

TESTIMONY OF THE HAWAII PV COALITION AND THE SOLAR ALLIANCE
IN REGARD
HB 2005 SD2 RELATING TO RENEWABLE ENERGY TECHNOLOGIES
BEFORE THE
BEFORE THE SENATE COMMITTEE ON WAYS AND MEANS
ON
TUESDAY, APRIL 1, 2008 AT 10:15AM

Chair Baker, Vice-Chair Tsutsui and Members of the Committee.

The Hawaii PV Coalition is a non-profit organization that represents installers, suppliers, manufacturers and customers of solar electric systems in the state of Hawaii.¹ The Solar Alliance is a state-focused alliance of solar manufacturers, integrators and financiers dedicated to accelerating the promise of photovoltaic (PV) energy in the United States.²

The Hawaii PV Coalition and the Solar Alliance supports HB 2005 SD 2. We believe broadening the access to the tax credit by both expanding the definition and providing for a refund for a portion of the tax credit will:

- Help diversify Hawaii's energy markets,
- Reduce Hawaii's dependence on imported energy,
- Provide needed financing for solar,
- Increase economic development in Hawaii, *including job growth*, and
- Have no negative fiscal impact; see attached "Estimated Fiscal Impacts of a Refundable Renewable Energy Income Tax Credit."

We strongly support Hawaii providing for refunding the tax credit up to twenty-five percent. This will increase Hawaii's ability to expand the solar market, increasing installations and create economic development.

The reason the tax refund was requested is because currently the banks in Hawaii are limiting going forward on solar projects,³ which is going to significantly slow the growth of renewable energy in Hawaii. Increased financing of renewable energy projects is greatly needed now. This

¹ The Hawaii PV Coalition, <http://www.hawaiiipvcoalition.org/>

² The Solar Alliance, <http://solaralliance.org/>

³ Under Hawaiian bank charter law, a Hawaiian bank is prohibited from selling power. In Hawaii, Bank of Hawaii ("BOH") and First Hawaiian Bank ("FHB") have historically been active in tax-oriented financing transactions. As of the beginning of 2008, BOH and FHB have shifted to a position of not being willing to finance Solar PPA deals at all with any company for the foreseeable future.

provision would facilitate the expansion of renewable energy financing, by allowing companies that do not have the tax liability in Hawaii to still invest in the Hawaii market.

This provision will have a strong positive impact on job growth. In the study, "The Economic and Fiscal Impacts of the Hawaii Energy Conservation Income Tax Credit" by Dr. Tom Loudat (*located at: <http://www.state.hi.us/dbedt/ert/symposium/loudat/loudat.html>*) states "7.8 total jobs per 100 solar systems installed are generated in year 1 and an average of 1.5 jobs per year per 100 solar systems purchased from years 2-25 of the life of these systems." By expanding the ability of individual and companies to take tax credits as a refund at a reduced rate will expand solar, and hence more jobs will be created.

Additionally, making only up to twenty-five percent refundable will have no negative fiscal impact and may have a positive impact. We have attached the "Estimated Fiscal Impacts of a Refundable Renewable Energy Income Tax Credit." Though there are several different scenarios, we have estimated conservatively for a 25% refundable solar tax credit the state would get back \$1.21 for every refundable credit dollar it returns to investors.

We look to your leadership to increase the development of solar in Hawaii and, along with it, reduce Hawaii's dependence on imported energy and develop jobs.

We would like to thank the Committee for the opportunity to submit testimony and for the Committee's consideration.

Estimated Fiscal Impacts of a Refundable Renewable Energy Income Tax Credit

Background

This document presents a simple model that elucidates the fiscal impact of making the existing 35 percent non-refundable credit refundable at a rate of 25 percent. Because the choice of which credit to pursue would be at the discretion of the tax filer, having the refundable option would shift some portion of non-refundable credits to the lower refundable credit rate. The analysis here does not attempt to estimate the magnitude of this shift but it is worth pointing out that the direct effect of such a shift is to reduce the fiscal impact of the existing program by 10 percentage points.

Assumptions

A model of the sort presented here necessarily relies on assumptions. In the interest of transparency, all parameters used in the model are presented at the end of the document. The assumption with the largest impact on the results is the economic activity multiplier used to calculate indirect fiscal effects. Conventional wisdom regarding the Hawaii economy indicates that these indirect effects should be 3 times direct effects. This figure has been used, for example, to estimate the economic multiplier associated with tourism spending in the islands. Although we feel that the 3x multiplier is most appropriate, we present a scenario where the multiplier is only 2x, and one where it is 4x.

Model Results

Results of the three scenarios are shown in Table 1. The Table (bottom row) shows that the combined direct and indirect fiscal effects of the refundable credits range from modestly negative (-8.9 percent) in the 2x multiplier scenario to substantially positive (51.8 percent) in the 4x scenario. In the benchmark 3x case, the direct and indirect fiscal effects amount to a gain of 21.4 percent for the state. That is, a \$1m project for which the state refunds \$250,000, tax revenues climb by \$303,584. More simply, the state would get back \$1.21 for every refundable credit dollar it returns to investors.

Additional Considerations

The model presented here is intentionally conservative. As such, it may understate the positive indirect fiscal effects of a refundable tax credit. One obvious omitted mechanism is the economic impact of the 30 percent federal tax credit that applies to these same projects. If the entire value of the federal credit were retained within the state, the \$300,000 in federal credits on the sample \$1,000,000 project in Table 1 would yield \$68,306 in tax revenues beyond what is depicted in the Table (in the 3x multiplier scenario). Even if only half of the federal credit amount is cycled through the state's economy its economic impact raises revenues enough to turn the 2x multiplier scenario positive.

Summary

It is important to realize that this analysis is inherently marginal. That is, it considers the budgetary impacts of projects that would not be undertaken in the current situation, in which the tax credit remains non-refundable. The analysis reveals that, under fairly conservative assumptions, the fiscal effect of offering a refundable credit at 25 percent is approximately neutral. Under plausible but not aggressive assumptions, the fiscal impact is actually

substantially positive, with each dollar refunded yielded \$1.21 in combined direct and indirect tax revenues.

Table 1: Hypothetical State Balance Sheet Impacts for a \$1,000,000 Project

	Multiplier = 2		Multiplier = 3		Multiplier = 4	
Value of Refundable Credit		(250,000)		(250,000)		(250,000)
Direct Fiscal Effects						
Retail GET on project amount	47,121		47,121		47,121	
Wholesale GET on 35% of project cost	1,750		1,750		1,750	
Additional corporate income tax revenue	6,400		6,400		6,400	
Additional individual income tax revenue	20,625		20,625		20,625	
Direct Fiscal Effect Subtotal	75,896		75,896		75,896	
Net Fiscal Impact after Direct Effects		(174,104)		(174,104)		(174,104)
Indirect Fiscal Effects Via Economic Multiplier						
Retail GET on ancillary economic activity	94,242		141,363		188,484	
Wholesale GET on ancillary economic activity	3,500		5,250		7,000	
Additional corporate income tax revenue	12,800		19,200		25,600	
Additional individual income tax revenue	41,250		61,875		82,500	
Indirect Fiscal Effect Subtotal	151,792		227,688		303,584	
Net Fiscal Impact after Indirect Effects		(22,312)		53,584		129,480
Net Fiscal Impact after Indirect Effects as a share of refundable credit amount		-8.9%		21.4%		51.8%

Parameters Used in the Model

Model Parameters	
TAXATION	
HI GET Tax Rate (Oahu)	
Wholesale	0.005
Retail	0.047121
HI Corporate Income Tax Rate	0.064
HI Individual Income Tax Rate	0.0825
Federal Tax credit	30%
PROJECT	
Project Cost	1,000,000
Refundable credit ratio	25%
Project profit	10%
Labor share of project cost	25%
Share of project subject to wholesale GET	35%



MAUI LAND & PINEAPPLE COMPANY, INC.

March 31, 2008

The Honorable Rosalyn H. Baker, Chair
The Honorable Shan S. Tsutsui, Vice Chair
Committee on Ways and Means
Hawaii State Senate
Hawaii State Capitol
415 South Beretania Street, Room 211
Honolulu, Hawaii 96813

Subject: HB 2005, HD 1, SD 2 – Relating to Renewable Energy Technologies

Dear Honorable Chair Baker, Honorable Vice Chair Tsutsui and Committee Members:

Maui Land & Pineapple Company, Inc. (“ML&P”) would like to state our support for the intent of House Bill No. 2005. As the committee members are aware, ML&P is committed to sustainable practices within our agriculture, hospitality and community development lines of business and we believe it is important to support initiatives that would have a statewide impact on reducing the carbon footprint. The adoption of renewable energy technologies for household and commercial use is one important component of this effort and the non-refundable tax credit should provide incentive for investment. Expanding the incentive to include a tax refund is an important next step in the evolution of state support for the technologies.

We sincerely appreciate the opportunity to provide our comments. If you have any questions or wish to discuss our testimony, please do not hesitate to contact me at (808) 877-1680.

Mahalo,

Paula K. Lair
Director, Business Development



TO: Senate Ways and Means
Hearing: 4-1-08 1015 Conference Room 211

Re: HB 2005 HD1 SD2
Letter of Support

I represent a solar photovoltaic (PV) integration company which sells, designs, acquires bids and performs construction management for commercial users.

Commercial customers will install PV systems if the numbers work. It is a simple business decision as long term savings can be obtained.

Through sales experience there are three common problems:

- 1. Inability to use the State credit;**
- 2. Lack of funds to pay for the solar energy system; and**
- 3. Not enough roof and/or land space to put in the system size needed.**

HB 2005 HD1 SD2 adequately addresses the inability to use the credit and greatly helps funding.

INABILITY TO USE THE CREDIT:

Photovoltaic systems are expensive. On Oahu, a 33,000 watt system is needed to offset a \$1,000 HECO bill at \$0.25 kWh. A typical installation price for this size system might be \$7.50 per the 33,000 watts or about \$260,000 with GET. The State credit of 35% is \$91,000 and assuming the highest State corporate income tax bracket of 8.25%, the customer would need \$1,103,030 of State adjusted gross income.

While the 1.1 million AGI may not seem that much to some, we must evaluate what that customer needs. Many commercial customers who own their buildings have \$2-10,000 HECO bills. When multiples of 2-10 are applied to the 1.1 million of AGI needed to use the credit, the problem is apparent.

This bill solves the problem. Good one.

LACK OF FUNDS:

Again if a \$1,000 HECO bill requires a \$260,000 system, not many people can afford it and most are hesitant to borrow large amounts. This bill is a giant step forward.

This legislation fosters short term borrowing to cover the credit refund and long term borrowing for the portion not covered by the Federal and State credits.

Most importantly, it will allow out of state funding. This alone is the key to moving forward in developing renewable energy.

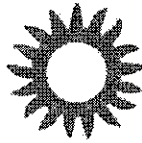
OTHER COMMENTS:

- A. Passage of this bill will cause rapid acceptance of photovoltaic systems. This in turn should drive down installation costs as more contractors enter the market. I offer that installation costs should drop thus lowering the \$7.50 a watt to the \$7.00 range. This can take place rather quickly.
- B. A residential HECO bill on Oahu of \$300 at \$0.25 kWh requires 9,800 watts of a photovoltaic system to offset. At \$7.50 per installed watt plus GET, this is \$77,000. Both the State and especially Congress should raise the credit limits.
- C. Homeowners and businesses have no other real choice to counteract rapidly escalating electricity prices. Conservation will not turn the lights on.
- D. On a macro basis, I do not foresee income growth outpacing oil/gas/electricity inflation. This legislation truly promotes a viable means to slow the inflationary effect of oil/gas/electricity in Hawaii. This is a critical long term need. If we do nothing, our economy will be hostage to rising oil prices, devaluation of the dollar and world events triggering oil price spikes.

Respectfully submitted,

Wendell Choy, President
Hi Energy Alternative dba
Solar Wave Hawaii

TESTIMONY SUBMITTED BY



**ISLAND PACIFIC
ENERGY**

Joseph Saturnia
President

Island Pacific Energy, LLC
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COMMITTEE ON WAYS AND MEANS

Senator Rosalyn H. Baker, Chair
Senator Shan S. Tsutsui, Vice Chair

HB 2005, HD1, SD2

RELATING TO RENEWABLE ENERGY TECHNOLOGIES

April 1, 2008 10:15am
State Capitol
Conference Room 211
415 South Beretania Street
Honolulu, HI 96813

Support for HB 2005, HD1, SD2 – RELATING TO RENEWABLE ENERGY TECHNOLOGIES

Executive Summary

My name is Joseph Saturnia and I am President of Island Pacific Energy, a local renewable energy finance company. I am testifying in support of HB 2005, HD1, SD2 - RELATING TO RENEWABLE ENERGY TECHNOLOGIES. I support this bill because like rebates, incentives in the form of refundable tax credits have been proven to be an effective means to encourage the development of solar energy systems. A refundable tax credit incentive is needed in Hawaii in order to achieve the State's renewable energy goals. However, controls are needed in order to avoid the negative effects a refundable tax credit might have to the local economy.

Hawaii State Tax Credit Incentives

Nearly all solar energy projects rely on government incentives to be financially viable. Without these incentives, it is nearly impossible to financially justify installing a solar energy system. There will always be a small group of early adopters who will install solar energy for altruistic environmental reasons. However, it requires effective economic incentives to encourage the deployment of solar energy on a broader scale. Since solar energy projects rely so heavily on government incentives, a project's payback is critically dependent upon the owner's ability to *monetize* these incentives. Many times a potential owner of a solar project in Hawaii has the desire for renewable energy but lacks the "tax credit appetite" to justify the project financially. Without the ability to effectively monetize tax incentives, there is little financial incentive to move forward with the project.

In Hawaii, state tax credits have not been sufficient incentive to encourage the broad adoption of solar energy. According to Reinhard Haas in his research *Building PV markets: the impact of financial incentives*, "There is no evidence that either investment or production (non-refundable) tax credits anywhere have led to a substantial increase in market penetration of PV." Given the relatively small number of PV systems installed in Hawaii to date, the situation in Hawaii supports Haas' research. While a 35% tax credit appears to be a significant incentive, from our experience in Hawaii, we have seen this is not the case.

Tax credit incentives are generally ineffective because they are difficult to utilize and not universally applicable. In order to benefit from tax credits, potential owners must owe state taxes in the first place. This eliminates all governmental and non-profit organizations, as well as, individuals and businesses that lack sufficient taxable income or have already exhausted their tax credit appetite through other means such as Act 221/215 investments. State tax credits are further hampered by the relatively low state income tax rate. At the current income tax rate of 6.4%, an entity must have a taxable income in excess of \$500,000 to fully utilize the tax credits on a relatively modest 10 kW photovoltaic solar energy system. With these limitations, the resulting number of qualified potential owners is very small.

Alternative Incentives

If non-refundable tax credits are ineffective, what incentives are effective? Janet Sawin in her paper for the International Conference for Renewable Energy titled *Policy Lessons for the Advancement & Diffusion of Renewable Energy Technologies Around the World* clearly states, “payments and rebates are preferable to tax credits”. In this case, refundable tax credits are synonymous with payments or rebates. The reasons refundable tax credits are superior to non-refundable tax credits are they do not require the end user to have available tax credit appetite. They let the end user exceed their tax liability and give the end user cash to offset the cost of the system. Offering refundable tax credits makes the incentive available to the large number of Hawaii taxpayers that have exhausted their tax credit appetite and alleviates the biggest hurdle to renewable energy development in Hawaii.

Unintended Consequences of Refundable Tax Credits

While refundable tax credits would be a welcome change to the solar energy incentives in Hawaii, they can have unintended consequences. Refundable tax credits may have a negative effect on the Hawaiian economy at a time when we can least afford it. If sufficient controls are not put in place, refundable tax credits will accomplish the goal of encouraging renewable energy systems but at the cost of a financial drain from Hawaii’s economy. Uncontrolled refundable tax credits will shift the financing and ownership of solar energy systems away from local firms to mainland firms. With this shift in financing and ownership of solar energy systems to the mainland, there will be a corresponding shift in island money and island jobs to the mainland as well.

Refundable tax credits will make financing solar energy systems in Hawaii much easier than it is today. The biggest impediment to third party financing in Hawaii is the difficulty in finding an investor who can monetize the State tax credits. By eliminating this hurdle, financing will proliferate. Funding will no longer need to come from local businesses but from a variety of sources on the mainland. These mainland sources will use their size and position to effectively eliminate the need to use local funding.

To understand this shift in financing and ownership, we need to understand third party financing of solar energy systems. Third party financing of solar energy systems in the form of Power Purchase Agreements (PPA) allows organizations that do not have the financial resources or tax credit appetite to enter into agreements to host and consume power from solar energy systems. The host customers provide the facility for the system and agree to purchase the power generated from the system, usually at a discount to current utility rates. PPA’s are an essential means of allowing organizations that lack the financial resources or tax credit appetite to utilize solar energy systems.

To date, all third party financing of solar energy projects in Hawaii has been from local funding sources. The current state incentives require local funding sources to monetize the State tax credits. This situation makes it more difficult to find funding but it has the benefit of ensuring the money used to finance these systems comes from local sources and the revenue produced from these systems stays in the local economy. Refundable tax credits will allow my company, Island Pacific Energy, and other third party developers to more easily finance solar energy projects. However, left uncontrolled, refundable

tax credits will have the unintended consequence of reducing or eliminating the need for local funding. Refundable tax credits will increase the pool of investors able to fund solar energy projects in Hawaii to include mainland investors. Savvy mainland firms will look to establish “shell” corporations that have little or no operating income but will qualify for the refundable tax credit. By allowing mainland firms to effectively claim the tax credit, local funding will no longer be needed. The result will be the vast majority of funding sources for local projects will then come from mainland sources. In these cases, the solar energy systems will be owned by mainland firms and the money paid for electricity generated from these systems will go out of the local economy to the mainland. This is money that otherwise would be used in the local economy, or in the absence of renewable energy, would go to create jobs at our local utility.

This money will leave our economy at a time when we can least afford it. With jobs leaving the state and local companies such as Aloha Airlines putting 3,500 jobs in jeopardy, the economy needs to increase growth and attract outside capital, not drive it to the mainland. It has been estimated that every dollar that leaves Hawaii costs the local economy three dollars. This multiplier shows how important it is to attract and keep dollars in the local economy. Island Pacific Energy estimates that there is such pent up demand for solar energy systems that the switch to refundable tax credits could produce up to \$100 million in new third party financed solar development this year alone. At an incentive rate of 25% and money multiplier of 3 times, the true effect to the economy could be as high as \$75 million dollars. If funding is provided by local sources, this growth benefits all of us on the islands. If funded by mainland sources, this is money taken away from the local economy.

Solution

A solution to the unintended negative effects of refundable tax credits on Hawaii’s economy would be to put a limit on the amount of a credit a company can take to be no more than 25% of a company’s total income or an amount equal to the total General Excise Taxes paid by that company. This limit need apply only to commercial installations. Residential systems are already limited to a \$5,000 per installation cap. This rebate limit is high enough that it would have little effect on nearly all taxpaying organizations but would stop the negative effects on our economy of an uncontrolled refundable tax credit. For non-tax paying organizations who would be severely constrained by this limitation, these entities do not qualify for the 30% Federal Investment Tax Credit and would need to utilize third party financing to make use of the incentives anyway. This limitation on refundable tax credits would ensure that the funding for third party financed systems comes from and stays in Hawaii and contributes to the growth and prosperity of our State.

Conclusion

As has been shown, Hawaii’s tax credits on solar energy are insufficient to encourage broad adoption of solar energy systems to meet the State’s renewable energy goals. I urge the committee to pass HB 2005, HD1, SD2 and provide Hawaii with an incentive that truly encourages broad scale development of solar energy systems. I also urge the committee to consider limitations on the use of the refundable tax

credits in order to prevent the unintended consequence of drawing money out of Hawaii's economy at a time when we can least afford it. Thank you for this opportunity to testify.

Joseph Saturnia

President

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TAXBILLSERVICE

126 Queen Street, Suite 304

TAX FOUNDATION OF HAWAII

Honolulu, Hawaii 96813 Tel. 536-4587

SUBJECT: INCOME, Renewable energy technology systems

BILL NUMBER: HB 2005, SD-2

INTRODUCED BY: Senate Committee on Economic Development and Taxation

BRIEF SUMMARY: Amends HRS section 235-12.5 to restructure the existing renewable energy technologies income tax credit with no change in credit or cap amounts. Provides that the credit shall be nonrefundable unless otherwise stated. Stipulates that the refundable credit shall be the lesser of 25% of the actual cost of the system or the amount of the cap delineated in the measure.

Clarifies that the 35% solar energy system tax credit is applicable to systems that use energy from the sun to heat water for household use (including commercial applications) but excludes technologies that heat water for the purpose of making electricity.

Replaces the terms "heat" or "light" with "energy" and the terms "solar thermal" and "photovoltaic" with "sun."

EFFECTIVE DATE: July 1, 2050

STAFF COMMENTS: Hawaii's income tax credit for alternate energy devices was established by the 1976 legislature originally for solar energy systems and was later expanded to include wind energy devices, heat pumps, ice storage systems, and photovoltaic systems. While the prior drafts of this measure proposed to further expand the state energy tax credits to include solar air conditioning, solar space heating, solar drying, and solar process heat systems, this draft attempts to clarify that the credits are nonrefundable and statutes are restructured to exclude solar energy systems that generate electricity by heating water from sunlight.

While the committee report acknowledges that this measure is a "work in progress" it merely reflects the attitude of our current lawmakers as they attempt to "pass the buck" to another committee or "a study" rather than make a commitment to a finished product. It should be noted while the measure replaces specific references to specific energy devices with the term "energy from the sun" the measure still contains references to "photovoltaic" devices. While the measure also attempts to clarify that the renewable energy technologies income tax credit is nonrefundable, it also makes a reference that taxpayers may claim a refundable credit, which appears unnecessary.

While some may consider an incentive necessary to encourage the use of energy conservation devices, it should be noted that the high cost of these energy systems limits the benefit to those who have the initial capital to make the purchase. If the combined incentives of federal and state income tax credits during the early 1980's equal to 50% were not able to encourage more than those who did install alternate energy devices during the period when the federal credits were in effect, it is questionable whether the state tax credits along with the federal energy tax credits (30%), will encourage many more taxpayers to

testimony

From: Bill Brooks [bbrooks@hawaiiantel.net]
Sent: Monday, March 31, 2008 11:32 AM
To: testimony
Subject: HB 2005

Please support **HB 2005**. Due to our extreme dependence on imported fossil fuel it is very important that we do every thing we can to support & promote alternative & sustainable energy sources.

Bill Brooks

Planning and Entitlement Consultant
P.O. Box 308
Holualoa, HI 96725
808-938-2136

No virus found in this outgoing message.

Checked by AVG.

Version: 7.5.519 / Virus Database: 269.22.1/1352 - Release Date: 3/31/2008 10:13 AM

testimony

From: Bill Brooks [energy@hawaiiantel.net]
Sent: Monday, March 31, 2008 11:57 AM
To: testimony
Subject: FW: HB 2005
Attachments: _AVG certification_.txt

Please support **HB 2005**. Due to our extreme dependence on imported fossil fuel it is very important that we do every thing we can to support & promote alternative & sustainable energy sources.

Stephanie Nelson-Brooks

No virus found in this outgoing message.

Checked by AVG.

Version: 7.5.519 / Virus Database: 269.22.1/1352 - Release Date: 3/31/2008 10:13 AM

LINDA LINGLE
GOVERNOR

JAMES R. AIONA, JR.
LT. GOVERNOR



KURT KAWAFUCHI
DIRECTOR OF TAXATION

SANDRA L. YAHIRO
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF TAXATION
P.O. BOX 259
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PHONE NO: (808) 587-1510
FAX NO: (808) 587-1560

SENATE COMMITTEE ON WAYS & MEANS

TESTIMONY REGARDING HB 2005 HD 1 SD 2 RELATING TO RENEWABLE ENERGY TECHNOLOGIES

TESTIFIER: KURT KAWAFUCHI, DIRECTOR OF TAXATION (OR DESIGNEE)

DATE: APRIL 1, 2008

TIME: 10:15PM

ROOM: 211

As amended, this measure redefines the renewable energy technology systems that qualify for the renewable energy technologies income tax credit to be comprised of either solar- or wind-based energy systems. This bill also creates a new category of refundable credit for certain applications.

The Department of Taxation supports the intent of this legislation, as amended.

I. THE DEPARTMENT SUPPORTS RENEWABLE ENERGY REFORM POLICY.

The Department recognizes the importance of this legislation because this bill provides an attractive incentive that serves as another step in the right direction for minimizing Hawaii's dependence on fossil fuels. The Department and the administration both recognize the importance of Hawaii's energy independence and are in strong support of policies to that effect. The administration is committed to energy conservation and promoting alternative energy production, including reducing Hawaii's fuel dependency.

This legislation also compliments current federal incentives on the same subject matter.

II. DEFERRAL TO DBEDT ON THE MERITS.

The Department defers to the Department of Business, Economic Development, & Tourism on the merits of this legislation. Though the Department is highly involved in the administration of these tax measures, the Department is not the subject matter expert on the viability of these policies and incentives.

Because these amendments address technology innovation and related incentives, the Department defers to the Department of Business, Economic Development and Tourism on the impact of this amendment on the systems currently available.

III. REFUNDABILITY IS PREFERRED TAX POLICY OVER TRANSFERABILITY

The Department appreciates the amendments made by the prior subject matter committee. The prior iterations of this legislation provided taxpayers with the ability to transfer their tax credit with little oversight. The Department took the opportunity to meet with the various stakeholders interested in this measure to discuss a means of making the renewable energy technologies credit more attractive for large-scale investments in these technologies. The Department strongly encouraged making the credit refundable, rather than transferable, because a refundable credit is far simpler to administer; avoids the fraud and abuse resulting from a transferability feature; and, most importantly, rewards the taxpayer whose activity gives rise to the credit by providing a cash rebate to that taxpayer—rather than an unrelated third party transferee.

However, the bill should clarify that the taxpayer must make an "election" to claim the refundable credit.

IV. SUPPORT FOR REDEFINING TECHNOLOGIES

The Department supports the underlying intention of this legislation, which is also to reconcile current and future renewable energy technologies based upon the energy input to the systems in order to discern the credit standards. Under the current law, there is a distinction between "solar thermal" systems and "photovoltaic" systems. Though there is a distinction in the output of these technologies, the same input—sunlight—is used to produce the energy. Importantly, more income tax credits are available to photovoltaic energy systems than solar thermal systems.

By focusing the type of system qualification based upon what is input to the system versus the output, the credit is simpler to administer for tax practitioners and auditors, whom are not experts in this technology. These clarifications, coupled with the caps based upon the output, will result in legislation that will benefit both the industry and tax regulators.

V. REVENUE IMPACT

Assuming this measure was effective for tax years beginning after December 31, 2007, this legislation has the following revenue loss:

- **FY 2009 (loss): \$225,000**
- **FY 2010 (loss): \$625,000**
- **FY 2011 (loss): \$225,000**
- **FY 2012 and annually thereafter (loss): \$625,000**

Change in solar qualifications:

The change in solar qualifications will have no revenue impact. The department policy would allow the "solar electric" device (heating water to power a turbine to generate electricity) as a photovoltaic device.

Refundable credit:

For commercial properties, it is assumed that one system per year will qualify for the maximum renewable credit (\$500,000), in calendar years 2009 and 2011. For future years it is assumed one system is built per year. The refundability of the credit makes an immediate payout where otherwise most the credit would probably go unused. It is estimated that only \$100,000 of the credit would be used per unit if left nonrefundable. This will result in a revenue loss of \$400,000 in fiscal years 2010 and 2012.

For residential credit homes, it is estimated that 100 additional homes will take the refundable credit. This is $\$2,250$ (maximum credit) \times 100 = $\$225,000$.



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

LINDA LINGLE
GOVERNOR
THEODORE E. LIU
DIRECTOR
MARK K. ANDERSON
DEPUTY DIRECTOR

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813
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Telephone: (808) 586-2355
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Statement of
THEODORE E. LIU
Director

Department of Business, Economic Development, and Tourism
before the

SENATE COMMITTEE ON WAYS AND MEANS

Tuesday, April 1, 2008
10:15 a.m.

State Capitol, Conference Room 211

in consideration of
HB2005 HD1 SD2
RELATING TO RENEWABLE ENERGY TECHNOLOGIES.

Chair Baker, Vice Chair Tsutsui, and Members of the Committee.

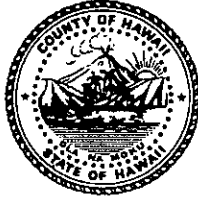
The Department of Business, Economic Development, and Tourism (DBEDT) supports the provisions of HB2005, HD1, SD2, which amends definitions under the renewable energy tax credits and adds a provision to make the tax credits refundable. We defer to the Department of Taxation on tax implications.

Solar technologies are currently the most common, and simplifying the tax incentive to be as inclusive as possible of new technologies supports our State energy objectives and could increase innovation and use of our solar energy resource, in place of increasing dependence on imported petroleum. We also recognize that allowing the tax credits to be refundable will support increased interest and installation of renewable energy systems.

Thank you for the opportunity to offer these comments.

BOB JACOBSON
Councilmember

Chair, Environmental Management Committee
Vice-Chair, Finance Committee
Vice-President Hawai'i State Association of Counties



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HAWAI'I COUNTY COUNCIL

County of Hawai'i

March 31, 2008
Committee on Ways and Means
Senator Rosalyn H. Baker, Chair
Senator Shan S. Tsutsui, Vice Chair
And, Members

Hearing Scheduled for Tuesday, April 1, 2008 at 10:15 am

Conference Room 211
State Capitol
415 South Beretania Street
Honolulu, HI

Re: HB 2005, HD1, SD2 RELATING TO RENEWABLE ENERGY TECHNOLOGIES

I wholeheartedly support HB 2005, HD1 SD2. I believe that the expansion of the renewable energy technologies tax credit to include solar electric energy systems is necessary.

The increase in the development of solar electric energy will reduce Hawaii's dependence on imported energy.

I urge you to pass HB 2005.

Aloha,

A handwritten signature in cursive script that reads "Bob Jacobson".

Bob Jacobson



COLLEGE OF SOCIAL SCIENCES
HAWAII ENERGY POLICY FORUM
UNIVERSITY OF HAWAI'I AT MĀNOA

Hawai'i Energy Policy Forum

Mr. Robbie Alm, HECO
Ms. Amy Asselbayer, Ofc of US Rep.
Neil Abercrombie
Ms. Madeleine Austin, World Business
Academy
Ms. Catherine Awakuni, Div. of
Consumer Advocacy
Mr. Warren Bollmeier
Hi Renewable Energy Alliance
Mr. Carlito Caliboso, PUC (Observer)
Mr. Albert Chee, Chevron
Mr. Kyle Datta, U.S. Biofuels
Sen. Kalani English, HI State Senate
Mr. Mitch Ewan, UH HNEI
Mr. Carl Freedman
Haiku Design and Analysis
Mr. Mark Glick, OHA
Mr. Steve Golden, The Gas Company
Dr. Michael Hamnett, RCUH
Ms. Paula Helfrich, EDAH
Mr. William Kaneko, HI Institute for
Public Affairs
Mr. Darren Kimura, Energy Industries
Holdings
Mr. Mike Kitamura, Ofc of US Sen.
Daniel K. Akaka
Mr. Kal Kobayashi, Maui County
Mr. Laurence Lau, DOH
Ms. Yvonne Lau, Ofc of US Rep.
Mazie Hirono
Mr. Allyn Lee, C&C of HNL
Mr. Aaron Leong, Ofc of US Senator
Daniel K. Inouye
Dr. Stephen Meder, AIA-Honolulu
Sen. Ron Menor, HI State Senate
Mr. Jeff Mikulina, Sierra Club
Dr. Bruce Miller, UH Ofc of
Sustainability
Dr. Sharon Miyashiro, Social
Sciences Public Policy Ctr.
Rep. Hermina Morita, HI State
House of Representatives
Mr. Tim O'Connell, USDA/Rural
Development
Mr. Richard Paglinawan
Pa Ku'i A Lua
Ms. Melissa Pavlicek, Western States
Petroleum Assn
Mr. Randy Perreira, HI State AFL-CIO
Mr. Rick Reed, Inter-Island
Solar Supply
Dr. Rick Rocheleau, UH HNEI
Mr. Peter Rosegg, HECO
Mr. Steven Rymsha, KIUC
Mr. Riley Saito, PowerLight Corp.
Mr. Glenn Sato, Kauai County OED
Ms. Carilyn Shon, DBEDT
Mr. Bill Short, BIA of Hawaii
Mr. Ray Starling, HI Energy Grp
Mr. Lance Tanaka, Tesoro HI Corp
Dr. Don Thomas, UH Center for the
Study of Active Volcanoes
Mr. Murray Towill, Hawai'i
Hotel Assn
Ms. Joan White, Hon Community
Action Program

Testimony of
Warren Bollmeier
Co-Chair – Renewable Energy Working Group
Hawai'i Energy Policy Forum

Senate Committee on Ways and Means
Tuesday, April 1, 2008
10:15 a.m.
Conference Room 211

**IN SUPPORT OF THE INTENT OF H.B. 2005, S.D. 2 - Relating to Renewable
Energy Technologies**

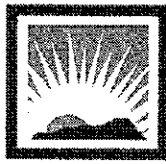
I am Warren Bollmeier, Co-Chair of the Renewable Energy Working Group of the Hawaii Energy Policy Forum ("Forum"). The Forum is comprised of 46 representatives from the electric utilities, oil and natural gas suppliers, environmental and community groups, renewable energy industry, and federal, state and local government, including representatives from the neighbor islands. We have been meeting since 2002 and have adopted a common vision and mission, and a comprehensive "10 Point Action Plan," which serves as a framework and guide for meeting our preferred energy vision and goals. The Forum supports the passage of HB 2005 as it helps achieve the goal of Point One - expand renewable energy opportunities. We ask, however, that the Committee restore the original language of HB 2005 as introduced.

The original purpose of HB 2005, which the Legislature introduced on the Forum's behalf, is to expand the renewable energy technologies tax credit to include solar electric energy systems. Specifically, the section on "Photovoltaic energy systems" is amended to read "Solar electric energy systems." Solar electric systems are defined as "solar thermal electric and photovoltaic systems." The term "solar thermal systems" is also defined. The Forum supports the original version of HB 2005 as it clearly distinguishes the two types of solar systems (solar thermal and solar electric), which are subject to different Renewable Energy Technology Income Tax Credit ("RETITC") treatments. This is particularly important, as there are more types of solar systems that are being installed in or being considered for Hawaii.

Solar thermal systems include the solar water heating (flat-plate collectors) that we see now on at least 25% of our single-family homes in Hawaii. While the flat-plate collectors are used to heat our water, solar thermal electric systems use technologies, such as parabolic dish troughs, to heat water or a working fluid to higher temperatures in order to generate electricity. A utility scale parabolic dish trough system is currently under development in Hawaii.

We therefore support the passage of HB 2005, with the amendments as stated above. Thank you for this opportunity to testify.

This testimony reflects the position of the Forum as a whole and not necessarily of the individual Forum members or their companies or organization



Hawaii Solar Energy Association
Serving Hawaii Since 1977

TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION
IN REGARD TO H.B. 2005, H.D. 1, S.D. 2
RELATING TO RENEWABLE ENERGY TECHNOLOGIES
BEFORE THE
SENATE COMMITTEE ON ECONOMIC DEVELOPMENT & TAXATION
ON
TUESDAY, APRIL 1, 2008

Chair Fukunaga, Vice-Chair Espero and members of the committee, my name is Rick Reed and I represent the Hawaii Solar Energy Assn (HSEA). The HSEA is a professional trade association established in 1977, and affiliated with the Solar Energy Industries Association (SEIA) in Washington, D.C. HSEA represents manufacturers, distributors, contractors, financiers, and utility companies active in the solar energy industry in Hawaii.

HSEA has testified in strong support of the three previous drafts. **We support the intent of H.D. 2, but prefer H.D. 1, with one addition: HSEA favors the inclusion of the 25 percent refundable tax credit provision for State of Hawaii individual or corporate taxpayers as provided for in H.D. 2.**

Rather than providing meaningful clarity, H.D. 2 introduces ambiguity where none previously existed. The original draft of this bill did but one thing: it deleted the reference to "photovoltaic energy systems" and replaced it with "solar electric energy systems", which is more accurate and clarifies the range of solar technologies capable of generating electricity. All credit levels remained intact for qualifying technologies.

The realm of solar energy includes both heat (solar thermal) and light (solar electricity). Solar thermal energy is particularly versatile in that it can be used to provide air conditioning, to heat water and air, or to generate electricity. High temperature solar thermal steam generators, often referred to generically as concentrating solar power (CSP) technologies, are capable of generating enormous amount of electricity.

In striving to deal with a non-issue, H.D. 2 now provides credits to something defined as "all other solar energy systems", page 4, line 18. **This ambiguous wording is an invitation to disaster.** The language must make clear that qualifying technologies under HRS 235-12.5 are limited to: solar thermal energy systems, wind-powered energy systems, and solar electric energy systems (which by definition includes photovoltaic and solar thermal electric systems). There is no need for the unnecessary clutter or definitional confusion found in H.D. 2.

Thank you for the opportunity to testify.