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Mr. John Ainslie, Chair  
Board of Housing and Community Development  
600 East Main Street, Suite 300  
Richmond, VA 23219

May 15, 2017

Dear Chairman Ainslie:

I am writing today on behalf of the Virginia Energy Efficiency Council (VAEEC) to support the inclusion of rigorous energy proposals as part of the current draft of the Uniform Statewide Building Code (USBC) and to encourage the Board to consider the total costs of homeownership, including monthly energy bills, when evaluating code proposals.

The VAEEC is the voice for the energy efficiency industry in the Commonwealth. Our members include Fortune 500 companies, small businesses, universities, nonprofits, local governments, state agencies, utilities and individuals. As a 501c3 organization headquartered in Richmond, our goal is to ensure energy efficiency is recognized as an integral part of Virginia's economy and clean energy future.

The VAEEC is currently focused on several program areas, which reflect our role in advancing innovative and effective strategies in the energy efficiency sector: supporting smart energy efficiency policies and programs through the Governor's Executive Committee on Energy Efficiency; working with localities to develop Commercial Property Assessed Clean Energy financing programs; and supporting the inclusion of rigorous energy proposals in the USBC.

And, Governor McAuliffe understands that energy efficiency is an integral part of Virginia's economy. Staff from the State Energy Office presented data to the Governor's Executive Committee on Energy Efficiency showing that full adoption of the 2015 IECC model code is vital for the Commonwealth to meet its goal of reducing energy consumption ten percent by 2020.

Studies also show that rigorous energy codes are among the most cost-effective ways to improve energy efficiency and provide immediate cost savings to new home buyers. According to the Virginia factsheet from the Building Codes Assistance Project, the costs associated with the 2012 International Energy Conservation Code (IECC) would be less than \$2200<sup>1</sup>. Amortized over a 30-year mortgage at today's rates, that is less than \$11 a month on the monthly mortgage bill<sup>2</sup>. Couple that cost with the estimated energy bill savings of nearly \$31 a month, and homeowners would actually begin saving nearly \$270 annually, before their second anniversary of home ownership

In 2012, the IECC model code included substantial efficiency measures for new homes and existing renovations, including an increase for wall and attic insulation, more efficient window and lighting requirements, hot water pipe insulation, and requiring mechanical testing for

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<sup>1</sup> <http://bcapcodes.org/wp-content/uploads/2015/11/Virginia-2012-IECC-Analysis.pdf>

<sup>2</sup> Using the Amortization Schedule Calculator on Bankrate.com

whole home air-tightness and ductwork. Unfortunately, the majority of these improvements were not included in the 2014 Virginia USBC update.

**We are pleased to see that the current draft regulations do include several new efficiency improvements for lighting, hot water pipe insulation, and the creation of the Energy Rating Index (ERI) compliance option.** However, there is more that can still be done to include more energy savings potential for homeowners. Particularly since some of the new additions in the draft are already addressed under federal manufacturing regulations.

According to a 2012 study done by the Department of Energy (DOE) on the cost-effectiveness of the 2012 IECC on Virginia's USBC states<sup>3</sup>:

*The requirement for high-efficacy lamps, while significant, is somewhat abated by a superseding federal regulation banning the manufacture or import of less efficient lamps at common watt levels that takes effect in 2012 to 2014.*

This same DOE report also cited significant opportunities for Virginia by requiring hot water pipe insulation as well as mechanical testing for both air-duct tightness and whole home air-tightness. The inclusion of hot water pipe insulation in the proposed regulations is a welcome addition. However, mechanical testing for both air ducts and the whole home envelope should also be included.

A report published by the National Association of Home Builders states that these two mechanical tests cost less than \$175 each<sup>4</sup>. According to the EPA, leaky ducts can reduce the performance efficiency of heating and cooling units by 20%<sup>5</sup>. Implementing these two proposals would reduce the total cost of housing for new homeowners.

The good news is that a proposal to include mechanical duct testing or "duct blaster testing" received unanimous support at the April 12<sup>th</sup> energy subgroup meeting, which included efficiency advocates, homebuilders and code officials. This proposal, if passed, will bring Virginia's duct-testing requirements up to the current 2015 IECC standard.

We also support a second proposal from the energy subgroup, which would adopt the 2018 IECC ERI compliance option instead of the 2015 IECC version. By adopting the 2018 version, which received over 80% of the votes from ICC Governmental Member Representatives, homebuilders gain greater flexibility and trade-off options. The new ERI sets the score at 62 instead of 54 for our climate zone (zone 4), making that pathway more achievable. In states that have already adopted the 2015 IECC, homebuilders have been slow to use the ERI

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<sup>3</sup><https://www.energycodes.gov/sites/default/files/documents/VirginiaResidentialCostEffectiveness.pdf>

<sup>4</sup><http://www.homeinnovation.com/~media/Files/Reports/Percent%20Energy%20Savings%20012%20IECC%20Cost%20Effectiveness%20Analysis.PDF>

<sup>5</sup>[https://www.energystar.gov/index.cfm?c=home\\_improvement.hm\\_improvement\\_ducts\\_benefits](https://www.energystar.gov/index.cfm?c=home_improvement.hm_improvement_ducts_benefits)



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pathway. By implementing the 2018 version from the onset, Virginia is making the pathway more enticing, which will hopefully result in greater participation.

**We support the advancement of these two proposals and respectfully ask the board to include them in the final regulations when they are adopted later this year.**

While we support all of the proposals mentioned, we will continue to stress the importance of requiring mechanical testing (i.e. “blower door test”), for whole home air-tightness. Tighter homes save consumers money on their energy bills while maintaining a consistent comfort level, throughout the home, by reducing the potential for air leakage to the outside.

And besides, homeowners want energy efficient homes. In an Energy Pulse survey by the Shelton Group, homebuyers prioritized costs associated with added comfort and energy efficiency over other expenditures<sup>6</sup>. In a 2013 survey by the National Association of Home Builders, 9 out of 10 homebuyers said they were willing to pay 2-3% more for a home that includes permanent energy efficiency features<sup>7</sup>.

Building more efficient homes is also good for the environment. If Virginia adopted the 2015 model code, without alterations, Virginia homeowners would save \$2.5 billion between 2010-2040 and avoid nearly 16 million metric tons of carbon emissions<sup>8</sup>, which is equivalent to saving the amount of energy consumed by 1.6 million homes in a single year<sup>9</sup>

While we understand that the complete model code will not be adopted during this code update cycle, it is a conversation that we hope to continue with other stakeholders as we move into the next update phase.

Everyone wins when new homes are built to the most cost-effective efficiency standards. This is why VAEEC supports the inclusion of rigorous energy codes in the final draft of the USBC and respectfully encourages the board to take a more holistic approach when debating these proposals in the future.

Sincerely,

Chelsea Harnish  
Executive Director

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<sup>6</sup> [http://www.builderonline.com/builder-100/marketing-sales/four-reasons-buyers-choose-energy-efficient-homes\\_o](http://www.builderonline.com/builder-100/marketing-sales/four-reasons-buyers-choose-energy-efficient-homes_o)

<sup>7</sup> [https://www.nahb.org/~media/Sites/NAHB/SupportingFiles/8/Wha/WhatHomeBuyersWant\\_20130430023250.ashx?la=en](https://www.nahb.org/~media/Sites/NAHB/SupportingFiles/8/Wha/WhatHomeBuyersWant_20130430023250.ashx?la=en)

<sup>8</sup> [https://www.energycodes.gov/sites/default/files/documents/Impacts\\_Of\\_Model\\_Energy\\_Codes.pdf](https://www.energycodes.gov/sites/default/files/documents/Impacts_Of_Model_Energy_Codes.pdf)

<sup>9</sup> <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>