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January 23, 2020

'20 JAN22 PM 4:04 CITY COUNCIL

The Honorable Ron Menor, Chair
and Members
Committee on Zoning, Planning and Housing
Honolulu City Council
530 South King Street, Room 202
Honolulu, Hawai'i 96813

Dear Chair Menor and Councilmembers:

SUBJECT: Bill 25 (2019) – Relating to the Adoption of the State Energy Conservation Code

The Office of Climate Change, Sustainability and Resiliency (CCSR) strongly urges passage of Bill 25 (2019), which adopts the State Energy Code, 2015 International Energy Conservation Code (IECC) with added local amendments for electric vehicle (EV) "readiness" and Photo-voltaic (PV) "readiness." Specifically, CCSR highly recommends passage of CD2 introduced by Councilmember Brandon Elefante.

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The original Bill 25 itself was based on extensive consultation with diverse stakeholders in the first half of 2019. At Council's request, since the last hearing of the Bill in September 2019, CCSR engaged in nearly a dozen additional meetings and consultations with a wide array of stakeholders to both find compromise and increased flexibility, while also preserving critical long-term cost of living and climate resilience benefits to the public. Councilmember Elefante's CD2 provides further clarity and flexibility after nearly three months of continued discussions and compromise, while still protecting and preserving core principles and meaningful progress toward lowering the long-term cost of living for residents and increasing our island resilience in the face of the climate crisis.

The following summarizes CCSR's position on the CD2 amendments:

Electric vehicle (EV) readiness:

The CD2 from Councilmember Elefante offers important updates to the original Bill 25 which CCSR strongly recommends. The original Bill 25 called for EV-readiness in 25% of new parking stalls serving multi-family and commercial buildings (for lots with

a minimum of eight and twelve stalls respectively). This number already represented a significant compromise between EV stakeholders who wanted new construction to be up to 100% EV-ready, with other parties opposed to any requirement at all. At the Committee's request, City staff met with stakeholders to seek possible common ground and moderate concerns. In response, the amendments in the proposal introduced by Councilmember Elefante seek to maintain the overall *equivalent level* of EV charging capacity, but provide significantly more flexibility and potential cost savings to developers:

1. The addition of a points-based, optional compliance pathway so commercial and multi-unit building owners have greater flexibility to achieve EV-readiness tailored to their building site, tenant mix and anticipated charging demand. Using a base case of 25% of all new stalls in lots of a minimum size being EV-ready at Level 2, the points-systems relaxes the 25% standard for EV-ready stalls in common areas (versus dedicated to a specific unit), stalls that have an actual EV-charger installed, and stalls with higher charging capacity.

2. The ability for developers to aggregate points across projects or building phases to provide further flexibility and reduce cost of compliance on any one specific site.

3. Lessening overall EV-ready parking percentage requirements by 20% for retail establishments and for affordable housing units at or below 140% AMI, and 40% for housing units at or below 60% AMI.

4. Increasing the minimum AC Level from 1 to 2 for all residential settings to ensure long-term functionality and flexibility.

5. Removing EV-readiness as an option in section (C406.1) since it is required elsewhere.

In comparison, the alternate proposed CD2 dilutes the electric vehicle "readiness" requirement that would result from Bill 25 so significantly that it is rendered almost meaningless in several scenarios. Major building types are exempted entirely, including affordable housing 140% AMI or below —the very population that would benefit *most* from the cost of living savings associated with EV's. Commercial building settings are included in the alternate CD2, but with unspecified requirements. Workplaces and retail locations are critical EV charging locations (where the majority of cars are located in the critical 10:00 a.m. to 2:00 p.m. midday hours) when clean, solar energy is at its peak. Additionally the alternative CD2 removes section C406.1, which was included in the original Bill 25 to clarify that the new EV-readiness provision was required *in addition to* the choice of requirements in section C406.1. Section C406.1 is

a foundational element of the State's baseline approved Energy Code and the Administration strongly recommends against removal.

For the multi-family building compliance that remains, the alternative CD2 weakens the EV readiness that would result from one-third to *one-seventh* of what is compliant under the compromise points system in Councilmember Elefante's CD2 (see examples below). Other weakening would result from the lowering of minimum compliance for charging efficiency from Level 2 down to Level 1 for *all* EV-readiness, as well as the addition of another compliance pathway based on "total vehicles charged" that would be evaluated at the discretion of the Department of Planning and Permitting ("DPP").

The alternative CD2 also ties EV-readiness to the number of *housing units*, not the number of *parking stalls*. It is CCSR's recommendation to retain EV-readiness based on the number of cars that will be parked in stalls as in Councilmember Elefante's CD2, rather than the number of housing units. EV charging access and demand is tied directly to the number of *cars* at any site, not living units which can vary widely in size and resident population (one unit may have multiple cars). Additionally, Bill 2 (2020) was recently introduced to Council which includes proposals to *remove* parking minimums on certain developments and unbundle parking spots from specific units, providing even further flexibility to developers to reduce parking stalls entirely (EV-ready or otherwise) and switch EV-ready stalls to tenants who need them versus remaining tied to specific units. The parking amendments proposed in Bill 2 will provide a strong complement and even more flexibility for developers to comply with Councilmember Elefante's CD2 EV readiness compromise approach.

Here are two examples of how community outcomes would vary under Councilmember Elefante's CD2 and the alternative CD2 (assuming for current purposes that the buildings have one parking stall per unit):

1. Under Councilmember Elefante's CD2, a multi-family building with 12 new parking stalls would have <u>three</u> stalls Level 2 "ready" stalls (32 amps) to comply. Under the alternative CD2, the same building would only need only <u>one</u> stall at that same equivalence Level 2-ready (32 amps) to comply – a **<u>three-fold</u>** difference. In this scenario, the amount of stalls required for compliance drops from 25% to 8%.

2. Under Councilmember Elefante's CD2, a multi-family building with 160 new parking stalls could comply with <u>seven</u> stalls with operational Level 2 (64-80 amps) chargers installed in a common area. Under the alternative CD2, the same building could install only <u>one</u> charger (32-80 amps) for 160 cars in a

common area – a **seven-fold** difference. In this scenario, the amount of stalls required for compliance drops from 4% to 0.6%.

Overall, the alternative CD2 dilutes and weakens the desired incentive relative to Councilmember Elefante's CD2, and would limit consumer choice and impose increased economic and environmental burdens on our community as we prepare for a future of clean, sustainable, and affordable transportation.

While EV's make up only 1% of cars on the road currently, recent polling reveals that 22% of island residents are "very likely" to change their car to a hybrid or electric vehicle, and an additional 29% are "somewhat likely" – meaning a majority of the population (51%) is willing to shift away from fossil fuels *right now* if policies and infrastructure are in place to make adoption easier. O'ahu already has insufficient charging infrastructure to serve existing EVs, let alone being prepared for the near-term when EVs are expected to be cheaper to both buy and operate than gas-powered cars. Retrofitting existing parking lots to accommodate EV charging infrastructure can be cost prohibitive, with conservative estimates ranging from four to ten times more expensive than at time of construction.

Renewable hot water heating:

Given the abundant sunshine in Hawai'i, solar hot water heating is both the most affordable and environmentally friendly solution to heat water for single family homes over the long-term. To ensure that renewable hot water heating options are increasingly the norm on O'ahu rather than the exception, the original Bill 25 sought to explicitly replace fossil-fuel gas demand water heaters as a variance option with more efficient and specific electric-based technologies.

The CD2 proposed by Councilmember Elefante provides compromise language that reflects the recent State court ruling[1], clarifies that such exemptions need to meet a cost test, and the decision regarding water heater options should be that of the ultimate resident (owner) of the single family dwelling unit. This compromise language preserves the ability for residents to apply for a variance to utilize on-demand gas water heaters. The alternative CD2 removes all clarifying language beyond a simple reference to the Hawai'i Revised Statutes and does not include the important court ruling language that protects local residents' economic interests and choice.

Photo-voltaic (PV) panel or solar readiness:

While the original Bill 25 was silent to PV solar energy in lieu of the original strict

[1] https://energy.hawaii.gov/resources/solar-water-heater-variance

solar standard for hot water heating, stakeholders provided valuable feedback articulating that PV panels may provide more flexibility in certain cases, as well as the fact that under current Hawaiian Electric plans to meet the state's 100% renewable energy standard, *all homes* will eventually need to host PV systems. The installation of rooftop solar PV systems are critical sustainability and climate resilience priorities that are consistent with the City's Resilience Strategy and City Council Resolution 19-233. In response to this alignment and the significant proposed changes to the solar water heating language that would continue to allow a gas variance, Councilmember Elefante's CD2 adds a requirement for construction documents for all residences to indicate locations for potential future solar equipment, as well as installation of conduit and an electrical panel sized appropriately to accommodate a future system. These will allow for plug-and-play future solar installation after the time of new construction, ultimately saving homeowners significant installation costs and promoting the City and State's resilience and sustainability goals. In housing developments that have already voluntarily adopted this policy, PV installation rates are measurably higher.

In contrast, the alternate CD2 includes a PV readiness provision but limits it to requiring that construction documents only indicate where *possible* solar PV equipment could go in the future, without any inclusion of the actual conduit and panel capacity to avoid significant retrofit costs. It also only addresses single or two-family dwellings, whereas Councilmember Elefante's CD2 focuses on all new residential buildings (consistent with the long-term renewable energy scenarios from Hawaiian Electric).

Local building amendments:

At the Committee's request, the Administration recommended amendments now included in Councilmember Elefante's CD2 with several important changes relevant to local building industry requests to remedy key omissions at the State code level. First, Councilmember Elefante's CD2 includes exemptions in relevant sections of the Code for jalousie windows to be used. Jalousie windows are an appropriate window solution that is reflective of O'ahu's unique climate, culture and market. The alternative CD2 deletes the exemption that allows for jalousie windows in new construction.

Second, Councilmember Elefante's CD2 provides edits to give clarity and definition to the concrete masonry unit and mass walls exceptions in line with O'ahu's tropical environment, market, and energy efficiency benefits. These solutions are also a more sustainable option because in many cases it defrays shipping costs from outside the State and re-uses or repurposes local materials. The alternative CD2 inexplicably deletes all references to mass walls.

Finally, in response to requests from production home builders, Councilmember Elefante's CD2 includes compromise language for the process of sampling of air

infiltration/duct testing to allow for more flexibility. It also includes a requested relaxation of the requirement for production homes to provide actual ceiling fans in key rooms, instead providing junction boxes to provide homebuyer flexibility and choice.

Tropical building code:

The purpose of the tropical building code is to provide an *optional* pathway for builders to leverage natural ventilation, reduce air-conditioning in homes and ultimately provide a higher level of energy efficiency. In addition to the jalousie exemptions mentioned above, the alternative CD2 removes all references to renewable hot water heating as a condition to use the tropical code. The entire purpose of the optional tropical building code is to provide an *optional* path with carefully calculated energy efficiency savings that allow for building to opt into a more affordable building standard. This package was created and approved at the national level and should not be altered to reduce the energy efficiency gains as this is not a mandatory section of the code.

While we are moving away from fossil fuels toward a decarbonized economy, we are not doing so nearly fast enough. Steps such as updating energy codes are exactly what we need to do if we're going to keep the global temperature rise below 2°C, as called for in the Paris climate agreement. Thank you for the opportunity to provide these comments in support of Bill 25 (2019). Should you have any questions, please contact me at 768-2277 or resilientoahu@honolulu.gov.

Sincerely,

Joshua Stanbro
Executive Director and
Chief Resilience Officer

APPROVED:

Roy K. Amemiya Jr.
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