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March 19, 2019

House Labor & Public Employment Committee
Rep. Aaron Ling Johanson, Chair
Rep. Stacelynn K.M. Eli, Vice Chair
Hawai'i State Capitol, Room 324 – transmitted via web
Honolulu, HI 96813

RE: HB 201 and HCR 226, for a Working Group to Review and Recommend Improvements to State Facilities to Maximize Health and Cognitive Function

Dear Chair Johanson, Vice Chair Eli, and Members,

On behalf of the U.S. Green Building Council (USGBC), our nearly 9,000 member companies nationwide, and our strong community in Hawai'i,¹ we appreciate the opportunity to provide this letter of support for House Resolution 201 and House Concurrent Resolution 226, regarding convening a working group on recommended improvements to state facilities to maximize health and cognitive function of occupants.

USGBC and LEED in Hawai'i

USGBC is a nonprofit organization committed to transforming the way all buildings and communities are designed, built, and operated to support a more sustainable, resilient, and prosperous environment that improves the quality of life for all.

Our flagship green building rating system, LEED, is a critical tool that has been proven effective at creating high performing buildings in Hawai'i, with industry stakeholders, including building owners, developers, and tenants. In fact, Hawai'i again made our list of the Top 10 States for LEED this year, with projects such as the Hawai'i Convention Center (awarded Gold, LEED v4 Operations and Maintenance).²

LEED continues to grow in the Hawai'i market, with over 200 certified projects amounting to more than 19 million square feet in total.³ Our education and professional credential programs support green building in Hawai'i as well, with more than 1,300 residents holding a LEED Accredited Professional (AP) or a LEED Green Associate credential. Moreover, high performing green building creates opportunities for the creation of quality, local jobs. In fact, the 2019 small business of the year for Hawai'i is an energy efficiency company.⁴

¹ [USGBC Hawaii](#) community

² ["Three LEED projects contributing to Hawaii's Top 10 States ranking,"](#) USGBC.

³ [State Market Briefs](#), U.S. Green Building Council.

⁴ ["Aiea energy company owners names Hawaii's Small Business Persons of the Year,"](#) Biz Journals (2019).



Green Buildings Promote Employee Health & Productivity

The built environment, physical places where people work and live, is one of many determinants of health. A growing body of evidence links green building design and operation with positive human health impacts.

Several academic and industry research groups have begun to collate evidence linking human health with green building. For example, the Harvard T.H. Chan School of Public Health published a report on the nine foundations of healthy buildings, based on a systematic review of years of evidence-based research. And, the School worked with the Harvard Graduate School of Design to launch the Health and Places Initiative, which offers a series of research briefs summarizing studies about topics as diverse as air quality, climate change, noise, safety, food options and mental health and how they relate to the built environment.^{5 6 7}

Indoor environmental quality is one of the most studied building features affecting physical health. Several studies show the direct impacts of indoor environmental quality on occupant health, summarized in a recent study.⁸ For example, the three-phase COGfx studies studied the impact of green building (specifically the features of high indoor environmental quality, thermal conditions and lighting) on cognitive functioning through test scores. They also measured sleep quality and sick building symptoms. Overall, they found a positive association between green building and increased cognitive functioning and human health.⁹

Taking this to economic terms, a 2015 study considered the financial benefit of increasing ventilation of office buildings. Researchers examined the economic, environmental, and health implications of increased ventilation inside office buildings found that the associated benefits far exceed the per-person energy cost.¹⁰

Similar studies and findings are available for a range of building attributes, and help direct owners to understand characteristics of workplaces most critical to occupant health and productivity. We have many resources available – including the popular “Built for Health” podcast¹¹ to explore all the ways green building can promote occupant health and community well-being – and would be pleased to share our expertise with the Working Group contemplated by these bills.

⁵ [“Building Evidence for Health: Green Buildings, Current Science, and Future Challenges,”](#) Annual Review of Public Health.

⁶ [Health and Places Initiative](#) (HAPI), Harvard College.

⁷ [Research Briefs](#), HAPI, Harvard College.

⁸ [“Impact of indoor environmental quality on occupant well-being and comfort: A review of the literature,”](#) International Journal of Sustainable Built Environment (2016).

⁹ [“The impact of green buildings on cognitive function,”](#) Harvard T.H. Chan School of Public Health

¹⁰ [“Economic, Environmental, and Health Implications of Enhanced Ventilation in Office Buildings”](#) (2015).

¹¹ [“USGBC premieres human health podcast ‘Built for Health,’”](#) USGBC.



Green and Healthy Workplaces Provide Benefits to Employers – and the State of Hawai'i Government can Benefit, Too

Hawai'i's private sector has figured out that the business case for green building is strong.¹² It has been demonstrated through many studies that green buildings can save money on a life cycle basis, as energy and water savings pay back quickly and add value.¹³ Beyond these utility savings, however, businesses understand that their biggest investment is in the human resources that work in those buildings. By providing spaces that are comfortable, high air quality that allows focus and high cognitive function, and features such as daylight and ample ventilation, employees are poised to be more productive and healthier than those working in conventional buildings. High quality, health-supporting buildings help attract talent as well;¹⁴ since we spend about 90 percent of our time indoors, people naturally want to feel confident interior spaces are good for them.¹⁵

Just as the private sector has found important value in these strategies, so too can the State of Hawai'i as a major employer. USGBC offers our strong support of both HR 201 and HCR 226, legislation that is before the committees today. These bills establish an opportunity for state government leaders to review and assess current research and findings supporting the value proposition for green and healthy workplaces. Employers such as the state government – among the biggest in the state -- understand that reducing lost days due to sickness and boosting employee productivity are valuable benefits. These bills set up an appropriate and welcome process by which the state may consider options and strategies to protect its investment in its human resources, along with its natural resources.

USGBC Supports HR201 and HCR 226

USGBC commends the bill sponsor, Representative Lee, for his leadership on these critical issues. We thank the Committee on Labor and Public Employees for bringing these bills up for consideration today. USGBC urges the members of committee to support HR 201 and HCR 226.

¹² ["The Business Case for Green Building,"](#) USGBC

¹³ ["LEED v4: Raising the Bar on Energy Performance,"](#) USGBC.

¹⁴ ["Survey Says: Employees are happier, healthier, and more productive in LEED buildings,"](#) USGBC+

¹⁵ [Indoor Air Quality,](#) EPA.



Thank you for your consideration of our remarks. Please contact us if we can be of any assistance or have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Melanie Islam".

Melanie Islam, AIA, LEED AP BD+C, LFA
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A handwritten signature in cursive script that reads "Elizabeth Beardsley".

Elizabeth Beardsley, P.E.
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cc: Representative Chris Lee
Alysson Blackwelder, USGBC
Melanie Colburn, USGBC