

May 14, 2015

The Honorable Lisa Murkowski
Chair
Committee on Energy & Natural Resources
U.S. Senate

The Honorable Maria Cantwell
Ranking Member
Committee on Energy & Natural Resources
U.S. Senate

RE: Statement for the record on the Energy Savings and Industrial Competitiveness Act of 2015 (S. 720).

Our organizations represent a broad sector of the residential and commercial construction and real estate industry, including builders, developers, Realtors®, property managers, and product manufacturers. We support many of the goals of The Energy Savings and Industrial Competitiveness Act of 2015 (S. 720). We seek to ensure that the bill encourages meaningful energy savings for residential and commercial construction that are achievable and cost-effective. To that end, we appreciate this opportunity to suggest improvements to section 101 of S. 720, entitled “Greater Energy Efficiency in Building Codes.”

Model building energy codes and standards such as the International Energy Conservation Code (IECC) and ASHRAE 90.1 are used across the country to establish minimum standards for building energy efficiency. The codes and standards are developed by private entities, updated every three years, and adopted by state and local governments. Once adopted by a state or locality, the code typically becomes a regulatory baseline requirement for all buildings in that jurisdiction.

The Department of Energy (DOE) can be an effective participant in the development of model energy codes by providing technical assistance to analyze energy savings. As a general matter, section 101 of S. 720 improves this process by increasing transparency within DOE. However, we suggest additional safeguards to prevent DOE from picking “winners or losers” in advocating for specific products or technologies. Further, we recommend safeguards to ensure that DOE does not seek code revisions that are not cost effective.

Consumers deserve a reasonable return on their investment when it comes to required energy efficiency improvements. Failure to consider the true costs of energy-use reductions and establish a reasonable payback period for these investments will exacerbate the shortage of affordable housing as well as increase compliance costs for commercial landlords and many of their tenants. In the commercial building space, DOE’s participation in the codes development process should reflect energy-efficiency investments that consider metrics such as reasonable simple payback periods and the “time value of money.”

With these larger points in mind, we respectfully suggest the following changes to section 101:

More Clarification is Necessary to Distinguish Between DOE’s Proper “Technical Assistance” Role and an Improper “Advocacy” Role

While it does not write or publish the model building energy codes, DOE participates in their development by providing technical assistance. We recognize that the building science research, energy modeling and analysis that DOE offers – using its expertise and legislative authority – are important to the IECC and ASHRAE processes. But we are concerned that “technical assistance” has been broadly

interpreted to allow DOE representatives to advocate for or against certain technologies, picking winners and losers, and seeking aggressive and costly requirements.

Some businesses support inserting specific products into the code to effectively mandate their use and increase their profits. Instead of allowing the builder/developer to make decisions in the best interests of the buyer, the energy codes dictate specific construction methods and which products to use. In addition, DOE has attempted to hire outside consultants to provide advocacy assistance.

For example, in the 2012 IECC, DOE proposed to prescriptively require foam sheathing, a specific type of insulation. This proposal eliminated the ability to use more cost-effective construction materials and methods. Conversely, DOE did not support an NAHB proposal that would have increased flexibility by allowing builders to trade off efficiency measures—wall insulation, for example—provided they install more efficient mechanical equipment.

Section 101 of S. 720 makes some key improvements in the development of model building energy codes by requiring DOE to publish energy savings targets and supporting analysis in the Federal Register. It also sets some of the guidelines by which DOE operates in this context. This will go a long way towards increasing transparency and ensuring that the public is heard. To further improve Section 101, we recommend additional safeguards to prevent DOE from crossing the line into “advocacy” and ensure development of product-neutral, cost-effective building energy codes.

Cost-effectiveness of Building Energy Codes should be Clarified with Reference to Reasonable Pay-Back Periods

We understand and appreciate the value of energy savings to our members’ customers and consumers. While these savings are realized over time, they can only accrue after builders and developers make significant, upfront investments in energy-efficient products and technologies.

Regarding the residential sector, meeting the prevailing energy code is a baseline requirement for every single home, including low-income housing and homes for first-time home buyers. Increasing housing costs for all home buyers will have the unintended consequence of reducing housing affordability. For every \$1,000 increase in the price of a home, 246,000 households will be priced out of mortgage eligibility for a 30-year, fixed-rate mortgage with a 5% interest rate.

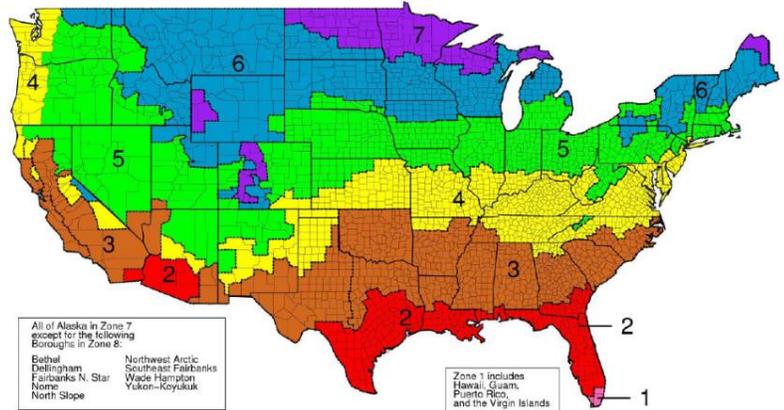
According to an NAHB market report, *What Home Buyers Really Want*, buyers are willing to pay for lower utility costs—but only with at least a 14 percent return, or a 7-year payback. Budget-conscious first-time home buyers require a 5-year payback period (attached). The 2012 version of the IECC included such significant cost increases that it would take the average family 13.3 years just to break even. Some climate zones saw payback periods in excess of 16 or 17 years (see graphic below). The average home owner does not stay in their home for this long and will never realize a return on their investment. DOE typically analyzes cost-effectiveness over the life of the building, which they define as 30 years. Some energy efficiency advocates also argue that the code should reflect a 30-year (or even longer) payback period, but this is simply not realistic.

Similarly, recent versions of the IECC would add thousands of dollars to the construction costs of each individual apartment residence in a multifamily building at a time when the U.S. is already suffering from a shortage of affordable housing (see table below). Research commissioned by the National Multifamily Housing Council (NMHC) and the National Apartment Association (NAA) on the compliance costs of the

2009 and 2012 IECC editions show the IECC is moving toward a heavy emphasis on building insulation and building envelope construction. There are considerable differences between compliance costs for the 2009 and 2012 codes as well as significant cost variance between low-and high-rise properties across climate zones. Notably, these cost differentials are not consistent across, or between, the code editions.

Table 8: 2012 IECC Cost Effectiveness Relative to 2009 IECC

Climate Zone	Annual Energy Savings	Incremental Construction Cost	Simple Payback (yrs)
1	\$206	\$3,224	15.7
2	\$294	\$3,330	11.3
3	\$470	\$7,203	15.3
4	\$410	\$7,091	17.3
5	\$505	\$4,653	9.2
6	\$397	\$6,399	16.1
7	\$609	\$6,465	10.6
8	\$725	\$6,465	8.9
National Weighted Average	\$427	\$5,668	13.3



<http://www.homeinnovation.com/~media/Files/Reports/Percent%20Energy%20Savings%202012%20IECC%20Cost%20Effectiveness%20Analysis.PDF>

2012 IECC CODE COMPLIANCE COST PREMIUM PER APARTMENT UNIT

2012 IECC: Low-Rise Multifamily Property Zones 1-4

	Zone 1	Zone 2	Zone 3 R-13 + R-5	Zone 3 R-20	Zone 4 R-13 + R-5	Zone 4 R-20
Total (Lap Siding)	\$481-\$582	\$585-\$728	\$2,767-\$3,297	\$1,822-\$2,159	\$2,712-\$3,201	\$1,767-\$2,064
Total (Brick)	\$481-\$582	\$585-\$728	\$2,093-\$2,546	\$1,822-\$2,159	\$2,038-\$2,450	\$1,767-\$2,064

2012 IECC: Low-Rise Multifamily Property Zones 5-8

	Zone 5	Zone 6 R-13 + R-10	Zone 6 R-20 + R-5	Zone 7 and 8 R-20 + R-5	Zone 7 and 8 R-13 + R-10
Total (Lap Siding)	\$530-\$632	\$2,567-\$2,940	\$2,567-\$3,013	\$2,567-\$3,013	\$2,276-\$2,681
Total (Brick)	\$530-\$632	\$1,969-\$2,271	\$1,893-\$2,262	\$1,893-\$2,262	\$1,678-\$1,814

2012 IECC: High-Rise Multifamily Property Zones 1-5

	Zones 1-3 R-20	Zones 1-3 R-13 + R-3.8	Zone 4 R-20	Zone 4 R-13 + R-3.8	Zone 5 R-20 + R-3.8	Zone 5 R-13 + R-7.5
Total (Lap Siding)	\$1,345-\$1,586	\$902-\$1,102	\$1,595-\$1,853	\$341-\$399	\$2,515-\$2,962	\$2,220-\$2,627
Total (Brick)	\$1,345-\$1,586	\$902-\$1,102	\$1,595-\$1,853	\$341-\$399	\$2,515-\$2,962	\$1,680-\$2,026

2012 IECC: High-Rise Multifamily Property Zones 6-8

	Zones 6 and 7 R-20 + R-3.8	Zones 6 and 7 R-13 + R-7.5	Zone 8 R-20 + R-10	Zone 8 R-13 + R-15.6
Total (Lap Siding)	\$2,515-\$2,962	\$450-\$538	\$4,928-\$5,723	\$341-\$399
Total (Brick)	\$2,515-\$2,962	\$450-\$538	\$4,302-\$5,047	\$341-\$399

Cost calculations are based on "Impact of the 2009 and 2012 International Energy Conservation Code in Multifamily Buildings", Niles Bolton Associates, Inc., March 2012. Costs reflect only the cost premium to comply with the new code versions relative to the previous code edition. Charts do not represent total code compliance costs. <http://www.nmhc.org/Content.aspx?id=6169>.

The commercial building sector requires an even shorter return on investment to bring the cost in line with commercial leasing structures (10 years or less). Many lenders require strict return on investment analyses. A Turner Construction Report, “2012 Green Building Market Barometer,” indicated that 65% of commercial developers expect a payback period of 5 years or less (attached). A DOE report prepared by the Pacific Northwest National Laboratory, *Assessing U.S. ESCO Industry Performance and Market Trends: Results from the NAESCO Database Project*, found that, in the context of Energy Service Companies (ESCOs), while institutional buildings can withstand a 7-year payback period for energy efficiency improvements, private, commercial buildings can only withstand a 3-year payback (attached). DOE’s own report acknowledges that a 3-year return on investment is critical for any private investments in energy efficiency.

Moreover, payback from energy efficiency investments for commercial buildings, as a practical matter, must correlate to commercial mortgage financing practices. That is, building owners and banks would not make rational financial and capital expenditure decisions if payback on equipment investments exceed the terms of the underlying mortgage that finances the property. To this end, a congressional oversight panel (which convened during the recent financial crisis) addressed real estate sector fundamentals and found that commercial building mortgages generally range from 3-10 years in duration (after which the building is either sold or refinanced upon maturity of the initial mortgage).¹ More recent reports confirm that, since the recession, private equity lenders are seeking short-term commercial real estate loans with 3-year maturities, compared to a typical 10-year maturity generally offered by banks.² For purposes of energy codes, payback on energy efficiency equipment in a mortgaged building should logically correlate to how that same structure is financed. A 30-year codes payback (such as one calculated under a “life-cycle cost-effective” standard) is not realistically tethered to market conditions where commercial mortgages have a financing horizon of 10 years or less.

Accordingly, we believe it is a fair compromise for S. 720 to include language that prevents the federal government – acting through DOE – from offering or supporting building energy code revisions that exceed a simple payback period of 10 years or more.

Thank you for the opportunity to submit these comments. Our organizations appreciate the willingness of the Committee, and S. 720’s sponsors, to consider our perspectives.

¹ <http://cybercemetery.unt.edu/archive/cop/20110402035627/http://cop.senate.gov/documents/cop-021110-report.pdf> (pp. 2, 68-69).

² <http://www.costar.com/News/Article/Big-PE-Players-Among-Most-Active-Buyers-and-Lenders-for-Commercial-Property/169789>.

Sincerely,

Building Owners and Managers Association (BOMA) International

International Council of Shopping Centers

NAIOP, the Commercial Real Estate Development Association

National Apartment Association

National Association of Home Builders

National Association of REALTORS®

National Multifamily Housing Council

The Real Estate Roundtable

cc: The Honorable Rob Portman

The Honorable Jeanne Shaheen

U.S. Senate