

BILL004(23)

Testimony

MISC. COMM. 143

HOUSING, SUSTAINABILITY AND HEALTH (HSH)

HOUSING, SUSTAINABILITY AND HEALTH (HSH) Meeting

Meeting Date: Apr 5, 2023 @ 02:30 PM

Support: 11

Oppose: 2

I wish to comment: 7

Name: Melissa Miyashiro	Email: melissa@blueplanetfoundation.org	Zip: 96813
Representing: Blue Planet Foundation	Position: Support	Submitted: Apr 2, 2023 @ 09:12 AM
Name: Leah Laramée	Email: Leah.J.Laramée@hawaii.gov	Zip: 96813
Representing: State of Hawaii Climate Change Mitigation and Adaptation Commission	Position: Support	Submitted: Apr 3, 2023 @ 02:15 PM
Name: Gregory Thielen	Email: greg@ccs-hawaii.com	Zip: 96734
Representing: Self	Position: I wish to comment	Submitted: Apr 4, 2023 @ 09:46 AM
Testimony: I am writing in personal support of the positions taken by BIA Hawaii's testimony.		
Name: Jessica Leorna	Email: jess@biahawaii.org	Zip: 96797
Representing: Self	Position: I wish to comment	Submitted: Apr 4, 2023 @ 10:09 AM
Testimony: I am writing in personal support of the positions taken by BIA Hawaii's testimony.		
Name: Mark Glick	Email: howard.c.wiig@hawaii.gov	Zip: 96813
Representing: Hawaii State Energy Office	Position: Support	Submitted: Apr 4, 2023 @ 10:09 AM
Name: Will Kane	Email: willk@strategies360.com	Zip: 96813
Representing: Hawaii Gas	Position: I wish to comment	Submitted: Apr 4, 2023 @ 10:12 AM
Name: Wendy Meguro	Email: meguro@hawaii.edu	Zip: 96822
Representing: Self	Position: Support	Submitted: Apr 4, 2023 @ 10:56 AM
Name: Dennis Lin	Email: dennis.lin@hpmhawaii.com	Zip: 96720
Representing: HPM Building Supply	Position: I wish to comment	Submitted: Apr 4, 2023 @ 11:14 AM
Testimony: I support the positions in BIA's Bill 4 testimony.		
Name:	Email:	Zip:

Marshall Hickox	mrh@Homeworkshawaii.com	96826
Representing: Self	Position: I wish to comment	Submitted: Apr 4, 2023 @ 11:25 AM
Testimony: I wish to express my support of the positions expressed in the testimony submitted by BIA Hawaii.		
Name: Camile Cleveland	Email: camile@huanani.com	Zip: 96816
Representing: Elemental Excelerator	Position: Support	Submitted: Apr 4, 2023 @ 11:44 AM
Name: Tracy Tonaki	Email: ttonaki@drhorton.com	Zip: 96813
Representing: D.R. Horton	Position: I wish to comment	Submitted: Apr 4, 2023 @ 12:12 PM
Name: Anne Weber-Yarbrough	Email: awyarbrough@veic.org	Zip: 96821
Representing: VEIC	Position: Support	Submitted: Apr 4, 2023 @ 12:13 PM
Name: Evan Oue	Email: eoue@imanaka-asato.com	Zip: 96813
Representing: NAIOP Hawaii Chapter	Position: Oppose	Submitted: Apr 4, 2023 @ 12:17 PM
Name: Caroline Carl	Email: caroline.a.carl@leidos.com	Zip: 96817
Representing: Hawaii Energy	Position: Support	Submitted: Apr 4, 2023 @ 01:08 PM
Name: June Chee	Email: june.chee@hawaiianelectric.com	Zip: 96840
Representing: Hawaiian Electric	Position: Support	Submitted: Apr 4, 2023 @ 02:33 PM
Name: Christopher Delaunay	Email: cdelaunay@prp-hawaii.com	Zip: 96813
Representing: Pacific Resource Partnership	Position: I wish to comment	Submitted: Apr 4, 2023 @ 02:42 PM
Name: Stefanie Sakamoto	Email: ssakamoto@imanaka-asato.com	Zip: 96789
Representing: BIA Hawaii	Position: Oppose	Submitted: Apr 4, 2023 @ 05:45 PM

Name: Kaloa Robinson	Email: kaloa@stanfordcarr.com	Zip: 96813
Representing: Self	Position: Support	Submitted: Apr 4, 2023 @ 05:56 PM
Testimony: I am writing in personal support of the positions taken by BIA Hawaii's testimony.		
Name: Zhizi Xiong	Email: Alohadivinedesign@gmail.com	Zip: 96817
Representing: CARES Community Advocacy Research Education Services	Position: Support	Submitted: Apr 4, 2023 @ 10:54 PM
Testimony: CARES testifies in strong support		
Name: Julia Fink	Email: julia@aiahonolulu.org	Zip: 96813
Representing: AIA Honolulu	Position: Support	Submitted: Apr 5, 2023 @ 08:29 AM



COMMITTEE ON HOUSING, SUSTAINABILITY & HEALTH

City & County of Honolulu

April 5, 2023, 2:30 PM

TESTIMONY IN SUPPORT OF BILL 4 (2023)

Aloha Chair Weyer, Vice Chair Kia'aina, and Committee members:

Blue Planet Foundation **supports Bill 4 (2023)**, which timely updates the City's Building Energy Code to the 2018 edition of the International Energy Conservation Code (the State Energy Code), with local amendments.

Building codes have direct and indirect impacts on our wellbeing and quality of life. By establishing and regularly updating uniform state and county building codes, the City can ensure that building design, construction, and operation address society's most important concerns, including public health and safety, environmental protection, and consumer protection against costly monthly utility bills.

Timely energy code updates support the City's climate goals and lower monthly utility bills

The primary function of energy codes is to reduce energy consumption in buildings, which reduces greenhouse gas emissions and pollution from burning fossil fuels—key priorities if we hope to achieve Hawai'i's ambitious climate goals. Energy codes can also lessen peak energy demand and reduce our reliance on imported energy sources, which increases utility system reliability and energy security, respectively. Moreover, energy codes create a more comfortable living and working environment through improved indoor air quality. They also help occupants save money by reducing monthly energy bills, which stimulates the economy.

States and municipalities across the country use national model codes and standards—like the International Energy Conservation Code (IECC)—as a starting place for adopting state- and local-specific versions based on their unique characteristics and climates. Like other jurisdictions, Hawai'i and its four counties develop their building energy codes based upon the IECC. A governing body—the International Code Council—produces an updated version of the IECC through a democratic and deliberative process every three years. As noted by the Environmental and Energy Study Institute, "[t]he process of updating model codes every three years is optimal to ensure new technologies, materials and methods, as well as better

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approaches to health and safety, can be incorporated into the next generation of buildings with sufficient time for proof of performance.”¹

In addition to updating the City’s Building Energy Code to the State Energy Code (IECC 2018), there are a number of important local amendments proposed in Bill 4 that will support long-term affordability for Hawai’i residents and businesses while moving the City closer to achieving its goals set forth in the science-based, Council-adopted Climate Action Plan for O’ahu.

- **Adopt a voluntary stretch code:** This *100% voluntary stretch code* provides non-mandatory guidance to encourage building industry leaders who choose to go above and beyond the baseline code. The focus on the stretch code proposed in Bill 4 relates to the design of grid-interactive, efficient buildings (GEBs). As is critical in Hawai’i as we transition to 100% renewable energy, GEBs can flex their energy load depending on the time and cost of electricity throughout the day to limit costly peaks in demand on the electricity grid. Stretch codes have been used widely in other jurisdictions to help accelerate market acceptance and adoption of future versions of the energy code while maintaining flexibility for developers to plan for the future.
- **Require large, single-family homes (those over 4,000 square feet) to be highly energy-efficient:** This provision can help drive adoption of best practices that support long-term energy savings without negatively impacting affordable housing.

Finally, we urge the Committee to preserve the existing EV- and PV-ready provisions adopted in the last Energy Code update, which have been critical for accelerating affordable, clean energy for residents and building out O’ahu’s woefully inadequate electric vehicle charging network. It is essential we maintain these provisions if we are serious about meeting an equitable clean energy future. We cannot afford to backtrack on our progress towards the City’s climate, equity, and resilience goals.

Conclusion

Most individuals spend a majority of their lives inside buildings. Yet buildings are often overlooked as important levers for influencing our safety, health, and economic and environmental quality of life. Providing regular and timely updates to building codes is crucial for keeping pace with changing technology, updated health and safety standards, and the City’s clean energy and climate goals. After all, **buildings constructed today will remain in our building stock for decades to come.**

Thank you for the opportunity to provide testimony.

¹ Vaughn, Ellen and Jim Turner, *The Value and Impact of Building Codes*, 2013, <https://www.eesi.org/files/Value-and-Impact-of-Building-Codes.pdf>.



**STATE OF HAWAII
HAWAII CLIMATE CHANGE MITIGATION & ADAPTATION
COMMISSION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809**

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Director, OPSD

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Chair, Senate AEN
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Director, Hawaii DP
Director, Kauai DP
The Adjutant General
Manager, CZM

**Testimony of
Leah Laramée, Climate Change Mitigation and Adaptation Coordinator
for
Honolulu City and County Council Meeting
Comments in support of
Bill 4**

RELATING TO THE ADOPTION OF THE STATE ENERGY CONSERVATION CODE

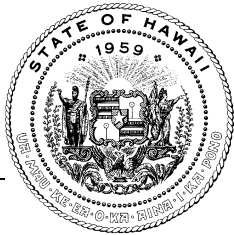
Dear Chair Weyer, Vice Chair Kiaʻāina, and Councilmembers,

Bill 4 updates the Building Energy Conservation Code of the City and County of Honolulu through the adoption of the Hawaii State Energy Conservation Code. **The Hawaiʻi Climate Change Mitigation and Adaptation Commission (Commission) supports this measure.**

The Hawaiʻi Climate Change Mitigation and Adaptation Commission “recognizes the urgency of climate threats and the need to act quickly. It promotes ambitious, climate-neutral, culturally responsible strategies for climate change adaptation and mitigation in a manner that is clean, equitable and resilient.” The Commission, established by Act 32 SLH 2017 to uphold the United States’ pledges under the Paris Agreement, is the coordinating body for policies on climate change mitigation and adaptation for the state. It is a high-level multi-jurisdictional body that guides the priorities of the state’s climate response. Co-chaired by DLNR and Office of Planning, it consists of 20 members—chairs of four legislative committees, and executive department heads at the county and state levels.

Bill 4 will update the City’s Energy Code to the 2018 IECC with local amendments as required by state law. We all, federal, state, and county government agencies and the public need to be collaborative to support resource management, planning, and decision-making based on the latest and best-available science. Bill 4 allows for local amendments tailored to Oʻahu’s specific needs such as higher energy performance requirement for large single-family homes over 4,000 sq. ft, PV-ready for residential requirements from the previous code cycle, which save money on future installations. All of these efforts will help meet statewide renewable energy and clean economy targets.

Thank you for the opportunity to testify in support.



HAWAII STATE ENERGY OFFICE STATE OF HAWAII

JOSH GREEN, M.D.
GOVERNOR

MARK B. GLICK
CHIEF ENERGY OFFICER

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Testimony of
MARK B. GLICK, Chief Energy Officer

before the
CITY COUNCIL, CITY AND COUNTY OF HONOLULU

Wednesday, April 5, 2023
2:30 PM
City Council Chamber and Videoconference

In Support of
Bill 4 (2023), CD1

RELATING TO ADOPTION OF THE STATE ENERGY CONSERVATION CODE.

Chair Weyer, Vice Chair Kia'āina, and Members of the Committee, the Hawaii State Energy Office supports the adoption of Bill 4, CD1 (2023), relating to the adoption of the 2018 State Energy Conservation Code.

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

As affordable housing is an imperative for both state and city officials, allow us to highlight several initiatives in Bill 4 aimed at reducing construction costs.

C402.2.2, Above grade walls, exempts builders from the 2018 IECC requirement of specifying R 5.7 continuous insulation on the exterior of mass (concrete) walls by allowing three alternative compliance paths. This provision takes advantage of Hawai'i's mild climate.

C 405.2, Lighting controls, exempts builders from installing expensive lighting controls involving time switching and daylighting by specifying lighting power density that is twenty percent lower than 2018 IECC levels. Given the significant improvements to LED lamps, a twenty percent improvement in efficacy is readily achievable..

R402.2.5 Mass walls, allows exterior residential walls to comply via three alternate paths, taking advantage of Hawai'i's mild climate.

Table R 402.1.3 (d), Floor R-value, eliminates the requirement for R-13 insulation in residential floors in recognition of Hawai'i's very low temperature difference between interior and exterior temperatures and reduces construction costs by several thousand dollars.

R404.1.2, High-efficiency lamps, raises the minimum efficiency of common service lamps (light bulbs) above 2018 IECC levels. Higher efficiency allows specification of lower-wattage lamps or fewer lighting fixtures, both of which lower construction costs and take advantage of the rapid improvement of LED lamps.

Thank you for the opportunity to testify on this bill.



The Honorable Mathew Weyer, Chair
The Honorable Esther Kia'aina, Vice Chair
Members of the committee on Housing, Sustainability and Health

Bill 4 (2023)
Wednesday, April 5, 2023 @ 2:30 p.m.
Honolulu Hale

RE: Bill 4 (2023) Proposed CD1-MW3- Relating to the Adoption of the State Energy Conservation Code

Chair Weyer, Vice Chair Kia'aina and members of the Committee,

Hawaii Gas **supports the intent** of Bill 4 (2023) Proposed CD1-MW3, however we have concerns about two provisions in the bill that are, as currently drafted, may directly conflict with state statute.

Bill 4's water heating provision for homes over and under 2,000 sq ft could have the unintended effect of eliminating gas energy, including renewable natural gas and hydrogen, as an energy choice for anyone building a new home of this size. By incorporating these provisions and the specific application to identified systems, the city could be inadvertently determining which systems will be used in new single-family home construction.

In HRS 196-6.5, the state has already long established the standard of a solar water heater for new home construction. Contained within that statute is a provision that allows for an exemption due to very specific reasons, that would allow other renewable energy technology systems to be used. If this bill stands as written, it may conflict with that statute by restricting the installation to solar and electric only.

To address this conflict, we request **sections 35 and 36 of Bill 4 (2023) Proposed CD1-MW3**, Pgs. 29 & 30, be amended as follows:

Amending item (35) to read:

“(35) Adding Section R401.3. Section R401.3 is added to read:

R401.3 Large home compliance. Single-family homes with less than 2,000 sf of conditioned space shall comply with Section R401.3.1 pursuant to HRS 196-6.5.



Single-family homes with 2,000 sf of conditioned space or more shall comply with Section R401.3.1 and R401.3.2 [pursuant to HRS 196-6.5](#).

Amending item (36) to read:

(36) Adding Subsection R401.3.1. Subsection 401.3.1 is added to read:

R401.3.1 Minimum efficiency. Buildings shall comply with the following requirements [pursuant to HRS 196-6.5](#). These measures shall be treated as mandatory, and no credit shall be taken for the measures in the compliance path selected for compliance with R401.2:

There have been concerns brought forth by OCCSR about including references to state statutes, which could possibly change, thereby requiring a change to the energy code. While we appreciate this concern, Hawaii Gas would like to point out other state statutes are referenced in the bill (pgs 2, 7, & 27) as well as codes from other jurisdictions (pg. 20). We feel if there is a significant change to the referenced statutes and codes, that the City would welcome the chance to review these changes and ensure proper applicability.

Hawaii Gas is committed to doing our part to reduce the effects of climate change on our state, and the planet, and we are making great strides. We have been proactively working on initiatives to reduce our carbon footprint even prior to the state passing a law in 2018 to be carbon neutral by 2045. In fact, we have the LOWEST carbon footprint of any energy utility in the state.

We already produce clean, renewable, affordable and reliable energy, including solar. HG currently generates Renewable Natural Gas (RNG) at the Honouliuli Wastewater Treatment Plant, as well as hydrogen at our Synthetic Natural Gas (SNG) facility in Campbell Industrial Park. We are turning your waste into a renewable gas resource, which is being used to power the very efficient, affordable on demand gas water heaters Bill 4 (2023) Proposed CD1-MW3 may eliminate.

We strongly support the mission to help Hawaii reach its clean energy goals. Our actions prove that and will continue to do so, as we look forward to working with the City and County and private entities on more RNG projects. Our current biogas facility at Honouliuli Wastewater Treatment Plant removes the greenhouse gas equivalent of 400 cars from our roads annually and eliminates the need for 15,000 barrels of oil. As we develop more of these opportunities, those numbers will only grow. The Waimanalo Gulch landfill and Sand Island wastewater treatment plant are sources of biogas that exist today, which we are more than willing to partner with the City and County of Honolulu to develop into renewable natural gas as soon as



possible. In turn, this will increase HG's renewable content, provide the City and County of Honolulu with a new revenue source, and further reduce greenhouse gas emissions for our state. This is a win-win-win for everyone.

The renewable energy field is a big one. Hawaii Gas believes there is a role for solar, wind—and gas energy, including an increasing role for renewable natural gas and hydrogen, but that option only exists if the laws passed don't short circuit their use.

Mahalo for the opportunity to testify on Bill 4 (2023) Proposed CD1-MW3.

To: Committee: Housing, Sustainability and Health (HSH)
From: Wendy Meguro, AIA, LEED AP BD+C
Associate Professor | University of Hawai'i
School of Architecture | Sea Grant College Program
Re: BILL004(23) Relating to the Adoption of the State Energy Conservation Code
Date: April 3, 2023

Dear Chair Weyer, Vice Chair Kia'aina, and Committee members:

As a Honolulu resident and a specialist in energy efficient building design, I support Bill 4 to update the Building Energy Conservation Code of City and County of Honolulu to the 2018 edition of the International Energy Conservation Code, with modifications. I am an architect and educator with a master's degree from MIT and over 17 years of professional practice and academic experience on award-winning sustainable buildings/community design. Bill 4 supports the Hawai'i 2050 Sustainability Planⁱ Strategy 23 that states, "Update building codes and standards in a timely manner." The Honolulu Climate Action Planⁱⁱ Strategy 5 states, "The most important long-term measure is to influence new construction by regularly updating building energy codes to the highest national and state standards."

Below please find testimony on specific topics as they relate to mitigating climate change and meeting the State of Hawai'i's greenhouse gas emission reduction goals.

1. **Code Reference:** Section C402.2.2 & R402.2.5 Above Grade Walls
Bill item number & language: [item \(16\)](#) exception 3

Testimony: Regarding proposed exception #3, exempting walls from the R-value requirements in Table C402.1.3 would result in more heat gain through walls that receive direct solar radiation (direct sun). In Hawai'i's climate, this could increase interior temperatures, negatively impacting occupant thermal comfort and increasing cooling energy, energy cost, and greenhouse gas emissions (if the electricity used is produced from fossil fuels). One option is to consider removing #3.

2. **Code Reference:** C408.2.4.1 and C408.3.1
Bill item number & language: [items \(24\) and \(25\)](#)

Testimony: Commissioning and functional testing help ensure that the building systems are performing as designed to achieve energy efficiency goals and building owner requirements. A comprehensive 2020 U.S. Department of Energy funded study found that, "Cost-effective savings are achieved across all types of delivery mechanisms, market segments, and building sizes."ⁱⁱⁱ One of the key changes to IECC 2018 clarifies that system commissioning is required^{iv}, underscoring its importance.

3. **Code Reference:** Appendix CB Honolulu Stretch Code - Commercial
Bill item number & language: [item \(27\)](#)

Testimony: The building energy code establishes baseline standards for energy efficiency but does not push the latest design strategies and technology application. By adopting forward-looking voluntary stretch building codes, jurisdictions can increase the rate at which advances in building energy performance are incorporated into the building stock to meet policy goals.^v The Honolulu Climate Change Commission guidance document^{vi} recommends adopting building energy stretch/reach codes to motivate best practices. The addition of incentives to utilize the stretch code would likely increase participation and may be defined through this bill or through other mechanisms.

ⁱ <https://planning.hawaii.gov/sustainability/hawaii2050/>

ⁱⁱ <https://www.resilientoahu.org/climate-action-plan>

ⁱⁱⁱ Crowe, E., Mills, E., Poeling, T., Curtin, C., Bjørnskov D., Fischer, L., Granderson, J. 2020. Building Commissioning Costs and Savings Across Three Decades and 1,500 North American Buildings. *Energy & Buildings* 227(110408). <https://doi.org/10.1016/j.enbuild.2020.110408>

^{iv} <https://codes.iccsafe.org/content/iecc2018>

^v New Buildings Institute. "New Stretch Code Measures Help Cities & States Fast-Track Building Energy Savings". 2017. <https://newbuildings.org/news/new-stretch-code-helps-cities-states/>

^{vi} Honolulu Climate Change Commission. "Reducing Greenhouse Gas Emissions From Buildings". 2022. <https://www.resilientoahu.org/climate-change-commission/#guidance>



**Testimony of Elemental Excelerator to the City & County of Honolulu
Committee on Housing, Sustainability, & Health
in consideration of Bill 4 (2023), April 5, 2023**

Dear Chair Weyer, Vice Chair Kia'aina, and distinguished Members of the Committee on Housing, Sustainability, & Health:

Elemental Excelerator respectfully submits our **support for Bill 4 (2023)**, relating to the adoption of the State Energy Conservation Code.

Elemental Excelerator is a Honolulu-based non-profit organization that supports climate positive startup companies that help solve Hawai'i's most urgent environmental problems. Each year we select 15-20 companies that advance climate technology and social equity, then fund each company with up to \$1 million in investment and support. To date, we have awarded over \$50 million to 150+ companies, and additionally supported more than 100 new tech demonstration projects right here in Hawai'i & the Asia Pacific.

Bill 4 will adopt the State Energy Conservation Code with the inclusion of O'ahu-specific amendments. The State Energy Conservation Code was adopted by the Hawai'i State Building Code Council in 2020, and was derived from the 2018 International Energy Conservation Code (IECC) with the addition of state amendments. Per state law, the City must now update its Building Energy Conservation Code to adhere to the State Energy Conservation Code with any further amendments to fit the island's local context.

According to the State's 2017 Greenhouse Gas (GHG) Inventory, 35% of Hawai'i's total emissions comes from electricity generation to power homes and buildings.¹ One of the strategies in O'ahu's Climate Action Plan to reduce its GHG emissions is to "Reduce Energy Demand by Increasing Energy Efficiency," largely accomplished through building energy code updates.² Bill 4 would do just that, resulting in lowered construction and energy costs for O'ahu residents, simultaneously addressing climate action and housing affordability.

Aside from being a critical tool to advance equitable climate solutions in Hawai'i, Bill 4 will also enable O'ahu to leverage federal funds to help our residents. The federal Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA) have the potential to offer hundreds of millions in federal funding to help Hawai'i residents - particularly those with low- and moderate-income - benefit from the clean energy transition in the short and medium term. Additional benefits from these federal climate funds include less pollution in communities,

¹ https://health.hawaii.gov/cab/files/2021/04/2017-Inventory_Final-Report_April-2021.pdf

² <https://www.resilientoahu.org/climate-action-plan>

reduced energy and transportation costs, an increase in good jobs, investment in the local economy rather than spending on imported oil, and reducing dangerous greenhouse gas emissions. The IRA in particular includes tax credits for new efficient homes and renewable energy, grants for adopting and implementing updated codes, and an energy efficiency rebate program, among other cost-saving provisions relating to energy efficiency and building code upgrades.

Enabling state and local policies are necessary, however, to ensure that these federal funds (especially competitive funds) can be secured and expeditiously deployed in Hawai'i versus flowing to other jurisdictions. Most federal funds under the IIJA and IRA will be distributed over the next five years. We are now in the formative period of this deployment, and it is essential to ensure conditions are set for successful competition and implementation here on O'ahu. The timing is therefore essential to address barriers and to prepare for future rounds of funding.

Bill 4 will also promote entrepreneurship and jobs through the development of innovative energy efficiency and building technologies, such as our portfolio companies Pono Home and BlocPower are addressing. Elemental Excelsior has helped support dozens of climate tech companies that create solid jobs, transition our economy to 100% clean energy, and accelerate energy efficiency retrofits and technologies. This bill will update standards for energy efficiency which will result in energy and cost savings for residents, continued innovation of energy and climate technologies, and improved climate and health benefits. This bill also lays important groundwork for the City to apply for and receive federal funding from the IIJA and IRA.

Bill 4 is a key piece of climate and community legislation, and we believe it is critical to pass to ensure we meet the climate and clean economy goals the City and State have established.

Elemental Excelsior strongly supports the passage of Bill 4, to update the City's Energy Code.

Thank you for the opportunity to testify.



April 4, 2023

The Honorable Matt Weyer, Chair
The Honorable Esther Kia'aina, Vice Chair
Members of the Committee on Housing, Sustainability and Health
City and County of Honolulu
Honolulu, Hawaii 96813-3077

RE: **Bill 4 (2023), Proposed CD1-MW3 – Adoption of the 2018 State Energy Conservation Code**
Meeting: April 5, 2023 @ 2:30pm

Aloha Chair Weyer and Members of the Committee on Planning and the Economy,

Mahalo for the opportunity to submit testimony on behalf of D.R. Horton, offering comments to Bill 4 (2023), Proposed CD1-MW3 relating to the adoption of the 2018 State Energy Conservation Code (IECC). D.R. Horton has participated in the Building Industry Association (BIA) Codes Committee stakeholder meetings with the Office of Climate Change, Sustainability and Resiliency (OCCSR). We appreciate Matt Gonser, Nicola Hedge and Ben Sullivan's collaborative approach to shaping future policy and commitment to proposing policy that does not increase the cost to housing.

Upon review and further discussion with OCCSR, we offer the following consolidated comments from D.R. Horton along with our architectural, electrical and mechanical design consultants. We respectfully note that our review and comments are based on **two strong overarching positions**:

1. Proposed policy should not increase the cost of housing,
2. Proposed policy by the State our County should not go above and beyond the ICC model code.

The below color legend has been used for clarity:

Red = increased cost to housing

Blue = recommended amendment language

Yellow highlight = Current language from Ordinance 20-10/Bill 25 (2019) that has been DELETE from Bill 4.

C109.1(e) "Electric Vehicle Ready Space (EV Ready Space)" (Pg 6)

There are two areas that we believe need to be cleaned up for clarity:

- a. First, it requires termination at "either an outlet, junction box, or receptacle that will support..." but then goes on to write "The circuit shall terminate in a NEMA 6-50 or NEMA 14-50 receptacles...". This is confusing and contradictory.

- b. Second, “The service panel shall include an over-current protective device...and be located in close proximity to the proposed location of the EV parking spaces.” What is the definition of “close proximity”? If the intent for the overcurrent protective device to be located within “close proximity” such that someone may shut off the EV charger if needed, this could pose the possibility of vandalism or someone turning off the breaker when someone else is charging their vehicle.

We propose the amended language:

“Electric Vehicle Ready Space (EV Ready Space)” means an automobile parking space which is provided with a branch circuit and either an outlet or junction box to support the installation of EVSE. The designated parking space shall be provided with a minimum 32A, 208/240V dedicated branch circuit for future Level 2 EVSE. The provisions shall include conduits and pull boxes and be installed as required by all applicable codes. The service panel shall include space for an over-current protective device and provide sufficient capacity to accommodate the future EVSE. The circuit shall have no other loads.

C101.1 (13)(i) “Solar Ready” (Pg 7)

The word “optimizes” is troubling as that would indicate that the building needs to be situated for best solar coverage and the roof needs to be designed with solar being the most important (conflicting with the mandatory solar hot water system panels that are required to be optimized as well). That means the positioning of buildings on the site as well as the roof design will be dictated not by aesthetics, sun/wind direction, what fits the site best, etc. but by the most optimal for future solar panels.

We propose the amended simplified language:

“SOLAR READY” solar-ready residential or commercial building with provisions which facilitates the installation of a rooftop solar photovoltaic (PV) system at some point after the building has been constructed.

C405.2 Lighting Controls Exceptions: Lighting controls are not required for the following: (Pg 10)

We propose the following ADDITIONAL EXEMPTION:

“4. Common Areas within multi-family Buildings that are required to remain on for egress purposes.”

C406.3 Reduced lighting power. (Pg 10)

This section requires us to use only 80% of the allowable density. This seems to be arbitrary and is MORE RESTRICTIVE than the actual IECC. There is no justification the State and City code should be more restrictive.

We recommend that the proposed amendment should be eliminated and the language within the model code remains. Additional restriction beyond the model code is arbitrary and will potentially limit the options to comply with the reduced lighting power option within the Additional Efficiency packages.

C409.1 Baseline percentage electric vehicle readiness compliance path. (Pg 11)

It appears a slight tweak to language adopted in Ordinance 20-10/Bill 25(2019) broadens the applicability of EV ready requirements to all existing residential multi-family buildings and existing commercial buildings that add 12 or more new parking stalls. “Newly-constructed residential multi-unit buildings” has been changed to just “residential multi-unit buildings” and “newly-constructed commercial buildings” has been changed to just “commercial buildings”.

We recommend that the language from Ordinance 20-10/Bill 25(2019) be carried forward for clarity of original intent.

C409.2 Points-based electric vehicle readiness compliance path. (Pg 12)

Similar to the previous paragraph, it appears a slight tweak to language adopted in Ordinance 20-10/Bill 25(2019) broadens the applicability of EV ready requirements to all existing residential multi-family buildings and existing commercial buildings that add 12 or more new parking stalls. “Newly-constructed residential multi-unit buildings” has been changed to just “residential multi-unit buildings” and “newly-constructed commercial buildings” has been changed to just “commercial buildings”.

We recommend that the language from Ordinance 20-10/Bill 25(2019) be carried forward for clarity of original intent.

C409.2 Points-based electric vehicle readiness compliance path. (Pg 12)

The ability to aggregate EV points across multiple projects and phases has been deleted.

We strongly recommend that the following language previously adopted in Ordinance 20-10/Bill 25(2019) be ADDED BACK IN:

For purposes of compliance under this subsection, building developers may aggregate points across multiple projects and phases; provided that each individual project achieves no less than 10 percent compliance or adds a minimum of one electric vehicle charger ready parking space per project, whichever is greater. All aggregation plans under this subsection must be identified and verified by a certified design professional and the building official at the time of permitting.

R103.2. Information on construction documents. (Pg 26)

This section is requiring additional design and calculations for electrical and mechanical scopes of work be added to construction documents. Since electrical and mechanical engineering are typically not required for single-family permits, the builder/homeowner will now be required to contract two additional engineering disciplines for design consulting fees and additional errors and omission insurance. This will add approximately \$1,000 - \$2,000 per production single-family homes (added cost for one-off homes will be much higher, increasing the cost of housing).

We strongly recommend that Single-family construction documents be EXEMPTED.

R401.2 Compliance. (pg29), R401.3.1 Minimum efficiency. (Pg 29) and R401.3.2 Additional efficiency. (Pg 31)

We concur with the BIA that these sections pertaining to large home compliance should be deleted as these requirements: 1.) go above and beyond the model code, 2.) require products that do yet not exist in the marketplace such as smart appliances with grid response capability, 3.) limit building product selection such as roofing materials (typical asphalt shingles do not meet the SRI minimums and 4.) significantly increase the cost of housing by **adding approximately \$3,500 - \$20,000+ to the large home category.**

R402.1.3 Sampling from Ordinance 20-10/Bill 25(2019) has been deleted.

The deletion of sample testing will increase the cost of production housing as it will now require every single house to be tested, **increasing the cost of housing by \$200-300 per house.** Sampling allows similar plan types to be randomly tested per RESNET standards.

We strongly recommend adding the following language back in:

R402.1.3 Sampling. For builders of multiple single homes and multi-family units of similar construction type and envelope systems (i.e. production home building), air infiltration/duct testing may be completed by following Chapter 6 ("Standard for Sampled Ratings"), of the current Residential Energy Service Network (RESNET) National Home Energy Rating System Standards.

R408.1 Solar conduit and electrical panel readiness (Pg 34)

We suggest this entire section be DELETED and AMENDED to reference the "solar ready" definition to simplify and avoid confusion.

We recommend: "All new single-family, two-family and duplex dwellings shall be solar ready."

R408.2 Electric Vehicle Readiness (Pg 35)

We suggest this entire section be DELETED and AMENDED to reference the "EV Ready space" definition to simplify and avoid confusion.

We recommend: "All enclosed attached garages for new single-family homes, two-family, duplex and multi-family dwellings of three stories or less shall be equipped with an EV Ready space."

Mahalo for your time and consideration. It is very much appreciated. Should you have any questions, please do not hesitate to contact me at (808)782-4109 or ttonaki@drhorton.com.

Sincerely,



Tracy Tonaki
President



WRITTEN TESTIMONY BEFORE THE HONOLULU CITY COUNCIL, City and County of Honolulu
Wednesday, April 5, 2023, 2:30pm, City Council Chamber and Videoconference

In SUPPORT of BILL 4 (2023) – RELATING TO THE ADOPTION OF THE STATE ENERGY CONSERVATION CODE. Updating the Building Energy Conservation Code of the City and County of Honolulu through the adoption of the Hawaii State Energy Conservation Code. (Bill passed first reading on 2/22/23; Committee amended to CD1 and postponed action on 3/1/23)

Chair Weyer, Vice Chair Kia’aina, and Members of the Committee:

Thank you for the opportunity to provide comments in support of Bill 4. Honolulu is facing a housing affordability crisis which has been exacerbated by the pandemic. The high cost of living is straining families, with more than 33% identified by the Aloha United Way ALICE Report as ALICE (Asset Limited Income Constrained Employed) and another 9% living in poverty. The housing affordability crisis is compounded by high utility costs, in many cases forcing residents to make to make hard choices between rent, energy, healthcare, food, and other life necessities. Recent DBEDT data shows that, on average, monthly electricity costs for Hawai’i households are fifth highest in the nation.¹ Renters and those that live in MFR units experience higher electricity burden than those in SFR households. Building energy codes are a key opportunity to promote energy efficiency in multifamily rental housing, where efficiency upgrades are often hindered by the “split incentive,” which is defined as a circumstance in which investments and benefits of energy efficiency are not properly allocated among the parties affected². The housing construction cost impacts driven by energy code compliance requirements are likely an insignificant contributor to the affordability burden residents face, while high-performance buildings reduce utility costs for the long term.

VEIC supports the advancement and modernization of building energy code as a dependable and proven driver of decarbonization, energy equity, and as a way of reducing energy burden (in many cases, the lifetime value of which surpasses any incremental increase in upfront costs). Accordingly, VEIC supports Bill 4(2023), Proposed CD1. Thank you for this opportunity to testify.

Mahalo,

A handwritten signature in cursive script, appearing to read "Anne Weber-Yarbrough", is written below the word "Mahalo".

Anne Weber-Yarbrough
Senior Consultant, VEIC

¹ <https://dbedt.hawaii.gov/economic/electricity-burdens-on-hawaii-households/>

² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4819331/>



April 4, 2023

Councilmember Matt Weyer, Chair
Councilmember Esther Kia'aina, Vice Chair
Committee on Housing Sustainability and Health

RE: **Bill 4 – RELATING TO THE ADOPTION OF THE STATE ENERGY
CONSERVATION CODE.**
Hearing date – April 5, 2023 at 2:30 P.M.

Aloha Chair Weyer, Vice Chair Kia'aina and Members of the Committee,

Thank you for allowing NAIOP Hawaii to submit testimony in **OPPOSITION WITH COMMENTS ON BILL 4 – RELATING TO THE ADOPTION OF THE STATE ENERGY CONSERVATION CODE**. NAIOP Hawaii is the Hawaii chapter of the nation's leading organization for office, industrial, retail, residential and mixed-use real estate. NAIOP Hawaii has over 200 members in the State including local developers, owners, investors, asset managers, lenders and other professionals.

Hawaii is facing a severe housing affordability crisis. The building of affordable housing in Hawaii has become increasingly more difficult. Currently, interest rates for 30 years fixed residential mortgages have significantly risen from 3.07% to 6.90% within the past 2 years representing a near 150% increase. This has led to a dramatic increase in monthly costs of owning a home in Hawaii. Moreover, construction loan interest rates have increased from .05% to 3.81% representing a nearly seventy-five-fold increase which dramatically increase the costs of building residential units.

In addition, during this high-cost period, building codes have created additional challenges for home building. The simple reality is that the building codes have changed from minimum standards for the health and safety of building occupants to a regressive tax on housing.

Accordingly, NAIOP Hawaii objects to portions of the proposed amendments to the 2021 IECC which will add unnecessary costs to housing. Specifically, cost benefit analysis shows that there is no good reason to exceed the current code requirements

especially during a severe housing affordability crisis. Furthermore, all the amendments are more stringent than both the original model as well as the State of Hawaii approved Energy Code.

An analysis of the true cost to housing of each proposed amendment should be conducted by the SBCC prior to adoption. Consequently, NAIOP Hawaii would like comment to the following specific amendments:

- 1) We **STRONGLY OBJECT** to C101.1 (13)(i) “Solar Ready” (Pg 7) The word “optimizes” is troubling as that would indicate that the building needs to be situated for best solar coverage and the roof needs to be designed with solar being the most important (conflicting with the mandatory solar hot water system panels that are required to optimized as well). That means the positioning of buildings on the site as well as the roof design will be dictated not by aesthetics, what fits the site best, etc. but by the most optimal for future solar panels. We propose the amended language: “SOLAR READY” solar-ready residential or commercial building with provisions which facilitates the installation of a rooftop solar photovoltaic (PV) system at some point after the building has been constructed.
- 2) We **STRONGLY OBJECT** to R103.2. Information on construction documents. (Pg 26). This section requires additional design and calculations for electrical and mechanical scopes of work be added to construction documents. Since electrical and mechanical engineering are typically not required for single family permits, the builder/homeowner will now be required to contract two additional engineering disciplines for design consulting fees and additional errors and omission insurance. This will add approximately \$1000 - \$2000 per production home (added cost for non-production homes will be much higher, increasing the cost of housing).
- 3) We **STRONGLY OBJECT** to C109.1(e) “Electric Vehicle Ready Space (EV Ready Space)” (Pg 6) Electric Vehicle Ready Space (EV Ready Space)” means an automobile parking space which is provided with a branch circuit and either an outlet or junction box to support the installation of EVSE. The designated parking space shall be provided with a minimum 32A, 208/240V dedicated branch circuit for future Level 2 EVSE. The provisions shall include conduits and pull boxes and be installed as required by all applicable codes. The service panel shall include space for an over-current protective device and provide sufficient capacity to accommodate the future EVSE. The circuit shall have no other loads.
- 4) We **STRONGLY OBJECT** to the entire R401.3 Large Home Compliance section. First, this portion as written can apply to any home of any size provided

even one room has air conditioning. This means very small homes are affected by the Large Home Compliance Section. Secondly there is no nexus between home size and energy consumption. It is our experience that many Oahu homeowners are turning to multi-generational homes in the face of our increasing housing crisis and those people will be the most affected by this language. Finally, some of the mandates in this section do not even exist. Namely smart appliances capable of responding to grid signals.

- 5) We **STRONGLY OBJECT** to section 408 Solar and Electric Vehicle Readiness as written. To be clear, most of the actual field work required is not objectionable, but the construction documentation requirements are both expensive and impractical and will create confusion. There are two very relevant points when reviewing this section. First and foremost, the lack of “readiness” in existing homes does not hinder the installation of PV systems and vehicle chargers. This is clear as the vast majority of work this industry performs is on homes that aren’t readiness equipped. Secondly these mandates are a tax on all new homes, but only the wealthy that can afford PV and Tesla’s will avail themselves of this benefit. We suggest this entire section be DELETED and AMENDED to reference the “EV Ready space” definition to simplify and avoid confusion. We recommend: "All enclosed attached garages for new single-family homes, two-family, duplex and multi-family dwellings of three stories or less shall be equipped with an EV Ready space" as stated in Ordinance 20-10.
- 6) We **STRONGLY RECOMMEND** section R402.1.3 Sampling from Ordinance 20-10 that has been deleted be inserted back. The deletion of sample testing will increase the cost of production housing as it will now require every single house to be tested, increasing the cost of housing by \$200-300 per house. Sampling allows similar plan types to be randomly tested per RESNET standards. We suggest to add the language “For builders of multiple single homes and multi-family units of similar construction type and envelope systems (i.e. production home building), air infiltration/duct testing may be completed by following Chapter 6 (“Standard for Sampled Ratings”), of the current Residential Energy Service Network (RESNET) National Home Energy Rating System Standards.”
- 7) We **OBJECT** to sections C402.2.2 and R402.2.5 as written. These sections deal with thermal resistive value of above grade walls. We have two objections to these portions as written. Specifically, exception 3 should be modified to delete the words “where a natural masonry surface is used”. There is no accepted definition of a natural masonry surface leaving this portion open to interpretation.

- 8) We **OBJECT** Appendix CB of the Honolulu Stretch Code. We recognize this code is optional, however, this amendment would not provide the incentives as originally intended under this measure.
- 9) We **OBJECT** to section C406.3 which would require builders to use only 80% of allowable density. This amendment is arbitrary and more restrictive than the IECC without any justification. Additional restriction beyond the model code is arbitrary and will potentially limit the options to comply with the reduced lighting power option within the Additional Efficiency packages. We recommend this proposed amendment be eliminated and the language within the model code remain.
- 10) We **OBJECT** to Section 409.1 which appears amend the language of Bill 25 (2019) to broaden the applicability of EV ready requirements to all existing residential multi-family buildings and existing commercial buildings that add 12 or more new parking stalls. Specifically, “Newly-constructed residential multi-unit buildings” has been changed to just “residential multi-unit buildings” and “newly-constructed commercial buildings” has been changed to just “commercial buildings.” This expansion is unnecessary and contradicts Bill 25.
- 11) We **OBJECT** to Section C409.2, which similarly broadens the applicability of EV ready requirements and will affect all existing residential and commercial owners. Additional language from ordinance 20-10 from the City that was from Bill 25 regarding a 10% minimum for a development should be included. This policy was included to allow development with multiple projects to have an average percentage of more than 10% across of all the projects. This allows additional flexibility for projects to comply with the requirements as long as you had 1 charger.
- 12) We **OBJECT** to the amendment to Section R401.3.1 and R401.3.2. Pursuant to clarification by the Office of Climate Change and Resilience, sections R401.3.1 and R401.3.2 are applicable only to single-family homes over 4,000sf per section R401.2 Compliance. We recommend that the language in these three sections be revised to make this distinction clearer as the current language could be construed that these requirements are applicable to homes less than 2,000sf.
- 13) We **RECOMMEND** addition of an exemption for Section C405.2 to cover all Common Areas of Multi-Family Buildings that are required to remain on for egress purposes.

Councilmember Matt Weyer, Chair
Councilmember Esther Kia'aina, Vice Chair
Committee on Housing Sustainability and Health

We strongly encourage the SBCC to refrain from moving forward with any decision making on this code until a cost benefit analysis is done on each of the proposed amendments. We appreciate your consideration of our comments and hope to work with you to do the analysis necessary to fully vet and consider the true cost impact of the proposed amendments so that such impacts may be weighed against the perceived benefits of the proposed changes. **In turn, NAIOP Hawaii respectfully recommends that the proposed amendments should be eliminated and the language within the model code remains. Additional restrictions beyond the model code are arbitrary and unnecessarily adds cost to the building of housing.**

Accordingly, NAIOP Hawaii opposes this measure due to the impacts that it will have on getting homes built for our residents. Thank you for the opportunity to testify on this measure.

Mahalo for your consideration,

A handwritten signature in black ink, appearing to read 'Jennifer Camp', is positioned above the printed name.

Jennifer Camp, President
NAIOP Hawaii



Hawai'i Energy

45 North King Street, Suite 500 • Honolulu, Hawai'i 96817 • HawaiiEnergy.com • P: (808) 839-8880 • F: (808) 441-6068

Before the Honolulu City Council – Committee on Housing, Sustainability and Health
Wednesday, April 5, 2023 at 2:30 p.m.

Testimony in SUPPORT of BILL 4 (2023) - RELATING TO THE ADOPTION OF THE STATE ENERGY CONSERVATION CODE.
Updating the Building Energy Conservation Code of the City and County of Honolulu through the adoption of the Hawai'i State Conservation Code. (Bill passed first reading on 2/22/23; Committee amended to CD1 and postponed action on 3/1/23)

Chair Weyer, Vice Chair Kia'aina, and Members of the Committee:

Thank you for the opportunity to provide comments in support of Bill 4.

Hawai'i Energy works to empower island families and businesses on behalf of the Hawai'i Public Utilities Commission (PUC) to make smart energy choices to reduce energy consumption, save money, and pursue a 100% clean energy future. Energy efficiency – the energy we do not use – is the cheapest option to help us achieve our 100% clean energy goal by eliminating waste and being more efficient. We believe updated energy codes are critical in this effort and part of a global movement of make progress on climate change mitigation through codes and standards.

International Energy Conservation Code (IECC) 2018 represents the latest opportunity for the Honolulu City Council to update building codes, as required by state law, with local amendments. We applaud the Council's efforts in 2020 to update its energy codes for the first time in more than a decade, and we support the ongoing effort to develop and refine Bill 4 with building industry stakeholders to ensure the updated codes make sense for the O'ahu.

The amended IECC 2018 will promote greater energy resilience and help Hawai'i reach our statewide commitment to achieve 100 percent clean energy by 2045. The O'ahu amendments were carefully developed with the input of many agencies, organizations and the design and construction industry to minimize unintended consequences such as increased construction, materials and labor costs – while assuring occupants the benefits of high-performance buildings that consume less electricity.

Hawai'i Energy supports the adjustments to IECC 2018 to ensure the code actually makes sense for Hawai'i, including keeping us aligned with the market's shift to LEDs, provisions to reduce unnecessary heat gain in new buildings, and simplifications of the code for our unique market. We also support the intent of the energy stretch code amendments to open up opportunity of increased collaboration between building development teams and the electricity sector to enable high performance buildings to better support the grid and the large volume of renewable energy being added annually, and the increased energy performance requirements for larger homes.

Thank you for the opportunity to testify in support of Bill 4. The sensible energy code amendments in the proposed Building Energy Conservation Code of the City and County of Honolulu are a critical chance for O'ahu to take another step forward in the transition to 100 percent clean energy. They will provide lasting economic benefits to residents and businesses who are already burdened with high costs. If you have any questions on Hawai'i Energy's programs or our work toward the adoption of stronger energy codes, please do not hesitate to contact me.

Sincerely,
Caroline Carl
Executive Director
Hawai'i Energy

Hawai'i Energy's mission is to empower island families and businesses to make smart energy choices that reduce energy consumption, save money and pursue a 100% clean energy future.



**Hawaiian
Electric**

**WRITTEN TESTIMONY BEFORE THE HONOLULU CITY COUNCIL
COMMITTEE ON HOUSING, SUSTANABILITY AND HEALTH**

**BILL 4 (2023), Proposed CD1
(Weyer Version OCS 2023-0291/3/29/2023 5:18 PM)
Relating to the Adoption of the State Energy Conservation Code
April 5, 2023
2:30 p.m.
City Council Chamber**

**June Chee
Program Manager, Electrification of Transportation
Hawaiian Electric**

Chair Weyer, Vice Chair Kia'āina, and Members of the Committee:

Hawaiian Electric is providing testimony in support of Bill 4 (2023), Proposed CD1, Weyer Version OCS 2023-0291/3/29/2023 5:18 PM, ("Bill 4 (2023), Proposed CD1 3/29/2023 Weyer version") relating to the adoption of the State Energy Conservation Code (2018).

Bill 4 (2023), Proposed CD1 3/29/2023 Weyer version seeks to update the City and County of Honolulu Building Energy Conservation Code through the adoption of the Hawaii State Energy Conservation Code. One of the amendments included in the proposed measure integrates electric vehicle (EV) readiness pathways for newly constructed residential multi-unit and commercial buildings. This version of Bill 4 (2023), Proposed CD1 is consistent with the City and County of Honolulu Ordinance 20-10, which updated the City and County of Honolulu energy code to the State Energy Conservation Code (2017). The current energy code includes several local amendments to expand access to energy efficiency improvements, solar power, and electric vehicles for O'ahu residents and should remain as proposed in Bill 4 (2023), Proposed CD1 3/29/2023 Weyer version.

Existing multi-unit residences and commercial buildings face expensive retrofits to include EV charging infrastructure in their parking facilities. For new construction, installing EV charging capability during the initial construction of a building mitigates and avoids the increased cost of retrofitting.

Furthermore, while the bill proposes EV-ready infrastructure exemptions for new affordable housing rentals, it is important to ensure equitable access to electric vehicles for all as the affordability of electric vehicles improves. Recently, the Public Utilities Commission opened Docket No. 2022-0250 to investigate how to better integrate energy equity and justice considerations across Commission work given its role overseeing and regulating the functions of public utilities. One of the focus areas of this docket is equitable access to clean energy.

The need for more EV charging stations on O'ahu continues to grow. In January 2023, the number of EVs in the state was 22,806, a 26.2 percent increase from the previous year.¹ On O'ahu, EV ownership is forecasted to increase to approximately 679,383 vehicles by 2045 making over 50 percent of light-duty vehicles on O'ahu roads fully electric.² Including EV-ready infrastructure in new building construction is crucial to ensure equitable access to Hawaii's clean transportation future

Accordingly, Hawaiian Electric supports Bill 4 (2023), Proposed CD13/29/2023 Weyer version. Thank you for this opportunity to testify.

¹ Hawaii State Department of Business, Economic Development and Tourism, Monthly Energy Trends, January 2023 [Energy_Trend.pdf \(hawaii.gov\)](https://www.hawaii.gov/dbedt/files/2023/01/Energy_Trend.pdf)

² Hawaiian Electric Draft Integrated Grid Plan, Appendix B: Forecasts and Assumptions, section 1.5 Electric Vehicles.
https://www.hawaiianelectric.com/documents/clean_energy_hawaii/integrated_grid_planning/stakeholder_engagement/working_groups/for_ecast_assumptions/PUC-HECO-IR-1_att_8_electric_vehicles.xlsx

Testimony of
Pacific Resource Partnership

City Council
City & County of Honolulu
Housing and Sustainability and Health
Councilmember Matt Weyer, Chair
Councilmember Esther Kiaʻāina, Vice Chair

Bill 4 (2023)—Relating to the Adoption of the 2018 State Energy Conservation Code
Wednesday, April 5, 2023

Aloha Chair Weyer, Vice Chair Kiaʻāina, and Members of the Committee:

Pacific Resource Partnership (PRP) remains steadfast in its support of reasoned clean energy policies balanced against cost-of-living factors that directly impact the day-to-day lives of Oahu’s residents. We understand that industry stakeholders are still reviewing and trying to quantify impacts and practicality of proposed requirements associated with Bill 4 (2023), including but not limited to the impact on home prices and availability of technologies/materials during a time of high inflation and vulnerabilities in supply chains.

As such, we respectfully request that Bill 4 be deferred in committee to allow for further discussion amongst stakeholders to find reasonable energy solutions that will not interfere with the County’s efforts to build more affordable/workforce housing for Oahu’s residents.

Thank you for this opportunity to submit written testimony.





**HONOLULU CITY COUNCIL
COMMITTEE ON HOUSING AND SUSTAINABILITY
Honolulu Hale
2:30 PM**

April 5, 2023

RE: Bill 4 (2023) - RELATING TO THE STATE ENERGY CONSERVATION CODE

Chair Weyer, Vice Chair Kiaaina, and members of the Council:

My name is Greg Thielen, Codes Committee Chair of the Building Industry Association of Hawaii (BIA-Hawaii). Chartered in 1955, the Building Industry Association of Hawaii is a professional trade organization affiliated with the National Association of Home Builders, representing the building industry and its associates. BIA-Hawaii takes a leadership role in unifying and promoting the interests of the industry to enhance the quality of life for the people of Hawaii. Our members build the communities we all call home.

BIA Hawaii is in opposition to portions of the proposed energy code, and offers the following comments to address these objections.

The bottom line is that all of these amendments are more stringent than both the original model code as well as the State of Hawaii approved Energy Code. More stringent equals more expensive and we cannot afford to make housing more expensive than we must. Despite the added cost, BIA only objects to the following specific amendments:

We have COMMENTS on C109.1(e) There are two specific areas of concern –

- a. First, it requires termination at “either an outlet, junction box, or receptacle that will support...” but then goes on to write “The circuit shall terminate in a NEMA 6-50 or NEMA 14-50 receptacles...”. This is confusing and contradictory.
- b. Second, “The service panel shall include an over-current protective device...and be located in close proximity to the proposed location of the EV parking spaces.” What is the definition of “close proximity”? If the intent for the overcurrent protective device to be located within “close proximity” such that someone may shut off the EV charger if needed, this could pose the possibility of vandalism or someone turning off the breaker when someone else is charging their vehicle.

We propose the amended language:

“Electric Vehicle Ready Space (EV Ready Space)” means an automobile parking space which is provided with a branch circuit and either an outlet or junction box to support the installation of EVSE. The designated parking space shall be provided with a minimum 32A, 208/240V dedicated branch circuit for future Level 2 EVSE. The provisions shall include conduits and pull boxes and be installed as required by all applicable codes. The service panel shall include space for an over-current protective device and provide sufficient capacity to accommodate the future EVSE. The circuit shall have no other loads.

We have COMMENTS on C101.1 (13)(i) “Solar Ready”. The word “optimizes” is troubling as that would indicate that the building needs to be situated for best solar coverage and the roof needs to be designed with solar being the most important (conflicting with the mandatory solar hot water system panels that are required to optimized as well). That means the positioning of buildings on the site as well as the roof design will be dictated not by aesthetics, what fits the site best, etc. but by the most optimal for future solar panels.

We propose the amended language:

“SOLAR READY” solar-ready residential or commercial building with provisions which facilitates the installation of a rooftop solar photovoltaic (PV) system at some point after the building has been constructed.

We have COMMENTS on C405.2 Lighting Controls Exceptions. We propose an additional exemption to not negatively impact housing affordability as follows –

“4. Common Areas within Multi-Family Buildings that are required to remain on for egress purposes.”

We OBJECT to sections C402.2.2 and R402.2.5 as written. These sections deal with thermal resistive value of above grade walls. We have two objections to these portions as written. First, exception 1 should change the words “solar reflectance” to “light resistive value” (LRV). While these words have substantially similar meanings, every paint manufacturer assigns and lists the LRV of each paint color. This simple change will make the code and compliance simpler and more effective. Secondly, exception 3 should be modified to delete the words “where a natural masonry surface is used”. There is no accepted definition of a natural masonry surface leaving this portion open to interpretation.

We STRONGLY OBJECT to section 409. During outreach sessions with OCCSR we were told that the language from Bill 25 (2019) would be brought forward in it’s entirety exactly as written. Instead this bill currently makes substantial changes to the affordable housing exemptions, existing multi-family buildings and multi-project points based systems. The language from Ord. 20-10 (Bill 25) was one of the few agreed upon compromises and the departure from this language is both alarming and shocking given the assurances from OCCSR. We request this language from Ord. 20-10 (Bill 25) be brought forward verbatim in Bill 4.

We OBJECT to Appendix CB Honolulu Stretch Code. We recognize this code is optional, however the intention behind this portion of the code was to offer a “carrot and stick” approach. Where is the carrot?

We STRONGLY OBJECT to section R103.2 Information on construction documents. This section is requiring additional design and calculations for electrical and mechanical scopes of work be added to construction documents. Since electrical and mechanical engineering are typically not required for single family permits, the builder/homeowner will now be required to contract two additional engineering disciplines for design consulting fees and additional errors and omission insurance. **This will add approximately \$1000 - \$2000 per production home (added cost for non-production homes will be much higher, increasing the cost of housing).**

We have COMMENTS ON R402.1.3 Sampling. Bill 4 deletes the sampling allowance that was added in Bill 25. BIA STRONGLY ENCOURAGES this section to be restored. The deletion of sample testing will increase the cost of production housing as it will now require every single house to be tested, **increasing the cost of housing by \$200-300 per house.** Sampling allows similar plan types to be randomly tested per RESNET standards.

We STRONGLY OBJECT to the entire R401.3 Large Home Compliance section. First off, this portion as written can apply to any home of any size provided even one room has air conditioning. This means very small homes are affected by the Large Home Compliance Section. Secondly, there is no nexus between home size and energy consumption. It is our experience that many Oahu home owners are turning to multi-generational homes in the face of our increasing housing crisis and those people will be the most affected by this language. Finally, some of the mandates in this section do not even exist, such as smart appliances capable of responding to grid signals.

We STRONGLY OBJECT to section 408 Solar and Electric Vehicle Readiness as written. To be clear, most of the actual field work required is not objectionable, but the construction documentation requirements are both expensive and impractical. There are two very relevant points when reviewing this section. First and foremost the lack of “readiness” in existing homes does not hinder the installation of PV systems and vehicle chargers. This is clear, as the vast majority of work this industry performs is on homes that aren’t readiness-equipped. Secondly, these mandates are a tax on all new homes, but only the wealthy that can afford PV and Tesla’s will avail themselves of this benefit. BIA Hawaii is willing to work with other stakeholders on arriving at more acceptable language for this section.

The state of Hawaii is in a dire housing crisis. As the Honolulu City Council is aware, the cost of housing in Hawaii is extremely high, with Oahu’s median price of homes being currently over \$1 million. Approximately 153,967 U.S. households are priced out of buying a home for every \$1000 increase in price, according to the National Association of Home Builders (NAHB).

We appreciate the opportunity to express our concerns on Bill 4.

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April 4, 2023

The Honorable Matt Weyer, Chair
and Members
Committee on Housing, Sustainability and Health
Honolulu City Council
530 South King Street, Room 202
Honolulu, Hawai'i 96813

SUBJECT: SUPPORT for Bill 4 (2023) – Relating to the Adoption of the State Energy Conservation Code

Dear Chair Weyer and Councilmembers:

The American Institute of Architects Honolulu Chapter (AIA Honolulu) strongly supports Bill 4, which updates the City's Building Energy Conservation Code to the State Energy Conservation Code (2018 International Energy Conservation Code [IECC]) with local amendments. We provide recommendations for improving C402.2 Exception 3.

The American Institute of Architects

AIA Honolulu
828 Fort Street Mall, Suite 100
Honolulu, HI 96813

T (808)628-7243
contact@aiahonolulu.org
aiahonolulu.org

The American Institute of Architects (AIA) represents over 94,000 architects in the U.S. and around the world. Locally, the AIA Honolulu Chapter represents over 700 licensed architect and associate AIA members statewide. From designing the next generation of climate ready communities to making buildings healthier and safer, architects today continue to play a significant role in influencing and improving Hawaii's built environment through our work. AIA's climate goal is to achieve zero carbon emissions by 2040 and it is imperative that building energy codes which serve as the minimum standard for efficient use of energy in buildings are updated in a timely manner. The Honolulu Climate Action Plan¹ Strategy 5 states "The most important long-term measure is to influence new construction by regularly updating building energy codes to the highest national and state standards".

The City's 2018 IECC with local amendments incorporates the measures that are not only responsive to community concerns for equity and economy, but are strategic in their approach to mitigate energy use and increased heat in buildings long-term. Such strategies include:

1. Code Reference C402.2.2 Above-grade wall (Bill 4 Item 16)

Position: Climate change is causing a rise in the frequency and magnitude of extreme heat (heat waves). Heat waves are intrinsically tied with the urban heat island effect to create localized overheating exceeding 18oF above ambient temperatures. On August 31, 2019, a maximum heat index of 107.3°F was recorded in Pearl City². Extreme Heat conditions will only continue to increase in the City which will have serious impacts on the internal temperatures in homes (uninsulated and nonreflective mass walls only increase internal temperatures during a day), economic cost to cool spaces with air-conditioning, peak electricity demand to the utility grid, and unforeseen heat related mortality and morbidity. Therefore, it is critical that the highest standard of Solar Reflectance Index (SRI) is incorporated into provision C402.2.2, particularly, Exception 3 to ensure that natural masonry above grade mass walls meet the intent of the code.

¹ <https://www.resilientoahu.org/climate-action-plan>

² <https://seagrant.soest.hawaii.edu/urban-heat-islands/>

Unfortunately, very little data exists on the SRI value for natural masonry (natural grey concrete has an initial SRI of 35 which is 57% less than industry standard of initial SRI 82 for low slope conditions (less than 2:12 or horizontal surfaces), and *our suggestion is to add language which require American Standard Test Methods (ASTM) in ASTM C1549, ASTM C13171, and ASTM E1980-01* which define standards to measure and calculate solar reflectance, emittance, and solar reflectance index respectively for projects that exercise Exception 3. This testing will provide project teams opportunity to prove the selected natural stone will meet the required SRI value (we recommend it align with Exception 1). *Alternatively, the City should consider removing Exception 3.*

2. Appendix CB Honolulu Stretch Code Commercial (Bill 4 Item 27)

Position: Cities across the nation are recognizing the synergy between building energy codes and decarbonization by adopting more advanced provisions as part of their local code adoption process to accelerate carbon emission reduction strategies. AIA Honolulu commends the City for incorporating Appendix CB, Honolulu Stretch Code – Commercial into the local amendments. As an **optional voluntary code compliant pathway**, the Honolulu Stretch Code will increase the rate at which buildings improve their minimum energy efficiency performance by establishing energy efficiency reduction targets by building occupancy use over a common industry baseline. This will not only drastically reduce greenhouse gas reduction in the building sector near-term, but it will also provide an additional element of integrated community resiliency by incorporating provisions for grid integrated buildings and energy storage system readiness. Buildings that choose to integrate with the utility energy grid through the incorporation of demand responsive control systems and water heaters, will help to stabilize the energy grid service to the larger community by allowing for flexible load shifting opportunities when demand is needed and supporting peak load reduction when demand is high.

Some in our industry will argue Appendix CB should include incentives in order to realize measurable action and market movement, however, as an **optional voluntary code compliant pathway**, we strongly encourage the City to retain this provision as written to allow akamai leaders in our industry the opportunity lead by example and incorporate the most progressive best practices into the design and operation of their buildings to meet the City's 2045 carbon neutrality goal.

3. Code R401.3 Large Home Compliance (Bill 4 Item 35)

Position: The energy use intensity (EUI) of a building, which includes residential single-family homes, is based upon the energy use per square footage. As buildings become larger so do their energy footprints as demand for electric lighting (regardless if LEDs are used), air-conditioning, appliance usage, and plug loads increase. With the residential cost of energy now averaging at 43.43 cents/kWh³, and expected longer hotter summers, Hawaii residents will be economically burdened to ensure their homes are thermally comfortable. This provision, which is only triggered for large homes over 2,000 square feet of air-conditioned space ensure these larger homes meet minimum energy performance requirements that are respective to the amount of resources the facility will demand over time. Incorporation of grid signal responsive devices – 40 to 120 gallon electric

³ <https://www.hawaiianelectric.com/billing-and-payment/rates-and-regulations/average-price-of-electricity>

water heater and smart appliance are market available ready devices. HECO already encourages residential water heater integration through their Demand Response⁴ program, and A&O Smith released a grid capable 40-gallon water heater⁵ which is suitable for multi-unit multi-generational homes. These provisions if anything are simplifying the process for industry to meet minimum compliance requirements.

Thank you for the opportunity to submit comments in support of Bill 4. Should you have any questions, please feel free to contact AIA Honolulu at contact@aiahonolulu.org.

Sincerely,

Todd Hassler, AIA
2023 AIA Honolulu Board President

⁴ <https://www.hawaiianelectric.com/products-and-services/customer-incentive-programs/benefits>

⁵ <https://www.hotwater.com/water-heaters/residential/electric/proline/standard/proline%C2%AE-grid-capable-40-gallon-short-electric-tank-water-heater-eesu-40/>