



# UNIVERSITY OF HAWAII SYSTEM

## Legislative Testimony

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Testimony Presented Before the  
Senate Committee on Energy, Economic Development, and Tourism and  
Senate Committee on Government Operations  
Wednesday, February 9, 2022 at 3:00 p.m.

By  
Richard Rocheleau, Director  
Hawai'i Natural Energy Institute  
and  
Michael Bruno, PhD  
Provost  
University of Hawai'i at Mānoa

### SB 2483 – RELATING TO ENERGY

Chairs Wakai and Moriwaki, Vice Chair Misalucha and Dela Cruz, and members of the committees:

SB 2483 proposes amendments to HRS Section 226, Hawai'i State Planning Act; 226-18 Objectives and policies for facility systems—energy; with the objective to ensure that all new utility scale electricity generation projects shall be renewable. SB 2483 also appropriates funding for the Hawai'i Natural Energy Institute (HNEI) to evaluate the benefits and costs of dispatching renewable energy resources.

HNEI **supports the intent** of this bill to prioritize the dispatch of renewable generation, provided that its passage does not replace, or impact priorities as indicated in our Board of Regents approved budget; but offers the following comments.

Section 2 a(4) would require that “all new utility scale electricity generation projects shall be renewable.” We believe that the intent of this language is to ensure maximum use of renewables and lower use of fossil fuels. We agree with this intent. However, based on modeling of the electrical grids, there can be significant benefits to the grid by the addition of smaller and more flexible internal combustion engines or combustion turbine units. While these units should be operated using renewable fuels whenever they are available; intermittent operation of these flexibly units using fossil fuels can, under some circumstances, improve grid reliability and allow faster retirement of aging oil units resulting in a net fossil fuel reduction. We recommend that this language in this section be amended to state “all new utility scale electricity generation projects shall be renewable capable”.

Section 3 of SB 2483 appropriates funding for the HNEI to evaluate the benefits and costs of dispatching renewable energy sources. Other bills proposed for consideration in the 2022 session including the SB 2283 (Hawai'i Hydrogen Strategic Plan) and SB

2510 (Relating to Renewable Energy) already propose studies by HNEI that would encompass the goals of this study. Even without passage of these other bills, HNEI uses current barrel tax allocations to work with the PUC, the HSEO, the utility, and other parties on a regular basis to provide on-going relevant analysis. HNEI is committed to continuing these efforts using currently available funding and considers this additional study to be unnecessary as it is redundant with the other bills and/or ongoing work.

Thank you for the opportunity to provide this testimony on SB 2483.

DAVID Y. IGE  
GOVERNOR



CRAIG K. HIRAI  
DIRECTOR

GLORIA CHANG  
DEPUTY DIRECTOR

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

**STATE OF HAWAII**  
**DEPARTMENT OF BUDGET AND FINANCE**  
P.O. BOX 150  
HONOLULU, HAWAII 96810-0150

ADMINISTRATIVE AND RESEARCH OFFICE  
BUDGET, PROGRAM PLANNING AND  
MANAGEMENT DIVISION  
FINANCIAL ADMINISTRATION DIVISION  
OFFICE OF FEDERAL AWARDS MANAGEMENT (OFAM)

**WRITTEN ONLY**  
TESTIMONY BY CRAIG K. HIRAI  
DIRECTOR, DEPARTMENT OF BUDGET AND FINANCE  
TO THE SENATE COMMITTEES ON ENERGY, ECONOMIC DEVELOPMENT, AND  
TOURISM AND GOVERNMENT OPERATIONS  
ON  
SENATE BILL NO. 2483

**February 9, 2022**  
**3:00 p.m.**  
**Room 224 and Videoconference**

RELATING TO ENERGY

The Department of Budget and Finance (B&F) offers comments on this bill.

Senate Bill No. 2483 amends Section 226-18, HRS, to include an objective in energy-related planning for the State's facility systems that all new utility scale electricity generation projects be renewable; include State policies that ensure short- and long-term provision of adequate, reasonably priced and dependable renewable energy services, prioritizing the dispatch of renewable energy generation; update the State's policies to ensure that all new utility scale electricity generation projects are renewable, prioritize renewable energy generation, and include the use of non-fossil fuel sources in the development or expansion of energy systems; and appropriate \$100,000 in general funds for FY 23 for the Hawai'i Natural Energy Institute to evaluate the benefits and costs of dispatching renewable energy resources.

B&F notes that, with respect to the general fund appropriation in this bill, the federal Coronavirus Response and Relief Supplemental Appropriations Act requires that

states receiving Elementary and Secondary School Emergency Relief (ESSER) II funds and Governor's Emergency Education Relief II funds must maintain state support for:

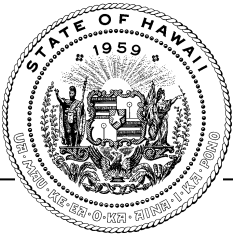
- Elementary and secondary education in FY 22 at least at the proportional level of the state's support for elementary and secondary education relative to the state's overall spending, averaged over FYs 17, 18 and 19; and
- Higher education in FY 22 at least at the proportional level of the state's support for higher education relative to the state's overall spending, averaged over FYs 17, 18 and 19.

Further, the federal American Rescue Plan (ARP) Act requires that states receiving ARP ESSER funds must maintain state support for:

- Elementary and secondary education in FY 22 and FY 23 at least at the proportional level of the state's support for elementary and secondary education relative to the state's overall spending, averaged over FYs 17, 18 and 19; and
- Higher education in FY 22 and FY 23 at least at the proportional level of the state's support for higher education relative to the state's overall spending, averaged over FYs 17, 18 and 19.

The U.S. Department of Education has issued rules governing how these maintenance of effort (MOE) requirements are to be administered. B&F will be working with the money committees of the Legislature to ensure that the State of Hawai'i complies with these ESSER MOE requirements.

Thank you for your consideration of our comments.



# HAWAII STATE ENERGY OFFICE STATE OF HAWAII

DAVID Y. IGE  
GOVERNOR

SCOTT J. GLENN  
CHIEF ENERGY OFFICER

235 South Beretania Street, 5th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-3807  
Web: energy.hawaii.gov

Testimony of  
**Scott J. Glenn, Chief Energy Officer**

before the  
**SENATE COMMITTEE ON  
ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM  
AND  
COMMITTEE ON GOVERNMENT OPERATIONS**

Wednesday, February 9, 2022  
3:00 PM  
State Capitol, Conference Room 224 & Videoconference

**COMMENTS  
SB 2483  
RELATING TO ENERGY.**

Chairs Wakai and Moriwaki, Vice Chairs Misalucha and Dela Cruz, and members of the Committees, the Hawai'i State Energy Office (HSEO) offers comments on SB 2483 which includes as an objective in energy-related planning for the State's facility systems that all new utility scale electricity generation projects be renewable; includes state policies that ensure short- and long-term provision of adequate, reasonably priced, and dependable renewable energy services, prioritizing the dispatch of renewable energy generation; updates the State's policies to ensure that all new utility scale electricity generation projects are renewable, prioritize renewable energy generation, and include the use of non-fossil fuel sources in the development or expansion of energy systems; and appropriates moneys.

HSEO's support and comments are guided by its mission to promote energy efficiency, renewable energy, and clean transportation to help achieve a resilient, clean energy, decarbonized economy.

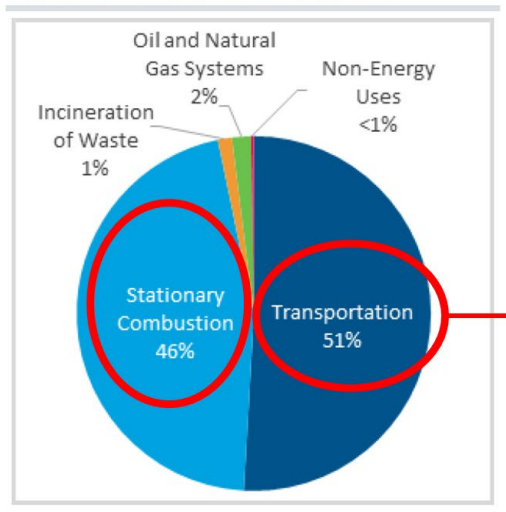
HSEO appreciates the background provided in Section 1 of the bill, regarding the importance of reducing carbon emissions in support of Hawai'i's goal. HSEO notes Section 225P-5 of the Hawaii Revised Statutes (HRS) that establishes a statewide

target “to sequester more atmospheric carbon and greenhouse gases than emitted within the State as quickly as practicable, but no later than 2045,” applies to emissions from all energy sources. HSEO also appreciates the intent to “ensure state policies that ensure short-and long-term provision of adequate, reasonably priced, and dependable” energy for Hawai'i.

HSEO notes two primary concerns with the bill as written. The first is that the bill narrows the scope of greenhouse gas emission avoidance from all energy sources to only avoiding emissions from the electricity sector. The second is that the bill shifts the policy ensuring affordability and dependability from all energy sources, to, specifically, utility-scale renewable energy. These concerns are explained further below.

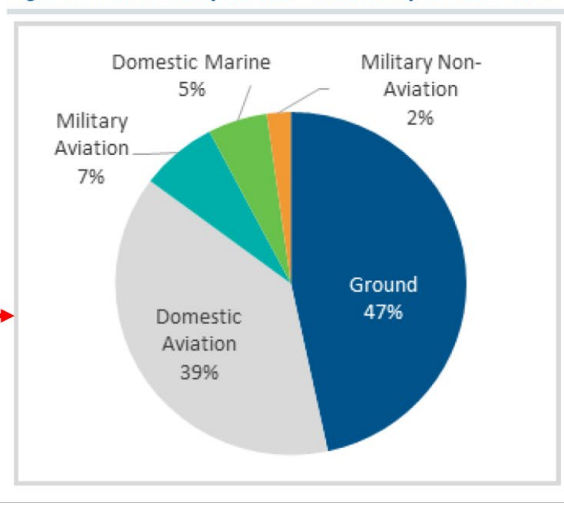
**Department of Health Greenhouse Gas Inventory for Year 2017**

**Figure 3-2: 2017 Energy Emissions by Source**



*Electricity almost half*      *Transportation over half*

**Figure 3-6: 2017 Transportation Emissions by End-Use Sector**



The first concern is regarding the change proposed to HRS 226-18(a)(4) and has to do with greenhouse gas emissions. The most recent inventory of Hawai'i <sup>1</sup> indicated that stationary combustion (electricity production) accounts for almost half, and the transportation sector accounts for more than half, of the greenhouse gas emissions from Hawai'i's energy sector.

For this reason, it's important that policies addressing greenhouse gases are not inadvertently reduced in scope to focus only on the electricity sector.

To avoid this situation, HSEO recommends that the proposed change to section 226-18 of the Hawai'i Revised Statutes (HRS), which starts on page 3, line 8, be re-phrased or re-considered so as not to narrow the scope of item (a)(4).

Subparagraph (a)(4) currently applies to all energy sectors:

"(a) Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:

...

(4) Reduction, avoidance or sequestration of greenhouse gas emissions from energy supply and use;"

If subparagraph (a)(4) is modified as proposed by SB 2483, by adding,

"..by ensuring that all new utility scale electricity generation projects shall be renewable;"

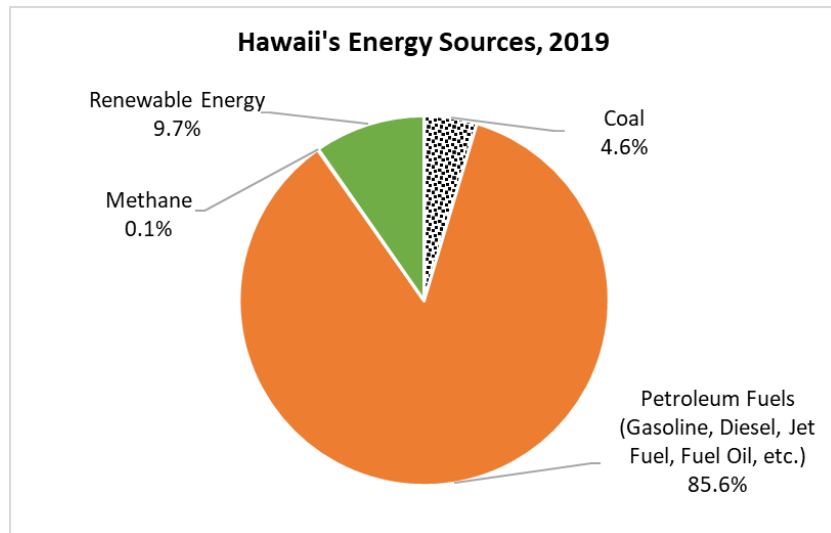
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<sup>1</sup> State of Hawai'i. "[Hawai'i Greenhouse Gas Emissions Report for 2017](#)." April 2021.

the scope of the objective would be narrowed significantly. The new language would narrow the focus from all energy to only the electricity sector.

The second concern has to do with the change proposed to HRS 226-18(b), having to do with the importance of continued availability and affordability of Hawai'i's current energy supplies.

Hawai'i's current energy mix includes not only renewable energy but also a significant and important assortment of non-renewable resources. As shown in the graph, fossil fuels (coal, petroleum, and methane) currently provide over 90% of



Hawai'i's energy needs, and are used for electricity production, heating, and cooking, as well as to propel vehicles, airplanes, and ships.

The availability, security, and affordability of all of Hawai'i's energy supplies are important to Hawai'i's residents and economy. Energy is a basic lifeline for all of the other lifeline services (food, water, transportation, communications, healthcare, etc.) in the state.

While transitioning from these fossil fuels (including gasoline, diesel, fuel oil, jet fuel, propane, natural gas, and others) to renewable alternatives, it is important that current energy supplies remain adequate, reasonably priced, and dependable.



Therefore, HSEO recommends that the proposed change to section 226-18(b) on page 4, line 4, be re-phrased or re-considered so as not to narrow the scope.

Subparagraph (b) applies to all energy:

"(b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably priced, and dependable energy services to accommodate demand."

However, if subparagraph (b) is modified as proposed by SB 2483, by adding "renewable," the new language would narrow the focus; and, by doing so, imply a significant reduction in concern about the price, availability, and dependability of a large majority of Hawai'i's current energy supplies:

"(b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably priced, and dependable renewable energy services to accommodate demand,"

HSEO does not have concerns at this time with the other changes proposed by the bill.

Thank you for the opportunity to testify.



**Hawaiian  
Electric**

**TESTIMONY BEFORE THE SENATE COMMITTEES ON  
ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM  
AND GOVERNMENT OPERATIONS**

**S.B. 2483**

**Relating to Energy**

Wednesday, February 9, 2022

03:00 pm, Agenda Item #1

State Capitol, Conference Room 325 & Videoconference

Marc Asano

Director, Integrated Grid Planning

Hawaiian Electric

Chairs Wakai and Moriwaki, Vice Chairs Misalucha and Dela Cruz, and Members of the Committees:

My name is Marc Asano and I am testifying on behalf of Hawaiian Electric Company **in opposition to S.B. 2483**, Relating to Energy, **with comments in support to Section 3.**

S.B. 2483 amends Hawaii Revised Statutes, Section 226-18 to ensure that all new utility scale electric generation projects are renewable, new supply-side resources use non-fossil fuel sources, ensures short- and long- term provision of adequate, reasonably priced, and dependable renewable energy services, and prioritizes the dispatch of renewable energy generation. S.B. 2483 also appropriates moneys for Hawaii Natural Energy Institute (HNEI) to study the costs of dispatching renewable energy sources.

While we have concerns with and oppose other sections of S.B. 2483, Hawaiian Electric is committed to reducing carbon emissions in 2030 by as much as 70 percent below 2005 levels. Our ambitious Climate Change Action Plan accomplishes many of

the objectives of this bill without mandates that can have unintended consequences.

Over the next eight years our plan anticipates a steady pace of cost-effective renewable energy resources coming online to reduce the use of fossil fuels to generate electricity.

Key elements of the Company's 2030 plan include:

- Shutting down the state's last coal plant in 2022;
- Adding nearly 50,000 rooftop solar systems to the 90,000 now online;
- Retiring at least 6 fossil-fueled generating units and significantly reducing the use of others as new renewable resources come online;
- Adding renewable energy projects capable of generating a total of at least 1 gigawatt, including shared solar (community-based renewable energy);
- Using more grid-scale and customer-owned energy storage;
- Expanding geothermal resources; and
- Creating innovative programs that provide customers incentives for using clean, lower-cost energy at certain times of the day and using less fossil-fueled energy at night.

By 2030, Hawaiian Electric's renewable portfolio standard is targeted to exceed 70 percent, with renewable resources available to provide close to 100 percent of the electricity generated on Hawaii Island and in Maui County.

However, Hawaiian Electric opposes Section 2 of the bill as we are concerned with the significant burden electricity bills may have on local families as a result of policies to mandate use of renewable fuels and prioritizing renewable dispatch over other energy options. Today, all resources on the system are generally dispatched economically to the benefit of customers. For example, a renewable fuel such as biodiesel could cost roughly twice that of diesel. Therefore, customers would see

significant increases to their electricity bills if Hawaiian Electric were required to dispatch its biodiesel units ahead of other alternatives. This in effect, places an especially undue burden on underserved communities that are less likely to have the means and opportunity to invest in rooftop solar and energy efficiency. Moreover, amendments such as prioritizing renewable dispatch today would conflict with other parts of H.R.S. §226-18 that state a desire for short- and long-term “reasonably priced” and “least-cost energy supply option”. Hawaiian Electric would also be obligated to re-negotiate existing power purchase agreements in order to comply with amendments being proposed.

Further, we do not think this bill is necessary at this time as Hawaiian Electric is working to issue a competitive procurement for firm renewable generation within the next few months, where it expects to determine the firm renewable energy options available today and assess the benefits and costs compared to status quo. Hawaiian Electric will need to carefully weigh both qualitative and quantitative benefits against potentially higher costs firm renewable generation options.

To address our concerns and the intent of this bill, Hawaiian Electric suggests that funding, research, and development related to renewable energy and statewide decarbonization focus on solutions to bring cost parity to locally produced low carbon, renewable fuels, and other renewable technologies such as geothermal, including new geothermal closed loop technology, and renewable hydrogen as we supported in SB 2283, among others.

Prior to enacting modifications proposed in Section 2 of this bill, Hawaiian Electric supports Section 3, which requires HNEI to perform analysis to evaluate the effects of the policy mandates proposed in Section 2.

Accordingly, Hawaiian Electric opposes S.B. 2483, with comments in support to Section 3. Thank you for this opportunity to testify.

*Tawhiri Power LLC*



TESTIMONY OF TAWHIRI POWER LLC  
ON SB 2483 BEFORE THE SENATE COMMITTEES ON  
ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM  
And GOVERNMENT OPERATIONS  
WEDNESDAY, FEBRUARY 9, 2022 AT 3 p.m.

TO THE HONORABLE CHAIRS WAKAI and MORIWAKI, VICE CHAIRS MISALUCHA  
and DELA CRUZ, and MEMBERS OF THE COMMITTEES:

Tawhiri Power LLC (“TPL”)<sup>1</sup>, as a strong supporter of renewable energy, supports the intent of this bill to encourage the use of renewable energy over fossil fuels and that the least cost option be given consideration when reviewing renewable energy projects.

Thank you for the opportunity to testify.

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<sup>1</sup> TPL is an Independent Power Producer (“IPP”) that owns and operates Pakini Nui Wind Farm located in the South Point Area on the Island of Hawaii.



Testimony to the Committees on Energy, Economic Development and Tourism  
and Government Operations

Thursday, February 10, 2022  
3:00 PM  
VIA Video Conference  
Conference Room 224, Hawaii State Capitol  
SB 2483

Chair Wakai, Chair Moriwaki, Vice Chair Misalucha, Vice Chair Dela Cruz, and members of the committees,

Hawaii Clean Power Alliance (HCPA) supports SB 2483, which includes an objective in energy-related planning for the State's facility systems that all new utility scale electricity generation projects be renewable; includes state policies that ensure short-and long-term provision of adequate, reasonably priced, and dependable renewable energy services, prioritizing the dispatch of renewable energy generation; updates the State's policies to ensure that all new utility scale electricity generation, and include the use of non-fossil fuel sources in the development or expansion of energy systems; appropriates money.

Hawaii Clean Power Alliance is a nonprofit alliance organized to advance and sustain the development of clean energy in Hawaii. Our goal is to support the state's policy goal of 100 percent renewable energy by 2045. We advocate for utility-scale renewable energy, which is critical to meeting the state's clean energy and carbon reduction goals.

In Hawaii, the electric utility has sole discretion over what power is dispatched onto the grid, while in other jurisdictions across the mainland, that discretion sits with an Independent Systems Operator (ISO), thus ensuring an unbiased mix of energy is dispatched and any perceptions of conflict of interest are avoided. Currently in Hawaii, there is generation of renewable energy available for the grid, but it is being curtailed by the utility, wasting that valuable energy in favor of fossil fuels.

Due to a flaw in the RPS statute, fossil fuels remain a viable fuel source, but given our goal to decarbonize, it simply makes sense to prioritize renewable energy before resorting to fossil fuels. This bill recognizes that priority and makes renewable energy our future standard.

To achieve our shared decarbonization goals, the planning and policies reflected in legislative and regulatory proceedings must all reflect renewable priorities. This bill allows for that, bringing these efforts onto common ground, which is essential if our 2045 goal is to be achieved.

Transparency in this sector is more crucial than ever, with renewable energy generators bringing new fuel to the market while the utility continues to have exclusive control over the grid's output. We appreciate the utility's focus - and truly, the focus of all in the sector - to

bring affordable and reliable energy to Hawaii's ratepayers, which is why we also appreciate the bill's recognition that the utility be able to "consider the least-cost energy supply option."

We urge the committee to pass SB 2483.

Thank you for the opportunity to testify.



**SB-2483**

Submitted on: 2/4/2022 2:15:33 PM

Testimony for EET on 2/9/2022 3:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Remote Testimony Requested</b>
Camile Cleveland	Individual	Support	No

Comments:

I strongly support this bill - it is crucial that we transition to a high percentage of renewable energy generation, especially as Hawaii is an island and relies on imported fuel.

## SB 2483 TESTIMONY

To: Senate Committee on Energy, Economic Development, and Tourism  
Senate Committee on Government Operations  
Hearing on Feb. 9, 2022 at 3:00 p.m.

From: John Kawamoto

Position: Oppose

The State Legislature has established clean, renewable energy goals. HRS 225P-5 sets a statewide target of net zero emissions by 2045. HRS 269-92 requires the net electricity sales of electric utility companies to be 100% renewable by 2045.

Both of those goals were commendable when they were adopted. However, the net zero emissions target was set four years ago, and the renewable energy requirement was last revised seven years ago.

New data on climate change is continually becoming available because of the extensive research being done on it. Most climate scientists say that, based on recent data, we are doing far too little to mitigate climate change. Drastic action must be taken to avert a global climate catastrophe. State goals and objectives should be adjusted accordingly.

SB 2483 encourages renewable sources to be used to generate electricity. But not all renewable energy is clean energy. For example, the burning of trees and tree products is renewable in the long term, but it is not clean.

The burning of trees emits more than twice as much greenhouse gases than burning fossil fuel to produce an equivalent amount of electricity. Coal is considered to be a dirty source of energy, but the burning of trees is even dirtier than burning coal.

Last year the Legislature recognized the urgency that is needed to address climate change by adopting SCR 44, which declares a climate emergency. To be consistent with this resolution, approvals for electric generation in the future must be from sources that are both clean and renewable.

SB 2483 encourages renewable energy, but not clean energy. Hawaii is a leader in mitigating climate change. This bill does not meet the high standards that Hawaii should aspire to.

For the foregoing reasons I oppose SB 2483.