in many of Hawaii's finest restaurants, development and construction of a 10 megawatt renewable energy generation facility based on solar concentrator technology rather than photovoltaics, unique wind wing and vertical turbine system that extracts wind energy more efficiently than traditional circular wind turbines, several ventures that are working to grow and extract fuels from algae, the production and use of algae as health supplements, cultivating unique species of sea horses, bottling and sales of desalinated deep sea water, and research on heat exchanger technology in support of OTEC (ocean thermal energy conversion) renewable energy development.

Projects currently under review to join NELHA family of companies include a 6 megawatt base load power generation facility that will convert refuse to power using gasification technology-- carbon dioxide emissions will be remediated with algae, a monk seal rehabilitation sanctuary, and the production of sea salt.

Nowhere in Hawaii is there such a unique combination of companies focused on reducing Hawaii's energy dependency and developing ocean related technologies where Hawaii can be a meaningful player as can be found at NELHA.

We are also proud of the professionalism and expertise our staff of 16 individuals who maintain our 24/7 water delivery system, provide all the administrative support for NELHA activities, sustain financial self sufficiency and lead and direct the effort to fully utilize the investment made at NELHA for the benefit of the entire State.

It is an honor for the Hawaii State legislature to recognize NELHA with this joint resolution.

Thank-you for this opportunity to submit testimony.



# **NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY**

*An Attached Agency of the Department of Business, Economic Development & Tourism, State of Hawaii*



## **LATE TESTIMONY**

Statement of

**RON BAIRD**

**CHIEF EXECUTIVE OFFICER**

Natural Energy Laboratory of Hawaii Authority

before the

**HOUSE COMMITTEES ON ECONOMIC REVITALIZATION, BUSINESS AND  
MILITARY AFFAIRS**

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Chair McKelvey, Vice-Chair Choy, Chair Morita and Vice-Chair Coffman, and members of the House Committees on Economic Revitalization, Business & Military Affairs and Energy And Environmental Protection, I am Ron Baird Chief Executive Officer of the Natural Energy Laboratory of Hawaii Authority (NELHA), located in Kailua-Kona on the great island of Hawaii.

HR 153 and HCR 224 recognize the increased efforts on NELHA's part over the past few years to re-invigorate and re-initiate leading edge energy research for the benefit of the people of Hawaii and the continued institution of new businesses for an improved economic climate.

Sopogy LLC and its affiliate, Keahole Solar Partners LLC, has constructed and is testing a new generation of solar thermal system at NELHA. This system holds considerable promise for subtropical island type environments and can operate longer hours than traditional photovoltaic systems.

The Hawaii County Economic Opportunity Council, has for three years now, tested a new generation of solar concentrating collector at NELHA.

IWind, the United States subsidiary of Yung-Yang Green Industrial Co., Ltd. of Taiwan, provided NELHA with a vertical axis wind turbine to product testing in the low wind environments generally experienced at NELHA.

W2 Energy Development Corporation, from California, has a lease at NELHA to test a radical new style of wind generator. If this system is successful, its operating attributes may lead it to be installed in many places where, today, wind generation is not practical because of low wind velocities.

Cellana, LLC is a joint venture between local company HR BioPetroleum LLC and the Royal Dutch Shell Corporation. It employs over 60 people at NELHA researching and developing a commercial methodology for the production of biojet and/or biodiesel from marine algae. Success in this venture could pave the way for Hawaii to become very self-sufficient in the production of these vital middle distillate fuels.

Makai Ocean Engineering and Lockheed-Martin Corporation are conducting heat exchanger research that may lead to improved Ocean Thermal Energy Conversion systems.

Other energy projects are awaiting approval to locate at NELHA. These include a solar experiment to be run by the National Renewable Energy Laboratory, a solar concentrating experiment by Lawrence Berkley Laboratories and NELHA, a base-load sustainable waste-to-energy project by BioEnergy Hawaii, LLC, Kai BioEnergy (which is working to commercialize energy production from diatoms rather than algae, and a potential project by the PISCES group.

NELHA itself is trying to become self-sustainable in terms of the production of green energy. Very recently, a venture capital firm from Pennsylvania, representing European investors, visited NELHA and expressed its interest in financing the construction of a 1 Megawatt OTEC plant, using NELHA's pump station that was originally built for that purpose. The firm intends to take the company it is financing public in Europe later this year. Also in the procurement process is an invitation to construction 1 to 3 megawatts of photovoltaic power at NELHA, significantly lessening its dependence on the utility grid.

Incubation of new companies holding the promise or reality of commercialization has not been forgotten by NELHA. New companies such as Kona Coast Shellfish, LLC and Troutlodge Marine Farms Kona, LLC. Revitalized companies, like Destiny Deep Sea Water LLC, King Ocean Farms, Inc. and Pacific Aquaculture & Biotechnology LLC have provided new employment opportunities and the possible development of new industries for Hawaii.

NELHA has, additionally, companies such as:

Hawaii Kai wanting to produce salt,  
the Marine Mammal Center to operate a Hawaiian monk seal recovery center,  
and several liquid beverage producers in the channel for tenancy.

All these would, if successful, produce employment opportunities and new fields of endeavor at NELHA.

NELHA is very honored that the legislature of the great state of Hawaii may recognize its achievements in the past few years by passing this House Concurrent Resolution.

Thank you very much for your consideration of my testimony and if you have any questions, I would be happy to take and answer them now to the best of my ability.

## LATE TESTIMONY

### TESTIMONY IN SUPPORT OF HR 153 AND HCR 224

To: House of Representatives Committee on Economic Revitalization, Business and Military Affairs  
House of Representatives Committee on Energy and Environmental Protection

Date: March 22, 2010

Aloha, Chair McKelvey, Vice-Chair Choy, Chair Morita and Vice-Chair Coffman and members of both committees:

I am asking for your support of the Natural Energy Laboratory of Hawai'i Authority (NELHA) as an incubator for research and commercialization of energy, high technology and economic development in the state of Hawai'i and on Hawai'i Island. As we struggle with the effects of a declining tourism industry, NELHA is the engine to attract and cultivate future energy and technology industry sectors to diversify our economic base. Partnering closely with the business and education community, NELHA is positioned to contribute significantly in the launch of new industries and the creation of jobs. It truly was and remains a visionary public investment in the future of Hawai'i.

These Resolutions affirm the commitment of the State of Hawai'i to this important mission.

Thank you for your favorable consideration,

Hazel Beck (808.443.7776 or [hazelbeck@att.net](mailto:hazelbeck@att.net))