# SB 23

RELATING TO THE ISSUANCE OF SPECIAL PURPOSE REVENUE BONDS TO ASSIST A SEAWATER AIR CONDITIONING PROJECT.

Authorizes the issuance of special purpose revenue bonds to Kaiuli Energy, LLC, to assist with planning, design, and construction of a seawater air conditioning district cooling facility and chilled water distribution system

# TESTIMONY BY KALBERT K. YOUNG DIRECTOR, DEPARTMENT OF BUDGET AND FINANCE STATE OF HAWAII TO THE SENATE COMMITTEE ON ENERGY AND ENVIRONMENT ON SENATE BILL NO. 23

January 31, 2013

RELATING TO THE ISSUANCE OF SPECIAL PURPOSE REVENUE BONDS TO ASSIST A SEAWATER AIR CONDITIONING PROJECT

Senate Bill No. 23 authorizes the issuance of special purpose revenue bonds (SPRB) of up to \$200,000,000, to assist Kaiuli Energy, LLC, in the planning, design, and construction of its seawater air conditioning district cooling system in and around Waikiki, Oahu, pursuant to Part V, Chapter 39A, Hawaii Revised Statutes.

The Department has no position on the issuance of SPRBs as contemplated in this bill.

The Department would like to remind the Legislature and prospective issuers that should the legislation be approved, approval of SPRB issuance will still require further discussion and satisfactory review of the financing components involved in the transaction.

Thank you for the opportunity to provide testimony on this measure.



#### 76 North King Street, Suite 203 Honolulu, Hawai'i 96817

Phone: 533-3454; E: henry.lifeoftheland@gmail.com

# COMMITTEE ON ENERGY AND ENVIRONMENT Senator Mike Gabbard, Chair

Senator Russell E. Ruderman, Vice Chair

#### AMENDED NOTICE OF HEARING

DATE: Thursday, January 31, 2013

TIME: 2:45 p.m.

PLACE: Conference Room 225

Re: SPRBs for KAIULI ENERGY, LLC (SB23) & PLEASE DEFER

KONA SWAC L.L.C. (SB1280)

#### Aloha,

Life of the Land is Hawai`i's own community action group advocating for the people and the land since 1970. Our mission is to preserve and protect the life of the land by promoting sustainable land us promote open government through research, education, advocacy, and when necessary, litigation.

Life of the Land is a strong supporter of Sea Water Air Conditioning (SWAC).

We have presented a proactive case for SWAC as part of a Hawai'i Public Utilities Commission (PUC) regulatory proceeding. Expert witnesses testified for us at the PUC Evidentiary Hearing.

Life of the Land is also a strong supporter for sunshine and open government.

KAIULI ENERGY, LLC has asked for up to \$200,000,000 in Special Purpose Revenue Bonds (SPRBs) (SB23, HB338)

KAIULI ENERGY, LLC, dba MAKALI`I HOLDINGS LLC, dba MaKai-Energy.com, dba MAKAI ENERGY LLC was formed by four entrepreneurial Hawai`i individuals in 2011.

KONA SWAC L.L.C. has asked for up to \$40,000,000 in Special Purpose Revenue Bonds (SPRBs) SB 1280 was filed before the company registered with DCCA.

KONA SWAC L.L.C. is a temporary name registered with DCCA on January 29, 2013. Its agent has the same address as KAIULI ENERGY, LLC. Its officers are not known.

Neither company has a working web site. Neither company has any public information about their skill sets, knowledge of SWAC or ability to deliver.

In the interest of open government, sunshine, and community participation, we believe their requests for SPRBs are not ripe and should be deferred until the public has had adequate time to evaluate their proposals and to offer meaningful comments to this Committee.

Mahalo

Henry Curtis Executive Director



Email: communications@uluponoinitiative.com

## SENATE COMMITTEE ON ENERGY AND ENVIRONMENT Thursday, January 31, 2013 — 2:45 p.m. — Room 225

Ulupono Initiative Supports SB 23, Relating to the Issuance of Special Purpose Revenue Bonds to Assist a Seawater Air Conditioning (SWAC) Project

Dear Chair Gabbard, Vice Chair Ruderman and Members of the Committee:

My name is Murray Clay, Managing Partner of the Ulupono Initiative, a Hawai'i-based impact investment firm that strives to improve the quality of life for the people of Hawai'i by working toward solutions that create more locally grown food, increase renewable energy, and reduce/recycle waste.

Ulupono Initiative seeks to promote and invest in innovative sustainability ideas and business models that have the potential to make a significant difference for Hawai'i. We work with, and invest in, businesses that show this potential for innovation, have local leadership, develop businesses from ideas and inspiration born in Hawai'i to reach the needs of Hawai'i, and use technologies and models that can be replicated and have potential global applicability.

Ulupono is testifying in support of SB 23, which will allow the State to issue Special Purpose Revenue Bonds (SPRBs) for the development of a seawater air conditioning (SWAC) district cooling system for Waikiki. We support Kaiuli's request because we believe SWAC technology is proven and will help replace the energy-intensive central refrigeration system of a traditional air conditioning system. Kaiuli is targeting hotels and other buildings in the Waikiki and Ala Moana areas that could benefit from SWAC which will include substantial savings on electricity and water consumption, system replacement costs, and maintenance costs. This technology is known to provide substantial savings of energy and fresh water, both of which are critical to our economy and sustainability. In addition, it will also help the State move closer to its HCEI clean energy goals and support Hawai'i's vital tourism industry.

We appreciate the opportunity to present this testimony in support of SB 23 and ask for your favorable consideration of this bill.

Thank you very much,

Murray Clay Managing Partner

Pacific Guardian Cauter, Mauka Tower 787 Rishop Street, Suits 2350, Honolulu, HI 96313











#### SENATE COMMITTEE ON ENERGY AND ENVIRONMENT

January 31, 2013, 2:45 P.M. Room 225 (Testimony is 2 pages long)

#### **TESTIMONY IN SUPPORT OF SB 23**

Chair Gabbard and members of the Energy and Environment Committee:

The Blue Planet Foundation supports SB 23, authorizing the issuance of special purpose revenue bonds to Kaiuli Energy, LLC, to assist with planning, design, and construction of a seawater air conditioning district cooling facility and chilled water distribution system.

As we consider strategies for kicking Hawai'i's 5-million-gallon-per-day oil habit, our tendency is to focus on alternative sources of fuel and electricity. We look to clean, renewable energy sources to replace dirty fossil fuel power. We also look for ways to reduce the amount we use—and waste—through efficiency and conservation. What we often overlook is the reality that fuel and electricity are means to an end. Electricity is not what we really want. What we really want is light when it's dark, hot water for a shower, and a comfortable temperature indoors. What if we could cut out the middleman and put an abundant natural resource to work in place of electricity? Seawater air conditioning is a clean energy solution that does just that.

Air conditioning is a voracious consumer of electricity. On O'ahu, the cooling of commercial buildings year-round is responsible for a whopping 20 percent of the island's electricity demand. Kaiuli Energy has proposed a solution that precludes the need to cool water with electricity, one that stands to save substantial amounts of electricity—displacing fossil fuel imports—annually.

Applying the same technology that has been cooling buildings in Toronto, Stockholm, Amsterdam, and elsewhere, Kaiuli is proposing district cooling system that will serve the Waikiki, Ala Moana, and University of Hawaii area. The plan will pump seawater from over 1,000 feet deep to an onshore cooling station. There, the 40-some degree water will pass through a heat exchanger that transfers the seawater's coldness to a pipeline of freshwater that circulates in a closed loop. The chilled freshwater connects to buildings' existing air conditioning infrastructure, providing natural AC that doesn't require large, electricity-hungry chillers in each building. The seawater, slightly warmer than when it left the ocean, is returned to the ocean.

Electricity is versatile, but it is difficult and costly to make and store. The genius behind seawater air conditioning technology is that the cold seawater can chill buildings 24/7, much like solar water heaters provide hot showers even after the sun has set. Our ocean directly improves our lives in so many ways: food, therapy, recreation, scenery. Let's also recognize its enormous potential in helping to meet our energy needs. While researchers continue to work on ways to harness wave power and ocean thermal power, buildings in dense areas should readily convert to seawater air conditioning, a renewable energy solution that is practical and proven.

Thank you for the opportunity to testify.



Gerard C. Gibson Area Vice President

Written Statement of

Gerard C. Gibson Area Vice President Hilton Worldwide

before the

#### SENATE COMMITTEE ON ENERGY AND ENVIRONMENT

In consideration of

#### **SB 23**

Relating to the Issuance of Special Purpose Revenue Bonds to Assist a Sea Water
Air Conditioning (SWAC) Project

Date: January 24, 2013

To: Chair Mike Gabbard and members

Hilton Worldwide supports SB 23 which authorizes the issuance of special purpose revenue bonds to Kaiuli Energy for the development of a seawater air conditioning district cooling facility and chilled water distribution system for Waikiki.

Thank you for the opportunity to submit this testimony in support of the above bill.





Gerard C. Gibson Area Vice President

January 22, 2013

Kaiuli Energy 725 Kapiolani Boulevard Suite C-400 Honolulu, HI 96813

Dear Kaiuli Energy,

Thank you for taking the time to discuss your planned seawater air conditioning (SWAC) project for Waikiki. Based on the potential electricity, water, and sewage savings that you are projecting, we are interested in being a SWAC customer.

We view the cost of fossil fuel increases as a part of every year's budget process. It would help the industry tremendously if we could not only stem the tide of increase but find a lower, sustainable way to continually help with our eroding margins. We realize the cost of considering such a bold adventure is extremely expensive and will take commitment from the stakeholders.

We appreciate Kaiuli's bold approach to the energy challenge and plan to support the effort going forward in an effort to ultimately enter into a long-term agreement.

Best regards,

Gerard C. Gibson





# Written Statement of YUKA NAGASHIMA Executive Director & CEO

High Technology Development Corporation before the

#### SENATE COMMITTEE ON ENERGY AND ENVIRONMENT

Thursday, January 31, 2013
2:45 PM
State Capitol, Conference Room 225
In consideration of

## SB 23 RELATING TO THE ISSUANCE OF SPECIAL PURPOSE REVENUE BONDS TO ASSIST A SEAWATER AIR CONDITIONING PROJECT.

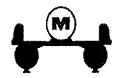
Chair Gabbard, Vice Chair Ruderman, and Members of the Senate Committee on Energy and Environment.

Thank you for the opportunity to submit testimony on this bill.

The High Technology Development Corporation (HTDC) supports SB 23 which authorizes Special Purpose Revenue Bonds to Kaiuli Energy, LLC to build a seawater air conditioning (SWAC) district cooling system to serve Waikiki and nearby areas on the island of Oahu.

As a manufacturer of energy technology systems, Kaiuli Energy is the type of company HTDC supports. Furthermore, the SWAC cooling system is a positive step for the State in achieving its renewable energy goals.

Thank you for the opportunity to offer these comments.



### MAKAI OCEAN ENGINEERING, INC.

P.O. BOX 1206 KAILUA, OAHU, HAWAII 96734 USA

# Testimony To Senate Committee on Energy and Environment

Relating To S.B. 23

Relating to the Issuance of Special Purpose Revenue Bonds to Assist Kaiuli Energy Sea Water Air Conditioning (SWAC) Project in Waikiki

By Billy Pieper, Makai Ocean Engineering

Date: January 22, 2013

To: Chair Gabbard and members

The purpose of this proposed bill is to issue special purpose revenue bonds to assist Kaiuli Energy to develop a district cooling system for Waikiki. Makai Ocean Engineering is in support of this measure.

Air conditioning is estimated to make up about 45% of the electrical consumption in Waikiki each year. The use of deep cold seawater as a source of cooling can result in a significant decrease in energy consumption.

Makai is a longtime advocate of utilizing deep cold seawater as an efficient, renewable and environmentally sound source for large commercial cooling systems. Makai has successfully developed the technology to safely design, engineer and deploy deep ocean pipelines which are used to draw cold water from miles offshore. This cold seawater coupled with a heat exchanger reduces the need for energy intensive refrigeration systems. In some cases, we have seen energy savings approach upwards of 80%.

This technology has been successfully utilized at a number of places around the world.

- Cornell University where a pipeline was installed in Lake Cayuga to access cold water to provide air conditioning for the Cornell University campus and parts of the public school system.
- Toronto Canada where 3 pipelines were deployed to access cold water in Lake Ontario
- Natural Energy Lab (NELHA) on Hawaii Island
- Intercontinental Resort and Spa Bora Bora, Tahiti
- Curação Airport \*

Downtown District – Downtown Honolulu, HI \*

#### \* under planning and/or development

Kaiuli Energy is requesting your assistance for these special purpose revenue bonds to assist financing its proposed project in Waikiki. We believe that this is an excellent opportunity for the private and public sector to cooperatively work together in developing cooling systems using Hawaii's largest natural resource, its deep oceans. This project will encompass significant job creation and upwards of \$200M worth of capital expenditures will remain with Hawaii companies. Makai Ocean Engineering would encourage you to support this measure.

Thank you for the opportunity to share these thoughts with you.

Best Regards,

Billy Pieper Vice President

Makai Ocean Engineering



# Written Statement of DARRYL NAKAMOTO, Partner Kaiuli Energy

before the

#### SENATE COMMITTEE ON ENERGY AND ENVIROMENT

Thursday, January 31, 2013 2:45 PM State Capitol, Conference Room 225

In consideration of

## SB 23 RELATING TO THE ISSUANCE OF SPECIAL PURPOSE REVENUE BONDS TO ASSIST A SEAWATER AIR CONDITIONING PROJECT.

Date: January 29, 2013

To: Chair Gabbard and Committee Members

Kaiuli Energy is in support of this measure that will allow the State of Hawaii to issue Special Purpose Revenue Bonds (SPRBs) for the development of a district cooling system for Waikiki.

Kaiuli Energy was founded in 2011 with the goal to be a global leader in ocean sourced energy development. Its current focus is on developing a 22,500 ton Waikiki based seawater air conditioning (SWAC) system, which is designed to provide district cooling to replace the energy-intensive central refrigeration system of a traditional air conditioning at individual buildings. The natural resource of cold seawater is used to chill freshwater that will be delivered to structures with centralized air conditioning systems.

#### A 22,500 ton SWAC system offers:

- Conservation of approximately 106,000 barrels of oil/year
- Reduction of approximately 48,000,000 kWh/year
- Reduction of potable water usage by approximately 157,000,000 gallons/year
- Reduction of sewage discharge by approximately 69,000,000 gallons/year
- Reduction of harmful gas emissions of approximately 50,000 tons/year
- Alignment with HCEI's goals of End-Use Efficiency and next generation technologies

There are five parameters that favor potential SWAC project locations. They are: access to cold water, high density of customer load, year-round air conditioning utilization, high electricity rates, and a good marine environment. A Waikiki system satisfies all five parameters. Other locations where SWAC projects are currently in operation are:

- Stockholm, Sweden 80,000 tons
- Toronto, Canada 75,000+ tons
- Amsterdam, Netherlands 35,000 tons
- Cornell University, Ithaca, New York 20,000 tons
- Bora Bora, French Polynesia 3,000 tons

Our customers will be hotels and other buildings in and around the Waikiki and Ala Moana areas that have large air conditioning loads. It is estimated that air conditioning usage represents up to 45% of these buildings' total electricity costs. Not only will these SWAC customers benefit through substantial savings on electricity rates, SWAC customers will also realize significant savings on water and sewage consumption. In addition, these hotels, resorts, retail centers and other commercial and residential entities will be able to market themselves as environmentally conscious and friendly consumers.

The project is estimated to take five years to complete with the delivery of chilled water beginning in 2018. The estimated total project cost of the Waikiki SWAC system is projected to be approximately \$225 million.

Kaiuli's management team is comprised of Hawaii business and community leaders with the necessary experience critical to the project's success. As the former CFO of Hoku Corporation, I have over seven years of experience in alternative energy and raising funds for large scale ventures. In addition, Rob Iopa, president of WCIT Architecture, has extensive experience and expertise in entitling, designing and constructing large complex projecting in Waikiki and urban Honolulu, and Ray Soon has over 40+ years consulting and delivering on construction projects in Hawaii.

Thank you for the opportunity to share our thoughts with you.



#### PROJECT:

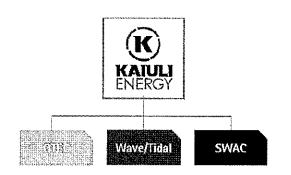
Construct a 22,500 ton Seawater Air Conditioning in Walkiki

#### FINANCING:

Requesting \$200 million in Hawaii Special Purpose Revenue Bonds

#### TIMELINE:

Operations beginning mid -2018 - 3 years of entitlement/2 years of construction



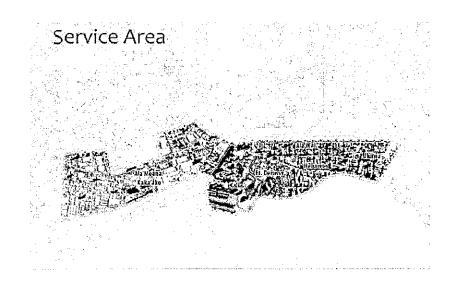
#### **ENVIRONMENTAL BENEFITS:**

Based on a 22,500 ton SWAC system:

- Reduction of imported fossil fuels by up to 106,000 barrels of oil/year
- Reduction of electrical usage by up to 48,000,000 kWh/year
- Reduction of harmful emissions by up to 50,000 tons/year
- Reduction of potable water usage by up to 157,000,000 gallons/year
- Reduction of sewer production by up to 69,000,000 gallons/year

#### **ECONOMIC BENEFITS:**

- Elimination of up to 14 megawatts of new generating capacity (equivalent to one year of HECO load growth)
- \$200M worth of construction improvements and job creation
- Economic multiplier effects on money that stays in Hawaii's economy
- Ability to market a green Walkiki
- Significant electricity, water, and sewage savings for customers





#### DEPARTMENT OF BUSINESS, **ECONOMIC DEVELOPMENT & TOURISM**

RICHARD C. LIM

MARY ALICE EVANS DEPUTY DIRECTOR

Telephone: (808) 586-2355 (808) 586-2377 20130123125110

January 24, 2013

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813

Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

The Honorable Senator Mike Gabbard, Chair Senate Committee on Energy and Environment Twenty-Seventh State Legislature State Capitol Room 201 Honolulu, Hawaii 96813

Web site: www.hawaii.gov/dbedt

Dear Chair Gabbard:

This letter is to verify that the Department of Business, Economic Development, and Tourism (DBEDT) has received and reviewed the business plan submitted by the Kaiuli Energy, LLC - Waikiki Seawater Air Conditioning business venture.

The business venture outlined in this proposal seeks to develop a seawater air conditioning (SWAC) system for the district of Waikiki in Honolulu, Hawaii. The long term goals include developing additional SWAC projects and expanding Kaiuli's product offerings to other ocean sourced energy technologies, which include, but are not limited to, ocean thermal energy conversion and wave and tidal energy.

The targeted customers are hotels and other buildings in and around the Waikiki/Ala Moana area that use air conditioning throughout the day and have large air conditioning loads. It is estimated that air conditioning usage represents up to 45% of these buildings' total electricity costs. It is anticipated that any building using a centralized air conditioning system and within an approximate two-mile radius of the district cooling station is a potential customer for the Waikiki SWAC system.

DBEDT ultimately defers statements of financial findings to the Department of Budget and Finance for consideration of special purpose revenue bond allocation. Furthermore, this letter only validates the existence and review of the aforementioned business plan without opinion and should not be considered an endorsement of Kaiuli Energy, LLC.

We appreciate the opportunity to offer these statements regarding Kaiuli Energy, LLC.

O. Mary Alice Every for Richard Lim

NEIL ABERCROMBIE GOVERNOR



STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE

P.O. BOX 150 HONOLULU, HAWAII 96810-0150 KALBERT K. YOUNG DIRECTOR

LUIS P. SALAVERIA

ADMINISTRATIVE AND RESEARCH OFFICE BUDGET, PROGRAM PLANNING AND MANAGEMENT DIVISION FINANCIAL ADMINISTRATION DIVISION OFFICE OF ECONOMIC RECOVERY AND REINVESTMENT (ARRA)

January 28, 2013

Mr. Darryl Nakamoto, Partner Kaiuli Energy, LCC 725 Kapiolani Boulevard, Suite C400 Honolulu, HI 96813

Dear Mr. Nakamoto:

EMPLOYEES' RETIREMENT SYSTEM HAWAII EMPLOYER-UNION HEALTH BENEFITS TRUST FUND OFFICE OF THE PUBLIC DEFENDER PUBLIC UTILITIES COMMISSION

Subject:

Kaiuli Energy, LLC

Seawater Air Conditioning Special Purpose Revenue Bonds

This letter is in response to requests from yourself and Senator Gabbard's office. The Department of Budget and Finance (the "Department") reviewed Kaiuli Energy, LLC's (Kaiuli) Business Plan. (A copy of the revised Business Plan was emailed to Mr. Scott Kami on January 24, 2013.) This letter will confirm that the Department has reviewed, without rendering an opinion, Kaiuli's Business Plan. According to the Business Plan, Kaiuli was founded in 2011 and currently does not generate any revenue. As such, the Department would expect that further details be presented as this project progresses.

Please be advised that pursuant to Section 39A-154(b), HRS, and Chapter 6-10, Hawaii Administrative Rules, the Department is required, among other things, to determine whether Kaiuli is a responsible party in order to issue the bonds, as follows:

- "(b) The department shall not enter into any project agreement with respect to any project unless the legislature shall have first authorized the issuance of special purpose revenue bonds to finance the project pursuant to section 39A-157 and the department has determined that:
- (1) The project party is a responsible party, whether by reason of economic assets or experience in the type of enterprise to be undertaken through the project, or otherwise; or
- (2) The obligations of the project party under the project agreement will be unconditionally guaranteed by a person who is a responsible party, whether by reason of economic assets or experience in the type of enterprise to be undertaken through the project, or otherwise. [L 1981, c 122, pt of §2; am L 2007, c 44, §7]"

Mr. Darryl Nakamoto Kaiuli Energy January 28, 2013 Page 2

Thank you for giving the Department the opportunity to review on Kaiuli's Business Plan. Should you have any questions, please call Scott Kami, Administrator, Financial Administration Division, at 586-1612.

Sincerely,

KAIBERT K. YOUNG Director of Finance

Senator Mike Gabbard c:



January 30, 2013

Kaiuli Energy, LLC Attention: Robert K. Iopa, Partner 725 Kapiolani Blvd, Suite 400 Honolulu, HI 96813

Re:

Kaiuli Energy, LLC's Deep Seawater Cooling System

Dear Mr. lopa,

Thank you for soliciting our interest and participation in the childed water cooling system that Kaiuli Energy is developing to service Waikiki. As the owner of the Sheraton Waikiki, the Royal Hawaiian Resort – A Luxury Collection, the Westin Moana Surfrider, and the Sheraton Princess Kaiulani, we are a significant provider of hotel and lodging in Waikiki and a company that has been at the forefront in our industry in the adoption of more sustainable technologies and practices. We consider the proposed chilled water cooling system to be ideal for our business as it has the prospect of reducing our costs, promoting sustainable energy and the reduction in greenhouse emissions, and contributing to our brand.

We look forward to continuing to work with Kaiuli Energy to realize this project and of course consider ourselves a prime candidate to be a customer of Kaiuli Energy for the long term. Please keep me apprised of this exciting project and let me know if you or your team members need anything additional from me.

Sincerely,

**Greg Dickhens** 

President

Kyo-ya Hotels & Resorts, LLC



Gerard C. Gibson Area Vice President

January 22, 2013

Kaiuli Energy 725 Kapiolani Boulevard Suite C-400 Honolulu, HI 96813

Dear Kaiuli Energy,

Thank you for taking the time to discuss your planned seawater air conditioning (SWAC) project for Waikiki. Based on the potential electricity, water, and sewage savings that you are projecting, we are interested in being a SWAC customer.

We view the cost of fossil fuel increases as a part of every year's budget process. It would help the industry tremendously if we could not only stem the tide of increase but find a lower, sustainable way to continually help with our eroding margins. We realize the cost of considering such a bold adventure is extremely expensive and will take commitment from the stakeholders.

We appreciate Kaiuli's bold approach to the energy challenge and plan to support the effort going forward in an effort to ultimately enter into a long-term agreement.

Best regards,

Gerard C. Gibson





January 25, 2013

Scott W. H. Seu Vice President Energy Resources and Operations

Darryl Nakamoto Kaiuli Energy 725 Kapiolani Blvd. C400 Honolulu, HI 96813

Re: Hawaiian Electric Company Inc., Renewable Energy Support

Dear Mr. Nakamoto:

Hawaiian Electric Company continues to strongly support adoption of seawater air conditioning throughout Hawaii wherever this renewable technology is technically and economically viable. Seawater air conditioning helps achieve the state's clean energy goals including reducing dependence on imported fossil fuels and increasing use of local, clean energy sources.

Hawaiian Electric has contracted for its headquarters building to participate in a seawater air conditioning project currently under development in downtown Honolulu and has urged electricity customers in the area to consider joining as well. Considering the scale of air conditioning use in areas such as Waikiki, the University of Hawaii at Manoa and elsewhere, there remain great potential benefits in further reduction of fossil fuel use and environmental impacts.

Seawater air conditioning benefits for the state and individual customers includes:

- Reduced dependence on imported fossil fuels;
- Support for electricity rate stability;
- · Offset in the growing demand of electricity;
- Contribution toward meeting Hawaii's renewable energy goals;
- Support of environmentally beneficial renewable energy programs;
- Large and quantifiable savings in potable water and sewer waste use; and
- Significant reduction in use of toxic air-conditioning chemicals.

We endorse the clean energy characteristics of seawater air conditioning and recommend other potential users consider a seawater air conditioning to replace conventional electric A/C systems.

Sincerely,

#### **SB23**

Submitted on: 1/30/2013

Testimony for ENE on Jan 31, 2013 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Kerri Marks	Individual	Oppose	No

Comments: Giving 200 million dollars to a limited liability company to air condition business in Waikiki is frivolous, obscene, and beyond the scope of what the "public" should do to support "private partnerships." I oppose issuing special purpose revenue bonds for seawater air conditioning. This does not benefit the public's health and safety at all.

#### SB23

Submitted on: 1/29/2013

Testimony for ENE on Jan 31, 2013 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Larry Quimby	Individual	Oppose	No

#### Comments:

Dear Esteemed Members of the Energy and Environment Committee;

I stand strongly opposed to SB 23. As a man with a strong science background, I find many problems with the justifications to consider spending state money on this project.

The advantages of this system, as presented in the legislation, are overstated at best.

First, it will take a great amount of energy to transfer cold, deep seawater to the surface for utilization.

Second, this is not a infinite energy source. When the heat from the surface is transferred to the cold water, the water will warm an equal amount. The warmth removed will then be returned to the ocean, warming the ocean further. In fact, more warmth gets returned to the ocean than cold was removed because of loss of energy through the heat exchange process itself.

Third, sewage production has nothing to do with cooling. The same amount of human waste will be produced.

Fourth, while it may reduce chemicals needed for conventional cooling systems, the legislation doesn't address the potential need of other chemicals and other by-products produced by the process itself.

Fifth, there is no explanation how this will lower operating and maintenance costs over conventional cooling systems.

Finally, this bill stinks of pork barrel spending and cronyism. I strongly urge this bill be defeated.