

**Statement of Sonny Richardson,**  
**On Behalf of the National Association of Home Builders**  
***“Legislative Hearing Regarding American Clean Energy Security Act”***

**Subcommittee on Energy and the Environment**  
**House Energy and Commerce Committee**

**April 24, 2009**

Chairman Markey, Ranking Member Upton, and distinguished members of the Subcommittee, my name is Sonny Richardson and I am a home builder from Tuscaloosa, Alabama. I am pleased to present testimony today on behalf of the 200,000 members of the National Association of Home Builders (NAHB), representing every aspect of the residential construction industry – single family and multi-family builders, light commercial builders, remodelers, material suppliers, appliance manufacturers, real estate professionals, and housing finance interests.

Facing the brunt of the economic downturn and the worst housing market since the Great Depression, I can personally attest to the devastating losses and historic declines facing our industry. Falling from a height of two million new homes constructed in 2006 to less than 500,000 projected for 2009, the housing industry has suffered overwhelming setbacks that continue to force our small business members (comprising 80% of our association) out of business. This affects the ability of our industry to deliver the next generation of housing to the market that will be more energy and resource efficient. Because NAHB members build about 80% of all the new homes in the United States, we must necessarily influence the manner in which energy efficiency and sustainable technologies are introduced into our nation’s housing stock. As one of those promoting energy efficiency and affordability in my industry, I am excited to testify today about both the challenges and opportunities facing us as we work collectively to evaluate and improve efficiency in the residential sector.

The challenge of climate change affects everyone, including the residential construction industry. NAHB members are responding in numerous ways, contrary to assertions that builders generally oppose efficiency. NAHB invested millions of dollars in developing a national green building program and creation of the first and only *National Green Building Standard™* approved by the American National Standards Institute (ANSI). Home builders embrace robust national policies to address today’s environmental challenges and support effective measures to implement greater sustainability and efficiency in the broadest possible manner. This written statement explains the realities of the housing market and explains how the provisions in the *American Clean Energy and Security Act of 2009 Draft* (ACES Act Draft) to update state building energy efficiency codes (Section 201) may not achieve true energy savings, but are likely to impair affordability for millions of future residents of green and energy-efficient dwellings.

**Residential Energy Consumption Realities**

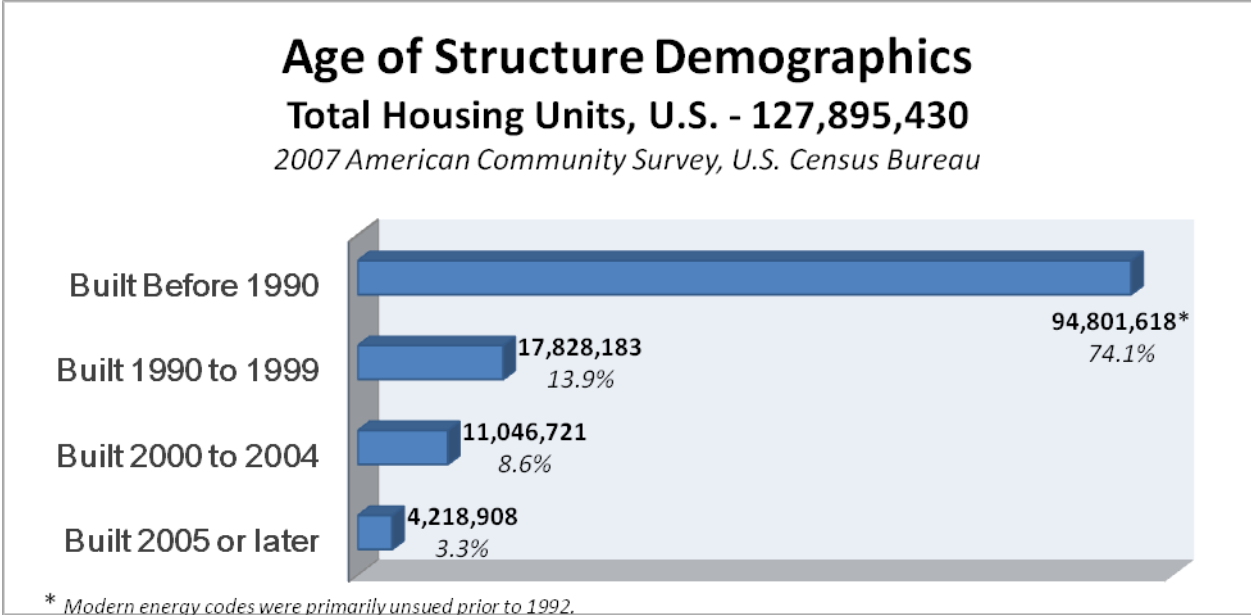
Although targeted as a major untapped reservoir of potential energy and greenhouse gas emissions (GHGs) savings, the residential sector has already moved at lightning speed to embrace energy efficiency and sustainability in new buildings. In fact, according to the Energy Information Administration (EIA), newer homes, i.e., homes built after 1991 – represent the smallest fraction, 2.5%, of all the annual national consumption in 2001.

Energy Consumption in 2001 in Trillions of Btu

<b>Total</b>	<b>96,498</b>	<b>100.00%</b>
<b>Residential Sector</b>	<b>20,228</b>	<b>20.96%</b>
<b>Manufactured Housing</b>	<b>1,301</b>	<b>1.35%</b>
Fossil Fuel Used to Generate Electricity	815	0.84%
Consumed by Residence	486	0.50%
<b>Single Family and Multifamily Built before 1991</b>	<b>16,498</b>	<b>17.10%</b>
Fossil Fuel Used to Generate Electricity	8,743	9.06%
Consumed by Residence	7,755	8.04%
<b>Single Family and Multifamily Built 1991-2001</b>	<b>2,429</b>	<b>2.52%</b>
Fossil Fuel Used to Generate Electricity	1,386	1.44%
Consumed by Residence	1,043	1.08%

*Sources: Annual Energy Review by the Energy Information Administration; the 2001 Residential Energy Consumption Survey, Energy Information Administration.*

This is important because it demonstrates the shortcomings of a policy approach that is designed to require aggressive increases in efficiency for new construction that ultimately may not deliver the greatest energy savings. The biggest return on efficiency investment in the residential sector would be realized by improving older homes, which according to the U.S. Census Bureau comprise 74.1% of the current U.S. housing stock:



Because building codes and construction practices have improved over time, newer homes are dramatically more energy efficient. The ability to realize additional energy savings from an already super-efficient segment of the residential sector via building codes is extremely limited, and thus cannot be expected to deliver dramatic results in terms of greenhouse gas (GHG) emissions reductions or consumer utility savings. NAHB suggests that a much more robust approach to integrated energy efficiency in the residential sector is the best way to achieve the goals of reducing energy consumption and GHG emissions.

**The Role of Building Energy Codes**

I am an active participant in the code development process that occurs through the International Code Council (ICC) and can confirm that much of the rhetoric today about what building codes can do for energy savings, aimed at the public and policymaker alike, is terribly shortsighted. Some groups suggest that all concerns about the built environment and the GHG

emissions attributable to it could easily be ameliorated with a few aggressive building code regulations. Others recognize that energy efficiency is more than just building codes and that greater focus is needed on sustainability and the overall performance of the home. Regrettably, facts about what is actually attainable through energy code requirements is often lost in broad platitudes while the true realities of residential energy consumption and the development of effective policies to address it holistically are cast aside.

It is true that codes are consistently improved through a normal cyclical process whereby stakeholders from every interested party – enforcement officials, environmentalists, builders, etc. – convene to discuss the merits of certain changes, eventually producing a revised code for adoption by state or local governments. It is false to assume that just requiring states or local governments to adopt arbitrary above-code compliance targets for all new construction is going to translate into deliverable energy savings. A state or local government may decide to adopt an aggressive energy code for new construction, but without resources to enforce it, or without resources to address existing homes, such requirements are not meaningful on a broad scale.

The implementation of energy codes at the local level and the need for geographic flexibility is one reason why the federal government is limited in terms of what it can expect state and local governments to deliver. Under the police powers of the U.S. Constitution, states are given the authority to determine appropriate building codes within their jurisdiction. Some states confer this authority to local municipalities and set up a framework whereby climatic and geographic concerns can be specifically addressed in their individual jurisdictions. For example, Florida needs the flexibility to require hurricane impact resistant building standards, and similarly may require more efficient air conditioning equipment because these are specific geographic demands that make sense for that state. Whereas requiring the same codes in Michigan – i.e., hurricane impact resistant building standards and high-efficiency air conditioners – might be completely illogical.

Because geography, climate, and other conditions impact the combined structural safety, soundness, and energy performance of residential structures in various parts of the U.S., it is necessary to have the flexibility to adopt national model codes that fit specific needs. While the federal government should encourage greater efficiency through incentives (e.g., Section 45L New Energy Efficient Home Credit), it would falter in local code enforcement and risk bypassing specific local needs. In this regard, it could also supersede existing public-private programs (e.g., Energy Star<sup>®</sup>), and overlook successful green building programs. Provisions like Section 201 of the ACES Act Draft that require states to adopt above-code targets without reference to the robust sustainability framework of more environmentally-sound green building not only leave states or local areas out of compliance with federal law, but essentially downgrades sustainability for the sake of code compliance. NAHB believes it should never be the case that a state must choose between such extremes, especially since green homes save both energy *and* resources.

State and local governments need to be actively engaged in developing code requirements that are appropriate for the structures built within their jurisdictions. The federal government needs to support them with resources for code implementation that saves energy and resources while not endangering public health or adversely affecting affordability for consumers that generally bear the largest burden (as a percentage of income) of energy costs, i.e., lower and moderate-income families. The federal government can embrace greater efficiency in our nation's housing stock in a manner that supports housing affordability so that everyone, at all price points, can enjoy a green and energy-efficient home.

### **Energy Efficiency and Affordability**

One of the most important aspects of the current code development process is the ability to consider costs and benefits to improvements in efficiency stringencies and to determine paybacks in terms of energy savings for certain features based on initial costs. These “payback periods” are important for demonstrating those changes that can deliver more immediate consumer savings in terms of initial costs versus changes that may take decades or longer to

payback in energy savings. For example, a change in the lighting requirements from incandescents to fluorescents or LED, which NAHB supports, has a 1-2 year payback to the consumer in terms of energy savings versus upfront costs while increasing attic insulation may take decades or never payback. In this regard, the law of diminishing returns applies, i.e., only minimal additional energy savings can be realized by an incremental increase in any given energy efficiency measure.

However, when the frame of reference is shifted from the payback in energy savings to the consumer, for example, to a “life cycle” of a building or home, per Section 201, these reasonably-determined cost considerations for the consumer are bypassed entirely. In this instance, a consumer would be responsible for paying for efficiency features that may payback over the entire time a home exists, rather than realizing any meaningful energy savings during the time in which he or she might occupy the home (often less than 10 years).

It is also possible that some changes in efficiency features may never payback during the lifetime of the structure. For example, requiring double-pane low-e windows in southern Florida has an energy savings payback of over 300 years. NAHB suggests adding language, as passed by the House in previous energy legislation – H.R. 3221, Roll Call No. 832, August 4, 2007 – that states that changes to the codes must be “*technically feasible and economically justified based on available appliances, technologies, materials, and construction practices.*” This will help accommodate changes that put the consumer first in energy savings paybacks and energy efficiency.

Despite the dramatic downturn and the virtual halt of new construction in the U.S., NAHB believes that we must preserve affordability for the new homes that must be built once the market turns around. In this regard, if the government adopts the approach of mandatory energy codes embraced in a “life cycle” costing approach, there is great potential risk for harm to marginal first-time home buyers. These buyers are typically characterized by lower incomes, limited up-front cash for down payments, with intent to purchase relatively modest-priced homes. Ironically,

these lower-income marginal buyers are also the ones that share the larger burden of energy costs as a percentage of income and therefore often cannot and should not be expected to wait decades for future paybacks from efficiency features.

Mandated criteria that increase up-front costs for new homes in exchange for a future payback may work well at the top of the market, or even in the average case, yet have the effect of pricing out marginal first-time buyers at the lower end of the market. NAHB does not believe the assertion that a broad public policy objective should be achieved on the backs of a relatively narrow segment of the market with limited resources. Similarly, NAHB hopes that Congress will not impose policies that increase costs for newer, more energy efficient homes in a manner that relegates lower and moderate-income families to less-efficient older housing stock.

### **Energy Performance**

Some argue that building envelope improvements – often accomplished through code change requirements – are the best way to address building efficiency because it is assumed that builders will simply absorb the additional costs. The truth is that builders cannot simply push thousands of dollars of efficiency upgrades onto consumers, particularly in instances where consumers are not even demanding such features, and expect to remain competitive in the market. Many of the features that consume energy in a home are not chosen by builders or covered by codes, but ultimately affect the home's energy performance and can, in some cases, offset envelope improvements that are covered by codes.

The exponential growth in electronics use and plug-connected equipment in a home will have dramatic effects on a home's ultimate energy performance. In April 2008, the Electric Power Research Institute (EPRI) presented information at an event on Capitol Hill that showed that by the year 2030, 30% of all the energy consumed in a home will be "plug load" capacity<sup>1</sup>. The proliferation of big screen televisions, computers, cell phone chargers, DVR's, and even

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<sup>1</sup> Electric Power Research Institute, presentation by Arshad Mansoor, Ph.D. – "*Energy Efficiency Across the Electricity Value Change.*" April 16, 2008 - Great Energy Efficiency Day, Washington, D.C.

digital photo frames will have major consumption implications that should be addressed. The growth of plug-connected usage in residential energy consumption threatens building performance and can easily offset energy savings from envelope and equipment improvements.

### **The Green Building Movement**

NAHB's experience and support for voluntary energy efficiency and green predates many of the available green ratings systems today. Long before green was a part of every day lexicon, NAHB members were actively engaged in building green homes, as part of an organic process that has significantly reshaped residential construction. Aside from our members' work in efficiency programs, like Energy Star® and the Department of Energy's (DOE) Building America program, we have been long-standing pioneers in what is now known as the green building movement.

In the early 1990's, local builders began driving sustainable residential construction that incorporates a flexible framework to accommodate geography, resources, and energy efficiency. As the movement grew, NAHB members became more engaged and, in 1998, NAHB established a national group to work specifically on green building issues. By 2004, the industry, including over sixty stakeholders, began developing a set of national guidelines to recommend to builders how to incorporate ever-increasing sustainability benchmarks for compliance with green criteria. These became known as the National Green Home Building Guidelines.

However, as the need to develop a more reliable verification methodology became apparent, the members of NAHB agreed to work collaboratively with the ICC to undertake a rigorous standards-developing process that ultimately produced the first standard approved by the American National Standards Institute (ANSI) for green residential construction and remodeling in the United States – the *ICC-700 National Green Building Standard™*. The development of the *National Green Building Standard™* is the most recent, and most robust, effort undertaken by the industry to set compliance markers for green building in the various



aspects that comprise residential construction – single family, multifamily, remodeling, and land development.

The process began in early 2007 when a group of 42 stakeholders convened in Washington D.C. representing federal (U.S. EPA, DOE), state, and local governments, building code officials, design professionals, building supplier manufacturers, sustainable building interest groups, utilities, builders, and energy efficiency consultants [see Appendix A]. These experts worked together to develop rigorous, environmentally-sound, and defensible criteria for green residential construction incorporating the seven primary principles of sustainability: energy efficiency, water efficiency, resource efficiency, lot and site development, indoor environmental quality, global impact, and home owner education. After several revisions and over 3,000 public comments, the standard was approved by ANSI on January 29, 2009 and is the only green standard approved by a third-party Standards Developing Organization (SDO), (i.e., ANSI), for residential construction and remodeling in the U.S.

The *National Green Building Standard™* complies with federal law requiring federal agencies to utilize voluntary consensus standards in the market when available. The National Technology Transfer Act of 1996 (P.L.104-113) states in Section 12 (d)(1) that:

*In general.--Except as provided in paragraph (3) of this subsection, all Federal agencies and departments shall use technical standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments.*

NAHB understands the importance of providing a viable, rigorous, and consensus-based alternative to the plethora of privately developed green rating systems flooding the market as the green movement continues to grow. NAHB believes the federal government similarly understands the importance of this concept. By passing this law, it has appropriately identified the need to recognize those standards that have undergone the lengthy and rigorous approval

procedures inherently equipped with adequate safeguards against undue private or corporate influence, confirmed by approval from unaffiliated SDOs.

One very important aspect of green building is, of course, energy efficiency. To be sure, green building embodies more than just energy efficiency, however this is a major component of building performance; primarily because of the costs associated with it, i.e., utility bills. Due to concerns about the variability of consumer behavior and how consumption habits could potentially offset some efficiency gains in the envelope, the developers of the National Green Building Standard™ made sure to underscore the importance of educating homeowners about maintenance and home operation with a requirement in the standard. This adds value by educating the consumer about how personal conservation habits in the home are equally as important as improving the construction techniques of the home itself.

### **Existing Homes & Remodeling**

Beyond green building, the shift in demand for remodeling for greater energy efficiency is a rapidly growing trend in the residential sector. NAHB supports the approach and intent of Section 202 in the ACES Act Draft legislation will provide direct dollars to consumers to improve the energy efficiency of existing homes and buildings. Section 202 does not mandate specific above-code targets, but rather approaches older homes holistically and directs the limited resources of the federal government directly at the largest part of the energy consumption problem, i.e., older homes. NAHB urges a similar approach be employed in new construction in lieu of the requirements for arbitrary code targets proposed in Section 201.

Additionally, existing homes offer a great opportunity for savings by simply replacing less efficient appliances with Energy Star® rated models. This can save an average of 30 percent over standard appliances and deliver meaningful energy savings in the form of decreased utility bills for consumers. While some efficiency upgrades are more costly than others (e.g., new heating/cooling systems versus replacing incandescent bulbs) each has the potential to save energy for the consumer operating an existing home. All of these components are important for

having an integrated approach towards energy efficiency. NAHB hopes that Congress will focus on the biggest part of the energy loss problem in the residential sector while supporting incentives to encourage above-code programs for new construction.

### **Conclusions and Recommendations**

Improvements in residential energy efficiency and the growing green building movement are absolutely changing the dynamics of the housing market today. In some instances, the changes and improvements may be occurring at a slower pace than desired by policymakers and others, but claiming that nothing is occurring towards improved efficiency and sustainability is patently false. The reality is that a mix of incentives, consumer education, changes in construction technologies, and adoption of locally-enforceable and meaningful efficiency measures with a focus on older homes is needed to drive greater efficiency in the residential sector.

There are many opportunities for the government to work with home builders to achieve the goal of improved building efficiency in the ACES Act Draft legislation. NAHB recommends the following changes to address integrated energy efficiency in both new and existing homes:

- Modify the language in Section 201 to accommodate efficiency gains outside of code-controlled envelope requirements as builders reach to achieve increases in future editions of the energy code. Avoid allowing DOE to modify ICC codes or ASHRAE standards that may not accommodate every state's climate demands simultaneously or equally.
- Congress must restore its commitment to energy incentives that help offset upfront costs of efficiency upgrades. To do this, Congress should extend, or make permanent, Section 45L, Section 25C, Section 25D, and Section 179D of the tax code.

- Congress should employ the approach set forth in Section 202 to provide consumers with direct funding to improve efficiency of existing homes and buildings and consider applying a similar policy towards new construction.
- Lastly, Congress should consider embracing a broad possible green building policy and provide consideration for homes that achieve compliance with green building standards that have been approved by the ANSI, such as the *ICC-700 National Green Building Standard*<sup>™</sup> for residential construction, remodeling, and land development. This recognition is important not only because the standard complies with federal law governing consensus standards (National Technology Transfer Act P.L. 104-113), but also because energy code targets by themselves cannot accommodate the more robust sustainability framework of green building, which achieves greater environmental performance as a whole over energy efficiency alone.

## Appendix A

### Consensus Committee on the National Green Building Standard™

Representatives from the following organizations, companies, and government offices participated in the development of the criteria as approved by the American National Standards Institute (ANSI) for the ICC-700 2008 National Green Building Standard™:

American Forest & Paper Association  
American Gas Association  
American Institute of Architects  
Bowen Collins and Associates, Consulting Engineers  
Brick Industry Association  
Build Green New Mexico  
Building Owners and Managers Association (BOMA) International  
Building Quality  
City of Dearborn, Michigan, Department of Building & Safety  
City of Denton, Texas, County Building Inspections  
City of Keene, New Hampshire  
City of Rio Rancho, New Mexico  
City of St. Paul, Minnesota  
City of Scottsdale, Arizona  
CNIC Housing – Commander, Navy Installation Command, U.S. Navy  
ConSol  
Edison Electric Institute  
Fairfax County, Virginia, Department of Public Works  
Gas Appliance Manufacturers Association (GAMA)  
Green Builder, LLC  
Green Building Initiative, Portland, Oregon  
Green Built Michigan (Lansing)  
Gypsum Association  
K. Hovnanian Homes/Landover Group  
Manufactured Housing Institute  
NAHB Land Development Committee  
National Multi Housing Council  
North American Insulation Manufacturers Association  
Plastic Pipe and Fittings Association  
Plumbing Manufacturers Institute  
Portland Cement Association  
State of California, Department of Housing and Community Development  
Steel Framing Alliance  
Sustainable Buildings Institute  
Town of Parker, Colorado  
United States Environmental Protection Agency  
United States Department of Energy  
U.S. Green Building Council  
Veridian Homes  
Village of Arlington Heights, Illinois  
Whirlpool Corporation  
Winchester Homes, Inc.