

# HB 1580, HD2

RELATING TO ENERGY.

Establishes a clean ground transportation benchmark framework to maximize consumer fuel savings, including a near term 2025 target encouraging electric vehicle infrastructure buildout supporting Hawaii's goal for the reduction and ultimate elimination of the use of imported fuels for ground transportation. Directs the department of transportation to collaborate with the state energy office to develop recommendations to achieve those benchmarks. (HB1580 HD2)



## DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

DAVID Y. IGE  
GOVERNOR

LUIS P. SALAVERIA  
DIRECTOR

MARY ALICE EVANS  
DEPUTY DIRECTOR

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

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

Statement of  
**LUIS P. SALAVERIA**  
Director  
Department of Business, Economic Development and Tourism  
before the  
**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**  
Monday, March 20, 2017  
1:20 P.M.  
State Capitol, Conference Room 225

in consideration of  
**HB1580, HD2**  
**RELATING TO ENERGY.**

Chair Inouye, Vice Chair Dela Cruz and Members of the Committee.

The Department of Business, Economic Development and Tourism (DBEDT) **supports** HB1580, HD2, which establishes a clean transportation benchmark framework and near-term 2025 target supporting Hawaii's goal for the reduction and ultimate elimination of the use of imported fuels for ground transportation. This framework is consistent with Chapter 226-18, Hawaii Revised Statutes for the planning of State facility systems with regard to energy for increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation. HB1580, HD2 sets an aggressive but achievable target of a 5% reduction in fossil fuel for ground transportation in 2025, roughly 27 million gallons a year reduction.

DBEDT supports setting a goal for the petroleum reduction in ground transportation and supports pursuing actions promoting petroleum reduction by implementing existing technologies and innovative programs. The near term target and benchmark framework identified in HB1580, HD2 will help to spur action while measuring progress to further inform goal setting towards the ultimate elimination of fossil fuel in ground transportation. DBEDT, through its Hawaii State Energy Office (HSEO), will continue to work with the Department of Transportation and other stakeholders with expertise in transportation to achieve clean transportation goals.

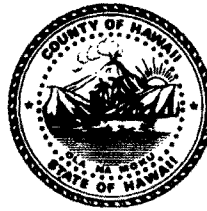
DBEDT's Hawaii Clean Energy Initiative Transportation Energy Analysis (HTEA) report, published in 2015, identified nearly 100 potential tactics that could contribute to reduce petroleum consumption in the transportation sector; analyzed 38 tactics; and recommended 22 tactics that could potentially provide 72 million gallons a year

reduction in fossil fuel consumption by 2030. The tactics focused on incremental reductions to petroleum relative to baseline consumer adoption of electric vehicles (EVs).

HB1580, HD2 also supports the process of determining how best to utilize Hawaii's allocation under the Volkswagen Settlement Environmental Mitigation Trust. The State of Hawaii is expected to participate as a Beneficiary of the Environmental Mitigation Trust established through the settlement of claims against Volkswagen alleging violations of the United States Clean Air Act. Hawaii has been initially allocated a total of \$8,125,000 from the Trust to fund eligible environmental mitigation projects in Hawaii. The purpose of the mitigation trust is to fund eligible mitigation actions (largely, medium and heavy duty vehicles and EV charging infrastructure) that replace diesel emission sources with cleaner technology to reduce excess emissions of oxides of nitrogen caused by the violating 2.0 liter cars. Up to 15% of Hawaii's allocation of the trust (\$1,218,750) is eligible to be spent on Light Duty Zero Emission Vehicle Supply Equipment (e.g. EV charging infrastructure) supporting the electrification of Hawaii's transportation sector, which is in accordance with Governor Ige's State of the State 2017 address.

Thank you for the opportunity to offer support on HB1580, HD2.

Harry Kim  
Mayor



Wil Okabe  
Managing Director

Barbara J. Kossow  
Deputy Managing Director

County of Hawai'i  
Office of the Mayor

25 Aupuni Street, Suite 2603 • Hilo, Hawai'i 96720 • (808) 961-8211 • Fax (808) 961-6553  
KONA: 74-5044 Ane Keohokalole Hwy., Bldg. C • Kailua-Kona, Hawai'i 96740  
(808) 323-4444 • Fax (808) 323-4440

March 17, 2017

Honorable Lorraine Inouye, Chairperson  
and Committee Members  
Committee on Transportation and Energy  
State Senate  
Honolulu, Hawai'i 96813

Dear Chairperson Inouye and Committee Members,

**RE: HB 1580, HD 2  
Relating to Energy**

The County of Hawai'i appreciates this opportunity to provide comments on HB 1580, HD 2, relating to energy. Mirroring the State of Hawai'i's goal of 100% renewable electricity by 2045, this clean ground transportation bill offers a tremendous opportunity to transform the energy demands of transportation provided sufficient public input and rigorous economic analysis is incorporated into the planning and implementation process. The County of Hawai'i offers its support and a number of recommendations.

The County maintains that renewable energy goals and implementation must be inclusive of all citizens; thus it is essential that rigorous economic modeling be deployed in identifying benchmarks and plans to reach clean ground transportation energy goals in a manner that will equitably serve across the spectrum of economic demographics. Development of a transparent roadmap that results in true economic benefits; a supportive process for cultural shift and a cleaner environment will be essential.

Lorraine Inouye  
March 17, 2017  
Page 2

The County's goal is to stabilize and bring down energy costs for the majority of its citizens, while setting the stage for an energy transformation that will bring new technologies and opportunities to the islands including integrated transportation technologies. The County of Hawai'i stands ready to actively participate in achieving Hawai'i's clean ground transportation future.

Respectfully submitted,

  
Harry Kim  
Mayor

**Bernard P. Carvalho, Jr.**  
Mayor



**George K. Costa**  
Director

**Wallace Rezentes, Jr.**  
Managing Director

**OFFICE OF ECONOMIC DEVELOPMENT**  
**County of Kaua'i, State of Hawai'i**

4444 Rice Street, Suite 200, Lihu'e, Hawai'i 96766  
TEL (808) 241-4946 FAX (808) 241-6399

**Before the Senate Committee on Transportation and Energy**  
**Monday, March 20, 2017**  
**Conference Room 225**  
**1:20 p.m.**

**IN SUPPORT OF HB 1580 RELATING TO ENERGY**

Chair Inouye, Vice Chair Dela Cruz, and members of the committee,

The County of Kauai supports the intent of HB 1580, which establishes 2045 as the target date for transitioning the State to a clean energy economy including *eliminating the use of fossil fuel in Hawaii's ground transportation sector*. This bold but realistic target is a natural next step for the Hawaii Clean Energy Initiative, which has brought tremendous success in transforming Hawaii's electricity sector.

Comments: The most important aspect of this bill is establishing a 2045 target for decarbonizing our ground transportation sector. If the legislature also desires to include a 2025 goal, we support *at minimum* doubling of the goal stated in the current bill from a 5% reduction to a 10% reduction in fossil fuel use by 2025. This is certainly within reach given the trends associated with two critical variables (1) the significant investments now being made around the state to help shift modes away from single occupancy vehicles, and (2) the accelerating improvement of electric vehicles towards more favorable cost, range, and choice of vehicles – which is driving rapid adoption. See recommended change to the current draft bill below:

*(8) A plan, to be implemented between 2017 and 2025 to achieve a reduction of five at least ten per cent in fossil fuel consumption for ground transportation relative to 2016 levels, moving towards the long term target of 100% by 2045. ~~and~~ The plan shall include metrics to measure and evaluate progress towards the target fossil fuel reductions in ground transportation...*

The pathway to decarbonization in Hawaii's ground transportation sector contains significant unknowns, both in terms of technology and cost. However, this uncertainty does not mean we should stand back and wait. We support your passage of this bill for two reasons: (1) it will help accelerate a transformation that will bring economic and health benefits to communities across the

State, and (2) It will help us meet our shared responsibility to reduce our greenhouse gas emissions by at least 80% by 2050.

What combination of technologies and system changes can get us to 100%? How will we track our progress? How will we enforce the reduced use of fossil fuels? How will we accelerate mode shift away from single occupancy vehicles? How will we pay for it all? By setting clear, long term targets, you provide the necessary signal to stakeholders around the state to 'get to work' in earnest on addressing these difficult questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Ben Sullivan". The signature is fluid and cursive, with a large initial "B" and "S".

Ben Sullivan  
Energy and Sustainability Coordinator  
Office of Economic Development  
County of Kauai

## **Testimony before the Senate Committee on Transportation and Energy**

**Monday, February 20, 2017**

**By Michael Colón  
Director, New Customer Initiatives  
Hawaiian Electric Company, Inc.**

### **House Bill 1580 HD2 – Relating to Energy**

Chair Inouye, Vice Chair Dela Cruz and Members of the Committee:

My name is Michael Colón and I am testifying on behalf of Hawaiian Electric Company and its subsidiary utilities, Maui Electric Company and Hawai'i Electric Light Company (collectively, the "Hawaiian Electric Companies").

House Bill 1580 HD2 requires the Department of Transportation to develop a plan to achieve 100% renewable ground transportation statewide, and to convene stakeholders for input.

The Hawaiian Electric Companies strongly support the intent of this bill with the stated goal to eliminate the importation of fossil fuels and support a local clean energy economy. The Hawaiian Electric Companies have been involved in the electric vehicle space for many years and have various pilots and programs to support their proliferation. For example, the Hawaiian Electric Companies currently have eleven DC fast chargers deployed across its service territory, providing fast, reliable vehicle charging at speeds several times faster than standard level-two charging stations. The Companies have been awarded both locally and nationally for its fast charger program and the continued efforts to increase electric vehicle charging infrastructure in Hawai'i.

The Hawaiian Electric Companies also have offered various time-of-use rate options to customers interested in owning an electric vehicle and charging it at their home, encouraging vehicle charging during times when renewable energy is produced on the grid or to minimize peak demand impacts. The Companies also provide an online calculator called the WattPlan for Electric Vehicles to help customers decide on buying an electric vehicle and determine the amount of money that can be saved on total energy needs.



In terms of policy, the Companies have recently collaborated with multiple key stakeholders on a memorandum of understanding (MOU), related to electric vehicles, which sets forth a shared vision of powering ground transportation using 100% renewable energy in support of Hawaii's goal of 100% renewable electricity. The primary focus of the MOU group is to accelerate the electrification of transportation in all passenger vehicles, public transit vehicles, and fleet vehicles, which are not otherwise powered by renewable energy.

The Companies support establishing a coordinated effort to develop recommendations to the legislature to achieve 100% clean ground transportation. These recommendations may ultimately have tremendous impact on the Companies' future energy planning from both a generation and grid investment perspective. Therefore the Companies respectfully request that they be included as an integral stakeholder to provide input into the plan.

The Companies welcome the legislature's intent to build upon the momentum and progress already achieved in transforming Hawaii's transportation paradigm. For example, Hawai'i is the second largest electric vehicle market on a per capita basis and has over 5,000 registered electric vehicles on the road.

Thank you for the opportunity to testify.



SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT

Friday, March 17, 2017 2PM Conference Room 414

**In SUPPORT of HB 1580 HD2** Relating to Energy

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Aloha Chairman Lee and members of the Energy and Environmental Protection Committee,

The Sierra Club of Hawai'i strongly supports HB 1580 HD2, which seeks to reduce and ultimately eliminate carbon-based ground transportation statewide by 2045.

We have 20,000 members and supporters throughout the Hawaiian Islands. Since 1968, the Sierra Club of Hawai'i has been working to protect the unique natural and cultural resources of our islands. The Club recognizes climate change as an imminent and existential threat to our environment that exacerbates every other environmental concern. The Club enthusiastically supports this measure that will reduce and eventually eliminate carbon-based ground transportation in favor of renewable energy alternatives.

Since adopting the 2045 renewable energy goal over a year ago, the state has made considerable progress in fostering collaborative efforts to reform electricity policy. It is time to adopt a clean transportation target to align with the broader clean energy target. Reducing ground transportation reliance on fossil fuels will reduce air and water pollution, increase our energy independence, and cut the carbon emissions that contribute to climate change.

Since the transportation sector accounts for almost two-thirds of the state's fossil fuel consumption, more focus must be placed on ground transportation.<sup>1</sup> With the advent of effective public policy, the popularity of electric vehicles is steadily growing in Hawai'i, with over 5,000 units on the road as of 2016. The formation of a working group on ground transportation will transform our ground transportation goals in line with our 2045 goals.

Mahalo,  
Martha Townsend  
Director

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<sup>1</sup> Kathryn Mykleseth, *Electric-Vehicle Swell Underway in Hawaii*, Honolulu Star-Advertiser. Dec. 27, 2016. <http://www.govtech.com/fs/transportation/Electric-Vehicle-Swell-Underway-in-Hawaii.html>



**ADA**

**HAWAII**

**AMERICANS FOR DEMOCRATIC ACTION**

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**MAILING ADDRESS**

P.O. Box 23404  
Honolulu, Hawai'i 96823  
  
[www.adaaction.org](http://www.adaaction.org)

March 17 , 2017

TO:            Honorable Chair Inouye and Members of Transportation & Energy Committee

RE:            HB 1580 HD2 Relating to Energy  
Support for hearing on March 20

Americans for Democratic Action is an organization founded in the 1950s by leading supporters of the New Deal and led by Patsy Mink in the 1970s. We are devoted to the promotion of progressive public policies.

We support HB 1580 HD2 as it would establish a clean ground transportation benchmark framework to maximize consumer fuel savings, including a near term 2025 target encouraging electric vehicle infrastructure buildout supporting Hawaii's goal for the reduction and ultimate elimination of the use of imported fuels for ground transportation. Directs the department of transportation to collaborate with the state energy office to develop recommendations to achieve those benchmarks. This bill will help to promote alignment and collaboration in ongoing and future planning efforts for multiple aspects of the state's transportation energy sector. While others may question or even fail to admit that climate change is really a dangerous problem, this would put Hawai'i at the forefront in actively addressing it.

Thank you for your consideration.

Sincerely,

John Bickel  
President





## TESLA LETTERHEAD

**TESTIMONY IN SUPPORT OF HB 1580, HD2**  
**being heard by the Senate Committee on Transportation and Energy**  
**on Monday, March 20, 2017 at 1:20p.m.**  
**In Conference Room 225**

Chair Inouye and Members of the Committee:

Thank you for the opportunity for Tesla Inc. to provide testimony in **support** of HB 1580, HD2.

As the State of Hawaii looks to reduce and ultimately eliminate its reliance on fossil fuels, it is important that the State take affirmative steps to transition ground transportation away from gasoline and diesel, and toward clean energy alternatives. As the bill states, there are a range of economic and policy reasons for why it is in the State's interest to reduce reliance on fossil fuels and that electric vehicles have a central role to play in this transition.

Tesla believes that electrification of the transportation sector is particularly valuable in advancing the State's objectives when pursued in tandem with efforts like Hawaii's pace-setting renewable energy mandate, which seeks to meet 100% of the State's electricity needs with renewable energy sources by 2045. Electrifying ground transportation effectively expands the scope of positive impacts that this renewables mandate will have on overall fossil fuel consumption and associated emissions. In addition, there are important synergies between electrification and the State's renewable targets. For example, the transportation sector can serve as a valuable user of excess renewable energy, like solar produced midday or at other times when it is less valuable to the grid, thus supporting the integration of increasing amounts of renewables on Hawaii's energy system.

The envisioned Hawaii Clean Ground Transportation Initiative represents an important first step in facilitating the transportation sector's transition off of fossil fuels. Tesla believe that HB 1580, HD2 creates a reasonable and necessary high level framework that will help the state chart a coherent and effective path forward, by establishing measurable benchmarks to assess progress, directing the Department of Transportation ("DOT") to provide recommendations regarding measures and steps that need to be taken, as well as establishing a forum to solicit input from the stakeholder community to inform and refine these recommendations. We look forward to participating in the stakeholder process described in

the bill to offer our perspective based on our long-standing history and experience with vehicle electrification.<sup>1</sup>

Accordingly, Tesla supports this measure and respectfully encourages the Committee to pass it out.

Thank you again for the opportunity to testify in support of HB1580, HD2.

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<sup>1</sup> Tesla is an American manufacturer of the world's most advanced electric vehicles and battery energy storage systems. While most known for its best-in-class vehicles, Tesla has also been investing in a global infrastructure network of EV charging stations, making electric road trips easier than ever before. Later this year, Tesla will introduce its newest vehicle, the Model 3, with a starting price of \$35,000 and at least 200 miles of range on a single charge.

Using the battery technology developed for the vehicles, Tesla has developed industry-leading and low-cost energy storage systems for use in homes, buildings, and on the electric grid. Tesla recently acquired SolarCity Corporation, the largest solar installer in America, and now offers complete energy solutions for individuals, organizations, and utilities. Tesla's transportation and energy innovations are driving down battery costs and providing consumers around the world with a wider range of energy solutions.



**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**  
March 20<sup>th</sup>, 2017; 1:20pm, room 225  
**TESTIMONY IN STRONG SUPPORT OF HB1580 HD1**

Aloha Chair Inouye, Vice Chair Dela Cruz, and Members of the Committee,

I am the COO of Honolulu based tech startup Cultur and also have a degree in International Relations with a focus in environmental policy with a particular concentration on energy in Hawai'i and a Masters Degree in Global Leadership and Sustainable Development with a focus in energy and group interactions.

My studies and personal experience inform me that change happens the same way no matter if it is the way we treat the wounded on the battlefield or convincing someone to use a new app. And one thing that is universally true of change is that someone has got to be the first one to step up and say "Hey, we should do this differently" and that very moment is incredibly powerful. Because once one person does, it gives others permission to agree with him or her and then they promote the idea and then those that they've convinced do the same. Eventually, around the 2/3rds mark, the rest of the community (be it of US states, nations in a treaty, or people in a community) agree and quickly follow. Because one of humanity's worst fears is being the odd one out (it's scary) it keeps us locked in our ways but it also forces us to follow changes once they start. We encourage you to be brave and be the first ones to say that we can and we will have 100% renewable energy portfolio standards, so that the last ones to agree will be scared not to do so for fear of being left out. Change is coming, globally and out of necessity. Do we want to be in the lead or the ones that are shamed into following once everyone else has agreed that it's what we need to do? Hawai'i has thus far been proudly in the lead, the one that has been willing to say "we can, and we will do energy differently", "we do not support a travel ban" and this keeps us on that path, as a leader for the rest of the world. Thank you for the opportunity to testify, I also intend to do so in person.

Mahalo,  
Adrienne Kleid  
Chief Operations Officer  
Culture Guru, Inc.



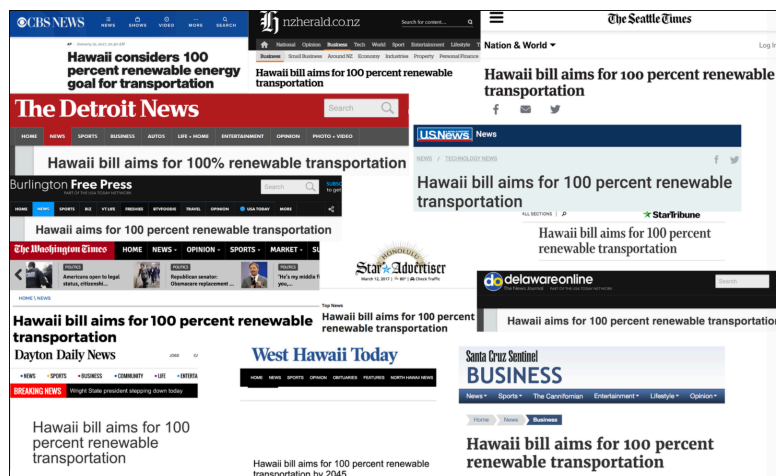
Email: [honolulu@citizensclimatelobby.org](mailto:honolulu@citizensclimatelobby.org)

SENATE COMMITTEE ON TRANSPORTATION AND ENERGY  
Monday, March 20th, 2017 – 1:20pm, room 225

Aloha Chair Inouye, Vice Chair Dela Cruz and Members of the Committee,

Citizens' Climate Lobby (CCL) **strongly supports the intent of HB1580 and requests that the bill be amended to reflect the original language of SB1186** on behalf of our 389 chapters worldwide. Without taking too much of your time to reiterate the points that other clean energy supporters have stated, we highly encourage you to pass this bill using the original language from SB1186 to set a state goal for Hawai'i to have fossil fuel free ground transportation by 2045.

CCL Chapters from across the United States have been sending the Honolulu Chapter articles written from their cities reporting that Hawai'i could pass a bill for 100% renewable transportation by 2045 and that it would be the most ambitious clean/renewable transportation goal in the country should it pass.



We believe that passing a goal for 100% clean ground transportation by 2045 would not only be a necessary step for Hawai'i on both an environmental and economic level but that it will set a good example for the rest of the country and beyond and send a message of hope for the future. Thank you for giving us the opportunity to testify.

Respectfully,

Jeffrey Kim  
Honolulu Chapter Leader  
Citizens' Climate Lobby





Aloha Chair Inouye, Vice Chair Dela Cruz and Members of the Committee,

Thank you for the opportunity to provide testimony. My name is Dwight Baldwin and I'm a owner of a sustainability consulting LLC and a senior member of the UHMC Student Ohana for Sustainability (SOS). I am writing this testimony in support of HB1580, Relating to Energy. The UHMC SOS represents approximately 50 undergraduate students at the University of Hawai'i Maui College.

As the owner of a company dedicated to solving issues relating to sustainability, I can say with confidence that HB1580 will promote innovation and sustainable industry in Hawaii. Setting a target for 100% clean ground transportation will send a message that our state and our leaders care about climate change and secondary effects of fossil fuel-based transportation (including potential aquifer contamination by fuel and oil leakage) and that we have a vision for a sustainable future of our islands' economy, environment, and people.

HB1580 will address reductions in carbon emissions, as ground transportation accounts for roughly one-third of Hawaii's fossil fuel consumption. Almost as importantly, 100% clean transportation will save utility consumers approximately \$150 million per year in fuel and electricity costs. Also, potential threats to groundwater resources will be no longer imported en masse to our islands.

Currently, no other state has attempted to pass legislation this ambitious in relation to clean ground transportation, with mainland media such as the Associated Press, ABC News, Seattle Times, Detroit News, in addition to the New Zealand Herald having all reported on this bill. Hawai'i, its people, and its politicians have the opportunity to be bold visionaries in addressing issues of economic and environmental inequality.

For these reasons, I and the UHMC SOS ask you to pass HB1580, with the original language setting a vision for 100% clean ground transportation no later than 2045. Thank you again for the opportunity to testify.

--

Dwight Baldwin, UHMC SSM Program, Owner of Baldwin Professional Services LLC

Good Morning,

I realize I am cutting it close with my submission of this written testimony in support of passing HB1580. Please consider my testimony despite this tardiness.

It is my understanding that I forwarded it up my chain of command erroneously when I should have submitted it directly to this email. so disregard earlier submissions.

Very Respectfully,

Students of Sustainability, SOS Hilo, Hawaii

Written by: Jacob Connell, SOS treasurer.

Executive Members:

President- Alexis Stubbs, [Alexis33@hawaii.edu](mailto:Alexis33@hawaii.edu)

Vice President- Josh Boranian, [Josh2008@hawai.edu](mailto:Josh2008@hawai.edu)

Secretary- Maggie Chen, [chenm@hawaii.edu](mailto:chenm@hawaii.edu)

Member at large- Daniel Dunnom, [Dunnom@hawaii.edu](mailto:Dunnom@hawaii.edu)

Member at large- Mary Fem Urena, [Maryfem@hawaii.edu](mailto:Maryfem@hawaii.edu)

HB1580

Department of Transportation, Renewable Energy; Working Group

March 20, 1:20pm, 2017, Room 225

Relating To Energy

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the committee. My name is Maxim Poudrier-Tudan, I am representing the Student Sustainability Coalition of Hawai'i, and I am testifying in support of HB1580 for the Department of Transportation, Renewable Energy; Working Group.

This bill is so important to insure the well-being of the Hawaiian Islands, and the entire planet itself. As a twenty-year-old student, I am highly concerned with the state of the planet that I am succeeding from my predecessors, especially in the way in which transportation currently burns through fossil fuels, while emitting harmful gases into the air we breathe. By achieving this goal of total renewable ground transportation, this bill would drastically reduce the pollutants in the air in which I and my children in the future will be breathing. This state is one of the most beautiful places in the world, and it sickens me to see the smog level rising from an issue that is so easily fixed.

Another major issue is that of the planet. With global temperatures at an all-time high, and 2016 being the hottest year on record, it is apparent that there is a problem that needs to be fixed. Hawaii is seen as a leader in environmental progression for the entirety of the Nation, putting in place a bill that will help reduce air pollution state wide will set the stage for other states to follow in this direction, and push for more policies that will combat the deadly effects of climate change.

Dear  
Legislators,  
Please accept  
my testimony  
on Bill HB  
1580  
As a electric  
vehicle  
infrastructure  
company with  
over 15,000  
+++ electric  
vehicle  
charging  
station  
installations  
world wide , it  
is obvious  
that electric  
vehicles are  
the new  
transportation  
for our  
children's  
future, So I  
STRONGLY  
support HB  
1580. State  
leadership on  
clean energy  
is more  
important  
than ever. As  
a citizen and  
a voter in  
Hawaii and  
both  
Mainland, I  
am relying on  
legislators like  
you to do the  
right thing. By  
setting this  
target for  
100% clean  
transportation  
it will send a  
message that  
our state and  
our leaders  
care and are  
ready to take  
action about  
climate  
change and  
that we have  
a vision for  
the future of  
our islands'  
economy,

environment,  
and people.

Please pass  
HB 1580, with  
the original  
language  
setting a  
vision for  
100% clean  
transportation  
no later than  
2045.

Sincerely,  
Todd Ritter

TODD RITTER

**Email**

[TRITTER@EVSTRUCTURE.COM](mailto:TRITTER@EVSTRUCTURE.COM)

**Phone**

[\(808\) 352-3044](tel:(808)352-3044)

**City**

HONOLULU

**Zip Code**

96815

**Permission to Submit Testimony on Your Behalf**

- I AGREE

Aloha

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**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017

1:20PM

Room 225

**IN SUPPORT HB1580 HD2 RELATING TO ENERGY.**

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Aloha Chairwoman Inouye, and members of the committees,

The Hawaii chapter of the Young Progressives Demanding Action strongly supports House Bill 1580 HD2 which establishes a clean ground transportation benchmark framework to maximize consumer fuel savings, including a near term 2025 target encouraging electric vehicle infrastructure buildout supporting Hawaii's goal for the reduction and ultimate elimination of the use of imported fuels for ground transportation. It also directs the department of transportation to collaborate with the state energy office to develop recommendations to achieve those benchmarks.

As an organization where an overwhelming majority of its members are of the millennial generation and younger, we represent and advocate for issues that are important to the people of the future of Hawai'i. Whereas climate change is arguably one of the most important issue of our time which has a very probable and devastating effect to Hawaii's economy and sustainability in the near future, we believe that the Hawaii state legislature has a moral obligation to do all that it can to join the rest of the world's efforts in combating climate change. This includes taking steps to make Hawaii powered completely with renewables.

We believe that HB1580 HD2 will encourage members of the public and in the legislature to start talking and thinking about the impacts that the level of carbon emissions that ground transportation has on the climate. As of now, climate change is not considered a top-priority issue by 51% of Americans according to a Gallup poll when the science clearly shows that it may be the most devastating issue of the century to humanity and biodiversity. Passing bills such as HB1580 HD2 may help to change society's perception on the issue and may help to start important conversations that we believe needs to happen in order to take drastic measures and real action. We ask the committee on transportation and energy to pass HB1580 HD2.

Thank you for allowing me to testify on this important issue.

Sincerely,

Asami Kobayashi

Chapter Leader YPDA Hawaii



40 Hobron Avenue  
Kahului, Hawaii 96732  
(808) 877-3144  
Fax (808) 877-5030  
[www.biodiesel.com](http://www.biodiesel.com)

March 17, 2017

**TESTIMONY ON HB 1580, RELATING TO ENERGY  
SUPPORT**

Senator Lorraine Inouye, Chair  
Committee: Transportation & Energy  
Hearing March 20, 2017 at 1:20 pm, Conference Room 225

Chair Inouye, Vice-Chair Dela Cruz, and Members of the Committee,

With the passing of the 100% renewable portfolio standard last year, the state has shown its considerable commitment to moving Hawaii beyond fossil fuels. **This commitment should now be extended beyond electricity production, to the vital transportation industry.**

Given the sheer magnitude of petroleum imported into Hawaii – the world’s most remote island population and the most petroleum-dependent state in the nation – it is crucial to commit now to reducing the use of fossil fuels by the state’s transportation sector (which alone consumes 60% or more of all petroleum imports).

**Pacific Biodiesel Technologies supports the original language of HB 1580, including the goal of 100% clean energy for transportation**, as a necessary step to support local renewable energy companies and increase the production and use of transportation systems that will significantly reduce our dependence on fossil fuels.

As the nation’s longest operating biodiesel producer and the only commercial biofuel producer in the state, Pacific Biodiesel since day one has stayed true to its mission to fight climate change and help Hawaii achieve a clean, sustainable energy future. Our locally made biodiesel – the highest quality in the nation – can be used in any diesel engine without modification, enabling it to make an immediate impact on reducing Hawaii’s fossil fuel usage while supporting energy security in our state.

The reduction and elimination of imported fossil fuels will lead Hawaii to a stronger, more resilient economy and will ensure that Hawaii is doing its part to minimize the negative impacts of greenhouse gas induced climate change.

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Thank you for the opportunity to testify.

Joy Galatro  
Marketing Director  
Pacific Biodiesel Technologies, LLC  
[jgalatro@biodiesel.com](mailto:jgalatro@biodiesel.com)  
808.866.5104





**SENATE COMMITTEE ON TRANSPORTATION & ENERGY**

Mar. 20, 2017, 1:20 P.M.

Room 225

(Testimony is 8 pages long, including attachment)

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and Committee Members:

Blue Planet Foundation **strongly supports** HB 1580, which sets the state on a path to establishing a planning vision for using clean energy in ground transportation. This bill can help to promote alignment and collaboration in ongoing and future planning efforts for multiple aspects of the state’s energy sectors—particularly if the bill is amended to align the electricity and ground transportation targets by setting a planning target of 100% clean energy by 2045.

In the current national political climate, the important of a vision for our state plan cannot be understated. **News reports from recent days indicate that President Trump is attempting to dismantle progress on clean energy.** He intends to weaken federal standards for vehicle fuel efficiency, end a moratorium on new coal mines, stop the Clean Power Plan, and eliminate a review of climate impacts in environmental impact statements. Without state action, these steps will hurt local consumers and our environment, simply to line the pocket of the fossil fuel industry. Other news reports indicate that a fossil fuel lobby, including the infamous Koch brothers, are launching an anti-clean transportation initiative targeted at “changing the energy narrative.”

**Hawaii has no fossil fuels. Our State Planning Act lacks a target date for energy independence for ground transportation. It is imperative that we define our own narrative and vision on energy.**

With this aim, we provide suggested **amendments** on the bill:

- utilize existing planning efforts, such as the Department of Transportation’s Sustainable Transportation Forum, rather than creating a new working group;
- establish a planning target of 2045 to transition the state’s transportation systems to 100% clean energy; and
- clarify that this is a planning bill, not a mandate, and thus that the concept is to make 100% clean transportation the norm for transportation infrastructure decisions, rather than to require any individual to stop using fossil gasoline.

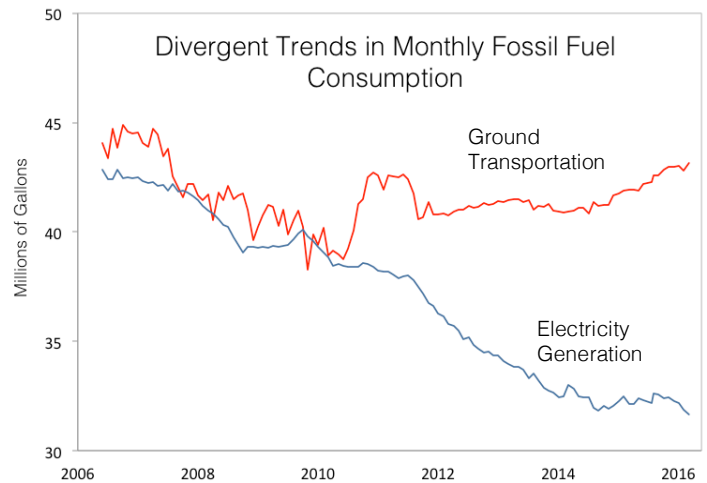
Answers to several *Frequently Asked Questions* are attached to this testimony. Topics include:

- The need for a planning target date for 100% clean transportation;

- The economic benefits of clean transportation;
- The achievability of a 2045 planning target, with trends such as electrified vehicles, biofuels, and multi-modal transportation options.

## The Importance of Establishing a Vision

The legislature has long stressed the importance of the state’s transition to a renewable energy system. For example, in 2001’s Act 272 the legislature adopted renewable standard for electricity, recognizing “the economic, environmental, and fuel diversity benefits of renewable energy resources” and encouraging further development of renewable resources. The legislature found that “while Hawaii is a national leader in the development of renewable energy resources for electricity production, there may be more that the State can do to encourage the development and implementation of renewable energy. These efforts can reduce the amount of imported oil used for the generation of electricity.”



More recently, Hawai’i’s leaders set a vision for 100% renewable electricity by 2045. That vision has become a driving force in electricity planning, and a focal point for a variety of key energy issues. But while Hawai’i has made substantial progress on policies, programs, and actions to reduce burning fossil fuels in the electricity sector, progress on reducing transportation fossil fuel consumption has lagged. And unlike for the electricity sector, state law has not yet specified target dates for progress on renewable transportation. This is one illustration of the importance of long-term targets in setting the state’s course for the energy sector.

Some commenters are sure to believe that a 2045 target date is too aggressive. Others, particularly those driven by the urgency of the climate crisis, are equally sure to believe that 2045—30 years in the future—is too passive. Other than the passage of time, no studies, working groups, or other efforts will fully resolve that dichotomy.

But in either scenario, the state must act. The benefits of establishing a planning vision are important, to:

- spur alignment and collaboration on planning and infrastructure efforts, thus leading to more effective solutions;
- set market expectations, opening the door to innovation;
- encourage personal action, to support the shared goal of island sustainability.

## Lower Costs for Consumers Through Clean Transportation and Clean Electricity

Because electric vehicles will be one part of the clean transportation transition, the state's renewable electricity goal goes hand-in-hand with the transportation goal in this bill. **Electricity is already a less expensive fuel alternative to gasoline.** But a growing fleet of EVs can provide a double benefit by helping to balance renewable energy on the grid and **lower the cost of electricity.** This is a win-win. It also underscores the need to align the state's electricity targets with its transportation targets.

As noted in the attached Frequently Asked Questions, a U.H. Engineering Professor has estimated that renewable electrified transportation can **save utility consumers around \$150 million per year.** More details on economic benefits, the achievability of 100% renewable transportation, and other topics are included in the attached Frequently Asked Questions.

## Suggested Amendments

Because of the natural ties between renewable electricity and renewable transportation, we suggest that the bill be amended to align the current 100% renewable target for electricity, with the target for ground transportation (currently undated).

We also suggest eliminating the need to create a new working group, and to instead unlock power of this alignment to utilize existing planning efforts (such as the Sustainable Transportation Forum).

New text compared to HD1 is shown in red underlining. For readability, individual text deletions are not marked. We are happy to provide a full markup if desired by the Committee.

### Section 1.

...

The purpose of this Act is to begin the transition to 100 per cent clean ground transportation in Hawaii by:

(1) Establishing a clean ground transportation planning target of 2045, supporting Hawaii's goal for the reduction and ultimate elimination of the use of imported fuels for ground transportation and electricity generation; and

(2) Utilizing existing planning efforts, including by the department of transportation, the state energy office, electric utilities, and other entities and stakeholders, to identify benchmarks and recommendations to support the achievement of benchmarks leading to the ultimate elimination of imported fuels for ground transportation.

As a planning vision, this Act does not create an individualized prohibition on gasoline vehicles.

**SECTION 2.** [~~deleted~~]

**SECTION 3.** [~~deleted~~]

**SECTION 4.** Section 226-17, Hawaii Revised Statutes, is amended by amending subsection (a) to read as follows:

(a) Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:

(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods;

(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State; and

(3) Increased energy security and self-sufficiency through the reduction and ultimate elimination of imported fuels for ground transportation, by 2045.

**SECTION 5.** Section 226-18, Hawaii Revised Statutes, is amended by amending subsection (a) to read as follows:

(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:

(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;

(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation by 2045;

(3) Greater diversification of energy generation in the face of threats to Hawaii's energy supplies and systems;

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

(5) Utility models that make the social and financial interests of Hawaii's utility customers a priority.

Thank you for the opportunity to testify.

# 100% Clean Ground Transportation Frequently Asked Questions

## Why is a 100% Clean Transportation Necessary?

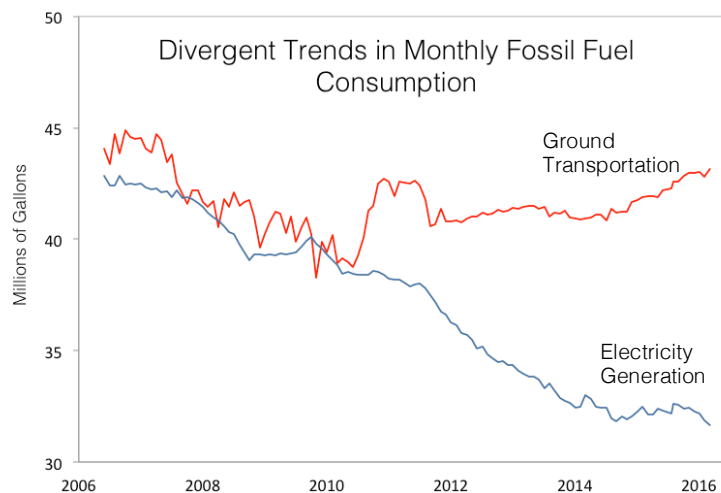
Hawai'i's policy leaders have long stressed the importance transitioning the state's energy system to clean energy. This transition has been driven by economics, and also by concern for our shared environment. As described by Governor George Ariyoshi:

**“Stewardship . . . mean living with the constant reminder that our actions occur in context of other people over generations.”**

Ground transportation accounts for around one-third of the state's fossil fuel consumption and greenhouse gas emissions. A resilient economy and a healthy environment require that we consider these impacts.

This is especially important in an age where 194 countries—essentially every country on earth—have agreed that it is imperative that we rapidly reduce greenhouse gas emissions.<sup>1</sup>

The state has long utilized planning targets as a way to set a course for reducing fossil fuel consumption in the electricity sector.<sup>2</sup> This transformation is on track to reach the goal of 100% renewable energy by 2045. In contrast, fossil fuel consumption for ground transportation is essentially unchanged from a decade ago.<sup>3</sup>



Closing this gap will require many efforts by many entities, both today and in the future. The importance of HB 1580 is that it can align those efforts around a common vision, set by the state's leaders.

## What are the Economic Benefits?

The transition to clean transportation creates many opportunities for cost savings. Some of these opportunities come in the form of more efficient multi-modal transportation (e.g. saving

<sup>1</sup> See Paris Agreement, U.N. Framework Convention on Climate Change (2016).

<sup>2</sup> See H.R.S. § 269-91.

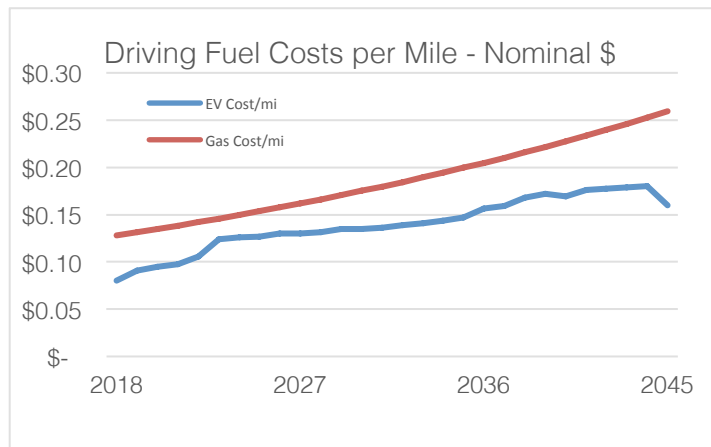
<sup>3</sup> Chart data is from Monthly Energy Trends reported by DBEDT. Note that the electricity oil consumption is for utility generation only. Information from third-party generating facilities is not reported. However, the divergent trend would be apparent even if recent third-party oil-fired generation were included in the chart.

money with more walking, biking, and public transit). Other opportunities arise from fuel-cost savings.

For example, the transition to clean energy is sure to include more electric passenger vehicles, buses, and fleet vehicles (“EVs”). This electrification trend provides a double benefit. First, the cost of powering an EV is generally less than powering an equivalent gasoline vehicle. So consumers can save money—today—by switching to an EV. Second, a growing fleet of EVs can help to balance renewable energy on the electric grid. This can lower the cost of electricity for everyone.

University of Hawai‘i Engineering Professor, Matthias Fripp, has created a quantitative model of the state’s transition to renewable energy. He has calculated that a 100% renewable transportation system, with smart EV charging to match renewable electricity generation, can be expected to **save utility consumers approximately \$150 million per year in fuel and electricity costs.**<sup>4</sup>

Blue Planet Foundation has evaluated recent projections for electricity rates in Hawai‘i, comparing them to a World Bank estimate of the long-term trend for increasing oil prices, under a variety of transportation scenarios. This comparison indicates that we can expect electricity to remain the cheaper fuel option through 2045, and that the potential aggregate benefit in fuel savings is on the order of several billion dollars.



## Is 100% Clean Transportation Infrastructure Possible by 2045?

Yes. **A variety of states, countries, and cities have targeted similar goals between 2025 and 2050.** For Hawai‘i, much like in the electricity sector, many factors will influence the pace of the state’s transition to clean energy. While some of those factors remain unknown (as is expected for a 30-year planning horizon), several important factors are apparent today;

### 1. The Rise of Battery Electric and Fuel Cell Vehicles, Coupled with 100% Renewable Electricity.

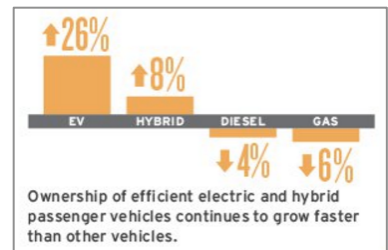
While familiar clean transportation options (like biofuels, walking, biking, public transit, etc.), and emerging technologies (like hydrogen) will undoubtedly play an important role, we expect the emergence of electric vehicles (EVs) to quickly and radically shift the state’s transportation

<sup>4</sup> See M. Fripp, *Effect of Electric Vehicles on Design, Operation and Cost of a 100% Renewable Power System* (Apr. 2016).

energy landscape. This is especially true given recent utility planning efforts concluding that 100% renewable electricity is achievable and affordable.

In Hawai'i, the growth rate of EV sales has far outpaced other fuel options. On a more global scale, important factors such as the cost of producing batteries for electric cars has fallen dramatically, from around \$1,000 per kWh to less than \$200. As we enter the second generation of modern EVs, a steadily increasing variety of models are coming onto the market with lower prices, larger batteries, and longer driving ranges.

Nearly every major auto manufacturer is investing heavily in battery electric and/or hydrogen fuel cell electric vehicles, and views zero emission vehicles as the long-term solutions for transportation fuels. **A recent poll of auto executives by KPMG identified EVs as the top trend for automobile manufacturers between now and 2025.**



Hawai'i is particularly well-suited for the this acceleration of EV adoption because electric batteries perform well in our year-round warm climate. Our island geography often restricts the distances we need to drive, making range anxiety less of an issue compared to other locations. Hawai'i is already in the top three states by proportion of registered vehicles that are electric, and we have the second highest ratio of electric charging stations to population of any state.

## 2. Transportation will Become More Multi-modal, Networked, Autonomous

The future of transportation in Hawai'i is likely to include more efficient land use that reduces travel demand and travel distances, significant improvements in mass transit, bicycling and pedestrian infrastructure, and new mobility alternatives such as autonomous taxis and other networked 'mobility as service' options. These changes are likely to shift a sizable percentage of Hawai'i's trips from personal automobiles to alternative modes and to significantly reduce transportation energy use.

With sufficiently transformative policies, the small sector of gasoline vehicles can be a small fraction of the total ground transportation sector.

## 3. Biofuels are a Near-Term and Long-Term Option

Hawai'i is home to one of the leading pioneers of biofuel production, Pacific Biodiesel. Today, the state is producing commercial quantities of biofuels using local feedstocks.

In a report commissioned by DBEDT in 2010, the consultant firm Black & Veatch Corporation performed an analysis of the potential for biofuel production in the state of Hawai'i. The report found that the maximum theoretical capacity of biofuel production in the state was equal to the equivalent of 848 million gallons of "green gasoline" or 779 million gallons of "green diesel" per year (see chart below). This is around 2.5 times the total amount of gasoline and diesel used in ground transportation in Hawai'i today.

<b>Table 1-6. Maximum Theoretical Hawai'i Biofuel Production Potential.</b>					
<b>Feedstock</b>	<b>Biofuel</b> 10 <sup>12</sup> Btus/yr	<b>Ethanol</b> million gal/yr	<b>Green Gasoline</b> equivalent million gal/yr	<b>Green Diesel</b> equivalent million gal/yr	<b>Green Jet Fuel</b> equivalent million gal/yr
Energy Crops	101	1,202	786	722	751
Cellulosic Wastes	8	95	62	57	59
<b>Total:</b>	<b>109</b>	<b>1,297</b>	<b>848</b>	<b>779</b>	<b>810</b>

*Source: DBEDT (2010). "The Potential For Biofuels Production in Hawaii"*

The report also concluded that "...it should be quite achievable for biofuels produced from in-state resources to displace 20 percent [over 50 million gallons] of the gasoline and diesel fuel needed for vehicle transportation in Hawai'i. This could be accomplished using about 10 percent of available agricultural land for energy crop production to supply the required biomass feedstock." In short, local biofuels are a viable option for powering significant portions of the transportation sector.



**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I support HB 1580. We must protect our earth, but we cannot without state leadership on clean energy. As a citizen, I rely on legislators such as yourselves to do the right thing for our community. Please keep our earth and future in mind. 100% clean transportation is the action we must take considering climate change and our islands' economy, environment, and people.

If you care about the future of not only our island, but also the earth, please pass HB 1580 for 100% clean transportation.

Sincerely,  
Akiko Iwata

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I have been driving electric since 2006. It is a great way to save money and help reduce the use of fossil fuels. People with solar on their homes get a bigger bonus.

As a world we need to stop burning fossil fuels. We can move forward towards that goal with HB 1580. It will take time but now is the time to build on how far we have come.

Sincerely,

Al Pugsley  
Koloa, 96756

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

Alan Ewell  
Honolulu, 96822

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

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Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,  
Alicia Hickson  
Hilo, Hawaii 96720

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

Alicia Morrier  
Kealakekua, Hawaii, 96750

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

Living abroad now, I still follow Hawaii politics when I can. I am very proud when I see the strong positions Hawaii legislators are taking to protect people and the environment in general. This is one more important law and I will be proud to see you support HB 1580 to make it clear to everyone that Hawaii will be a leader in the shift to clean energy even in the face of a federal government that is doing all possible to peel away our environmental protections. Thank you

Sincerely,  
Amber Testino  
London, UK

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580 and the target for 100% renewable transportation. Climate change is the biggest threat our planet faces today, and the goal of sustainably switching from fossil fuel based transportation to renewable alternatives should be a priority of all governments in the world. As an island in the middle of the Pacific, Hawaii is at a much higher threat due to Climate Change. This goal will also support local economy, businesses and jobs and will allow Hawaii to be seen as an example to be followed.

Sincerely,  
Ana Giliberti-Ippel  
Honolulu, 96815

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I encourage you to support HB 1580 to set a target for 100% renewable transportation for Hawaii. The benefits for Hawaii include energy independence, technology leadership, local jobs (building and maintaining energy infrastructure), clean air, quieter and safer streets, and reducing global CO2 levels to reduce the impact of global climate change on Hawaii. With abundant renewable energy and shorter distances, Hawaii is well placed to take leadership in this field, hopefully fostering technology and expertise in our state.

I know it's a realistic goal because I already have solar panels on my house and charge an electric car from them. Yesterday, I drove 50 miles around Kauai using clean, renewable solar electricity. I look forward to having more vehicle choices, with more range, and more charging options. I also look forward to renting electric cars when I visit Oahu and other islands.

We as a state are already working toward a 100% renewable energy grid. Renewable transportation is a natural extension of this goal, and it leads to additional efficiency. For example, hundreds of thousands of electric cars can act as storage to help regulate the electric grid. Of course, new technology is required, but hopefully that technology can be developed here in Hawaii, contributing to a growing high tech job pool.

For all these reasons, I urge you to support HB 1580. Thank you.

Sincerely,  
Andrew Kass  
Kapaa, Kauai, 96746



**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I fully support HB 1580. State leadership on clean energy is now more important than ever. As a citizen and a voter, I am relying on legislators like you to stand up against climate change. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change. It will also show that we have a vision for the future of our island' economy, environment, and people. We can be a model for other states.

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Sincerely,

Anna Callner  
Kailua, O'ahu 96734

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I urge you to LEAD among U.S. politicians and states as well as the world and SUPPORT HB 1580. 100% renewable transportation!

Sincerely,  
Barbara George  
Haleiwa, 96712

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I write in support of HB1580, which originally set as a goal that fuel used for transportation would be 100% renewable by 2045. This was amended in HD 1 to only 5% renewable fuels. That's way too low! With the advent of electric cars, and the possibility of charging them via a PhotoVoltaic system using the sun's energy at home, Hawaii is in a strong position to adopt an ambitious goal for our transportation system. Using renewable fuels for transportation would clean up our air (reducing the amount and harm of VOG, though of course not eliminating its volcanic contribution) and even more important would help stave off the worst effects of climate change, which is already threatening our environments and livelihoods.

Please pass HB1580 with an ambitious goal for 2045!

Thank you for the opportunity to submit this testimony.

Sincerely,  
Beppie Shapiro  
Honolulu, Oahu 96816

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

Please do not water down this bill! We need to keep to the original goal. 100% clean transportation by 2045.

Sincerely,  
Beth Greenhill  
Honolulu, 96825

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580 which sets a goal of gaining 100% renewable transportation. This goal is important to me and our state, opening the door to greater innovation and a cleaner environment.

We purchased an electric vehicle last year and have experienced first hand the amazing advantages of driving without using fossil fuels. No messy oil changes, a quiet ride, freedom from spending money on gas, and the knowledge that we are not polluting our air are just some of the benefits we have experienced by owning an electric car.

Please help Hawaii lead the charge, so to speak, and pass this bill which will be an important step in setting the vision for future clean energy innovations. Fossil fuels are dirty and our reliance on them is a vestige of the past. Let's step out into the bright new world of powering our lives using the sun as our energy source. Its time has come and your children will thank us for taking bold actions today.

Please pass this bill using the language from the original draft that set a target for 100% clean ground transportation by 2045.

Sincerely,  
Betty Gearen

Honolulu 96813

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water. We need to set our sights on big, inspiring visions of sustainability. That is the kind of goal that can make people excited to be a part of the process and be engaged citizens.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

Brian Heithaus

Honolulu, Hawaii 96816

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

My name is Camila Chaudron and I am a constituent from the Manoa/Makiki area. I believe that nature is source, not resource. Without our environment, we have nothing. Therefore, creating a goal to make transportation energy friendly is important to me. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

Please pass this visionary bill that promises to make Hawaii a leader in clean ground transportation.

Mahalo!

Camila Chaudron  
Honolulu, 96822

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

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I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

Carolynn Bell-Tuttle  
Honolulu, 96821



**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

The state of Hawaii should lead the way in pushing forward with renewable transportation. We live on a small rock in the middle of a big ocean. The probable repercussions of not acting now, towards that goal, will be very apparent in the future. Better to be proactive & make the future better.

Sincerely,  
Cassie Senner  
Honolulu, Oahu 96816

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

As a resident of O'ahu, I support HB 1580. State leadership on clean energy is more important than ever. As a citizen and a voter, I am relying on legislators like you to do the right thing. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people.

The State of Hawai'i can be a leader and model for clean energy across the USA and around the world. Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Sincerely,  
Chai Blair-Stahn  
Waianae, Oahu 96822

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,  
Chama Cascade  
Holualoa, Hawaii 96725

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I am completely for Renewable Energy in our State for solar as well as transportation.

We are all supposed to be moving away from fossil fuel anyway and what better way than going all renewable energy.

Sincerely,

Colleen Miyose-Wallis  
Kailua Kona

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I support HB 1580. State leadership on clean energy is more important than ever. As a citizen and a voter, I am relying on legislators like you to do the right thing. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people.

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Sincerely,  
D Najita  
Honolulu, 96828

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me.

Hawaii is the perfect place to become an example for other parts of the US and world to do as much as we can to migrate to clean energy.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

David Kearnes

Kailua-Kona, Hawaii 96740

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

My vote goes to those who support this and bills like it. Clean energy is the only hopeful future for our species and planet. Please pass this bill and make 100% clean energy transportation a target by 2045.

Sincerely,  
David Wilkie  
Honolulu, 96816

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

Debara Zeller  
Honolulu, 96816



**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I support HB 1580. State leadership on clean energy is more important than ever. As a citizen and a voter, I am relying on legislators like you to do the right thing. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people.

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Sincerely,  
Debra Nix  
Kihei, Maui 96753

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I support HB 1580. State leadership on clean energy is more important than ever. As a citizen and a voter, I am relying on legislators like you to do the right thing. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people.

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Sincerely,  
Donald Erway  
Kailua Kona

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

Legislators who support Hawaii's previously enacted commitment to transition to 100% renewable energy for electric power generation should find it easy to support HB1580, committing the Aloha State to transition to 100% clean energy for ground transportation. Gasoline and diesel powered internal combustion engines used in cars, buses, and trucks are less efficient, more polluting, and more wasteful than generators used in electric power plants. Hawaii can never achieve energy independence if we continue to import massive amounts of fossil fuels for transportation purposes. Burning fuels that emit pollutants that threaten our climate, environment, and health is senseless when advanced technologies already exist to power our vehicles with clean energy. For the last 5.5 years I have personally been driving an electric vehicle, which is charged by clean solar energy. The contrast between my own clean, quiet vehicle, and the loud, smelly vehicles sharing the road with me is jarring, now that I no longer have to inhale those damaging fumes in my own driveway and garage. The need to eliminate additional sources of pollution is particularly pronounced in my own community of West Hawaii, where we are already affected by atmospheric pollutants from volcanic emissions. The additional burden of auto exhaust pollutants could be the factor that pushes some of us over the line to contract lung cancer and other respiratory ailments. It is time for Hawaii to follow the lead of wise leaders such as Queen Liliuokalani and other ali'i, who drove electric cars in the early part of the 20th century. Please pass HB1580 with the language from the original draft, setting a target vision for 100% clean ground transportation by 2045.

Sincerely,

Douglas Perrine  
Kailua Kona

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

Dwayne Munar  
Waianae

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

My name is Emillia Noordhoek and I live on the island of Molokai. I run a small non profit that works on energy issues and have for the past 8 yrs addressed these including the move to 100% renewable transportation. Fossil fuel transportation is responsible for over 75% of the carbon on Molokai alone - imagine what it is on Oahu? although Molokai pays amongst the highest in the country and state for gasoline we are still waiting to have even ONE public EV charger installed on Island. We can do better than this. Hawaii is poised to be leaders in the clean energy revolution, we are already behind the curve globally let's not fall further behind in our nation. As an island state we know that we are vulnerable to climate change and rising seas, let's not wait until we have nothing left to drive to set an example and lead the nation in Clean Energy transportation!

Sincerely,  
Emillia Noordhoek  
Kaunakakai, Molokai

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

We can do it!

Sincerely,

Evan Weber  
Kailua, Oahu, 96734

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I support HB 1580. State leadership on clean energy is more important than ever. As a citizen and a voter, I am relying on legislators like you to do the right thing. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people.

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Sincerely,  
Gil Barden  
Honolulu, 96821

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,  
Goran Radovanovic  
Kapaa, Kauai 96746



**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

Gordon Rezendes  
Kapolei

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I support HB 1580. State leadership on clean energy is more important than ever. As a citizen and a voter, I am relying on legislators like you to do the right thing. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people.

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Sincerely,  
Herb Wheatman  
Honolulu, 96825

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I fully support HB 1580. State leadership on clean energy is now more important than ever. As a citizen and a voter, I am relying on legislators like you to stand up against climate change. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change. It will also show that we have a vision for the future of our island' economy, environment, and people. We can be a model for other states.

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Sincerely,

Ian Glass

Waikaloa, Hawaii 96738

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

We ALL know we HAVE to do this and take the hard but essential and critical steps to move this way.

Sincerely,  
James McCay  
Honolulu, Oahu 96815

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I am in strong support of HB1580 and for setting a target of 100% renewable transportation in Hawaii by 2045. Our family was an early adopter of photovoltaic panels on our roof. This led to our purchase of a 100% electric Nissan Leaf in 2011. We have never regretted either decision and have in fact continually encouraged friends and acquaintances to do the same.

Why should we import expensive, carbon-emitting coal, oil or LNG to Hawaii when we currently have the means to generate energy renewably through the sun, wind and biofuels; and in the future through waves and geothermal means?

Especially on an island we must be creative and plan ahead. Let's set our sights on a clean energy future for the generations to come in Hawaii. What have we got to lose? Only our dependence on fossil fuels.

Thank you for listening.

Sincerely,  
Jan Pappas  
98-1287 Akaaka St.  
Aiea, Hawaii 96701

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,  
Javier Mendez  
Honolulu, Oahu 96817

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I support HB1580. Particularly under this anti-environment federal administration, we need our state leadership to step up and institute goals for a sustainable future. In Hawaii especially, as an island state, we absolutely need to shift to methods of renewable energy that Hawaii can generate and sustain on its own. Freeing Hawaii from its dependency on shipped-in fuel will be a boon to our state's economy and grant us resilience in uncertain times. Additionally, the goal of 100% clean transportation is simply the right thing to do in mitigating human impact on climate change. Please help Hawaii set an example to the rest of the nation that we can and should change. Please pass HB1580 with its original and rightly ambitious goal of 100% clean transportation by 2045.

Sincerely,  
Jill Yoshicedo  
Kailua, Oahu 96734

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I currently have an electric car and a truck that I run on bio-diesel. This type of transportation is good for Hawaii and the local economy.

100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045

Sincerely,  
John Bendon  
Paia, Maui 96779



**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

Dear Legislators,

I would rather have us set goals that may be difficult to meet than to settle for ones that ask for too little. The future of the planet is at stake, and surely that's worth pushing ourselves for.

Sincerely,

John Broussard

Kamuela, Hawaii 96743

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,  
John Maurer  
Honolulu, 96822

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I support HB 1580. State leadership on clean energy is more important than ever. As a citizen and a voter, I am relying on legislators like you to do the right thing. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people.

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Sincerely,  
John Nix  
Kihei, Maui 96753

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation, and will correlate to the existing 100% renewal energy goals. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, hydrogen made from water, and wind, wave & thermal energy. We can set goals to continue to build our infrastructure; i.e. the grid, solar farms, storage units, bike lanes in metro areas, & more charging stations to support industry & residential customers. We can also create more incentives to use public transportation like rail or the bus, and to buy electric cars.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,  
Joyce Jo  
Aiea, O'ahu 96701

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580 in its original form and ask that you pass it with that wording. We can not continue to poison the environment we are leaving for our children and grandchildren. Clean transportation is important. Hawaii can set the example for the rest of the country and the world and show we care.

Mahalo,

Judy Mick  
Kailua

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

The vog/haze during the kona weather lately has reminded me that its our trade winds that help us avoid emissions standards for our vehicles. The haze is not entirely vog - it's also anthropogenic pollution emanating from HPower, from vehicles, etc. As climate change affects our trade winds, less pollution will be crucial to our island home not looking like Los Angeles during Kona weather days.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

Julie Rivers  
Honolulu 96816

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I support the HB 1580. I am relying on legislators like you to do the right thing. By setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and how it may effect our environment. This also shows that we care and have a vision for the future of our islands' including the people and economy.

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Sincerely,  
Justin Bridges  
Honolulu 96816

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I am a teenager and am just beginning to drive. This has made me realize how much our day-to-day activities truly affect our environment. I am in support of HB 1580 because I believe that our environment should be one of our top priorities because if we do not try to work towards a better and cleaner environment, we may not have it in the future.

Sincerely,

Kahlan Wilson

Kaneohe, Oahu 96744



**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

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Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

Karen Hazzard  
Kailua Kona

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

Katie Kingsley  
Honolulu 96822

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

I strongly support HB 1580, which sets a target for 100% renewable transportation. 100% clean transportation is important to me. With this vision, we can lay the foundation for a cleaner environment and stronger local economy. Our transportation system can be based on solutions that are already available today, like electricity from solar panels, biofuels made from local waste and crops, and hydrogen made from water.

I know that this bill won't force anyone to stop using gasoline, because it is a goal, not a mandate. But it is still important for our leaders to set the vision. Vision and leadership fosters innovation. It unleashes the power of collaboration to focus on a single goal. And it assures our children that we care for their future.

Please pass this bill, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045.

Sincerely,

Keari Shibuya  
Honolulu 96816

**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

March 20, 2017, 1:20 P.M.

Room 225

**TESTIMONY IN STRONG SUPPORT OF HB 1580 HD2**

Aloha Chair Inouye, Vice Chair Dela Cruz, and members of the Committee:

Let us set a precedence and set Hawaii as a founding leading state for the rest of our nation, that we can and will achieve 100% clean renewable transportation by 2045. We must take action now for the future generations. Please set the vision and path to limit and one day stop our reliance on fossil fuels. Please think of our children and pass HB 1580, with the language from the original draft that set a target vision for 100% clean ground transportation by 2045. I plea with you on behalf on my two children who are now 6 and 3, who will be 34 and 31 in 2045 and with the continued use of fossil fuels they may be struggling to survive. If we can commit to them a brighter future, they both may be fathers in 2045 that will be thanking you for their children's future due to your vote for HB 1580 today.

Sincerely,  
Kerry Wells  
Kamuela

**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Sunday, March 19, 2017 6:13 AM  
**To:** TRE Testimony  
**Cc:** nmorin99@yahoo.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/19/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Noel Morin	Big Island EV Association	Support	No

Comments: The Big Island Electric Vehicle Association, a coalition of electric vehicle owners and supporters dedicated to increasing the adoption of sustainable transportation on Hawaii Island, fully supports all actions that enable our state's ability to wean itself from fossil fuel while improving our quality of life and our impact to our environment. Hawaii is poised to accomplish this and become a positive influence for other nations. We're in full support of this measure.

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March 20, 2017

Graduate Student Organization at the University of Hawai‘i at Mānoa

TO: Senate Committee on Transportation and Energy  
Senator Lorraine R. Inouye, Chair  
Senator Donovan M. Dela Cruz, Vice Chair

Re: Support for HB1580, Relating to Energy

Thank you for the opportunity to provide testimony. The Graduate Student Organization (GSO) at the University of Hawai‘i at Mānoa writes in **support** of HB1580, Relating to Energy. The GSO represents approximately 4,700 graduate students at the University of Hawai‘i at Mānoa.

State leadership on clean energy is more important than ever. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people. HB1580 will address reductions in carbon emissions, as ground transportation accounts for roughly one-third of Hawaii's fossil fuel consumption. Almost as importantly, 100% clean transportation save utility consumers approximately \$150 million per year in fuel and electricity costs. Currently no other state has attempted to pass legislation this ambitious in relation to clean ground transportation, with mainland media such as the Associated Press, ABC News, Seattle Times, Detroit News, in addition to the New Zealand Herald, having all reported on this bill. Hawaii, its people, and its politicians have the opportunity to be bold visionaries in addressing issues of economic and environmental inequality.

For these reasons, the GSO asks you to pass HB1580, with the original language setting a vision for 100% clean transportation no later than 2045. Thank you for the opportunity to testify.

Written testimony by Jacob Connell

Treasurer: Students of Sustainability at UHH

Written on behalf of Students of Sustainability

Biology Student: University of Hawaii at Hilo

Veteran: USMC

Citizen: US

3-19-2017

### **Support for passing HB1580:**

Hawaii's aim to be independent of fossil fuels by 2045 is crucial for the perpetuation of our thriving society. We have attained great capacity through the use of fossil fuels, although they are now understood as a detriment to climate due to the insulating property of carbon dioxide gas, among other emissions. The transportation industry stands to be the target for most improvement, though Hawaii Electric Inc. is still producing their power output with approximately 85% fossil fuels. Implementation of select following suggestions for independence from Hydrocarbons, will make our goals tangible:

- 1) **Ethanol from biomass fermentation- Biofuels.** (for production of E85 or higher)
- 2) **Improved, expanded, and continued renewable energy capture.** (i.e. Photo-Voltaic, wind and water turbines, Geothermal)
- 3) **Fuel from Recycled Polyethylene.** (Styrofoam and plastic CAN serve a purpose... finally)
- 4) **Carbon tax associated with registration according to fuel economy for vehicle** (offset Tree planting cost, when implemented as long-term renewable atmospheric scrubbers)
- 5) **Write-offs for purchase of Conscientious Vehicles.** (Hybrid-electric, electric, Pzev, E85)
- 6) **'Sin' tax for conventional fuels, more affordable E85.** (Encourage responsible fuel use)

Some of the above suggestions cost the citizen more, some the governing entities. With diligent attendance to levels of fuel use we can surmise charges to balance costs of citizens with governmental costs. An apparent surge of tourism to progressive, highly renewable energy powered countries (esp. Scandinavia) is a good indicator that our energy independence would only serve to perpetuate tourism based revenues. Fear of a Boycott by the US is negligible, for instance: approximately three-quarters of our Airbnb guests are from out of country.

**We can commoditize our sustainable practices and independence as an exhibition of what the world can be like when we collectively realize and tackle our societal responsibilities.**

**Immense thanks, for your time and commitment to the well-being and betterment of our beloved land.**

**Students of Sustainability, SOS**

**Hilo, Hawaii**

**Written by: Jacob Connell, SOS Treasurer**

**Executive members:**

**President- Alexis Stubbs, Alexis33@hawaii.edu**

**Vice President- Josh Boranian, Josh2008@hawaii.edu**

**Secretary- Maggie Chen, chenm@hawaii.edu**

**Member at Large- Daniel Dunnom, Dunnom@hawaii.edu**

**Member at Large- Mary Fem Urena, maryfem@hawaii.edu**



**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Friday, March 17, 2017 7:34 PM  
**To:** TRE Testimony  
**Cc:** wao-hsl@WeAreOne.cc  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/17/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

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

Comments: Support of HB 1580 and suggest it be amended to include the original language for 100% renewable ground transportation by 2045. www.WeAreOne.cc

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March 20, 2017

**TESTIMONY BEFORE THE SENATE COMMITTEE ON  
TRANSPORTATION AND ENERGY  
ON HB 1580 HD2 RELATING TO ENERGY**

Thank you Chair Inouye, and committee members. I am Gareth Sakakida, Managing Director of the Hawaii Transportation Association (HTA) with over 375 transportation related members throughout the state of Hawaii.

HTA's concern about this measure is with the IMPLEMENTATION of a plan from 2017 - 2025 as stated in Section 3. Section 196-10.5(a)(8).

A plan cannot be implemented beginning this year when there is no study that details the impacts of a 5% reduction of fossil fuel importation and / or consumption. We can estimate the number of gallons that 5% represents, but have not measured what effects on families and businesses that will have.

We do not know whether such a reduction is possible in the near term given the cost of alternate fueled vehicles and access to alternate fuels. The ultimate 2045 deadline rests on hopes of technological developments to address these concerns, but to begin implementation this year is premature.

In addition to impacts on families and businesses, they must be given advance information to provide feedback and to plan themselves how to handle the reduction.

There are hints of impact concerns in this bill with statements like reports on "progress towards the established target benchmarks," "legislative actions to support the achievement," and "new target benchmark." They all sound promising IF their basis is the impact on people and business, and not just forcing the import reductions.

As pointed out in earlier testimonies on this subject:

*Over the next 28 years no one can predict where we, and the world, may be. This bill assumes advances in alternative fuel technology will provide sufficient energy supplies and make vehicle costs manageable. Today's level of advancement*

*Unlike multi-million and multi-billion dollar trucking companies on the mainland, Hawaii's trucking companies cannot turn over their fleet quickly once the technologies become proven enough for manufacturers to begin mass producing newly powered vehicles.*

*What if the technology does not match up to expectations? What would the projected cost of energy be at that time? How would the cost of fleet replacement be made by our small businesses? Why not give businesses tax incentives or credits to create the means to fund gigantic changes?*

*Biofuel production needs certain crops to produce fuel. How would we manage inadequate supplies in the case of crop failures? When the world faces the need to produce crops only for human consumption how would we manage the elimination or reduction of crops needed to produce biofuels?*

For the motor carrier industry, we would like to point out that we are on the roads when we have to be to serve the community and our visitors. Alternate fuel vehicles can carry a price tag up to 4-5 times that of a normal tractor and 50% additional costs for motor coaches which already run over \$500,000.

Thank you.

March 20, 2017

TO: Senate Committee on Transportation and Energy  
Senator Lorraine R. Inouye, Chair  
Senator Donovan M. Dela Cruz, Vice Chair

From: Laura Mo  
[lauramo@hawaii.edu](mailto:lauramo@hawaii.edu)

Re: Support for HB1580, Relating to Energy

Thank you, for the all the work you do for our State. I'm born and raised in Hawaii, and I'm also a student at the University studying Urban and Regional Planning. I have two nieces that remind me everyday why I'm studying what I am, and they also remind me that my legacy is to live to make this place a better one for them to inherit.

Let's have Hawaii be at the forefront of 'aina care. Hawaii can set the gold standard in clean transportation! Your leadership on clean energy is more important than ever. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people. HB1580 will address reductions in carbon emissions, as ground transportation accounts for roughly one-third of Hawaii's fossil fuel consumption. 100% clean transportation save utility consumers approximately \$150 million per year in fuel and electricity costs. Currently no other state has attempted to pass legislation this ambitious in relation to clean ground transportation, with mainland media such as the Associated Press, ABC News, Seattle Times, Detroit News, in addition to the New Zealand Herald, having all reported on this bill. Hawaii, its people, and its politicians have the opportunity to be bold visionaries in addressing issues of economic and environmental inequality.

For all the above reasons, I humbly ask you to pass HB1580, with the original language, setting a vision for 100% clean transportation by 2045. Thank you, for the opportunity to testify.

Chair Inouye, Vice Chair DelaCruz and members of the committee,

Please pass HB 1580 and make ground transportation 100% renewable by 2045. Mahalo.

Randy Ching

Honolulu

[makikirandy@yahoo.com](mailto:makikirandy@yahoo.com)

[Sent from Yahoo Mail on Android](#)

**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Sunday, March 19, 2017 3:28 PM  
**To:** TRE Testimony  
**Cc:** lbc@hawaiiantel.net  
**Subject:** \*Submitted testimony for HB1580 on Mar 20, 2017 13:20PM\*

**HB1580**

Submitted on: 3/19/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Lois Crozer	Individual	Support	No

Comments:

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To Whom It May Concern,

I am Maggie Chen, a second year undergraduate student from the University of Hawai'i at Hilo, and under UHH, I am also the secretary of the Student of Sustainability club on campus. Our mission statement is to address the needs of the present that do not jeopardize the needs of the future.

I want to support the HB 1580 bill.

Our climate is changing and one of the causes is the CO2 emissions from ground transportation. There is much to be said about the harm done from the type of vehicle we drive to how much gas emissions that are put out, but besides the environmental impacts we would be changing from passing this bill, there is a bigger effect that this could spark.

Hawaii could be a model for the rest of the world to follow. If the Aloha state can take the initiative, we could inspire other states to aim to be 100% clean ground transportation too. And if one other state can be inspired, other states could follow and eventually, this change can spread to other countries in the world. I am a firm believer in being the change that you want to see in the world. Hawaii can be the model for other places if this bill for 100% clean ground transportation by 2045 is passed.

As a resident born and raised in Hawaii and as a concerned student at the University of Hawaii at Hilo, I support the passing of HB 1580.

Thank you.

--

Maggie Chen  
University of Hawaii at Hilo  
Dorrance Scholar  
[chenm@hawaii.edu](mailto:chenm@hawaii.edu)

Dear Senator Inouye,

I would like to express my **support** for HB 1580. Given that 66% of fossil fuel emissions come from ground transportation, setting a target for 100% clean transportation is the right thing to do for our Island's economy, our natural environment and for the future of everyone who lives here. Hawaii has a unique and powerful opportunity to lead the nation in the transition to clean energy. This opportunity cannot become a reality without state leadership. Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Thank you for taking the time to read my testimony.

Alison Crabb



Senator Inouye

Wailea Collins

808.283.0599

1705 Clark St.

Honolulu, HI 96822

March 20, 2017 1:20 PM

In Support

### Introduction

I am a graduate student in the Department of Natural Resources and Environmental Management at UH. I spend my days trying to figure out how to make Hawaii better. Not just for our threatened and endangered species but also for the health of our people. Humans need clean air to breathe and clean water to drink and these are things that a healthy natural environment provides. I would like to submit testimony on HB 1580. I am testifying in support of this bill.

### Content

Because Climate Change threatens our very way of life including the health of our people and environment. Because Hawaii should be the beacon of light that guides the world towards a sustainable, healthful future. Because this threat is here and if we don't act now our children and grandchildren will ask us, "why did we let this happen?"

### Closing:

For the good of the people that you govern, please support this bill. In order to get to our 2045 goals, we have to act now.

**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 8:15 PM  
**To:** TRE Testimony  
**Cc:** iamtimzhu@gmail.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Timothy Zhu	Individual	Support	No

Comments: Senator Inouye and Senator Wakai, I support HB 1580. State leadership on clean energy is more important than ever. As a citizen and a voter, I am relying on legislators like you to do the right thing. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people. Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 6:28 PM  
**To:** TRE Testimony  
**Cc:** rfurst808@gmail.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Richard Furst	Individual	Support	No

Comments: I am writing to urge strong support for HB1580, and I am a firm believer in the importance of renewable energy for sustainable transportation in Hawaii. My family owns two electric vehicles, and we use solar power to charge them. There is no better economic and sustainable solution for Hawaii than EV cars powered by the sun. Please help to keep Hawaii at the forefront of green energy by passing HB1580 into law. Mahalo!

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 4:16 PM  
**To:** TRE Testimony  
**Cc:** ronirooks@gmail.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Veronica J Rooks	Individual	Support	No

Comments: Dear Chair Inouye, Vice Chair Dela Cruz and members of the Committee on Transportation and Energy, Please pass HB1580 and restore the original language for 100% renewable transportation by 2045. Now, more than ever, we need to make progress on slowing Climate Change at the State level. Thank you, Dr. Roni Rooks

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 4:09 PM  
**To:** TRE Testimony  
**Cc:** moonierjames@gmail.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
James Moonier	Individual	Support	No

Comments: Aloha Chair Inouye, Vice Chair Dela Cruz and members of the Committee on Transportation and Energy, Please pass House Bill 1580 for the good of Hawaii and the planet. Please revert to the original goal of 100% renewable transportation by 2045. Sincerely, James Moonier

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 4:04 PM  
**To:** TRE Testimony  
**Cc:** jean67@me.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
jean homsy	Individual	Support	No

Comments: Chair Inouye, Vice Chair Dela Cruz and TRE members, Without a firm plan for infrastructure Hawaii residents will not be able to take advantage of the new transportation technologies such as electric and hydrogen vehicles. Residents who want to do the right thing for the planet and their budgets deserve this opportunity. Thank you for the opportunity to testify.

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 4:02 PM  
**To:** TRE Testimony  
**Cc:** kittyc8571@gmail.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Catherine Courtney	Individual	Support	No

Comments: Aloha Chair Inouye, Vice Chair Dela Cuz and Committee members, I strongly support and ask you to pass HB1580. We need to make Hawaii's energy policy comprehensive. Our policy already aims to eliminate the use of imported fossil fuels for electricity and ground transportation. Two years ago you enacted a deadline for 100% renewable energy in the electricity sector re-framed energy issues, fostered collaboration, and catalyzed progress in electricity regulation and planning. Now it is time to do the same for the transportation sector. Thank you, Kitty Courtney

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 4:01 PM  
**To:** TRE Testimony  
**Cc:** jlarson@lejardinacademy.org  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Julie Larson Hicks	Individual	Support	No

Comments: Aloha Chair Inouye, Vice Chair Dela Cuz and Committee members, I request that you support HB1580. Using local, renewable energy in Hawaii's transportation sector will keep our air clean, slow climate change, save money on imported fossil fuel, stimulate our economy, and make our energy supply more secure. We need to set a firm date in order to guide decision makers when they are making investment decisions. Mahalo, Julie Larson Hicks

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 3:58 PM  
**To:** TRE Testimony  
**Cc:** sksb@earthlink.net  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Karen Simmons	Individual	Support	No

Comments: Chair Inouye and members of TRE, I ask that you support and pass HB1580. Without a firm plan for infrastructure Hawaii residents will not be able to take advantage of the new transportation technologies such as electric and hydrogen vehicles. Residents who want to do the right thing for the planet and their pocketbooks deserve this opportunity. Thank you, Karen Simmons

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 3:57 PM  
**To:** TRE Testimony  
**Cc:** cochrah@gmail.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Heather Cochran	Individual	Support	No

Comments: I, Heather Cochran, strongly ask you to pass HB1580. Hawaii's energy policy already aims to eliminate the use of imported fossil fuels for electricity and ground transportation. Two years ago you enacted a deadline for 100% renewable energy in the electricity sector re-framed energy issues, fostered collaboration, and catalyzed progress in electricity regulation and planning. Now it is time to do the same for the transportation sector. Sincerely, Heather Cochran, MA, MEd

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 3:56 PM  
**To:** TRE Testimony  
**Cc:** donascot67@gmail.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Scott Sullivan	Individual	Support	No

Comments: Dear Chair Inouye and Committee members, I strongly support and urge you to facilitate the passage of HB1580. Given Hawaii's ample wind, sun, geothermal and other ways of generating clean renewable energy, weaning our transportation modes and systems away from fossil fuels should be a high priority for the State. Setting a firm date for a complete transition to renewable fuels will facilitate making this happen. Sincerely, Scott Sullivan

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 3:54 PM  
**To:** TRE Testimony  
**Cc:** laniquinns@yahoo.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Julie Quinn	Individual	Support	No

Comments: To Chair Inouye and members of the Committee on Transportation and Energy, I ask you to pass HB1580. Please protect our environment. Thank you, Julie Quinn

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 3:51 PM  
**To:** TRE Testimony  
**Cc:** rangood4@hotmail.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Randy Erickson	Individual	Support	No

Comments: Dear Chair Inouye and Senators, Please support HB1580. Having a photo voltaic system attached to our home and a vehicle that charges off a normal 115 volt home outlet is a simple process and keeps on giving free energy and a feeling of independence. A plan like this should be implemented to include all of Hawaii's transportation needs. Using local, renewable energy in Hawaii's transportation sector will clean our air, slow climate change, save money on imported fossil fuel, stimulate our economy, and make our energy supply more secure. We need to set a firm date so that decision makers will take it into account when making investment decisions. Thank you, Randy Erickson

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 3:48 PM  
**To:** TRE Testimony  
**Cc:** annmarten@hawaii.rr.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Ann Marten	Individual	Support	No

Comments: Aloha Chair Inouye and Committee members, I strongly support SB1186. We can no longer stick our heads in the sand and pretend that it is the '70's and everyone 16 and over should have their own car. Many will want cars though so they need to be clean. Our population, both temporary and permanent, keeps growing and we must protect Hawaii from the exhaust from cars and trucks, etc. Fossil fuels come here on a boat, and we cannot take the chance that boats will not want to or be able to come to Hawaii. Thank you, Ann

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 3:46 PM  
**To:** TRE Testimony  
**Cc:** htyeric@gmail.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Eric Johnson	Individual	Support	No

Comments: Esteemed members of the Committee on Transportation and Energy and Chair Inouye, I strongly support HB1580. Hawaii's energy policy already aims to eliminate the use of imported fossil fuels for electricity and ground transportation. Two years ago you enacted a deadline for 100% renewable energy in the electricity sector re-framed energy issues, fostered collaboration, and catalyzed progress in electricity regulation and planning. Now it is time to do the same for the transportation sector. Thank you, Eric Johnson

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 3:44 PM  
**To:** TRE Testimony  
**Cc:** bbreis@me.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Brijit Reis	Individual	Support	No

Comments: Dear Chair Inouye and members of TRE, I support HB1580. Using local, renewable energy in Hawaii's transportation sector will clean our air, slow climate change, save money on imported fossil fuel, stimulate our economy, and make our energy supply more secure. We need to set a firm date so that decision makers will take it into account when making investment decisions. Thank you, Dr. Brijit Reis

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 3:42 PM  
**To:** TRE Testimony  
**Cc:** hkuo19@punahou.edu  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Hailey Kuo	Individual	Support	No

Comments: Aloha Chair and members of the Committee on Transportation and Energy, I am a high school student and I strongly support that you pass HB1580. Hawaii's energy policy already aims to eliminate the use of imported fossil fuels for electricity and ground transportation. Two years ago you enacted a deadline for 100% renewable energy in the electricity sector re-framed energy issues, fostered collaboration, and catalyzed progress in electricity regulation and planning. Now it is time to do the same for the transportation sector. Mahalo, Hailey Kuo

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 3:39 PM  
**To:** TRE Testimony  
**Cc:** mwahl17@punahou.edu  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Mikaila Wahl	Individual	Support	No

Comments: Dear Chair Inouye and Members of the Committee on TRE, My name is Mikaila, and I am a senior in high school. I strongly support and ask you to pass SB1186. Hawaii's energy policy already aims to eliminate the use of imported fossil fuels for electricity and ground transportation. Two years ago you enacted a deadline for 100% renewable energy in the electricity sector re-framed energy issues, fostered collaboration, and catalyzed progress in electricity regulation and planning. Now it is time to do the same for the transportation sector. Thank you for your time, and I look forward to our island's sustainable future! Sincerely, Mikaila

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**Sent:** Saturday, March 18, 2017 3:37 PM  
**To:** TRE Testimony  
**Cc:** alohasteph@mac.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
stephanie frazier	Individual	Support	No

Comments: Aloha Chair Inouye and Committee on TRE, I ask you to pass HB1580. Using local, renewable energy in Hawaii's transportation sector will clean our air, slow climate change, save money on imported fossil fuel, stimulate our economy, and make our energy supply more secure. We need to set a firm date so that decision makers will take it into account when making investment decisions. Thank you, Stephanie Frazier

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**Sent:** Saturday, March 18, 2017 1:18 PM  
**To:** TRE Testimony  
**Cc:** telltaleeye@gmail.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Ava Fedorov	Individual	Support	Yes

Comments: It is with great pride that I support Hawaii in moving towards 100% renewable transportation. Hawaii will be a leader for the whole country and across the world!

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Dear Legislators,

**I support HB 1580.** State leadership on clean energy is more important than ever. As a citizen and a voter, I am relying on legislators like you to do the right thing. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people.

Here are some reasons to support this bill:

**Addresses Climate Change:** Hawai'i has set an ambitious goal to reach 100% renewable energy by 2045. Ground transportation accounts for approximately 1/3 of Hawaii's fossil fuel consumption. Setting a complimentary goal of 100% renewable ground transportation is important to reduce and eventually eliminate carbon-based ground transportation in favor of renewable energy alternatives.

**Saves Money:** University of Hawai'i Engineering Professor, Matthias Fripp, has created a quantitative model of the state's transition to renewable energy. He has calculated that a 100% renewable transportation system, with smart EV charging to match renewable electricity generation, can be expected to save utility consumers approximately \$150 million per year in fuel and electricity costs.

**Sets an example for the USA and beyond:** Currently no other state has attempted to pass legislation this ambitious in relation to clean ground transportation. Media such as Associated Press, ABC News, Seattle Times, Detroit News, and the New Zealand Herald have all reported on this bill. The world is watching our State - passing this bill shows we have the visionary leadership needed to transition to a clean energy future.

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045.

Sincerely,

A handwritten signature in black ink that reads "Nathan Braulick". The signature is written in a cursive style with a long, sweeping underline.

Nathan Braulick  
4348 Waialae Avenue, #196  
Honolulu, HI 96816

Rachel Schutz  
1504 Uluhao St.  
Kailua, HI 96734

March 17th, 2017

Aloha TRE Committee Members,

My name is Rachel Schutz and I am writing in support of HB1580 which establishes the objective of reducing the use of fossil fuels for ground transportation by 2025.

I live in Kailua but work in Honolulu, so spend a good amount of time and money commuting back and forth. This means that the price of gas affects my bottom line. Importing our gas naturally inflates the price, meaning that Hawai'i has some of the highest gas prices in the country. By switching to renewable sources, we could, over time, reduce the price of my daily commute while improving our environment simultaneously.

Beyond the personal economic consequences of this bill, it would also give us the opportunity make Hawai'i both a technological and moral center for the upcoming energy transition. By pledging our support to renewable transportation, we could introduce a whole new sector to our economy and be a leader worldwide in this field. As an island state, Hawai'i knows better than most what the consequences of climate change can be, and it is our kuleana to lead the way to a better energy future.

This bill would renew our dedication to renewable energy and begin to fill in the gaps that our 2015 bill left open when it pledged to achieve 100% renewable energy by 2045. I urge you, however, to adopt the stronger senate language for this bill so that we can phase out the use of fossil fuels completely in our transportation system by 2045. Please protect our 'aina, our bottom lines, and help to create quality, sustainable jobs for Hawai'i.

Mahalo for your time.

Rachel Schutz

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**Sent:** Friday, March 17, 2017 7:57 PM  
**To:** TRE Testimony  
**Cc:** tika\_bean@hotmail.com  
**Subject:** \*Submitted testimony for HB1580 on Mar 20, 2017 13:20PM\*

**HB1580**

Submitted on: 3/17/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Erica Scott	Individual	Support	No

Comments:

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Friday, March 17, 2017 6:48 PM  
**To:** TRE Testimony  
**Cc:** kshimata@hawaiiantel.net  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/17/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Kathy Shimata	Individual	Support	No

Comments: I support making renewable ground transportation the rule, rather than the exception.

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Dear Legislators,

Please pass HB 1580, with the original language setting a vision for 100% clean transportation no later than 2045. Setting a target for 100% clean transportation will send a message that our state and our leaders care about climate change and that we have a vision for the future of our islands' economy, environment, and people.

State leadership on clean energy is more important than ever. As a citizen and a voter, I am relying on legislators like you to do the right thing.

Mahalo,

Michal Stover  
Kilauea, HI

**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Saturday, March 18, 2017 4:06 PM  
**To:** TRE Testimony  
**Cc:** vickieinkailua@gmail.com  
**Subject:** Submitted testimony for HB1580 on Mar 20, 2017 13:20PM

**HB1580**

Submitted on: 3/18/2017

Testimony for TRE on Mar 20, 2017 13:20PM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Vickie Fullard-Leo	Individual	Comments Only	No

Comments: Aloha Chair Inouye, Vice Chair Dela Cruz and members of the Committee on Transportation and Energy. We are the sunny, beautiful, Aloha State. Help protect us! I request that you pass HB1580. Without a firm plan for infrastructure Hawaii residents will not be able to take advantage of the new transportation technologies such as electric and hydrogen vehicles. Residents who want to do the right thing for the planet and their pocketbooks deserve this opportunity. Renewable energy stored in our cars and buses will help balance renewable energy on the grid. This will allow more people to benefit from solar panels on their homes. Mahalo, Vickie

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