



THE AMERICAN INSTITUTE OF ARCHITECTS

STATEMENT OF
MARSHALL E. PURNELL, FAIA
PRESIDENT

*“Energy Efficiency and the Built
Environment”*

United States House of Representatives
Committee on Financial Services

-

June 11, 2008
Rayburn House Office Building

The American Institute of Architects
1735 New York, Ave, NW
Washington, DC 20006
(202) 626-7507
govaffs@aia.org
www.aia.org

INTRODUCTION

Chairman Frank, Ranking Member Bachus, members of the committee — good morning.

I am Marshall E. Purnell, FAIA, the President of the American Institute of Architects.

On behalf of our 84,000 members and the 281,000 Americans who work for architecture firms nationwide, I would like to thank you for the opportunity to appear today to share some of our nation's architects' thoughts on the Green Resources for Energy Efficient Neighborhoods Act. This landmark legislation will promote energy efficiency in our nation's residential building sector, providing direct benefits to the environment, our economy, and especially to the millions of Americans who are struggling to cope with rising energy prices. The AIA strongly supports policies that conserve our Earth's natural resources and America's architects have long understood the importance of energy efficiency. I therefore offer mine and the AIA's sincere support for this vital legislation.

BUILDINGS AND ENERGY USE

As an architect, I work every day to design spaces that maximize energy efficiency.

Buildings are one of the largest consumers of energy. The Department of Energy's 2007 Building Energy Data Book reveals that the building sector accounts for 39 percent of total U.S. energy consumption, more than both the transportation and industry sectors.¹

According to the Department of Energy's Energy Information Administration, buildings and their construction are responsible for nearly half of all greenhouse gas emissions produced in the U.S. every year. The same study found that buildings are responsible for

71 percent of U.S. electricity consumption and that *buildings in the United States alone account for 9.8 percent of carbon dioxide emissions worldwide.*²

In fact, according to the Department of Energy, U.S. *buildings account for nearly the same amount of carbon emissions as all sectors of the economies of Japan, France, and the United Kingdom combined.*³ Therefore, if we in the United States want to be serious about energy reductions, buildings *must* become a significant part of the discussion.

The data shows that the building sector is only going to become more critical to the discussion. Annual U.S. energy consumption is projected to increase by 32 percent over the next twenty five years⁴. The AIA believes strongly that now is the time to act to reverse this course and start making significant reductions in the amount of fossil-fuel generated energy our nation consumes through its buildings.

Over the next 30 years, the character of the built environment will change dramatically. Currently, U.S. building stock sits at 300 billion square feet. Experts predict that between now and 2035, 52 billion square feet will be demolished, 150 billion square feet will be remodeled, and another 150 billion square feet will be newly constructed.⁵ Because buildings are such a major producer of greenhouse gases, the AIA believes that if Congress and our nation want to reduce greenhouse gas emissions, addressing energy consumption in the next generation of buildings is a vital endeavor. We believe that the federal government can and must take the lead to change the way our buildings use energy.

To reduce energy consumption in the building sector, the AIA believes that architects must advocate for the sustainable use of our earth's resources through their work for clients. To support this principle, in 2005 the AIA adopted a position stating that all new buildings and major renovations to existing buildings be designed to meet an immediate 50 percent reduction in fossil fuel-generated energy (compared to a 2003 baseline) and that at five year intervals, that reduction target be increased by at least 10 percent until new and renovated buildings achieve carbon neutrality in 2030.

Architects across the country have embraced this principle and are currently utilizing design practices that integrate built and natural systems that enhance both the design quality and environmental performance of the built environment. But in order to truly revolutionize the way our nation designs buildings, the public sector, especially the federal government, must also play a role. Federal government agencies, programs and sponsored enterprises have a major impact on the residential building sector. Through a combination of regulation and incentives, we can achieve the goals of greatly reducing fossil fuel generated energy and improving energy efficiency in homes nationwide.

Last year, the AIA worked with Congress to address energy use in federal buildings. The 2007 energy law, the Energy Independence and Security Act (P.L. 110-140) included a provision mandating that all new and significantly renovated federal buildings meet strict energy-use requirements. The new energy targets required of federal buildings will demonstrate to the private sector that the federal government is leading by example. It

will also help spur the development of new materials, construction techniques, and technologies to make buildings more energy efficient. And it will help show that significant energy reductions are both practical and cost-effective.

In order to make even greater reductions in the energy used by our nation's buildings, we must build upon this momentum and do more to promote energy efficiency across the economy. The GREEN Act will do just this; this bill includes a carefully balanced mix of incentives and requirements to achieve greater energy efficiency in the residential sector, providing direct benefits to the environment, the economy, and homeowners and renters across the country.

THE GREEN ACT

The legislation (H.R. 6078) under consideration by this Committee is by far the most comprehensive attempt to promote energy efficiency at the residential level to emerge from the current Congress. The AIA strongly supports this legislation, as it will set new energy efficiency standards for new residences and existing houses under the jurisdiction of the Department of Housing and Urban Development. This legislation requires new or renovated structures to comply with the most widely accepted energy standards currently in existence. By requiring residences to be designed and constructed in accordance to the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) Standard 90.1 and the International Energy Conservation Code (IECC), the legislation rightfully prescribes energy efficiency standards that were developed under open, consensus-based process. And by offering additional credit to projects that achieve even

greater energy efficiency, measured by the Leadership in Energy and Environmental Design (LEED) Gold Standard, the national Green Communities criteria checklist for residential construction, and the Green Globes assessment and rating system, the legislation truly incentivizes green design and construction in the most practically applicable manner.

Establishing new energy standards for HUD-supported residences is a prudent and effective strategy to ensure that the benefits of energy efficiency reach the Americans who truly need them. Energy costs are soaring across the country, and many citizens are being pushed to the financial limit by skyrocketing utility bills. Designing and constructing energy efficient homes, complete with energy efficient appliances, as well as heating, air conditioning, and lighting systems, will provide an immediate financial benefit to homeowners and renters through reduced utility costs. The demonstration program authorized under Section 3 of the bill will highlight this by showing the effectiveness of providing federal assistance for energy efficiency measures for multi-family housing. Increasing energy efficiency and decreasing utility bills will provide direct benefits to the economy as well as the intrinsic advantages that reduced energy consumption offers our natural environment.

While establishing new energy standards for some residences will make great strides toward promoting residential energy efficiency, it is only one part of the overall strategy to achieve economy-wide energy savings. In order to truly bring about meaningful changes in individual, corporate, and institutional behavior (relating to energy use), a

multi-faceted approach is necessary. The GREEN Act rightfully acknowledges this and includes important policy ideas that will promote energy efficiency by providing incentives to lenders and financial institutions to provide lower interest loans and other benefits to consumers who build, buy, or remodel their homes, and to businesses to improve their energy efficiency. Specifically, the bill will promote the use of Energy Efficient and Location Efficient Mortgages (EEMs and LEMs).

EEMs and LEMs are effective financial tools that provide incentives to homeowners to purchase energy efficient homes or renovate existing homes to make them more energy efficient. As owners of energy efficient homes will pay significantly less in monthly utility bills due to reduced energy use, EEMs allow borrowers to qualify for a higher mortgage limit because the homeowners will spend less on monthly energy costs and decreased energy costs increase the security of the mortgage. LEMs are directed toward borrowers who live in high-density areas near transit and will therefore have reduced transportation costs, allowing borrowers to qualify for higher mortgages. EEMs and LEMs are currently offered by many lenders across the country, but in order for them to truly expand across the economy, the federal government must play a role.

The AIA strongly supports policies that will promote the use and availability of EEMs and LEMs. We are therefore especially pleased by provisions in this bill that will result in more EEMs and LEMs in the marketplace. This bill requires both Fannie Mae and Freddie Mac to purchase, sell, service, lend on security, and otherwise deal in EEMs and LEMs. Fannie and Freddie are required to purchase a specific percentage of EEMs and

LEMs each year over the life of the bill. By 2022, the GSEs must ensure that 25 percent of all mortgages purchased are EEMs and 10 percent of total mortgages are LEMs. In order to support this aggressive policy goal, the bill requires HUD, the Departments of Energy and Education, and the Environmental Protection Agency to carry out a public awareness, education, and outreach campaign to inform and educate residential lenders and prospective borrowers regarding the availability, benefits, advantages, and terms of energy efficient mortgages. This is a critical endeavor as many lenders and borrowers simply do not understand EEMs and LEMs or in some cases, realize that they even exist.

As I have stated before, this bill represents Congress's most comprehensive effort to promote energy efficiency across the residential sector of our nation's buildings. We are pleased that the legislation includes a Residential Energy Efficiency Block Grant Program, as this will ensure that cities and states have the financial tools available to conduct energy efficiency programs for their residents. We also strongly support provisions that will require appraisers to consider renewable energy sources for, or energy efficiency improvements to the property being appraised. The bill also requires federal financial institutions to revise their appraisal standards to include the value of energy efficiency in home appraisals. These provisions will ensure that the energy efficiency achievements that designers and builders accomplish will be valued in the price of the home. These are necessary steps that will in time, change the way our nation thinks about energy use will result in energy savings across the economy.

One of the primary concerns architects hear from clients about building “green” is cost. It is true that some energy efficient building systems may cost slightly more than their traditional counterparts. However once the building is in operation, the savings in energy expenditures alone often far outweigh the initial costs of installing “green” systems. Numerous studies, most notably one by cost consultant Davis Langdon, argue that the cost of sustainability is statistically insignificant to a project’s total cost.⁶ This legislation will help millions of homeowners overcome the initial cost by providing needed financing. In doing so, it also will help create jobs in the struggling design, construction and real estate markets, and help move the country towards greater energy efficiency and lower greenhouse gas emissions.

As this bill moves forward, we would like to work with the Committee and the bill’s supporters to ensure that homeowners have access to the best design information and expertise as they embark on energy efficiency upgrades. That means working with licensed design professionals to maximize sustainable design opportunities like natural daylighting. It means ensuring that renovations and retrofits are overseen by qualified licensed professionals specifically trained to address all aspects of a building’s performance and safety. And it means ensuring that the public knows where to turn for the best and most reliable information about who is properly qualified to design green houses.

America is Ready

The American public believes the time is now to reduce energy usage and reduce the impacts of climate change. The Tarrance Group and Lake Research Partners recently conducted a nationwide poll of voters and found that 74 percent of those polled agreed that “the government should take the lead in promoting real estate development that conserves our natural resources.” In addition, 71 percent of voters agreed that “the government should immediately put into effect new energy policies that drastically reduce greenhouse gas emissions.” The American public supports conserving our precious resources, and believes that it is in the best interests of our nation and the world to reduce our reliance on fossil fuel produced energy and move towards a sustainable future. Reducing energy use in our nation’s homes would be a major step towards that goal.

We strongly support the members of this committee in their efforts to make the nation’s housing stock more energy efficient. This legislation will reduce energy costs for Americans, reduce our demand on foreign sources of oil, and preserve our natural environment. Thank you Mr. Chairman and members of the committee. I welcome any questions that you may have.

¹ <http://buildingsdatabook.eere.energy.gov/docs/1.1.3.pdf>

² <http://buildingsdatabook.eere.energy.gov/docs/3.1.1.pdf>

³ <http://buildingsdatabook.eere.energy.gov/docs/3.1.1.pdf>

⁴ http://www.eia.doe.gov/oiaf/ieo/pdf/ieoreftab_1.pdf

⁵ <http://www.architecture2030.com>

⁶ Matthissen, Lisa and Morris, Peter. “Costing Green: A Comprehensive Cost Database and Budgeting Methodology. June, 2004; Davis Langdon.