

SB 1080



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

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Statement of
THEODORE E. LIU
Director

Department of Business, Economic Development, and Tourism
before the

COMMITTEE ON ENERGY AND ENVIRONMENT

Tuesday, February 17, 2009

2:45 p.m.

State Capitol, Conference Room 225

in consideration of
SB1080
RELATING TO NUCLEAR ENERGY

Good afternoon, Chair Gabbard, Vice Chair English, and members of the committee.

Senate Bill 1080 proposes to establish a nuclear energy commission within the Department of Business, Economic Development, & Tourism (DBEDT) to study and evaluate the feasibility of developing nuclear energy generation facilities in Hawaii including the risks and benefits, economic costs, as well as the strategies for disposing, storing, or reprocessing the nuclear waste. We share the same concerns that SB 1080 is intended to address relating to Hawaii's overdependence on imported fossil fuel resulting to the State having the highest electricity rates in the nation. However, we have some concerns on the lack of resources to effectively implement the bill. Additional resources in both funding and appropriate staff expertise and experience will be required by the Department of Health, the Department of Land and Natural Resources, and the DBEDT State Energy Office, among others, to permit and monitor a nuclear energy facility, and to support the new nuclear energy commission. More importantly, the new commission proposed to be established by SB 1080 will require funding to procure the technical consultants necessary to assist in achieving the commission's statutory mandate per this bill and to report its findings to the legislature in 2010.

DBEDT recognizes the imperative need to diversify Hawaii's electricity generation portfolio to achieve and ensure energy and economic security and independence. DBEDT has been at the forefront of leading, promoting, coordinating, and implementing the many major activities of the Hawaii Clean Energy Initiative (HCEI), a long-term partnership between the State and the U.S. Department of Energy (USDOE) launched in January 2008 to transform Hawaii to 70 percent clean renewable energy-based economy by 2030. HCEI is focused on using and harnessing Hawaii's abundant natural renewable resources – including wind, sun, ocean, geothermal, and biofuels – to supply most of Hawaii's energy needs by 2030.

While DBEDT shares the same concerns that SB 1080 aims to address relating to Hawaii's overdependence on imported fossil fuel for over 90 percent of our electric energy needs resulting to the State having the highest electricity rates in the nation, we would like to offer the following comments relating to SB 1080 for the committee's consideration:

First, the primary responsibility for overseeing nuclear power plants in the U.S. rests with the federal Nuclear Regulatory Commission (NRC). State governments retain responsibility for regulating the non-radiological environmental impacts of the plants, such as impacts from plant cooling, and for assessing the role of nuclear power as part of the state's energy supply. The NRC regulates the design, siting, construction, and operation of new commercial nuclear power facilities in the United States.

Currently the NRC estimates that it needs a minimum of 42 months to issue the design, site, and construction/operation licenses required for reactor construction to begin. This 42-month timeline is based on the requirements of the Early Site Review permit and the Combined License application. An Early Site Review requires an applicant to conduct extensive research and analysis of the site, along with holding several public hearing throughout the assessment. The Combined License application looks at the construction and operation of the proposed nuclear power plant. This 42 month process is contingent on complete applications and minimal opposition from outside interest.

Second, should the State move forward into nuclear power, issues that need to be addressed include the transportation and storage of radioactive material, costs of design, and the amount of water required to operate a power plant.

Third, switching from one imported commodity, petroleum, to another, uranium, will not achieve Hawaii's goal of energy independence. The world market for uranium is just as volatile

as the fossil fuels market that continues to imperil Hawaii's economy. Just like the oil market, as the demand for nuclear energy increases throughout the world, it is likely that the cost of uranium will also increase. For instance between 2004 and 2007, the spot price of uranium more than quadrupled, reaching more than \$140/lb before falling sharply in the past several months to less than \$80/lb.

Thank you for the opportunity to offer these comments.



Conservation Council for Hawai'i

Testimony Submitted to the Senate Committee on Energy and Environment

Hearing: Tuesday, February 17, 2009

2:45 pm

Room 225

Opposition to SB 1080 Relating to Nuclear Energy

Aloha. My name is Marjorie Ziegler, and I am testifying on behalf of the Conservation Council for Hawai'i and its 6,000 members.

We oppose SB 1080, which establishes a nuclear energy commission in the Department of Business and Economic Development and Tourism. We do not support the development of nuclear energy in Hawai'i. We are not impressed with the way our electric utility companies, the Natural Energy Laboratory of Hawai'i Authority, and DBEDT have been allowed to operate. Nor are we confident the Nuclear Regulatory Commission would adequately protect the health and safety of our people and the environment. Furthermore, we do not think there is enough public support or enough support in the state house or state senate to approve a nuclear power plant in Hawai'i; there is no need to establish such a commission.

Instead, we support the development of other indigenous energy sources; mandatory energy conservation in new and existing structures, including county, state, and federal structures; mandatory fuel-efficiency standards for public and private vehicles; and other measures to reduce our energy consumption.

Please hold this bill in committee.

Mahalo for the opportunity to testify.



Working Today for the Nature of Tomorrow!

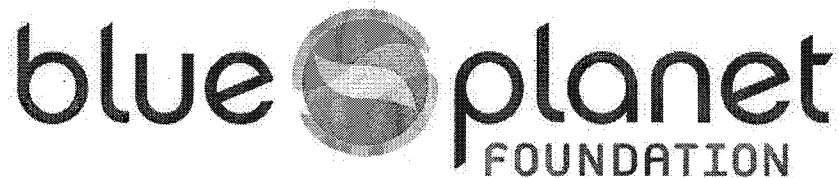
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P.O. Box 2923 • Honolulu, HI 96802 • Office: 250 Ward Ave., Suite 212 • Honolulu, HI 96814

Hawai'i Affiliate of the National Wildlife Federation

President: Julie Leialoha • Vice-President: Nelson Ho • Secretary: Douglas Lamerson • Treasurer: Kim Ramos

Directors: Maura O'Connor • Melora Purell • George Robertson • Executive Director: Marjorie Ziegler



SENATE COMMITTEE ON ENERGY AND ENVIRONMENT

February 17, 2008, 2:45 P.M.

Room 225

(Testimony is 2 pages long)

TESTIMONY IN OPPOSITION TO SB 1080

Chair Gabbard and members of the committee:

The Blue Planet Foundation is opposed to Senate Bill 1080, establishing a nuclear commission to research the use of nuclear energy in Hawai'i. While we appreciate the academic aspects of the exercise analyzing whether or not to pursue nuclear energy for electricity generation in Hawai'i, we think such a commission would distract resources and attention from the important task of rapidly transitioning Hawai'i to clean, safe, indigenous, renewable resources.

Given our small islands and diverse indigenous resources, nuclear power just doesn't make sense for Hawaii. Even in a perfect world free of accidents, nuclear's environmental, financial, logistical, and opportunity costs are simply too high.

Today, splitting atoms for energy is by no means clean. The mining, production, and disposal of nuclear fuel is messy and energy intensive. The dual threats of accidents and persistent radioactive waste make it difficult for nuclear power to pencil out economically. That's one reason the nuclear industry enjoys a vast subsidy through a taxpayer-backed liability cap. No one wants to own that risk, so the public gets to hold the bag.

Logistically, nuclear is the wrong technology for Hawaii. Siting such a facility would be nearly impossible, and the required emergency zone surrounding the plant would occupy a significant portion of any island. For example, a nuclear power plant at Kahe along the Waianae coast (an area explored earlier for a nuclear facility) would require a safety zone that covers not only the Waianae coast but also the Ewa plain and a portion of Pearl City (see image on page 2 of this testimony). In 2002, Congress expanded the radius of the emergency zone to up to 20 miles¹. According to the law, the state would be required to provide potassium iodide tablets to individuals living within this area.

Further what the island rely on for power when the nuclear facility has to go offline for maintenance and refueling? The backup capacity necessary would obviate the need for the nuclear facility.

Recent blackouts are demonstrating that big power plants and big transmission lines are vulnerable; whereas distributed and diverse energy sources make our power grid more robust

¹ Section 127 of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002

against Mother Nature's whims. Hawaii's constitution wisely requires that any proposed fission power plant first receive approval by at least two-thirds of both houses of the state legislature.

The bottom line is we don't need nuclear. We can do much better for Hawaii.

We are blessed with a host of clean energy resources, from wind to solar to ocean energy. So ample, in fact, is solar power that each rooftop statewide receives an average of about 15 gallons of gasoline equivalent in the form of sunlight daily. We are the Saudi Arabia of sun—and of wind and ocean energy, for that matter. Let's choose to tap these safe, sensible, clean, decentralized, and indigenous sources of energy to power our economy.

Hawaii's only safe nuclear option is located 93 million miles away—the sun. Let's keep it there. Let's focus our limited resources and attention on rapidly transitioning Hawai'i to use clean, safe, indigenous, renewable energy resources.

Thank you for the opportunity to testify.





Sierra Club Hawai'i Chapter

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SENATE COMMITTEE ON ENERGY AND ENVIRONMENT

February 17, 2009, 2:45 P.M.

(Testimony is 1 page long)

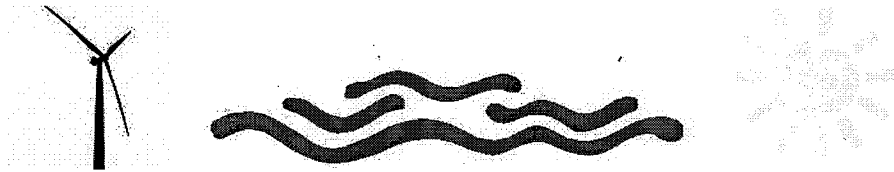
TESTIMONY IN OPPOSITION TO SB 1080

Chair Gabbard and members of the Committee:

The Sierra Club, Hawai'i Chapter, with 5500 dues paying members statewide, opposes SB 1080, which establishes a nuclear energy commission.

While we appreciate the academic discussion regarding nuclear energy in Hawai'i, we believe this measure takes attention and valuable resources away from efforts to develop clean, renewable energy resources. Considering the large community support -- from both the public and private sector -- for renewable energy development, it is an unnecessary distraction to allow any further consideration of this bill.

Thank you for the opportunity to testify.



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COMMITTEE ON ENERGY AND ENVIRONMENT

Senator Mike Gabbard, Chair

Senator J. Kalani English, Vice Chair

February 17, 2009

2:45 p.m.

Room 225

SB 1080 RELATING TO NUCLEAR ENERGY

OPPOSE

Aloha Chair Gabbard, Vice Chair English and Members of the Committee

My name is Henry Curtis and I am the Executive Director of Life of the Land, Hawai'i's own energy, environmental and community action group advocating for the people and `aina for almost four decades. 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.

SB 1080 directs the department of business, economic, development, and tourism to develop a permitting process for nuclear energy generation facilities in Hawai'i.

Life of the Land is in strong opposition to this measure. We are stunned that Hawai'i, with an abundance of indigenous resources on every island for energy self-reliance, would even consider such an idea. That we would even entertain such an idea is mind-boggling.

Life of the Land was the only group in Hawai-i to support the people of Nevada in opposing the Yucca Mountain disposal site. Sen. Harry Reid wrote us a letter thanking us for taking a stand against the site.

In 2003, an interdisciplinary MIT faculty group decided to study the future of nuclear power because of a belief that this technology is an important option for the United States and the world to meet future energy needs without emitting carbon dioxide and other atmospheric pollutants. Other options include increased efficiency, renewables, and carbon sequestration, and all may be needed for a successful greenhouse gas management strategy. This study, addressed to government, industry, and academic leaders, discusses the interrelated technical, economic, environmental, and political challenges facing a significant increase in

global nuclear power utilization over the next half century and what might be done to overcome those challenges.

The study is called The Future of Nuclear Power and can be accessed at:

<http://web.mit.edu/nuclearpower/pdf/nuclearpower-summary.pdf>

The study found that for an expansion of nuclear power to succeed, four critical problems must be overcome:

1. Cost. In deregulated markets, nuclear power is not now cost competitive with coal and natural gas. However, plausible reductions by industry in capital cost, operation and maintenance costs, and construction time could reduce the gap. Carbon emission credits, if enacted by government, can give nuclear power a cost advantage.
2. Safety. Modern reactor designs can achieve a very low risk of serious accidents, but "best practices" in construction and operation are essential. We know little about the safety of the overall fuel cycle, beyond reactor operation.
3. Waste. Geological disposal is technically feasible but execution is yet to be demonstrated or certain. A convincing case has not been made that the long-term waste management benefits of advanced, closed fuel cycles involving reprocessing of spent fuel are outweighed by the short-term risks and costs. Improvement in the open, once through fuel cycle may offer waste management benefits as large as those claimed for the more expensive closed fuel cycles.
4. Proliferation. The current international safeguards regime is inadequate to meet the security challenges of the expanded nuclear deployment contemplated in the global growth scenario. The reprocessing system now used in Europe, Japan, and Russia that involves separation and recycling of plutonium presents unwarranted proliferation risks.

In summary, the prospects for nuclear energy as an option are limited, the report finds, by four unresolved problems: high relative costs; perceived adverse safety, environmental, and health effects; potential security risks stemming from proliferation; and unresolved challenges in long-term management of nuclear wastes.

Another reason why nuclear power will not work in Hawai'i is the 'economies of scale' argument. Our island environment is not suited for electricity generated from nuclear power. In 1978 a provision was added to the Hawai'i State Constitution banning nuclear power. We thank the insightful people who recommended this amendment and thank the people of Hawai'i for supporting this common-sense clause. We are aware that there is a bill to remove this clause from our Constitution, and we strongly oppose that bill as well.

Just for a minute, think about tourist brochures promoting a nuclear Hawai'i. Wouldn't that just make folks want to visit!

Let's use the abundant resources we have to produce all the electricity we need and stop fooling around with ideas that threaten public safety, promote centralized power, and get us stuck in the status quo.

Mahalo for this opportunity to testify.



WINDWARD AHUPUA`A ALLIANCE

From the Peaks of *Na Ko`olau* to the Outer Reefs

*Community-Based Planning
Sustainable Economic Development
Restoration, Preservation, Protection & Public Access
Educational & Cultural Programs*

COMMITTEE ON ENERGY AND ENVIRONMENT

Senator Mike Gabbard, Chair

Senator J. Kalani English, Vice Chair

2:45 pm

Tuesday, February 17, 2009

Conference Room 225

SB 1080 - RELATING TO NUCLEAR ENERGY

Oppose

My name is Shannon Wood speaking on behalf of the *Windward Ahupua`a Alliance* in opposition to **SB 1080 - RELATING TO NUCLEAR ENERGY** because we have an abundance of other resources to provide electricity. These resources are cheaper, safer & easier to on-line.

I also have some very grave concerns about the makeup of the *Nuclear Energy Commission*. Are there enough local experts to sit on it? One of my oldest friends is a professor of nuclear engineering. When I talked to him over the weekend, he said that as far as he knew, no one at the University of Hawai`i or any other research facility in the state is working in the field - except in the military.

Therefore, I urge that you defer further action on **SB 1080**. *Mahalo* for the opportunity to testify.

TESTIMONY IN SUPPORT OF SB 1080
SENATE COMMITTEE ON ENERGY AND THE ENVIRONMENT
ROOM 225 AT 2:45 pm on Tuesday, 17 February 2009

Chair Gabbard and Respected Members of the Committee;

My name is Reg White. I work in the commercial passenger boat and highway transportation industries of Hawaii and depend heavily on the health of our tourism industry for my livelihood. This bill to study ways to reduce the cost and increase the dependability of our power generation system over time is a much needed process and we must begin the work now because of the great time lag that will be necessary to get this process up and running to serve us with large volumes of dependable non oil produced power. It truly troubles me that such a large percentage of our power needs are provided by imported fuel. Money that could way better be kept in circulation within our own country instead, if only this bill can be allowed to fulfill it's goals. I recall how close we came to a power outage from hurricane Iwa. The pipe line at Barber's point that enables unloading crude from arriving tankers was moved and stretched by the storm generated currents and at that time we had just a ten day supply of crude remaining in the tanks to serve the refineries while the pipe line was inspected and repaired for the next arrival, a ship waiting offshore with no other way to discharge it's cargo to us. Please do pass this bill, SB 1080, it does not bring nuclear power to Hawaii, but is starts the process to see if we can do it for our future oil free needs.

Respectfully,

Reg White
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