

**Statement of Ray Tonjes, on behalf of the  
National Association of Home Builders**

**Before the  
Senate Environment and Public Works Committee**

**May 15, 2007**

Madame Chair, Ranking Member Inhofe, and distinguished members of the Committee, thank you for the opportunity to testify on behalf of the National Association of Home Builders (NAHB). My name is Ray Tonjes and I am the Chairman of the Green Building Subcommittee at NAHB, representing 235,000 thousand corporate members that, in turn, employ millions of individuals in the home building, remodeling, multifamily construction, property management, subcontracting, design, housing finance, building product manufacturing, and light commercial construction industries. As a custom home builder, I appreciate the opportunity to talk about the successes that I, and my fellow builders, have made in cultivating a progressive green building program that is producing sustainable energy- and resource-efficient homes throughout the United States.

**Introduction**

NAHB members currently build about 80% of all new units in the United States and, by the end of 2007, more than half of NAHB's members will be incorporating green practices into the development, design, and construction of these new units. This is a significant and important fact because housing comprises 16% of the U.S. GDP. The impact of housing on the economy of the United States is substantial, and by encouraging growth in green building, our nation's home builders have the potential to profoundly affect sustainability and conserve precious natural resources and our environment.

NAHB members are leaders in the green building movement and were active on this effort long before the recent media interest in climate change and global warming. NAHB has been working on green building alongside its 800+ state and local Home Builder Associations (HBAs) for nearly a decade, which is longer than many other green building advocates have even existed. In fact, NAHB will be hosting its 10<sup>th</sup> Annual National Green Building Conference in New Orleans next year and has consistently been ahead of the curve in promoting and developing energy-efficient and environmentally-friendly construction techniques for the mainstream home builder.

Based on a survey of NAHB home builders conducted last year by McGrawHill Construction, about 10% of the homes built in 2010 are expected to be green, containing at least three of five green building elements. Being green means much more than a tankless water heater and a little extra insulation in the attic, it is a holistic approach to how the home exists on the land with the least impact, how conservatively it uses

resources; and how it provides healthy, safe, and decent shelter to the resident. Simply put, building greener is building better. It means making intentional decisions that positively impact energy efficiency, resource conservation and indoor environmental quality throughout the entire design and construction process. Green means doing the right thing for the builder, the homeowner, and, most importantly, the environment.

The recent strength and growth of green building is due in large part to its voluntary nature, which provides builders and developers the flexibility that is essential for incorporating the principles of sustainable design in innovative ways to construct a home that is both environmentally sound and affordable to homebuyers. Green home building will continue to be an important component and because of the current flexibility in green building options, builders will be able to successfully adjust to the shifting market demand for greener homes.

### **National Green Building Standard**

Working with more than 60 industry stakeholders, in January 2005 NAHB completed the *Model Green Home Building Guidelines* (the Guidelines). The Guidelines are a product of a year-long, consensus-based process involving input from architects and designers, environmentalists, builders, research consortia, and building product manufacturers. The shining hallmark of the Guidelines is that every aspect of the construction industry was involved in forming these criteria so that every builder, large and small, could easily adopt the practices. The Guidelines truly are designed for every builder, and they address 100% of America's housing stock. Most importantly, NAHB makes absolutely no profit from the promulgation of the Guidelines; they are entirely free of charge. I am proud to report that all of the benefits reaped from building a green home with the Guidelines go directly to the homeowner and, ultimately, to our environment.

The voluntary Guidelines contain six guiding principles that offer a variety of distinct line items from which builders (and operating HBAs) can choose, allowing them to be customized to reflect local geographic and climate conditions. These principles include the following:

- ***Lot Design, Preparation, and Development.*** Resource-efficient site design and development practices help reduce the environmental impacts and improve the energy performance of new homes. Siting that saves trees, incorporates onsite storm water retention/infiltration features, and orients the home to maximize passive solar heating and cooling are essential elements used in planning a green home.
  
- ***Resource Efficiency.*** Most successful green homes start at the design phase, which includes the selection of materials to be used in its construction. For example, engineered-wood products can help optimize material resources because more than 50% of the log is converted into structural lumber rather than conventional dimensional lumber.

Resource efficiency also means reducing job-site waste by developing construction waste management plans. These waste management plans, which includes recycling, can reduce normal average construction waste by at least two-thirds, thus reducing the burden on landfill space. Lastly, performing life-cycle analysis (LCA) on building materials will help to determine a more accurate impact on the environment, since materials can be renewable, yet can be very energy-intensive when considering their transport to job-sites, for example. The LCA process involves a “cradle to grade” philosophy and covers how the material is recovered, the product manufacturing process, the home building process, the maintenance and operation, the home demolition, and product reuse, recycling, and disposal. All of these facets combine to help builders choose the most resource-efficient products that have the least impact on the environment throughout the life of the home.

- ***Energy Efficiency.*** Energy consumption has profound impacts on our environment, from the mining of fossil fuels to the emissions of burning non-renewable energy sources. The impact of a home’s energy use over time is a significant factor in how that home will impact the environment. Therefore, energy efficiency is heavily weighted in any green building program. The greatest results in energy efficiency come from a “whole systems” approach. Energy performance does not end with just increasing insulation, using renewable energy, or upgrading the HVAC equipment. Green homes must have a balance between these features and careful window placement, building envelope air sealing, duct sealing, and proper placement of air and vapor barriers from the foundation up to the attic. Once these features are incorporated into the green home, then it will truly be high-performing, energy efficient, less-expensive to operate, and more comfortable to live in than a conventionally-constructed home.
  
- ***Water Conservation.*** Implementing water conservation measures can reduce mean per capita water usage from 64 gallons per day to 45 gallons per day. Thus, green homes are especially welcome in areas affected by long- and short-term water supply issues. Green homes conserve water both inside and outside the home with more efficient water delivery systems, native and drought-resistant landscaping, and careful treatment of storm water and wastewater in the construction process. In fact, some communities gain additional benefits from builders using native species in landscaping and filtering and removing contaminants from storm water and wastewater in a green home.

- ***Indoor Environmental Quality.*** Healthy indoor environments are another hallmark of green building. Following energy efficiency, the quality of a home's indoor air is often recognized as the most important feature of a green home. Increases in reported allergies and respiratory issues, and the use of chemicals that can emit gas from building materials have contributed to an increased awareness of the air that is breathed inside the home. Although no official authoritative definition exists of what healthy indoor air means, there are measures that green home builders can take to mitigate the effects of potential contaminants by controlling the source, diluting the source, or capturing some of the source through filtration.
  
- ***Operation, Maintenance, and Homeowner Education.*** Inadequate or improper maintenance of a green home can defeat the designer and builder's best efforts to create a resource-efficient home. Failing to change air filters regularly, or neglecting to use kitchen and bath exhaust fans in moist air, are very common mistakes most homeowners make. Also, many homeowners are unaware of the impact of using common substances in and around the home, such as pesticides, fertilizers, and even common cleaning agents. By giving homeowners a manual that explains proper operation and maintenance procedures, includes information on alternatives to toxic cleaning substances and lawn and garden chemicals, and directs them to water-saving practices, a green home builder can help assure that the home functions as carefully as it was constructed, in an environmentally-responsible manner.

Since its publication, the Guidelines have been successfully implemented by 18 state and local HBAs around the country, with the demand growing each day for new programs. Working off of this overwhelming success, NAHB agreed to collaborate with the International Code Council (ICC) in February 2007 to establish the first and only national residential green building standard that will be certified and accredited by the American National Standards Institute (ANSI). Based on the NAHB Guidelines, this standard will serve as the *only* consensus-based industry standard for residential green construction in the United States.

As a national standard, ANSI requires consensus-based decision-making, opportunity for public comment, and other processes to help guarantee that the standard is acceptable to all members of the home building industry, as well as to those who regulate them. This process involves full participation from interested stakeholders who volunteer to sit on a Consensus Committee, and who provide advice and counsel on how to build a green home, how to verify and certify its integrity, and how to continuously update the standard to ensure improvement and rigor. A membership roster of the official Consensus Committee of the National Green Building Standard is attached to my statement.

You will note on this roster the membership of the U.S. Green Building Council, the U.S. Environmental Protection Agency, the U.S. Department of Energy, numerous city and state housing officials, product manufacturers, insulation manufacturers, architects, and some of the nation's largest production home builders. All members provide their insight and input into this very open and transparent process. In fact, prior to the inaugural meeting of the Consensus Committee, on April 19-20, 2007, the NAHB Research Center, an ANSI-accredited research organization that is serving as the Secretariat for the standard, had received over 250 individual comments to the first draft.

A few of the benchmarks that could go into the national green building standard upon Committee agreement include:

- Demonstration that the home's heating and cooling units are correctly sized, according to the Air Conditioning Contractor's of America's Manual J, or another reference guide, to achieve minimum energy efficiencies
- Achievement of minimum requirements set by the International Code Council's International Energy Conservation Code (IECC)
- Requirement for third-party review to verify design and compliance with an established energy efficiency program, such as Energy Star<sup>®</sup>
- Existence of many options for builders to achieve targets, by scoring points, in order to reach various compliance levels, i.e., embedded flexibility

The consensus process is advanced by the activity of "Task Groups" that serve the purpose of providing expertise on the specific topical areas for the standard. There are currently seven task groups: Administration and Points, Site Development and Global Impact, Resource Efficiency and Owner Education, Water Efficiency and Indoor Air Quality, Energy Efficiency, Multifamily, and Remodeling. These groups each review drafts of the standard and provide proposed changes in their specific areas that are then presented to the full Consensus Committee for consideration. The Consensus Committee has already held its first meeting in April 2007 and is scheduled to meet again in July in Washington, D.C.

Normally, standards development processes can take one to two years to complete, given the extensive public input that requires full consideration. However, the need to develop appropriate strategies to address growing environmental challenges like climate change has motivated our industry to commit to a fast-tracked standards process because we believe that it simply cannot be put off any longer. Because the Guidelines were developed in concert with such a large and diverse group of stakeholders, we can accelerate this process while still allowing time for required public comment.

Encompassing single- and multi-family construction, remodeling, and land development, the National Green Building Standard is expected to be completed in early 2008, an indication of the level of urgency with which the industry is approaching and addressing the issue. I am proud of the continued effort of the home building

community to create the first comprehensive residential green construction standard that not only informs builders on how to build green, but also educates homeowners on how to operate their home in an energy- and resource-efficient manner. Ultimately, the goal is to develop a standard that is flexible enough to adjust to the various resource and energy concerns in the varying climate zones around the country, while at the same time encouraging continued innovation in green technology that is already dramatically shifting the market. Green building should continue to exist in its most flexible form.

### **National Green Building Program**

In order to address the most pressing environmental challenge of our time, climate change, the Board of Directors of the NAHB established policy to proactively seek to contribute to efforts to reduce greenhouse gas emissions by establishing a national green building program. With this charge, NAHB members have stepped up their national campaign to inform the public about the innumerable benefits of green building and sustainability in housing design. In this program, there is a substantial effort to market the green building standard as an effective alternative, and to monitor state and local legislative and regulatory activity to ensure builders retain the right to choose from the myriad of green building options and are not restricted to the sole use of one branded product over another. Viable green alternatives exist in the market today in both residential and commercial construction.

NAHB is poised to make a substantial dollar investment in a National Green Building Program. The NAHB National Green Building Program will help push the green building envelope and encourage innovation in green construction for the millions of homes that are waiting to be built. As one architect recently stated at the NAHB National Green Building Conference in St. Louis, Missouri, by mandating one green building program to the exclusion of others, you create a “race to the bottom.” At a time when the challenge of climate change is moving people to live, work, and function in a more environmentally responsible way, we need to have options to force green building technology to its limit. NAHB’s National Green Building Program will provide those options for all builders and, most importantly, will seek to inform current homeowners about how they can improve existing homes with green remodeling, making home occupation and maintenance just as efficient as new home construction.

### **Recommendations/Outlook**

As the Committee reviews options for passing green building legislation that will help guide the federal government towards sustainability in design and construction principles, it is important to consider the incredible momentum and green building success stories that are already moving the market forward. The daunting task of reducing greenhouse gas emissions from buildings and homes is already beginning and the stewardship of the Congress in this matter will be increasingly important. Congress has the great opportunity to create avenues for extensive innovation in green construction by keeping the market fluid, free of mandates, and striving towards the greatest energy- and resource-efficient buildings available.

The green building movement is shaping our industry in a tremendous way. To date, there have been more than 2,000 homes certified to Guidelines-based programs with thousands more in the pipeline. The healthy competition in the market is driving demand. Within three years, almost 10% of this nation's new homes will be green. As consumer awareness and education increases, and as green supplies and materials become easier to obtain, more and more builders will take advantage of educational opportunities offered by NAHB and other organizations.

Above all, NAHB cautions the Committee and Congress against mandating only one green rating system to the exclusion of others. Green practices and sustainability are incredibly important in the battle against climate change, and we feel that builders need to have access to as many options as possible. Many green building alternatives already exist, and with awareness increasing every day about the benefits of green homes, additional programs are likely to be added in the marketplace.

### **Conclusion**

NAHB members have shown that green building is both proactive and profitable, primarily because current programs have been allowed to thrive and shift and mold to meet specific conservation needs in a geographic area. Our industry's commitment to developing a rigorous standard, with valuable input from diverse disciplines, will produce certifiable benchmarks for measuring a home's energy and resource efficiency for years to come. The standard will also include a green remodeling component to address the serious needs of upgrading existing homes, many of which were not built with energy or resource efficiency in mind. NAHB believes that there must be a viable path to elevate the 120 million existing homes into greater environmental and energy efficient operation. The National Green Building Standard can provide that pathway.

NAHB supports and encourages energy efficiency and green building. We support a national green building program that is flexible and market-driven, encourages continued growth in green construction that protects options for builders in all markets, as well as preserves, protects, and promotes the health of our environment. Home builders are having great success with the green building movement, in which they have been engaged for years. The commitment of the home building industry to energy and resource efficiency in construction is evidenced by our Guidelines, the development of the first and only residential green building standard, and our national campaign. Thank you for the opportunity to present the views of the National Association of Home Builders. I look forward to any questions you may have for me.