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To: Chairman Dickson, Members of the Oregon Housing Stability Council

From: Christina Kuo, U.S. Green Building Council

Re: LIFT Proposed Program Design

Date: February 2, 2016

Thank you for the opportunity to address the Council about this extremely important and pressing issue for Oregon.

1. USGBC & LEED

The U.S. Green Building Council is best known for our Leadership in Energy and Environmental Design (LEED) building certification program, which has been widely used throughout Oregon to create high quality, sustainable buildings. LEED is just one of the strategies that USGBC uses to achieve the ideal that "buildings and communities will regenerate and sustain the health and vitality of all life within a generation." Through the integrative design and construction process of LEED, we allow building owners and their design and construction teams to prioritize strategies to ensure a project is healthy, sustainable, and high-performing buildings for everyone that will come in contact with that project from construction to occupancy.

2. Opportunity for Oregon to Lead in Applying 5 Principles for Affordable Housing

Oregon has always been a leader in healthy and sustainable housing and USGBC believes, through the LIFT program and other policies the state would like to implement, it can be a leading example of addressing the national crisis in affordable housing. USGBC is advocating for a long-term policy framework that ensures that all low income families have access to green and healthy affordable homes, no matter where they live in Oregon. We believe that affordable housing policies and programs should include the following:

1. **A focus on affordability and total value.**
2. **Accountability throughout the building process and beyond**
3. **Green building standards and rewards for developers**
4. **Public participation in the planning process.**
5. **Education to promote environmental stewardship**

A more in depth background piece about how each of these 5 principles can be accomplished is attached to this memo.

3. Recommendations for LIFT Program

The draft LIFT Program Design Framework is an excellent start to this process. Outlined below are recommendations USGBC proposes for consideration by the Housing Stability Council:

3.1 Program Outcome and Output Goals: Make housing affordability the priority.

Oregon Housing Stability Council has a prime opportunity to create housing that will be affordable to its residents on a total cost basis. Specifically, the Council can make affordability a priority by recognizing the cost of home energy use as an important element in housing affordability.

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In a 2006 study, the U.S. Department of Energy found that, on average, American households spend 3%-5% of their gross annual income on heating and cooling their homes. However, this percentage is not "uniformly proportional to household income and size."[1] Put another way, households that earn $75,000 or more spend on average spend 1.4% of their gross annual income on residential energy expenditures while households that earn $15,000 or less spend 15% of their income on energy expenses.[2]

Per the findings in a recently published report from Virginia Tech University, titled The Impact of Energy Efficiency Design and Construction on LIHTC Housing In Virginia, "energy efficiency is an influencing factor in affordability." The fluctuations in household energy use month-to-month, due to seasonal needs, has a destabilizing effect on family finances, because of the monthly variances.[3]

The variable cost of heating and cooling a home impacts other parts of a low-income household budget. In the literature review of the Virginia Tech study, it highlights "that seasonal variations in home heating and cooling costs resulted in food insecurity for low-income and poor households. Further reinforcing the connection between heat cost and

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[1] Lee, Chin and Martin, Affordable Housing: Reducing the Energy Cost Burden, Pacific Northwest Laboratory 1995; Koebel and Renneckar, A Review of the Worst Case Housing Needs Measure, HUD-OPDR, 2003.

[2] Carliner, Michael. "Reducing Energy Costs in Rental Housing: The Need and Potential." 2013. Joint Center for Housing Studies of Harvard University. http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/carliner_research_brief_0.pdf

[3] Virginia Center for Housing Research at Virginia Tech. (2015). The Impact of Energy Efficient Design and Construction on LIHTC Housing in Virginia. Retrieved from http://www.vchr.vt.edu/wp-content/uploads/2015/02/Housing-VA-LIHTC-Study-Full-Report.pdf .

financial burden was the observation that the prevalence of 'very low food security was higher in high heating states than in high cooling states'."[4]

3.2 Minimum Construction Standards:

- **The terms "traditional and alternative methods" of construction should be clearly defined and those definitions should then be vetted through the legislative and regulatory processes.** More clearly defined required construction methods will provide clarity and certainty to both builders and building inspectors.

- **The "Construction Standards" in the LIFT program should include strong preference and incentives for energy efficiency and high-performance buildings.**

  To realize the goal of affordable housing, the LIFT construction standards must set a minimum for energy efficiency that performs better than code, to keep monthly energy costs reasonable and predictable; and ideally, would go further and incentivize high-performance buildings. A 1995 study noted that "the cost of energy bills is influenced so strongly by decisions made during design and construction that it necessitates taking a life-cycle perspective when evaluating housing." The study further stated, "Investment in energy-efficiency measures may increase purchase price, yet decrease future energy bills," thus promoting housing affordability for low-income families.[5] Establishing clear construction standards that prioritize affordability, efficiency, safety and health at the outset of the program will ensure benefits are experienced by residents while ensuring better use of public dollars. HUD, for example, in key competitive funding programs, sets a minimum energy performance and then incentivizes green certification through bonus points.

- **The construction standards should also include clear language and strong preference for resilience to extreme weather and seismic activity.**

  As the Council may be aware, Oregon is one of the U.S. Department of Housing and Urban Development's National Disaster Resilience Competition finalists. The winner will be declared in the next few weeks. **Oregonians are keenly aware of the impact of climate change on our**

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[4] Ibid, page 22 (citing Nord & Kantor 2006).

[5] Lee, et. al. 2003

communities and how those impacts disproportionately impact low-income and vulnerable communities. In addition, as the state moves through preparing for the "Cascadia earthquake," we hope it will take this opportunity to include potentially life-saving seismic retrofits and new technologies in the construction of housing that this program will finance.

- **The construction standards should express incorporate building features, materials, and elements that promote health.**

  Americans spend about 90% of their time indoors and much of that is in our homes. The EPA estimates that indoor air is between two and 10 times more polluted than outdoor air. The U.S. Centers for Disease Control and Prevention found that low-income individuals have the highest rate of asthma. 21 percent of all asthma cases are a direct result of home conditions, like mold and mildew. LEED-certified homes are designed to maximize fresh air indoors and minimize exposure to airborne toxins and pollutants and require proper ventilation, high efficiency air filters and measures to reduce the possibility of mold and mildew. Green buildings prioritize the use of adhesives, sealants, and finishings that have little to no volatile organic compounds (VOCs) to improve air quality.

  For example, a Washington, D.C. study of green certified low income housing renovations identified significant health benefits to residents.[6] According to the study, self-reported general health in adults significantly improved from 59% to 67%; allergen dust loadings showed large and statistically significant reductions and were sustained at one year. The study also reported energy and water cost savings of 16% and 54%, respectively.

- **Quality, durability, and cost should be considered on a lifecycle or total cost basis, including construction and operation and maintenance.**

  The cost of affordable home projects often occupies much of the public discussion and it is no different here in Oregon. Questions of cost, durability and quality runs throughout the proposed LIFT program design and at times may conflict with each other. Given the current state of Oregon's housing crisis, USGBC recognizes the state's desire to achieve a

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[6] Jacobs, DE, et al. Health and housing outcomes from green renovation of low-income housing in Washington, DC.J Environ Health. 2014 Mar;76(7):8-16, available at http://www.ncbi.nlm.nih.gov/pubmed/24683934 .

balanced outcome. However, there are many misconceptions about green, sustainable development that could unduly influence the program away from green building programs like LEED and result in the construction of homes that are not as energy efficient, healthy and safe as they could be for comparable costs.

USGBC believes that green affordable housing is cost-efficient for developers and building owners throughout the life-cycle of the building. A 2009 Enterprise Green Communities report, "Incremental Cost, Measurable Savings: Enterprise Green Communities Criteria," found that building low-income units to green standards provides long-term operating costs savings. The report evaluated 27 affordable housing buildings across the U.S. built to Enterprise Green Communities criteria and found that the estimated lifetime utility savings of roughly $4,851 per unit exceeded the initial investment of $4,524. Enterprise expanded the initial study in 2012 to include 52 affordable housing developments in the U.S. The updated study reaffirmed the 2009 findings.

Building green incorporates durable materials and design with the goal of prolonging the life of the building and its systems, which in turn prolongs the life of the building itself. In contrast, when the lowest initial cost is the only consideration and less durable materials are used, in addition to energy use, maintenance and material and operating system replacement can add significant costs, become a barrier to housing affordability, and needlessly drain public and household resources.

The Virginia Tech study of Virginia's affordable housing program came to the same conclusion, stating "housing built to a target cost point with short-term financial motives and to minimum building code is often not as energy efficient as it could be. This lack of energy efficiency creates a higher operating cost when compared to high performance construction methods and materials."[7] Prioritizing affordability and total value through lifecycle cost analyses leads to better informed decisions that are cost-effective over the long term. The total value of adopting green building design and construction processes, like LEED, regularly exceeds the initial cost and investment. It is the opportunity to ensure that a family doesn't just have a house to live in, but a home that is part of a broader community that provides green space, easy access to community support services, and healthier homes and residents.

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[7] Virginia Center for Housing Research at Virginia Tech. (2015). The Impact of Energy Efficient Design and Construction on LIHTC Housing in Virginia. Retrieved from http://www.vchr.vt.edu/wp-content/uploads/2015/02/Housing-VA-LIHTC-Study-Full-Report.pdf .

3.3 To Protect the Public investment, the LIFT Program Should Incorporate Accountability Throughout the Building Process and Beyond

The balancing of quality, durability, and cost requires accountability throughout the whole process. Transparent third-party verification systems, like LEED, for green building provide assurances that taxpayer money is being well spent on buildings that save energy, water and money. LEED and many other green building standards are designed around the maxim "trust, but verify." This ensures that the building was not only designed to meet sustainability and efficiency standards, but that it was built to those specifications. LEED-certified homes are third party inspected, performance-tested, and certified to perform better than a conventional home. Also, a synchronized process integrating designers, contractors and building managers affirms the integrity of green building commitments, ensuring accountability and protecting public investments. Lastly, benchmarking and energy and water usage disclosure requirements in third-party certification systems to measure building performance are central to uncovering inefficiencies and pinpointing low and no-cost energy savings.

4. Closing

Green building tenets propagate energy efficient, cost-effective environments, challenging perpetual barriers to affordability for individuals, families and the public and private institutions that finance these developments. We believe meeting the needs affordable housing and integrating sustainable building practices with the principles of social and economic justice are not mutually exclusive. Oregon has the opportunity to develop affordable housing that promotes healthy living, mitigates safety and health risks, and reduces overwhelming energy burdens for low-income families. USGBC wants to be partner in this and hope you will look to us as a resource to accomplish this massive, but much needed undertaking.