



# DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

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Statement of  
**MIKE MCCARTNEY**  
Director  
Department of Business, Economic Development, and Tourism  
before the  
**HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION  
AND  
HOUSE COMMITTEE ON TRANSPORTATION**

Tuesday, March 19, 2019  
10:00 AM  
State Capitol, Conference Room #325

In consideration of  
**SB 653, SD2**  
**RELATING TO ELECTRIC VEHICLES.**

Chairs Lowen and Aquino, Vice Chairs Wildberger and Hashimoto, and Members of the Committees offers the following **comments** on bill SB653, SD2 that requires certain new state building construction and county building construction projects to have at least twenty parking stalls that are electric vehicle (EV) charger ready and requires that all new state building construction and county building construction have at least two electric vehicle charger ready parking stalls.

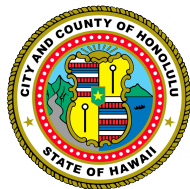
DBEDT recognizes that EV charger-ready building codes can support the installation of charging stations. DBEDT understands discussions pertaining to EV charger readiness in state and county construction have been occurring within the State Building Code Council (SBCC) and DBEDT recommends that these SBCC discussions be allowed to continue to develop.

Thank you for the opportunity to testify.

OFFICE OF CLIMATE CHANGE, SUSTAINABILITY AND RESILIENCY  
**CITY AND COUNTY OF HONOLULU**

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KIRK CALDWELL  
MAYOR



JOSHUA W. STANBRO  
EXECUTIVE DIRECTOR &  
CHIEF RESILIENCE OFFICER

TUESDAY MARCH 19, 2019 10:00AM

STATE OF HAWAII  
COMMITTEE ON TRANSPORTATION  
COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT AND TOURISM

**TESTIMONY ON SENATE BILL 653 SD2  
A BILL RELATING TO ELECTRIC VEHICLES**

BY,

JOSHUA STANBRO  
EXECUTIVE DIRECTOR AND CHIEF RESILIENCE OFFICER  
OFFICE OF CLIMATE CHANGE, SUSTAINABILITY AND RESILIENCY

Dear Chairs Lowen and Aquino, Vice Chairs Wildberger and Hashimoto, and Members of the Committees:

The City and County of Honolulu Office of Climate Change, Sustainability and Resiliency (Resilience Office) **supports the intent** of Senate Bill 653 SD2, which requires that new state or county building construction include an allocation of parking stalls for electric vehicle charging stations.

The City is in the process of updating the energy code, and recommends that this bill not be limited to state and county construction but also include the commercial and multi-family segments.

The City is in the process of planning for and implementing ambitious energy, transportation, and climate resilience initiatives to reduce greenhouse gas emissions and improve long-term affordability for residents. With the State's goal of carbon neutrality by 2045, it is imperative that infrastructure is built that makes this transition affordable, accessible, and equitable.

Thank you for the opportunity to testify.

**TESTIMONY BEFORE THE HOUSE COMMITTEES ON  
ENERGY AND ENVIRONMENTAL PROTECTION  
&  
TRANSPORTATION**

S.B. 653, SD2

**Relating to Electric Vehicles**

Tuesday, March 19, 2019  
10:00 a.m., Agenda Item # 2  
State Capitol, Conference Room 325

Brennon Morioka  
Director, Electrification of Transportation  
Hawaiian Electric Company, Inc.

Aloha Chair Lowen and Chair Aquino, Vice Chair Wildberger and Vice Chair Hashimoto and Committee Members,

My name is Brennon Morioka and I am testifying on behalf of Hawaiian Electric Company, Inc., Maui Electric Company, Limited and Hawai'i Electric Light Company, Inc. ("the Hawaiian Electric Companies") in support of S.B. 653, SD2, Relating to Electric Vehicles ("EV") and charging infrastructure at new state and county buildings. S.B. 653, SD2 seeks to support future growth of clean transportation by designating a portion of available parking stalls at new state and county facilities to be electric vehicle charger ready.

S.B. 653, SD2 takes the bold step of showing government leadership in supporting efficient and emissions free transportation. By requiring parking stalls to be prepared for future electric vehicle charging demand, the government takes an important step towards supporting and incentivizing the development of one of the crucial components of a clean transportation future. As a developer of electric vehicle charging infrastructure, the Hawaiian Electric Companies recognize that the robust

availability of vehicle charging infrastructure is essential to reducing barriers to adoption of electric vehicles. Studies have shown that the availability of public vehicle charging is a key factor when car buyers consider purchasing a new electric vehicle, even if the customer ultimately intends to charge solely at their residence.

Providing increased access to public EV charging at workplaces and commercial locations are key priorities identified in the Hawaiian Electric Companies' *Electrification of Transportation Strategic Roadmap*. This bill will continue the tremendous progress that the state has made towards a cleaner and more sustainable transportation future.

As one of the leaders in the state's clean transportation efforts, the Hawaiian Electric Companies remain committed to an EV strategy that is sustainable and helps create a bridge to a cleaner future. Thank you for the opportunity to testify in support of S.B. 653, SD2.

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## **TESLA'S TESTIMONY REGARDING SB 653 SD2**

**being heard by the House Committee on Energy & Environmental Protection  
and the House Committee on Transportation  
on Tuesday, March 19, 2019 at 10:00 a.m.**

**Conference Room 325**

Aloha Chairs Lowen and Aquino and Members of the Committees:

Thank you for the opportunity to provide testimony regarding SB 653 SD2, which would require certain new state and county buildings to include minimum levels of electric vehicle (EV) charging infrastructure. Tesla supports policies that seek to expand access to EV charging, recognizing the fundamental role it plays in driving EV adoption. By focusing on the deployment of EV infrastructure during initial construction, this measure recognizes the importance of “future proofing” the built environment to accommodate vehicle electrification, itself an important component of an overarching set of policies that are critical to Hawaii’s efforts to eliminate its reliance on fossil fuels. Although, Tesla supports the intent of this measure, we believe further amendments are needed if the bill is to meaningfully drive EV adoption.

Tesla’s mission is to accelerate the world’s transition to sustainable energy. The electrification of the transportation sector is a critical part of this to the degree it represents among the most significant sources of greenhouse gas emissions through the combustion of fossil fuels. Nationally, the transportation sector accounts for almost 30% of GHG emissions.<sup>1</sup> By supporting efforts to transition to EVs, Hawaii can leverage its 100% renewable energy goals to greatly advance efforts to address climate change, reduce pollution and improve air quality, and enhance the state’s economic and energy security.

Access to charging represents one of the more fundamental challenges impairing demand for EVs. Without easy and convenient access to EV charging, drivers will be less inclined to choose an EV over a conventional vehicle. EV charging currently suffers from the “last mile” problem, or more realistically, the “last fifty feet” problem. Specifically, while the electrical grid is fairly ubiquitous, in order to support EV charging it needs to be expanded to bring the power to where EVs are actually parked. This typically requires incremental investments in infrastructure on the customer side of the meter including electrical panel capacity, conduit and wiring, in addition to, in the case of Level 2 charging, the charging station itself. As observed in the bill, the costs of deploying this infrastructure is quite modest if pursued as part

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<sup>1</sup> US Environmental Protection Agency; see <https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions>



of initial construction, with a number of studies indicating these costs are de minimus relative to total construction costs.<sup>2</sup>

Tesla's primary concern with the bill is the very limited scope of buildings that would be subject to the EV-ready requirements. Tesla encourages expanding the scope of the bill to cover all newly constructed buildings rather than focusing exclusively on state and county buildings. Tesla suspects that state and county projects represent only a small percentage of the overall share of newly constructed buildings and associated parking facilities. While promoting the deployment of EV-ready infrastructure in state and county buildings is laudable, it ignores the need to address new construction more generally and would not meaningfully increase the availability of EV charging for the vast majority of Hawaiians who park in facilities that are not associated with state or county government.

The most effective locations to deploy charging infrastructure, and where Tesla strongly believes state policy should focus, is in residential multi-unit dwellings and workplaces. In order for EV uptake to happen at scale, charging needs to be convenient – this means that it is located where people would park their vehicles anyway, namely at home or at work. To that end, Tesla encourages expanding the scope of the bill's requirements to include parking facilities serving multi-unit family dwelling and workplaces.

Tesla notes that at the same hearing during which this is bill will be considered, the Committees are also considering SB 1000 SD2. This bill is similar in its focus on driving the deployment of EV infrastructure but would establish that requirement on parking facilities serving multi-unit family buildings and workplaces. Tesla believes SB 1000 SD2 would be far more effective in supporting EV deployment by meaningfully expanding the availability of charging infrastructure to a broader range of drivers. To the degree the Committees feel that only one of these bills can be passed and elects not to amend SB 653 SD 2 consistent with our recommendation above, we strongly encourage passage of SB 1000 SD2. Even if the percentage requirement included in that measure were reduced to 10% or 15%, it would represent a more impactful approach than SB 653 SD2.

Tesla appreciates the opportunity to submit this testimony. Tesla supports the intent of this measure but believes that the amendment discussed above is necessary if the bill it to substantively impact the availability of EV charging and meaningfully support the State's efforts to transition away from fossil fuels.

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<sup>2</sup> See, for example, "Electric Vehicle Charging Infrastructure: Multifamily Building Standards" California Air Resources Board, April 13, 2018; p. 22. Available for download at <https://arb.ca.gov/cc/greenbuildings/pdf/tcac2018.pdf>



## ELEMENTAL EXCELERATOR

### Written Statement of Elemental Excelerator before the House Committees on Energy and Environmental Protection and Transportation

Tuesday, March 19, 2019

#### In consideration of SB 653 SD 2 RELATING TO ELECTRIC VEHICLES

#### Aloha Chair Lowen, Chair Aquino, and Members of the House Committees on Energy and Environmental Protection and Transportation:

Elemental Excelerator respectfully **submits comments in support of the intent of SB 653 SD 2**, which requires certain new state and county building construction and reconstruction projects to dedicate at least twenty per cent of the total projected amount of parking stalls, but not less than two electric parking stalls, to be electric vehicle charger ready.

Elemental Excelerator is a Honolulu-based growth accelerator program founded and operating in Hawai'i. We have awarded over \$30 million to 82 companies resulting in 56 demonstration projects in Hawai'i & Asia Pacific. Each year, we evaluate over 500 companies and look for innovative entrepreneurs from around the world to come to Hawai'i and find transformative solutions to help us achieve our 100% clean energy goals and solve our most pressing environmental problems. We select 15-20 companies annually that best fit our mission and fund each company up to \$1 million.

Fifteen percent of Elemental Excelerator portfolio companies focus on mobility, with companies such as Proterra, eMotorWerks, and ChargeTrip which specifically support solutions that advance the electrification of transportation. Bills such as SB 653 SD2 that support the development of EV charging infrastructure readiness signal to the broader mobility innovation sector Hawai'i's commitment to growing its economy through innovation.

#### **We respectfully support the intent of SB 653 SD 2 for the following reasons:**

1. **It will build capacity for the projected EV use:** Currently, Hawai'i ranks second in the nation in electric vehicles per capita. *Hawaiian Electric's Electrification of Transportation Roadmap* projects that at least 55% of cars on the road in 2045 will be electric. Achieving these goals will require extensive collaboration between State, county, and private actors to ensure adequate infrastructure, economic viability, grid optimization, and operational efficiency.<sup>1</sup>
2. **It will align with each county's clean ground transportation goals:** In 2017, all four Hawai'i counties committed to 100% clean ground transportation by 2045. Development of charging infrastructure affirms and support the goals of the counties.<sup>2</sup>

<sup>1</sup> Electrification of Transportation (EoT) Strategic Roadmap. (n.d.). Retrieved from <https://www.hawaiianelectric.com/clean-energy-hawaii/electrification-of-transportation>

<sup>2</sup> Hawai'i's Mayors Commit to 100% Renewable Transportation. (2017, December 14). Retrieved from <http://www.hokulea.com/hawaiis-mayors-commit-100-renewable-transportation/>

**We respectfully submit the following comment:**

The City & County of Honolulu is currently in the process of updating their building codes to include requirements for commercial and residential EV charging. We encourage State and county building codes align to ensure clear direction and coordination.

Mahalo for the opportunity to provide testimony on this legislation.

Sincerely,



Aki Marceau  
Elemental Excelsior  
Managing Director, Policy & Community - Hawai'i





To: The House Committee on Energy & Environmental Protection  
and  
The House Committee on Transportation  
From: Sherry Pollack, 350Hawaii.org  
Date: Tuesday, 3/19/19

**In support of SB653 SD2**

Aloha Chairs Lowen and Aquino, Vice Chairs Wildberger and Hashimoto, and members of the EEP and TRN committees,

I am Co-Founder of the Hawaii chapter of 350.org, the largest international organization dedicated to fighting climate change. On behalf of our 6,000 members and supporters, 350Hawaii.org **supports SB653 SD2.**

EVs play a key role in our transition to 100% clean energy. As the number of Zero Emission Vehicles (ZEVs) inevitably grows, the number of designated parking spaces and supply equipment points must grow to accommodate them. The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii. This bill will help reduce Hawaii's greenhouse gas emissions by making parking and charging ZEVs a nonissue.

Thank you for the opportunity to testify on this important bill.  
Sherry Pollack  
Co-Founder, 350Hawaii.org



To: The House Committees on Energy and Environmental Protection;  
and Transportation  
From: Brodie Lockard, Hawaii State Climate Lead, Organizing for Action  
Date: Tuesday, March 19, 2019, 10:00 am

**In strong support of HB SB653 SD2**

Dear Chairs Lowen and Aquino, Vice Chairs Wildberger and Hashimoto, and Committee Members—

Organizing for Action strongly supports SB653 SD2.

In January 2018 an anemic 0.79 percent of passenger vehicles in the state were electric [1]. In February 2019 the percentage was still just 0.81. We should be doing everything we can to increase that percentage [1].

Installing or upgrading EV charging stations can cost up to \$12,000 apiece. The price to include an EV charging station during new construction is about \$900. We're going to need them, very soon, and planning for them during new construction will save millions of dollars.

Nearly every major automaker said in 2017 that they plan to move to all-electric vehicles (EVs), and will each introduce 10 to 50 new EV models within one to seven years. Volkswagen and General Motors have already scheduled the end of their gasoline vehicle production.

As the number of zero-emissions vehicles (ZEVs) in Hawaii inevitably grows, the number of charging stations must grow to accommodate them. Large parking areas are especially important because ZEV drivers cannot just park "next door" where there might not be a charging stations available. When gas-powered cars are no longer for sale—not long from now—will Hawaii be equipped to charge its ever-growing number of ZEVs?

The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii [2]. This bill will also help reduce Hawaii's greenhouse gas emissions by helping to make charging ZEVs a non-issue.

Please support SB653 SD2. It will help pave the way for our clean energy goals, and the imminent end of gasoline cars.

Thank you for the opportunity to testify.

[1] [http://files.hawaii.gov/dbedt/economic/data\\_reports/energy-trends/Energy\\_Trend.pdf](http://files.hawaii.gov/dbedt/economic/data_reports/energy-trends/Energy_Trend.pdf)

[2] <https://www.eia.gov/state/analysis.php?sid=HI>

Brodie Lockard

Hawaii State Climate Lead, Organizing for Action



Email: [communications@ulupono.com](mailto:communications@ulupono.com)

HOUSE COMMITTEES ON ENERGY & ENVIRONMENTAL PROTECTION AND  
TRANSPORTATION

Tuesday, March 19, 2019 — 10:00 a.m. — Room 325

**Ulupono Initiative Supports SB 653 SD 2, Relating to Electric Vehicles**

Dear Chair Lowen, Vice Chair Wildberger, Chair Aquino, Vice Chair Hashimoto, and Members of the Committees:

My name is Murray Clay and I am the Managing Partner of Ulupono Initiative, a Hawai'i-based impact investment firm that strives to improve the quality of life for the people of Hawai'i by working toward solutions that create more locally produced food; increase affordable clean renewable energy; and better manage waste and fresh water resources.

**Ulupono supports SB 653 SD 2**, which requires certain new state building construction and county building construction projects to have at least twenty parking stalls that are electric vehicle charger ready, and all new state building construction and county building construction have at least two electric vehicle charger ready parking stalls, because it will increase the use of more efficient, cleaner forms of transportation and help to reduce Hawai'i's dependence on imported fossil fuels.

**Support Clean Transportation**

Electric vehicles (EVs) are an important avenue to address Hawai'i's pressing climate issues and align with the State's health, energy and environmental goals. While Hawai'i's electric power sector continues to make progress toward its 100 percent renewable portfolio standard (RPS) mandate, our transportation sector has received little attention.

EVs currently offer an effective option to progress clean renewable ground transportation and immediate benefits to Hawai'i:

- EVs can alleviate Hawai'i's high cost of living
- EVs provide immediate impact to reduce our dependence on fossil fuels and decrease greenhouse gas (GHG) emissions
- EVs are prime for market acceleration
- Hawai'i should be doing more to promote EVs and EV infrastructure

*Investing in a Sustainable Hawai'i*

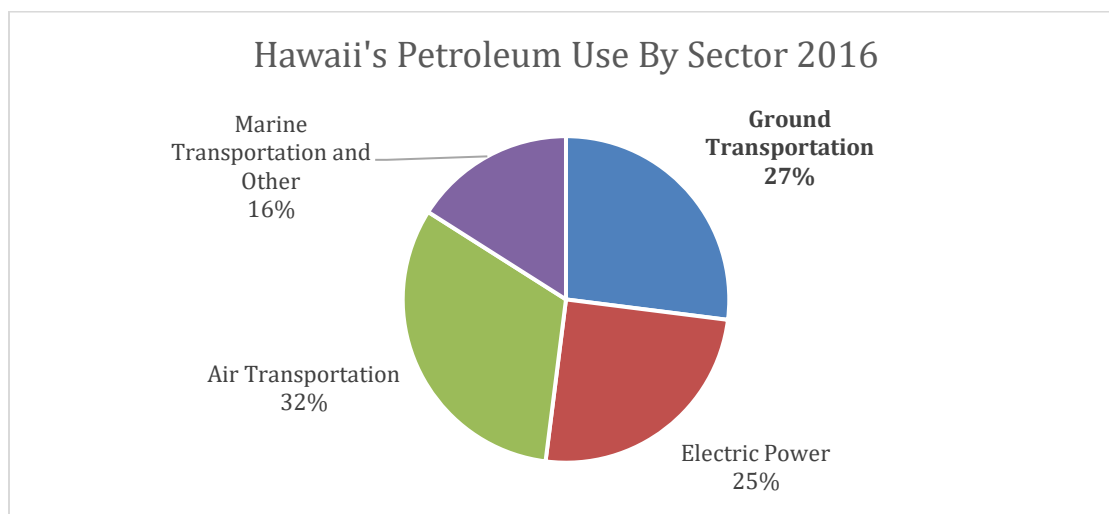
## EVs Can Alleviate Hawai'i's High Cost of Living

EVs are an increasingly affordable option for all. For example, the 2019 Nissan Leaf's average MSRP is \$33,095. After the Federal tax credit is considered, the purchase price is \$25,595, which is less than the best selling sedan in the country, the 2019 Toyota Camry. Attachment A to our testimony compares the purchase price of non-luxury EVs with top-selling sedans and the Toyota Tacoma (the top selling vehicle in Hawai'i).

EVs are also cheaper to operate and maintain because they have fewer moving parts and are more fuel-efficient. According to a recent study by the Union of Concerned Scientists, Honolulu drivers could save more than \$500 per year by switching to an EV.

## EVs Provide Immediate Energy and Environmental Impact

Ground transportation alone utilizes more than a quarter of the state's imported petroleum. Electrifying ground transportation will reduce our demand for imported fossil fuels, keeping millions of dollars in the state and cutting harmful tailpipe pollution from the air that we all breathe.



*Source: Hawaii State Energy Office – Hawaii Energy Facts & Figures*

Converting from petroleum-based vehicles to EVs immediately reduces GHG emissions, helping combat climate change and its impacts on our islands. EVs produce zero-emissions at the tailpipe, and even when full lifecycle emissions (from manufacturing through disposal) are considered, EV emissions are approximately 50 percent lower than internal combustion engine (ICE) vehicles. Thus, EVs directly improve the health of our communities as well as the globe.

EVs can also support the integration of more renewables on the electric grid with smart charging technology and rate structures. Thus, proliferating EVs throughout Hawai'i can help accelerate progress towards the State's 100 percent RPS goal, as well as contribute to

the State's Paris Agreement commitments and carbon neutral goal.

### **EVs Are Prime For Market Acceleration**

From a market perspective, EV adoption in Hawai'i has shown impressive growth, and the state ranks second in the nation behind California in the number of EVs per capita. As of November 2018, there were more than 8,000 passenger EVs registered in Hawai'i, a 24 percent growth from the previous year, but lower than the national average of 81 percent growth. This progress is despite not having strong supporting policies as seen in other states, municipalities and countries.

Based on global and local trends, these adoption numbers are expected to increase exponentially by 2030. Major automobile manufacturers, from Volvo to Volkswagen, have announced plans to offer electric versions of all their vehicle models. Even Ford has announced plans for an all-electric F-150 pickup truck, the top selling vehicle in the country. Policies across the globe are further supporting this transition; in fact, Britain and France have committed to end sales of gas-powered vehicles by 2040.

However, we simply cannot wait. A new report by the United Nation Intergovernmental Panel on Climate Change warns global human-caused emissions of carbon dioxide need to fall 45 percent by 2030, and it will "require rapid, far-reaching and unprecedented changes in all aspects of society." We must be proactive and act now with strong policy.

### **Hawai'i Should Be Doing More**

EVs are the future, but they currently only represent less than one percent of all passenger vehicles in the state. Hawai'i must be proactive to encourage this still nascent market and be prepared with the necessary infrastructure.

Public EV charging stations are a vital component of the EV system. They provide access to charging for drivers who may not be able to charge at home, such as residents who live in multifamily dwellings, and alleviate range anxiety for all EV drivers, a top cited barrier to purchasing EVs. Similar to the benefits that community solar offers to renters and apartment residents, public chargers open up the opportunity and feasibility of owning an EV to more people, increasing equity and access.

Requiring qualifying facilities to be "EV ready" is smart and essential future proofing. As the bill states, installing EV infrastructure post-construction costs three times more than at the time of new construction, and it represents approximately less than one percent of total new construction project cost. Given that building construction has a ~30 year life, this bill is a fiscally prudent way to prepare the state for 2049 and beyond, when EVs are expected to be abundant and charging will be critical.

Other states and cities recognize the importance of EV infrastructure and already have

policies that require public and private parking facilities to be built to support EV charging. Below are examples of leading state and city EV-ready requirements:

- California – 8 percent of parking stalls at nonresidential properties
- Vancouver – 100 percent of parking stalls at multi-unit residential and 10 percent of stalls at commercial properties
- New York City – 20 percent of parking stalls at parking facilities (open lots and garages)
- Atlanta – 20 percent of parking stalls at new commercial and multifamily properties
- San Francisco – 20 percent of new residential, commercial and municipal properties

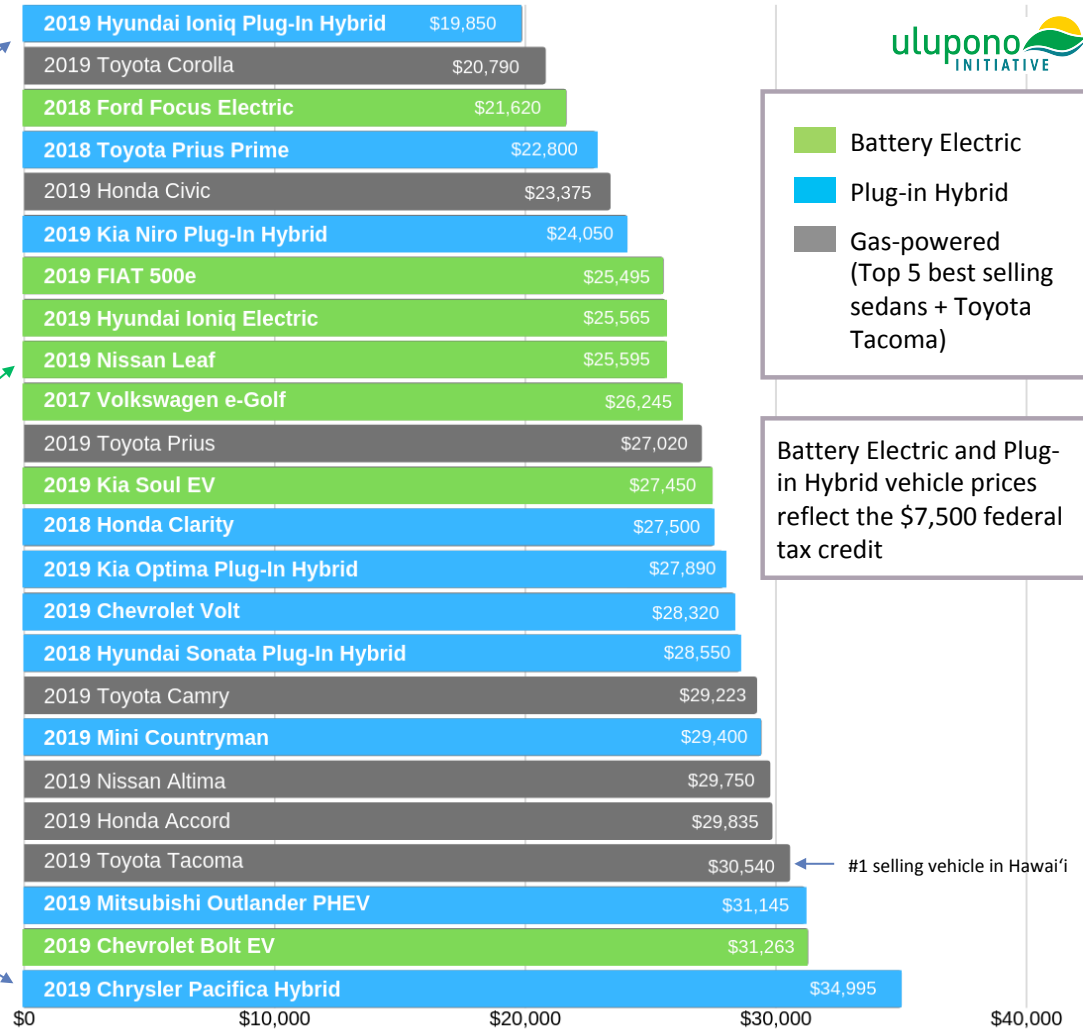
If the State of Hawai'i is serious about the sustainability and resiliency of our communities, it should encourage EVs and EV infrastructure. The State can set a strong example for the private sector with this bill, as the private industry often looks to the public sector to lead such impactful initiatives. Requiring state and county construction to be EV ready lays the foundation for additional policy to initiate the private sector and generates broad momentum to advance EVs and clean transportation.

As Hawai'i's energy issues become more complex and challenging, we appreciate these committees' efforts to look at policies that support clean ground transportation. Thank you for this opportunity to testify.

Respectfully,

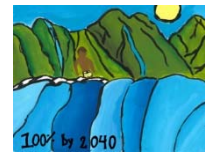
Murray Clay  
Managing Partner

## Many Affordable EV Options Non-Luxury Vehicle Models (attachment A)



Nationwide Average MSRP Data from Edmunds – January 2019





**HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION  
HOUSE COMMITTEE ON TRANSPORTATION**

March 19, 2019, 10:00 A.M.

Room 325

(Testimony is 3 pages long)

**TESTIMONY IN SUPPORT OF SB 653 SD2, WITH SUGGESTED AMENDMENTS**

Aloha Chair Lowen, Chair Aquino, and members of the Committees:

**Blue Planet Foundation supports but offers suggested amendments to Senate Bill (SB) 653 SD2**, which requires that at least twenty percent of parking stalls for certain new state and county building construction projects be electric vehicle (EV) charger ready and requires that *all* new state and county building construction have at least two EV ready parking stalls. This bill will effectively decrease the cost of EV charging infrastructure retrofits for city and county agencies in the future by ensuring that all conduit and power capacity is installed upon initial construction and will increase the likelihood that state and county employees would be able to charge their EVs at work.

Since Hawaii's Mayors' set goals for 100% renewable ground transportation by 2045, many community members are looking to their local leadership to turn that commitment into action. This bill would provide some state and county employees with access to EV charging at work and save the state and county money on EV charger installation costs in the future.

Hawaii can expect more residents to choose EVs or gasoline vehicles as prices decrease. Battery costs have fallen precipitously over the past several years so that in many cases, the total cost of ownership for EVs is lower than for conventional vehicles. Experts expect battery prices to continue to fall and as automakers increase the number of models and volume of EVs in the next few years, the upfront cost of EVs is expected to reach upfront cost parity with conventional vehicles by 2024.<sup>1</sup>

In part due to falling costs and increasing consumer demand, and in part due to government policies supporting EVs, nearly all of the world's leading automakers have announced aggressive strategies and investments in EVs during the past two years.

Yet, the lack of EV charging infrastructure locally in Hawaii is a significant barrier to EV adoption. Most EV owners primarily charge their vehicle at home, but many of Hawaii's residents reside in multi-unit dwellings (MUDs) where they cannot simply plug in their car in a

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<sup>1</sup> See Bloomberg New Energy Finance, <https://bnef.turfl.co/story/evo2018?teaser=true>.

garage. **This bill would expand charging options for residents that don't have the luxury of charging their EVs at home.**

### **Cost to Install EV Charging Infrastructure**

The most challenging aspect of EV charger installation is the common lack of electrical capacity and distributed subpanels to support broad deployment of charging infrastructure. By choosing not to install EV charging infrastructure in new construction, the state and county would pay expensive retrofit costs to upgrade power capacity and install them later when their fleets have changed to EVs and their employees are driving EVs. **This bill is about future proofing our new state and county buildings.**

Studies have shown that installing EV infrastructure at the time of construction can be 91% less expensive than post-construction retrofits and per stall installation costs can be reduced through economies of scale, by deploying more stations at time of construction.<sup>2</sup> While this bill would not require the installation of the actual EV charging infrastructure, it would require that the power capacity and conduit be set up during construction, which would dramatically reduce retrofit costs at the time of installation, creating cost savings for the state and county.

### **Suggested Amendments**

While EV-ready parking stalls in new state and county construction is a step in the right direction, it is wholly insufficient to break down barriers to EV adoption and address the expansive and urgent challenge of reducing greenhouse gas emissions from ground transportation in Hawaii.

***To truly break down barriers to EV adoption in the state, this EV-ready law must extend to all new residential multi-family buildings and new commercial buildings.***

Additionally, the numbers provided in this bill are not high enough to be impactful. As we move to 100% renewable ground transportation, these rates of EV-ready stalls will be insufficient to meet demand. ***The bill should be amended to require at least 25% of stalls to be EV-ready.***

If these amendments are made, this bill will ensure that the EV charging infrastructure network necessary to support the influx of EVs can be installed more efficiently and cost-effectively. It will provide new EV owners—particularly those that will live in MUDs—with the confidence that they will be able to access charging at home, at the workplace, and at public facilities.

In addition, **implementation of this measure should not be delayed until June 2022—more than three years from today. This delay would mean that state and county construction projects planned over the next three years won't be designed with the future in mind.** The

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<sup>2</sup> See <http://evchargingpros.com/wp-content/uploads/2017/04/City-of-SF-PEV-Infrastructure-Cost-Effectiveness-Report-2016.pdf>.

buildings being designed today will be part of Hawaii's building stock for decades. The state and counties should lead by example and work to "future proof" their buildings as soon as possible.

We respectfully request that the committee pass SB 653 SD2 with these suggested amendments.

Thank you for the opportunity to testify.

**SB-653-SD-2**

Submitted on: 3/18/2019 10:08:56 AM

Testimony for EEP on 3/19/2019 10:00:00 AM

<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:

EVs play a key role in our transition to 100% clean energy. As the number of Zero Emission Vehicles (ZEVs) inevitably grows, the number of designated parking spaces and supply equipment points must grow to accommodate them. The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii. This bill will help reduce Hawaii's greenhouse gas emissions by making parking and charging ZEVs a nonissue.

[www.WeAreOne.cc](http://www.WeAreOne.cc)

**SB-653-SD-2**

Submitted on: 3/14/2019 9:57:04 PM

Testimony for EEP on 3/19/2019 10:00:00 AM

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

Comments:

**SB-653-SD-2**

Submitted on: 3/17/2019 1:42:45 PM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Michelle Matson	Individual	Support	No

Comments:

**SB-653-SD-2**

Submitted on: 3/17/2019 5:03:07 PM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Greg Puppione	Individual	Support	No

Comments:

The move we can build our EV infrastructure the better. Please continue to move us in that positive direction.

**SB-653-SD-2**

Submitted on: 3/17/2019 9:46:59 PM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Joy Silver	Individual	Support	No

Comments:



**SB-653-SD-2**

Submitted on: 3/17/2019 10:45:19 PM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Judith Michaels	Individual	Support	No

Comments:

**SB-653-SD-2**

Submitted on: 3/18/2019 1:09:21 AM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
christine trecker	Individual	Support	No

Comments:

**If Hawaii is to make the critical transition to environmentally friendly EVs, we must start building the infrastructure necessary to make it happen. I urge you to support SB 653 which requires at least 20% of parking stalls in new state and county buildings be EV charger-ready.**

**Thank you.**

**SB-653-SD-2**

Submitted on: 3/18/2019 2:26:34 AM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Barbara L. George	Individual	Support	No

Comments:

SUPPORT.

**SB-653-SD-2**

Submitted on: 3/18/2019 8:35:05 AM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Severine Busquet	Individual	Support	No

Comments:

Aloha all:

I have an EV car for 6 months which provides me with highly comfortable commutes without noise and vibrations. In addition EVs reduce Hawaii's greenhouse gas emissions and play a key role in our transition to 100% clean energy.

While it was not a problem 6 months ago, I am now strungling to find a EV-charger available during my commutes. The lack of adequate EV charging infrastructure is a key barrier to EV adoption.

For these reasons I support SB653 SD2 which will help by making parking and charging EVs a non-issue.

Thanks for your attention.

Severine Busquet

Honolulu, Hi 96825

**SB-653-SD-2**

Submitted on: 3/18/2019 8:49:30 AM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Joan Gannon	Individual	Support	No

Comments:

To: EEP/TRN Committees

From: Joan Gannon

Re: SB653. Please support his bill. It will help reduce Hawaii's greenhouse gas emissions by making park and charging ZEVs a nonissue.

Thank you

**SB-653-SD-2**

Submitted on: 3/18/2019 10:17:53 AM

Testimony for EEP on 3/19/2019 10:00:00 AM

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

Comments:

**SB-653-SD-2**

Submitted on: 3/18/2019 11:17:54 AM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Jonathan Boyne	Individual	Support	No

Comments:

EVs play a key role in our transition to 100% clean energy. As the number of Zero Emission Vehicles (ZEVs) inevitably grows, the number of designated parking spaces and supply equipment points must grow to accommodate them. The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii. This bill will help reduce Hawaii's greenhouse gas emissions by making parking and charging ZEVs a nonissue.

**SB-653-SD-2**

Submitted on: 3/18/2019 11:44:51 AM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Dale Jensen	Individual	Support	No

Comments:

Dear Senators

EVs play a key role in our transition to 100% clean energy. As the number of Zero Emission Vehicles (ZEVs) inevitably grows, the number of designated parking spaces and supply equipment points must grow to accommodate them. The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii. This bill will help reduce Hawaii's greenhouse gas emissions by making parking and charging ZEVs a nonissue. Please pass this bill.

Thank you,

Dale Jensen, Professional Engineer, Kailua, Oahu



**SB-653-SD-2**

Submitted on: 3/18/2019 12:03:00 PM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Janet Graham	Individual	Support	No

Comments:

Thank you for the opportunity to submit testimony in support of SB 653. Passing this bill is a way of supporting Honolulu zeroe emission goals and showing everyone, especially youngsters, who showed up for the 'Ā• ina at Friday's rally that you care about our future.

EVs play a key role in our transition to 100% clean energy. As the number of Zero Emission Vehicles (ZEVs) inevitably grows, the number of designated parking spaces and supply equipment points must grow to accommodate them. The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii. This bill will help reduce Hawaii's greenhouse gas emissions by making parking and charging ZEVs a nonissue.

Mahalo

**LATE**

**SB-653-SD-2**

Submitted on: 3/19/2019 12:25:32 AM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Caroline Kunitake	Individual	Support	No

Comments:

Aloha,

Please support SB653 SD2.

EVs play a key role in our transition to 100% clean energy. As the number of Zero Emission Vehicles (ZEVs) inevitably grows, the number of designated parking spaces and supply equipment points must grow to accommodate them. The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii. This bill will help reduce Hawaii's greenhouse gas emissions by making parking and charging ZEVs a nonissue.

Mahalo,

Caroline Kunitake

**LATE**

**SB-653-SD-2**

Submitted on: 3/19/2019 2:43:46 AM

Testimony for EEP on 3/19/2019 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Janet Pappas	Individual	Support	No

Comments:

Dear Legislators,

Please pass this bill. People cannot drive electric cars if they have no place to charge them. Electric cars are the greatest. We have owned the same car since 2011 and have gone 65,000 miles without a drop of gas or oil. Our maintenance fees have been only new tires and new windshield wipers. No oil change, no transmission fluid, no radiator, no emissions, great pickup from 0 to 50+. What's not to like? Hawaii can be the leader in the number of EVs per capita. Let's do it!