DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

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GOVERNOR

RICHARD C.LIM
DIRECTOR

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Statement of
RICHARD C. LIM
Director
Department of Business, Economic Development, and Tourism
before the
HOUSE COMMITTEES
on
CONSUMER PROTECTION & COMMERCE
Monday, March 28, 2011
2:00 p.m.
State Capitol, Conference Room 325

in consideration of

SB181,SD1
RELATING TO RELATING TO PHOTOVOLTAIC-READY NEW RESIDENTIAL HOMES.

Chair Herkes, Vice Chair Yamane, and members of the committees.

The Department of Business, Economic Development, and Tourism (DBEDT) supports SB181 SD1, which requires that new single-family residential construction incorporate design elements and minimum equipment installation at the time of construction to facilitate the future adoption of a photovoltaic system.

The cost of including photovoltaic-equipment and blueprints should be minimal at the time of construction. Our discussions with the solar industry indicate that the cost to bring a new home to photovoltaic ready is about $100 to $500 per home, but the cost to retrofit a home is several thousands of dollars. Therefore, these preparatory measures will help homeowners reduce their cost and transition to a renewable future. With the increase of public awareness of

the need to reduce oil imports and the value of using photovoltaics, the installation of photovoltaics has become increasingly popular.

Including photovoltaics in the blue prints when a new home is designed will determine what photovoltaic system sizing is possible, based on roof exposure. The system sizing will govern the conduit and panel box. In addition, if the designer must include photovoltaics in the design, then the designer may realize how little space has been allocated to allow for solar and may well correct that error to expand the use of photovoltaics in the future.

We support this measure which will bring us closer to our Hawaii Clean Energy Initiative goal of 70 percent clean energy by 2030. By achieving higher levels of energy efficiency and utilizing renewable energy in new homes, the State of Hawaii would save energy, resources, and money, as well as work toward achieving the Hawaii Clean Energy Initiative's goal of 70% clean energy by 2030, that is 30% energy efficiency and 40% renewable energy.

Thank you for the opportunity to provide these comments.

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PETER B. CARLISLE
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DAVID K. TANOUE
DIRECTOR

JIRO A. SUMADA
DEPUTY DIRECTOR

March 28, 2011

The Honorable Robert N. Herkes, Chair
and Member of the Committee on Consumer
Protection and Commerce
House of Representatives
State Capitol
Honolulu, Hawaii 96813

Dear Chair Herkes and Members:

Subject: Senate Bill No. 181, SD 1
Photovoltaic-Ready New Residential Homes

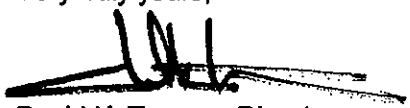
We **oppose** Senate Bill No. 181, SD1 which mandates that new residential homes be photovoltaic ready should the owner decide to install one of these systems at a future date. While we support the intent of this proposal, we believe that regulating a dynamic industry with specific requirements is not in the best interest of this industry.

While the materials and installation might meet the codes and match the technology today, they might not be what are required by future technology or codes. The photovoltaic industry has been very dynamic and has rapidly changed from only a few years ago. Due to the rigidity of this language, if future changes mandate a different installation or code requirement, much of the cost savings to install these additional features will not be recognized or would have to be removed at the future owner's cost. Another potential consequence is that this legislative requirement might mandate installation which is obsolete or non-code compliant. Without modifying or appealing this law, the requirement would be binding.

Further, if this bill passes, we will no longer be able to process photovoltaic installations on-line. A review of these future installations will be necessary to determine whether they will be compatible with the installed build-outs today. Field inspections might require condemnation and removal of these pre-installations if the future codes do not allow the use.

We respectfully suggest that this bill be deferred, as the bill's language is too restrictive and may hinder the installation of photovoltaic in the future. Instead, incentives such as rebates to reduce cost would be a more flexible and viable alternative.

Very truly yours,



David K. Tanoue, Director
Department of Planning and Permitting

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Sierra Club
Hawai'i Chapter
PO Box 2577, Honolulu, HI 96803
808.538.6616 hawaii.chapter@sierraclub.org

HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

March 28, 2011, 2:00 P.M.

(Testimony is 1 page long)

TESTIMONY IN STRONG SUPPORT OF SB 181, SD1

Aloha Chair Herkes and Members of the Committee:

The Hawai`i Chapter of the Sierra Club, with 8,000 dues-paying members and supporters, ***strongly supports*** SB 181. This measure requires all new buildings to contain the necessary design components to readily incorporate a photovoltaic system. This bill would add an insignificant cost to construction (estimated to be around $100), but would greatly assist future residents who attempt to save a little money and reduce their carbon footprint by installing a photovoltaic system.

In order to meet Hawai`i's aggressive greenhouse gas reduction and energy security goals, it is necessary to transform the building sector. Buildings account for 72% of electricity use[1] and over 36% of greenhouse gas emissions in the U.S.[2] Improving the resource consumption of all new buildings, such as making it easy to install a photovoltaic system, is a vital step towards energy independence. By taking these steps, we will also directly improve the future comfort and affordability of homes.

Buildings have a many-decade lifetime, and today's buildings will continue to be a majority of all buildings in 2050. Without a focused effort to reduce energy demand in existing buildings, it will be virtually impossible to meet even the most modest greenhouse gas reduction targets.

While this measure may not, by itself, solve Hawai`i's energy problems, it is a strong step towards providing clean energy for everyone.

Mahalo for this opportunity to provide testimony.

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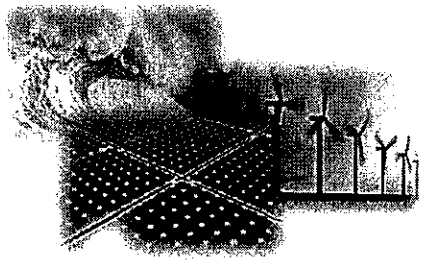
[1] Buildings Energy Data Book September 2007: 1.1 Buildings Sector Energy Consumption.

[2] EIA 2006: Emissions of Greenhouse Gases in the United States.

blue planet FOUNDATION



HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE
March 28, 2011, 2:00 P.M.
Room 325
(Testimony is 2 pages long)

TESTIMONY IN SUPPORT OF SB 181 SD1, SUGGESTED AMENDMENTS

Chair Herkes and members of the Committee:

The Blue Planet Foundation supports SB 181 SD1, a measure requiring new homes built after January 1, 2014, be constructed to be "photovoltaic ready." The idea behind this policy is to ensure homes designed today are ready for 21st century technology and that the costs of adopting new clean technologies are kept to a minimum. Blue Planet believes that this measure could be expanded to require other solar-ready features in new homes (see amendments at end of testimony).

Starting last, over 80% of new homes in Hawai'i are built with solar water heaters already installed, thanks to the historic Solar Roofs law the legislature passed in 2008. Now it is time to expand the benefits of solar power to future homebuyers by ensuring that new homes will be ready for photovoltaic systems. This policy requires that new single-family residential construction incorporate solar design elements and minimal equipment installation (such as wiring conduits) to enable the home to easily be converted to solar electric power.

Hawai'i is blessed with solar energy. The islands are the "Saudi Arabia of sun," with the average home rooftop receiving the equivalent of 19 gallons of gasoline in the form of sunshine each day. New homes—and 25% of existing homes—currently use solar water heaters to reduce the demand for electric water heating (which can use up to 40% of the total energy use of the home). Less than 1% of homes use photovoltaic (PV), or solar electric, to power their homes, although the percentage is growing rapidly. As the costs of PV systems continue to fall, the installation of residential PV systems will become increasingly cost effective (please see chart on following page). The installation of these systems on existing homes, however, is sometimes impeded by design features implemented at the time of construction that limit the physical space available for PV systems and related equipment.

This measure would reduce the impediments to installing PV on homes built after 2014. While this is a relatively new policy option across the country, solar ready policies are being

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implemented in a variety of states and municipalities, including New Mexico, Colorado, Tucson, California, and New Jersey.

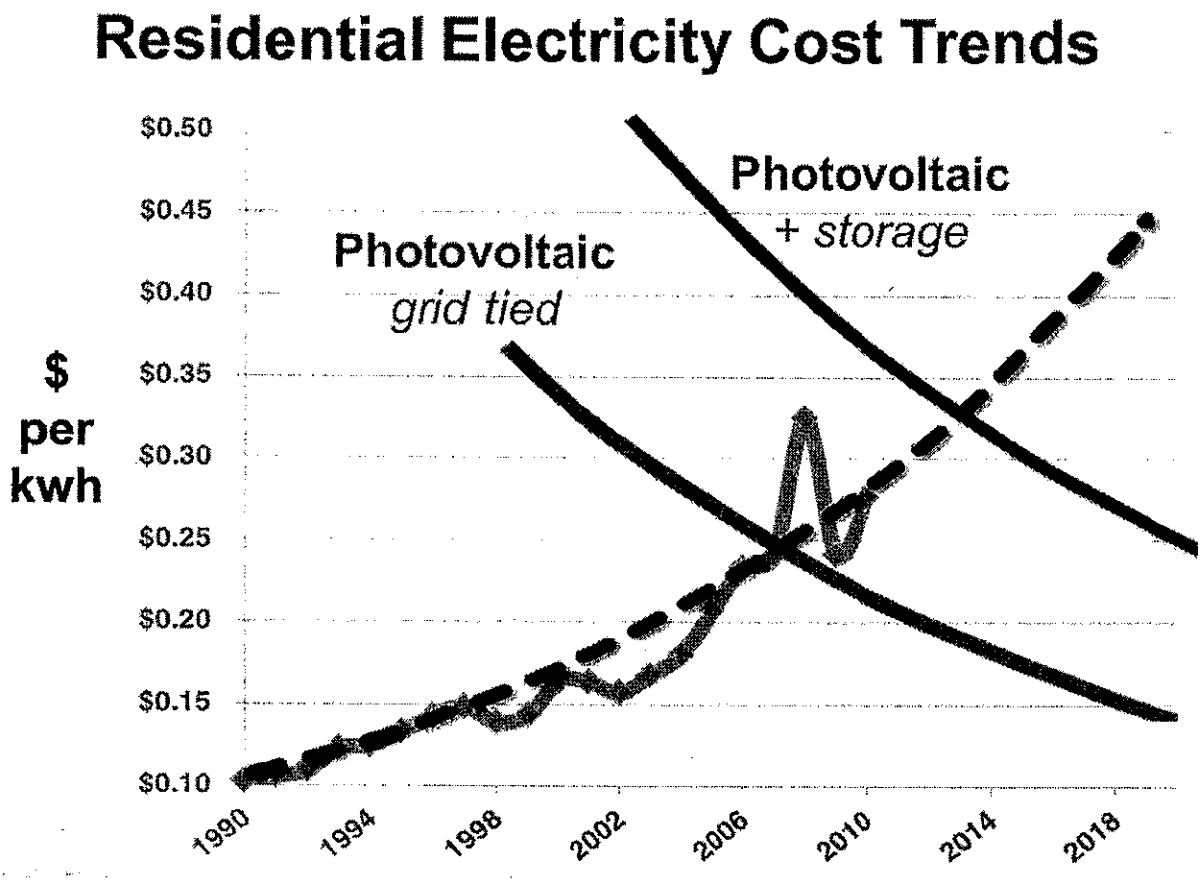
SUGGESTED AMENDMENT

Blue Planet proposes that SB 181 SD1 be amended to include further requirements on new homes in order to maximize the benefit of solar energy to the future homeowner. These requirements could include:

- Requiring that some amount of the roof space be unimpeded and south-facing with a 15% to 25% pitch; and
- Designating roof space for PV equipment, including installing the mandatory solar hot water heating system in a location that does not inhibit future PV installation.

Thank you for the opportunity to testify.

Approximations of current trends in residential electricity options



Hawaii Solar Energy Association
Serving Hawaii Since 1977

March 28, 2011
2:00PM

HOUSE
COMMITTEE ON CONSUMER PROTECTION AND COMMERCE
SB 181 SD1

Mark Duda

TESTIMONY IN STRONG SUPPORT

Aloha Chair Herkes, Vice Chair Yamane, and Members of the Committee:

HSEA supports this bill as a common sense measure that will generate considerable savings for Hawaii homeowners. There are two sources of these savings proposed by the measure, both of which stem from the fact that a portion of the work that our industry does could be done much more easily and cheaply during the construction phase of the home, rather than as a retrofit project.

The first issue of this addressed in the bill is running conduit from the roof to the homes electrical panel. The cost of doing this is on the order of a few hundred dollars at the time of construction and several thousands later on. Further, when the PV industry has to run conduit there is often no alternative to puffing it on the outside of the home in ways that can be unsightly.

The second issue is the need to upgrade the electrical service to accommodate the power flow from the PV system. To remedy this the measure would require an electrical panel that is oversized relative to the project load at the home, in anticipation of the interconnection of a distributed renewable energy system (not necessarily PV) at a later time. In this context, HSEA notes that developers rarely include PV because they do not receive the same tax benefits as the owner of the system and so it makes more sense for the owner to make this investment.

In short, homes pre-designed for PV at a very modest initial cost can have substantial benefits later when these measures must be added as a retrofit project must be done as a retrofit.

Thank you for the opportunity to testify on this measure.

Mark Duda
President, Hawaii Solar Energy Association

About Hawaii Solar Energy Association
Hawaii Solar Energy Association (HSEA) is comprised of installers, distributors, manufacturers and financers of solar energy systems, both hot water and PV, most of which are Hawaii based, owned and operated. Our primary goals are: (1) to further solar energy and related arts, sciences and technologies with concern for the ecologic, social and economic fabric of the area; (2) to encourage the widespread utilization of solar equipment as a means of lowering the cost of energy to the American public, to help stabilize our economy, to develop independence from

fossil fuel and thereby reduce carbon emissions that contribute to climate change; (3) to establish, foster and advance the usefulness of the members, and their various products and services related to the economic applications of the conversion of solar energy for various useful purposes; and (4) to cooperate in, and contribute toward, the enhancement of widespread understanding of the various applications of solar energy conversion in order to increase their usefulness to society.

HAWAII RENEWABLE ENERGY ALLIANCE
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TESTIMONY OF WARREN BOLLMEIER ON BEHALF OF THE HAWAII RENEWABLE ENERGY ALLIANCE BEFORE THE HOUSE COMMITTEE ON CONSUMER PROTECTION AND COMMERCE

SB 181 SD1, RELATING TO PHOTOVOLATIC-READY RESIDENTIAL HOMES

March 28, 2011

Chair Herkes Vice-Chair Yamane and members of the Committee I am Warren Bollmeier, testifying on behalf of the Hawaii Renewable Energy Alliance (HREA). HREA is an industry-based, nonprofit corporation in Hawaii established in 1995. Our mission is to support, through education and advocacy, the use of renewables for a sustainable, energy-efficient, environmentally-friendly, economically-sound future for Hawaii. One of our goals is to support appropriate policy changes in state and local government, the Public Utilities Commission and the electric utilities to encourage increased use of renewables in Hawaii.

The purposes of SB 181 SD1 is to require that new single-family residential construction incorporate design elements and minimum equipment installation at the time of construction to facilitate the future adoption of a photovoltaic system.

HREA **strongly supports** this measure as it:

(1) will help lower the cost to consumers who buy a new home and later choose to install PV system.

(2) supports the state's overall clean energy objectives by encouraging more consumers to install PV systems.

Thank you for this opportunity to testify.