NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY

An Authority of the State of Hawaii attached to the Department of Business, Economic Development & Tourism

Statement of
Gregory P. Barbour
Executive Director
Natural Energy Laboratory of Hawaii Authority
before the

HOUSE COMMITTEE ON FINANCE

Wednesday, February 16, 2018
2:00 pm
State Capitol, Conference Room 308

in consideration of

HB 1864 H.D.2
RELATING TO RENEWABLE ENERGY TECHNOLOGIES.

The Natural Energy Laboratory of Hawaii Authority (NELHA) supports the intent of HB 1864 H.D. 2 which would encourage private sector investment in renewable energy technologies that would broaden the States diverse portfolio in energy technologies.

We defer to the Department of Taxation as to the impact on the States Financial plan.

Thank you for the opportunity to offer these comments.

73-4460 Queen Kaahumanu Hwy., #101, Kailua-Kona, Hawaii USA 96740-2637
Phone: (808) 327-9585 Fax: (808) 327-9586 Email: nelha@nelha.org Website: nelha.hawaii.gov

DAVID Y. IGE
GOVERNOR

LUIS P. SALAVERIA
DIRECTOR

MARY ALICE EVANS
DEPUTY DIRECTOR

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804
Web site: www.hawaii.gov/dbedt

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

Statement of
LUIS P. SALAVERIA
Director
Department of Business, Economic Development and Tourism
before the
HOUSE COMMITTEE ON FINANCE
Friday, February 16, 2018
2:00 p.m.
State Capitol, Conference Room 308

in consideration of
HB1864, HD2
RELATING TO RENEWABLE ENERGY TECHNOLOGIES.

Chair Luke, Vice Chair Cullen and Members of the Committee.

The Department of Business, Economic Development, and Tourism (DBEDT) offers comments on HB1864, HD2, which expands the income tax credit for renewable energy technologies to include ocean thermal energy conversion facilities constructed for the purposes of research and development. This bill also requires the Hawaii State Energy Office within DBEDT to certify the ocean thermal energy conversion research and development facilities.

We appreciate the overall concept of this bill as it includes initiatives supportive of our renewable energy goals, but we are concerned about the cost implications generated by this proposal. Specifically, we do not have the required industry technical expertise to conduct the ocean thermal energy conversion facilities certification. As such, we would require additional funding and/or staff to implement our requirements under this bill.

Should the Legislature move forward with this measure, we request that the Legislature specify what is meant by certification of the ocean thermal energy conversion facility and clearly specify what components of the facility are appropriate to receive the tax credit.

We defer to the Department of Taxation on its ability to administer its duties under this bill provided that the tax credit does not adversely impact the Administration's budget priorities.

Thank you for the opportunity to offer these comments in regards to HB1864, HD2.

DAVID Y. IGE
GOVERNOR

DOUGLAS S. CHIN
LIEUTENANT GOVERNOR

LINDA CHU TAKAYAMA
DIRECTOR

DAMIEN A. ELEFANTE
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF TAXATION
830 PUNCHBOWL STREET, ROOM 221
HONOLULU, HAWAII 96813
http://tax.hawaii.gov/
Phone: (808) 587-1540 / Fax: (808) 587-1560
Email: Tax.Directors.Office@hawaii.gov

To: The Honorable Sylvia Luke, Chair
and Members of the House Committee on Finance

Date: Friday, February 16, 2018
Time: 2:00 P.M.
Place: Conference Room 308, State Capitol

From: Linda Chu Takayama, Director
Department of Taxation

Re: H.B. 1864, H.D. 2, Relating to Renewable Energy Technologies

The Department of Taxation (Department) appreciates the intent of H.B. 1864, H.D. 2, but has concerns about its ability to administer the provisions of this bill and offers the following comments for your consideration.

H.B. 1864, H.D. 2, amends Hawaii Revised Statutes (HRS) section 235-12.5, which governs the Renewable Energy Technologies Income Tax Credit (RETITC). A summary of key provisions are as follows:

- Adds "ocean thermal energy conversion research and development facilit[ies]" to the RETITC, allowing individual and corporate taxpayers who install such a facility to claim a tax credit up to thirty-five percent of the actual cost of the facility, or a cap of $1.5 million, whichever is less;
- Defines an ocean thermal energy conversion research and development facility as an energy conversion facility that is
    - Designed to use temperature differences in ocean water to produce electricity;
    - Constructed and used for research and development purposes;
    - For which construction began after December 31, 2017;
    - That generates one hundred kilowatts or more; and
    - Is certified by the Hawaii State Energy Office.
- Authorizes the Director of Taxation (Director) to require the taxpayer to furnish reasonable information to ascertain the validity of their claim for the credit;
- Has a defective effective date of July 1, 2112; and
- Applies to taxable years beginning after December 31, 2018.

First, the Department notes that the House Committee on Economic Development & Business amended this measure by removing references to ocean thermal energy conversion research and development systems and replacing them with references to ocean thermal energy conversion research and development facilities. The Department appreciates this attempt to remove the ambiguity surrounding the word "system," which historically has made the RETITC very difficult to administer, but still has concerns over how the measure might be interpreted. Specifically, the question about how many credits a taxpayer may claim is still unanswered.

The Department suggests specifying if and when more than one credit may be claimed. For example, if the intent of the measure is to limit the claim to one credit per facility, the measure could state, "Each ocean thermal energy conversion research and development facility is eligible for no more than one credit under this section for all taxable years."

In the alternative, if the intent of the measure is to allow multiple credits, the measure could specify that, "A credit may be claimed for each ocean thermal energy conversion research and development facility, or portion thereof, that produces at least one hundred kilowatts during a taxable year." This is somewhat analogous to approach taken in the administrative rules for solar energy systems that generate electricity.

Second, the Department suggests further clarifying the one hundred kilowatts or more generated part of the definition of "ocean thermal energy conversion research and development facility." If the intent is for ocean thermal energy conversion research and development facility to produce at least 100 kilowatts in a taxable year, that should be specified.

Finally, the Department notes that it is able implement H.B. 1864, H.D. 2, as the credit is available for taxable years beginning after December 31, 2018, and defers to the State Energy Office within the Department of Business, Economic Development and Tourism on its ability to certify the tax credit.

Thank you for the opportunity to provide comments.

HB-1864-HD-2
Submitted on: 2/15/2018 3:04:07 AM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Melodie Aduja	OCC Legislative Priorities Committee, Democratic Party of Hawaii	Support	No

Comments:

PRESENTATION OF THE

OAHU COUNTY COMMITTEE ON LEGISLATIVE PRIORITIES

DEMOCRATIC PARTY OF HAWAII

TO THE COMMITTEE ON FINANCE

THE HOUSE OF REPRESENTATIVES

TWENTY-NINTH LEGISLATURE

REGULAR SESSION OF 2018

Friday, February 16, 2018

2:00 a.m.

Hawaii State Capitol, Conference Room 308

RE: **Testimony in Support** of HB 1864 HD2 RELATING TO RENEWABLE ENERGY TECHNOLOGIES

To the Honorable Sylvia Luke, Chair; the Honorable Ty J.K. Cullen, Vice-Chair and the Members of the Committee on Judiciary:

Good afternoon, my name is Melodie Aduja. I serve as Chair of the Oahu County Committee ("OCC") Legislative Priorities Committee of the Democratic Party of Hawaii. Thank you for the opportunity to provide written testimony on House Bill No.1864 HD2 relating to income tax credits for renewable energy technologies and ocean thermal energy conversion.

The OCC Legislative Priorities Committee is in favor of House Bill No 1864 HD2 and supports its passage.

House Bill No.1864 HD2 is in alignment with the Platform of the Democratic Party of Hawai'i ("DPH"), 2016, as it expands the income tax credit for renewable energy technologies to include ocean thermal energy conversion research and development facilities.

The DPH Platform states that "[w]e support energy independence, self-sufficiency, affordability and reliability for Hawai'i through the development of renewable alternative energy sources. Specifically, we need to support policies that foster the development of energy production methods that de-emphasize carbon-based fuels and promote renewable sources such as wind, solar, wave, geothermal and Ocean Thermal Energy Conversion (OTEC). (Platform of the DPH, P. 9, Lines 452-456 (2016)).

Given that House Bill No.1864 HD2 expands the income tax credit for renewable energy technologies to include ocean thermal energy conversion research and development facilities, it is the position of the OCC Legislative Priorities Committee to support this measure.

Thank you very much for your kind consideration.

Sincerely yours,

/*s/* **Melodie Aduja**

Melodie Aduja, Chair, OCC Legislative Priorities Committee

Email: legislativeprorities@gmail.com, Tel.: (808) 258-8889

Email: communications@ulupono.com

HOUSE COMMITTEE ON FINANCE
Friday, February 16, 2018 — 2:00 p.m. — Room 308

Ulupono Initiative Strongly Supports HB 1864 HD 2, Relating to Renewable Energy Technologies

Dear Chair Luke, Vice Chair Cullen, and Members of the Committee:

My name is Murray Clay and I am 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 produced food; increase affordable, clean, renewable energy; and better management of waste and fresh water. Ulupono believes that self-sufficiency is essential to our future prosperity and will help shape a future where economic progress and mission-focused impact can work hand in hand.

Ulupono strongly supports HB 1864 HD 2, which provides a tax credit for ocean thermal energy conversion systems, because it aligns with our goal of increasing the production of clean, renewable energy in Hawai'i.

Ulupono is supportive of new renewable technologies to help Hawai'i wean itself off imported fossil fuels. New technologies are expensive to research and develop but once it demonstrates viability, it can attract other funding sources. The impact of new, clean renewable energy generation systems will provide benefits to society in the long run.

As Hawai'i's energy issues become more complex and challenging, we appreciate this committee's efforts to look at policies that support renewable energy production.

Thank you for this opportunity to testify.

Respectfully,

Murray Clay
Managing Partner

P.O. Box 37158, Honolulu, Hawai`i 96837-0158
Phone: 927-0709 henry.lifeoftheland@gmail.com

COMMITTEE ON FINANCE
Rep. Sylvia Luke, Chair
Rep. Ty J.K. Cullen, Vice Chair

Friday, February 16, 2018
2:00 P.M.
Conference Room 308

HB 1864, HD2: RELATING TO RENEWABLE ENERGY TECHNOLOGIES OPPOSE

Aloha Chair Luke, Vice Chair Cullen, and Members of the Finance Committee

Life of the Land is Hawai`i's own energy, environmental and community action group advocating for the people and `aina for 47 years. Our mission is to preserve and protect the life of the land through sound energy and land use policies and to promote open government through research, education, advocacy and, when necessary, litigation.

Ocean Thermal Energy Conversion (OTEC) has been a dream since the 1800s.

Life of the Land supported OTEC ten years ago but has reversed its position.

This reasoned change in perspective is based on multiple concurrent transformations: the rapidly decreasing cost of alternatives, the growing use of small systems and demand response to match electric supply and demand, and the move towards focusing on the customer edge of the grid (like the growing concept of the fog in telecommunications and driverless vehicles cloud analysis).

Many governmental and industry entities have asserted for the past 40 years that OTEC technical issues, although they can and are being improved, are in-fact ready to be deployed now. The issue has always been the cost. The cost differential is growing.

Proponents argue the same thing they have for 40 years: in ten years or more, the future price may one day be price competitive.

An often-quoted estimated of the wholesale cost of OTEC electricity is seven cents per kWh.[1] That estimate dates from the last millennium, assumes ten years of successfully deploying of larger and larger scale systems, until a 100 MW system can be built, and in not an industry number.

This future wholesale price of seven cents is often mistakenly contrasted with the current retail HECO rate for electricity and ignores the falling price of solar and batteries.

Larger systems require larger spinning reserves to handle defaults. The current Hawai`i focus is on smaller distributed systems that can match small increases in demand. A large system would require blocking off a 100-megawatt block, with the assumption that it would successfully come on-line at a specified point in the future.

Unlike solar, wind, biofuel, and other renewable energy tax credits, the bill would authorize further taxpayer funding for more research but not cost-effective deployment.

Life of the Land has met with and has interviewed dozens of OTEC proponents, including HECO, Lockheed Martin, the Navy, and others.

The science is very simple in concept. A refrigerator and Ocean Thermal Energy Conversion (OTEC) are opposite sides of the same coin. A refrigerator uses electricity to generate heat differentiated compartments. OTEC uses different temperature layers of the ocean to generate electricity. Both systems use an enclosed gas-filled pipe to transfer heat.

Ocean Thermal Energy Conversion was contemplated by Jules Verne, in his book "*Twenty Thousand Leagues Under the Sea*" written in 1870. OTEC was tested Cuba in the 1920s, and, in more recent times, proven by Japan and Hawai`i.

The U.S. Congressional Office of Technology Assessment (OTA) stated in 1980 that "*no technological or scientific breakthroughs are needed for OTEC to become a commercial reality*."

The Hawaii Clean Energy Initiative (HCEI) Energy Agreement signed by Hawaiian Electric Company (HECO) and the State of Hawaii in October 2008 asserted that an OTEC system would be built off O`ahu.

Then the Wall Street induced Economic Meltdown occurred. Deployment proponents suddenly switched tactics, focusing instead on getting taxpayer-financed governmental handouts.

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[1] One of the sources on the price was posted by a UH Mānoa researcher. http://direns.mines-paristech.fr/Sites/Thopt/en/res/OTECbyVega_with_photos.pdf

The Coastal Response Research Center is a partnership between the National Oceanic and Atmospheric Administration (NOAA) Office of Response and Restoration (ORR) and the University of New Hampshire (UNH). The center works on developing innovative approaches to marine environmental response and restoration through research and synthesis of information. In 2009-10, the center partnered with NOAA's Office of Ocean and Coastal Resource Management (OCRM) to host a series of Ocean Thermal Energy Conversion (OTEC) information gathering workshops.[2]

The "Technical Readiness of Ocean Thermal Energy Conversion (OTEC)" was held in Vermont in November 2009. The second workshop--"OTEC: Assessing Potential Physical, Chemical and Biological Impacts and Risks"—was held in June 2010 at the Ala Moana Hotel.[3]

Life of the Land`s Executive Director was the one permitted fly-on-the-wall at the "Technical Readiness of Ocean Thermal Energy Conversion (OTEC)" informational gathering workshop held in June 2010 at the Ala Moana Hotel. The workshop was sponsored by the Coastal Response Research Center, a partnership between the National Oceanic and Atmospheric Administration (NOAA) and the University of New Hampshire (UNH).

Makai Ocean Engineering asserts on their web site that Makai has worked on OTEC since 1979 and that "global OTEC investment has surpassed $100 million USD spent or committed to OTEC R&D since 2009".[4]

Hawai`i Governor David Ige flipped a switch in 2015, turning on a small-scale experimental Big Island OTEC facility. "Today marks the launch of the world's largest operational ocean thermal power plant," said Governor Ige. "This plant provides a much-needed test bed to commercialize ocean thermal energy conversion technology and bolster innovation, and it serves as a stepping stone to larger plants that will provide meaningful amounts of stable, clean power to Hawai'i and other locations in Asia Pacific, such as Okinawa, in the near future."[5]

OTEC is being researched at the Natural Energy Laboratory of Hawaii Authority (NELHA) on the Big Island. The only island that could handle a new 100 MW system in ten years is Oahu.

Mahalo

Henry Curtis
Executive Director

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[2] https://coast.noaa.gov/czm/media/otec_nov09_tech.pdf

[3] https://crrc.unh.edu/workshop/crrc/otec-assessing-potential-physical-chemical-and-biological-impacts-and-risks

[4] http://www.makai.com/ocean-thermal-energy-conversion/

[5] https://techxplore.com/news/2015-08-celebrating-hawaii-ocean-thermal-energy.html

To: The House Committee on Finance
From: Brodie Lockard, 350Hawaii.org, 808-262-1285
Date: Friday, 2/16/18

In support of HB 1864 HD2

Dear Chair Luke, Vice Chair Cullen and Committee members,

I am the founder of the Hawaii chapter of 350.org, the largest international organization dedicated to fighting climate change. 350Hawaii.org supports HB1864 HD1.

Ocean Thermal Energy Conversion is a very promising technology that has not been widely used. It is very well-suited to Hawaii because of our latitude, our warm climate, and the proximity of so many large buildings to water, particularly in downtown Honolulu.

OTEC can produce electricity or directly air condition large buildings, at a fraction of the current cost in Hawaii. One study estimates power generation would cost as little as $0.07 per kilowatt-hour [1], compared with $0.26 to $0.34 through HEI [2]. OTEC works best where the temperature difference between surface and deep water is greatest, generally within 20° of the equator (Hawaii is at 19.9°) [3].

OTEC produces no waste products, requires minimal fuel, has no appreciable environmental impact, and is one of the continuously available renewable energy resources that could contribute to base-load power supply [4].

OTEC may also be the best method for air conditioning downtown Honolulu, Hawaii Kai and the Ko Olina area. Its use makes just as much sense as solar water heaters, which have been required on new Hawaii homes by state law since 2010.

The first operational OTEC plant in the world opened in Hawaii in 2015. The revenues generated from the plant, which supply the NELHA facility where it is located, are reinvested to fund more research and development in OTEC technology [5].

Companies researching OTEC deserve at least as much tax benefit as companies and individuals installing the mature technologies of solar and wind power.

Please support this bill so OTEC can eventually take its place, if appropriate, next to other renewable energy technologies.

Thank you for the opportunity to testify.

[1]

https://web.archive.org/web/20070626183941/http://www.pichtr.org/luis_vega_otec_summary.pdf
[2] https://www.hawaiianelectric.com/billing-and-payment/rates-and-regulations/average-price-of-electricity
[3] https://web.archive.org/web/20051126110351/http://www.nrel.gov/otec/markets.html
[4] https://en.wikipedia.org/wiki/Ocean_thermal_energy_conversion
[5] https://www.scientificamerican.com/article/hawaii-first-to-harness-deep-ocean-temperatures-for-power/

Brodie Lockard
350Hawaii.org

HB-1864-HD-2
Submitted on: 2/15/2018 10:44:34 AM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Joseph Kohn MD	We Are One, Inc. - www.WeAreOne.cc - WAO	Support	No

Comments:

Support if environmental groups support.

www.WeAreOne.cc

HB-1864-HD-2
Submitted on: 2/14/2018 4:57:28 PM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Patricia Blair	Individual	Support	No

Comments:

HB-1864-HD-2
Submitted on: 2/14/2018 5:16:04 PM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Nanea Lo	Individual	Support	No

Comments:

Dear FIN Chair Luke and Vice Chair Cullen,

Ocean Thermal Energy Conversion is a very promising technology for Hawaii because of our latitude, our warm climate, and the proximity of so many large buildings to water, particularly in downtown Honolulu. OTEC works best where the temperature difference between surface and deep water is greatest, generally within 20° of the equator (Hawaii is at 19.9°) [1].

The first operational OTEC plant in the world opened in Hawaii in 2015. The revenues generated from the plant, which supply the NELHA facility where it is located, are reinvested to fund more research and development in OTEC technology [2].

Companies researching OTEC deserve at least as much tax benefit as companies and individuals installing solar and wind power.

OTEC has no appreciable environmental impact, requires minimal fuel, produces no waste products, and is one of the continuously available renewable energy resources that could contribute to base-load power supply [3].

OTEC can produce electricity or directly air condition large buildings, at a fraction of the current cost in Hawaii. One study estimates power generation would cost as little as $0.07 per kilowatt-hour [4], compared with $0.26 to $0.34 through HEI [5].

OTEC could be the best method for air conditioning downtown Honolulu and other coastal regions on various islands.

[1] https://web.archive.org/web/20051126110351/http://www.nrel.gov/otec/markets.html
[2] https://www.scientificamerican.com/article/hawaii-first-to-harness-deep-ocean-temperatures-for-power/
[3] https://en.wikipedia.org/wiki/Ocean_thermal_energy_conversion
[4] https://web.archive.org/web/20070626183941/http://www.pichtr.org/luis_vega_otec_summary.pdf
[5] https://www.hawaiianelectric.com/billing-and-payment/rates-and-regulations/average-price-of-electricity

Thank you for your support,

Nanea Lo

HB-1864-HD-2
Submitted on: 2/14/2018 5:24:08 PM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Kim Osborn Mullen	Individual	Support	No

Comments:

Aloha,

I Strongly support HB1864.

Hawaii must aggressively continue striving towards fossil fuel independence and OTEC is one way to do it. The first OTEC plant in the world was opened in Hawaii in 2015. So, we are a bit of a pioneer in OTEC and we must support companies researching this technology through income tax credits. By offering greater tax incentives, HB1864 would encourage further development of OTEC technologies and help us on our way to renewable energy goals.

Mahalo,

Kim Osborn Mullen

HB-1864-HD-2
Submitted on: 2/14/2018 6:22:31 PM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Nicholas Chagnon	Individual	Support	No

Comments:

Dear FIN Chair Luke and Vice Chair Cullen,

Ocean Thermal Energy Conversion is a very promising technology for Hawaii because of our latitude, our warm climate, and the proximity of so many large buildings to water, particularly in downtown Honolulu. OTEC works best where the temperature difference between surface and deep water is greatest, generally within 20° of the equator (Hawaii is at 19.9°) [1].

The first operational OTEC plant in the world opened in Hawaii in 2015. The revenues generated from the plant, which supply the NELHA facility where it is located, are reinvested to fund more research and development in OTEC technology [2].

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OTEC could be the best method for air conditioning downtown Honolulu and other coastal regions on various islands.

[1] https://web.archive.org/web/20051126110351/http://www.nrel.gov/otec/markets.html
[2] https://www.scientificamerican.com/article/hawaii-first-to-harness-deep-ocean-temperatures-for-power/
[3] https://en.wikipedia.org/wiki/Ocean_thermal_energy_conversion
[4] https://web.archive.org/web/20070626183941/http://www.pichtr.org/luis_vega_otec_summary.pdf
[5] https://www.hawaiianelectric.com/billing-and-payment/rates-and-regulations/average-price-of-electricity

HB-1864-HD-2
Submitted on: 2/14/2018 6:50:37 PM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
tlaloc tokuda	Individual	Support	No

Comments:

Dear FIN Chair Luke and Vice Chair Cullen,

I belong to 350HI and our mission is to assist polcy in keeping fossil fuels in the ground and to promote renewable energy.

Ocean Thermal Energy Conversion is a very promising technology for Hawaii because of our latitude, our warm climate, and the proximity of so many large buildings to water, particularly in downtown Honolulu. OTEC works best where the temperature difference between surface and deep water is greatest, generally within 20° of the equator (Hawaii is at 19.9°) [1].

The first operational OTEC plant in the world opened in Hawaii in 2015. The revenues generated from the plant, which supply the NELHA facility where it is located, are reinvested to fund more research and development in OTEC technology [2].

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OTEC can produce electricity or directly air condition large buildings, at a fraction of the current cost in Hawaii. One study estimates power generation would cost as little as $0.07 per kilowatt-hour [4], compared with $0.26 to $0.34 through HEI [5].

OTEC could be the best method for air conditioning downtown Honolulu and other coastal regions on various islands.

[1] https://web.archive.org/web/20051126110351/http://www.nrel.gov/otec/markets.html
[2] https://www.scientificamerican.com/article/hawaii-first-to-harness-deep-ocean-temperatures-for-power/
[3] https://en.wikipedia.org/wiki/Ocean_thermal_energy_conversion
[4]

https://web.archive.org/web/20070626183941/http://www.pichtr.org/luis_vega_otec_summary.pdf
[5] https://www.hawaiianelectric.com/billing-and-payment/rates-and-regulations/average-price-of-electricity

HB-1864-HD-2
Submitted on: 2/14/2018 7:11:10 PM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Sherry Pollack	Individual	Support	No

Comments:

Ocean Thermal Energy Conversion is a very promising technology for Hawaii. Please support this bill.

HB-1864-HD-2
Submitted on: 2/14/2018 7:50:52 PM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Kathy Shimata	Individual	Support	No

Comments:

This seems like a win/win for everybody.

OTEC has no appreciable environmental impact, requires minimal fuel, produces no waste products, and is one of the continuously available renewable energy resources that could contribute to base-load power supply.

OTEC can produce electricity or directly air condition large buildings, at a fraction of the current cost in Hawaii. One study estimates power generation would cost as little as $0.07 per kilowatt-hour [4], compared with $0.26 to $0.34 through HEI.

OTEC could be the best method for air conditioning downtown Honolulu and other coastal regions on various islands.

HB-1864-HD-2
Submitted on: 2/14/2018 9:44:13 PM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
L.M. Holmes	Individual	Support	No

Comments:

It is so important to support renewable energy with tax credits, to promote its faster growth. This measure will help us achieve energy independence sooner.

HB-1864-HD-2
Submitted on: 2/15/2018 5:32:07 AM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Carolynn Bell-Tuttle	Individual	Support	No

Comments:

Dear FIN Chair Luke and Vice Chair Cullen,

Ocean Thermal Energy Conversion is a very promising technology for Hawaii because of our latitude, our warm climate, and the proximity of so many large buildings to water, particularly in downtown Honolulu. OTEC works best where the temperature difference between surface and deep water is greatest, generally within 20° of the equator (Hawaii is at 19.9°) [1].

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Companies researching OTEC deserve at least as much tax benefit as companies and individuals installing solar and wind power.

OTEC has no appreciable environmental impact, requires minimal fuel, produces no waste products, and is one of the continuously available renewable energy resources that could contribute to base-load power supply [3].

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OTEC could be the best method for air conditioning downtown Honolulu and other coastal regions on various islands.

[1] https://web.archive.org/web/20051126110351/http://www.nrel.gov/otec/markets.html

[2] https://www.scientificamerican.com/article/hawaii-first-to-harness-deep-ocean-temperatures-for-power/

[3] https://en.wikipedia.org/wiki/Ocean_thermal_energy_conversion

[4] https://web.archive.org/web/20070626183941/http://www.pichtr.org/luis_vega_otec_summary.pdf

[5] https://www.hawaiianelectric.com/billing-and-payment/rates-and-regulations/average-price-of-electricity

Carolynn Bell-Tuttle

HB-1864-HD-2
Submitted on: 2/15/2018 5:37:27 AM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Karen M Kimbrell	Individual	Support	No

Comments:

LEGISLATIVE TAX BILL SERVICE

TAX FOUNDATION OF HAWAII

126 Queen Street, Suite 304 Honolulu, Hawaii 96813 Tel. 536-4587

SUBJECT: INCOME, Extend Renewable Energy Credit to Ocean Thermal

BILL NUMBER: HB 1864, HD-2

INTRODUCED BY: House Committee on Economic Development & Business

EXECUTIVE SUMMARY: Expands the income tax credit for renewable energy technologies to include ocean thermal energy conversion research and development facilities.

BRIEF SUMMARY: Amends HRS section 235-12.5 to provide a credit of 35% of actual cost of an ocean thermal energy conversion research and development facility, up to a cost limit of $1.5 million per facility.

Defines "Ocean thermal energy conversion research and development facility" as an energy conversion facility: (1) designed to use temperature differences in ocean water to produce electricity; (2) constructed and used for research and development purposes; (3) for which construction commenced after December 31, 2017; (4) that generates one hundred kilowatts or more; and (5) is certified by the Hawaii state energy office.

EFFECTIVE DATE: This Act shall take effect on July 1, 2112, and shall apply to taxable years beginning after December 31, 2018.

STAFF COMMENTS: Lawmakers need to keep in mind two things.

First, the tax system is the device that raises the money that they, lawmakers, like to spend. Using the tax system to shape social policy merely throws the revenue raising system out of whack, making the system less than reliable as there is no way to determine how many taxpayers will avail themselves of the credit and in what amount.

The second point to remember about tax credits is that they are nothing more than the expenditure of public dollars, but out the back door. If, in fact, these dollars were subject to the appropriation process, would taxpayers be as generous about the expenditure of these funds when our kids are roasting in the public school classrooms, there isn't enough money for social service programs, or our state hospitals are on the verge of collapse?

If lawmakers want to subsidize the purchase of this type of technology, then a direct appropriation would be more accountable and transparent.

Furthermore, the additional credit would require changes to tax forms and instructions, reprogramming, staff training, and other costs that could be massive in amount. A direct appropriation, or adding on to an existing program such as Hawaii Energy, may be a far less costly method to accomplish the same thing.

As a technical matter, we note that the definition of an ocean thermal energy conversion research and development facility now makes no sense. Previous drafts of the bill defined an ocean thermal energy system, and the definition was adequate for that purpose. The definition should be modified substantively.

Digested 2/14/2018

HB-1864-HD-2
Submitted on: 2/15/2018 12:37:43 PM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Joan Gannon	Individual	Support	No

Comments:

Finance Committee hearing HB1864 on 2/16/18 2:00pm

To Finance Committee: I Joan Gannon support HB1864. Ocean thermal Energy Conversion (OTEC) deserves at least as much tax benefit as companies installing solar and wind power.

OTEC has no appreciable Environmental impact, requires minimal fuel, produces no waste products and is a continuously available renewable energy source. Thank you for you consideration.

From : Joan Gannon Precinct Chair Hawaii Island

LATE

HB-1864-HD-2
Submitted on: 2/15/2018 5:50:24 PM
Testimony for FIN on 2/16/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Laura Gray	Individual	Support	No

Comments:

We need to get off fossil fuels as soon as possible. Please help us and support this bill.