



Testimony

of

**William D. Fay
Executive Director
Energy Efficient Code Coalition**

before the

Subcommittee on Energy & Air Quality

of the

**Committee on Energy and Commerce
US House of Representatives**

Thursday, July 17, 2008

Mr. Chairman, members of the committee, thank you for inviting me to testify before this august body at this extremely difficult time for America's energy consumers.

America's Most Significant Energy and Environmental Policy Vote of 2008

I come here today to tell you about what is arguably America's most significant energy and environmental policy vote of 2008. The vote won't be held in Washington, DC, but in Minneapolis, MN. It won't be cast by legislators, but by local and state code and other officials

attending final action hearings on nearly twenty different codes under the aegis of the International Code Council (ICC). One of those codes, the International Energy Conservation Code, or IECC, is generally accepted as the national model energy code. Versions of the IECC are effect in over 40 states and it is often adopted as a state's single comprehensive energy efficient building code. It alone is referenced in the U.S. Code, federal regulations, LEED, and many other state and federal programs.

Furthermore, the IECC is the only model energy code that serves as the basis for federal tax credits for energy efficient homes, energy efficiency standards for federal residential buildings and manufactured housing, state energy code determinations, and qualification for FHA and other government-backed mortgages. Although the IECC contains comprehensive provisions for all buildings, residential and commercial, our organization and its proposals focus on residential construction.

It is our belief that substantial part of that wasted energy can be eliminated with affordable measures that don't affect our lifestyle, but simply change the way in which the home is constructed by boosting the energy efficiency of our nation's model building code, the IECC.

“The 30% Solution” – which we authored – was supported by the US Department of Energy in testimony at February IECC Development Committee hearings and by a unanimous resolution from the US Conference of Mayors. Despite their support (and the support of ICLEI, the National Association of State Energy Officials and our broad-based membership), “The 30% Solution” will face a withering assault by opponents of the current IECC and our efforts to strengthen it.

If it is adopted by the ICC on or around September 21 and fully implemented by state and local governments after the 2009 IECC is published, “The 30% Solution” would, on average,

boost the energy efficiency of upwards of a million new and renovated homes each year by roughly 30% and generate positive cash flow to homeowners that begins on the day they move in. If “The 30% Solution” is defeated, those energy inefficient homes will burden generations with their wasted energy.

Homes Are One of America’s Last Great Frontiers of Wasted Energy

As such, I want to commend this committee for holding this hearing to explore the potential for the energy savings that can be achieved through greater energy efficiency in American buildings. In the arena of energy, there is little to add to the committee’s extensive knowledge. You know that homes and commercial buildings are this nation’s largest sector of energy use and – because of the close relationship between greenhouse gases and energy consumption – also the largest US source of anthropogenic greenhouse gases.

Suffice it to say that buildings – and particularly residences – represent one of the last great frontiers of wasted energy. To understand the magnitude of this frontier, we must look at the longevity of homes – a new home that is wasting energy today will probably be wasting energy for generations to come. Add to that testimony by the NAHB that half of the homes America will need by 2030 have not yet been built and it’s easy to understand why the energy policy decisions we make today regarding new home construction will have extremely long term consequences for future energy policy.

In the letter of invitation I received from the committee, I was asked to discuss why drivers of higher energy efficiency seem to be more effective in commercial buildings than in residential buildings. A related question asked why residential model codes aren’t stronger than they are. The answers probably lie in four areas:

- Nearly every commercial building is different from another. There are fewer of the “cookie-cutter” designs that we see in residential construction and the information exchange between the engineers and architects that are involved in the design and construction of commercial buildings appears to be greater.
- Because of their urban/suburban visibility and the larger size and occupancy of commercial buildings, local government planners and regulators appear to be more involved in their construction.
- More recently, ASHRAE and other engineering associations have shown outstanding leadership in conducting education on the benefits of commercial building efficiency, developing commercial building proposals to boost energy efficiency, and focusing an intense spotlight on the value of making those investments.
- Finally, there is no powerful opposition lobby fighting more energy efficient building codes for commercial buildings, as there is for residential construction.

Simply stated, because homes and commercial buildings consume almost half of America’s energy, they ***must*** play a significant role in any *successful* effort to improve energy efficiency. It is because of this national imperative that the broad-based Energy Efficient Codes Coalition (EECC) was established.

The Energy Efficient Codes Coalition

Since its formation last fall, Energy Efficient Codes Coalition (EECC) has mounted a comprehensive, integrated campaign to achieve its goal of boosting new home model code energy efficiency of the 2009 IECC by 30%. EECC supporters hail from government, non-profit

national energy efficiency organizations (like the Alliance to Save Energy), all five regional energy efficiency alliances, academia/think tanks, affordable-housing advocates, architects, environmental groups, utilities, energy consumers and businesses (*a complete list of supporters is appended to this testimony*).

In approaching our 2009 residential IECC deliberations, the EECC operated under four guiding principles:

1. Support the adoption of a 2009 model energy code (the IECC) that is at least 30% more energy efficient than the 2006 model code.
2. Support going beyond the original EECC proposals through the adoption of other affordable energy code proposals that boost the energy efficiency of new home construction.
3. Oppose proposals or amendments that weaken energy efficiency.
4. Oppose industry- or product-specific special exemptions or provisions.

“The 30% Solution”: An Ambitious, Yet Achievable and Affordable Proposal to Reduce Wasted Energy from New and Renovated Homes.

The 30% Solution” is a comprehensive proposal designed to boost the residential energy efficiency of America’s model energy code, the International Energy Conservation Code (IECC), by 30%. It consists of five elements:

- 1) **EC14 07/08**, the only individual proposal before the ICC’s 2009 IECC Final Action Hearing that has been independently estimated to achieve roughly a 30% improvement over the current IECC. This comprehensive package boosts energy efficiency in virtually every part of the house subject to code requirements – space heating and cooling (including ducts), thermal envelope, air sealing, hot water heating

and lighting. EC14 was recently revised and resubmitted as a modified package to reflect and incorporate the comments and recommendations, as appropriate, of both the IECC Development Committee and interested stakeholders. EC14 compile all pro-energy efficiency proposals supported by the Development Committee in February – regardless of the proposal’s author – and to revise meritorious EECC proposals that were not recommended for approval. The result is a *new and improved version* of our comprehensive package comprised of 21 individual proposals – fourteen of which were approved by the Development Committee in Palm Springs, with modifications as appropriate, and seven other proposals which were initially not approved but have now been modified by the EECC in its public comments.

- 2) **RE-3**, which would recognize the IECC as the national model energy code by making the International Residential Code’s energy requirements consistent with the IECC. RE-3 not only brings the IRC and IECC back into line with each other again, but it’s predicated on the national recognition bestowed on the IECC by Congress and the Department of Energy. Having one consistent national code will avoid a “race to the bottom” by states that see model codes as laying the floor, rather than leading the nation to improved energy efficiency.
- 3) **EC154**: “The 30% Solution” in *voluntary appendix* form (EC154). The IECC voluntary appendix suggests additional efficiency measures to jurisdictions interested in increasing their energy conservation objectives beyond what the basic IECC provides and serves as a publicly available repository of building energy code “best practices” that provides innovative ways of increasing energy efficiency that have been implemented in other jurisdictions.

- 4) The component parts of “The 30% Solution” that were not recommended for approval *individually*.
- 5) Some additional public comments on proposals where the EECC saw potential improvements that should be considered.

Like the original, our new and improved version of “The 30% Solution” was specifically developed to be:

- Achievable (using readily available, “state-of-the-shelf” technologies),
- Affordable, and
- Enforceable, adding no substantial burden to code officials’ current duties.

The Positive Cash Flow Homeowners Reap from Energy Efficiency

Investments in more efficient homes *today* will pay myriad personal and societal dividends in the future and give homeowners greater certainty and control over their future energy budgets. “The 30% Solution” uses everyday “state-of-the-shelf” technologies that have been demonstrated to save energy and to provide positive cash flow to the homeowner.

Government research has shown that going 30% beyond code generates positive cash flow that exceeds the amortized cost of those energy improvements. In fact, a National Renewable Energy Laboratory study of Greensburg, Kansas found that the “break even point” between cash flow of energy efficiency investments is actually reached when new homes are built to roughly 60% more efficient than today’s model energy code! The NREL analysis found that new homes that are 30% over code produce net annual savings of \$512 to the homeowner, calculated as follows:

- \$211 per year in additional home construction investment cost of \$4,000, spread across a 30-year mortgage at 7% (with interest deducted at 28% effective tax rate).
- \$723 in estimated annual utility bill savings (*because energy prices have skyrocketed since the NREL study, these savings would be commensurately greater today*).

NAHB's polling confirms that energy efficiency does sell to home buyers. The 2/14/2008 *BuilderOnline* reports: "Home Buyers Willing to Pay for Energy Efficiency. New NAHB study of consumers reports that 51 percent willing to pay up to \$11,000 more if energy costs are reduced \$1,000 annually."

Like the NREL study, we would expect poll respondents to be even more willing to invest in energy efficiency under today's energy prices. In fact, in these times of skyrocketing energy costs like these, it's hard to believe that energy efficiency wouldn't be one of a new home's major selling points. However, there's no debate that – unlike marble countertops and crown molding – energy efficiency pays monthly dividends throughout a home's life via the positive cash flow of more stable utility costs.

Momentous Opportunity to Make a Historic Boost in Energy Efficiency

On or soon after September 20th, the ICC will have a momentous opportunity to make a significant step to advance America's energy security. "The 30% Solution" is the most ambitious single proposal before the ICC and its adoption would truly secure the ICC's leadership in the energy efficiency debate for new home construction. By boosting the 2009 IECC by 30%, its adoption would also tacitly achieve a goal shared by many in Congress and included in the House version of last year's comprehensive energy legislation.

The IECC Development Committee's Important Vote

Over the past couple of decades, the ICC has made only modest improvements in the energy efficiency of building codes. This has caused some to wonder whether the council was giving the same level of emphasis to energy as it gives to fire protection and other safety elements. In ICC's defense, those modest improvements may have been due to:

- **Lack of a Strong Driver:** Only recently have we been faced with the wake-up call of \$12+/million Btu natural gas and \$130+/barrel oil, coupled with energy demand pressing up against available supply.
- **Lack of a Comprehensive Framework for Action.** "The 30% Solution" represents the first time that the ICC has seen a comprehensive package of energy efficient proposals that provides a framework for action and showcase their collective impact, as opposed to facing hundreds of seemingly unrelated proposals.
- **A Focused and Vocal Energy Efficiency Opponent, Without a Corresponding Choir Calling for Action.** The EECC grew out of a growing chorus of calls for better energy codes, from an increasing number of highly respected governmental and other bodies like the EPA/DOE National Action Plan for Energy Efficiency, ASHRAE, Western Governors Association, US Department of Energy, National Petroleum Council, American Institute of Architects, Mayors for Climate Protection and members of Congress. The voices calling for a 30% boost in energy efficiency have become rallying point around a common goal and objective.

At its hearings in February, the IECC Development Committee saw all three factors reversed and the results were historic as the committee took significant steps by adopting several elements of "The 30% Solution" and other EECC-supported proposals from DOE, the Northwest

Codes Group and others. If fully implemented, we estimate that the Development Committee recommendations would improve efficiency of new homes by approximately half of our shared 30% goal.

A National Imperative to Boost the IECC Means a National Imperative to Enforce It

A question raised by the committee is whether energy efficiency code requirements are readily enforceable by local code inspectors. We believe that today's codes – which vary from state to state and sometimes from city to city – *are* being enforced in most areas throughout the US. Many in our coalition are dedicated to working with local inspectors and other code officials to ensure enforcement of the IECC in all jurisdictions that adopt it.

But even assuming that model codes are not fully enforced, the fact that they are part of state and local laws means that all law abiding builders must follow them. As the courts have frequently stated, builders have a duty to meet a reasonable standard of care in complying with codes. In fact, because codes are the *minimum* standard of care as established in state laws, non-compliance with those codes is a greater issue for builders than it is for code officials.

But as we work to tighten codes as part of our nation's growing imperative to reduce wasted energy, the EECC has pledged its support for efforts at the national, state, and local level that ensure funding for code officials have to receive the training, resources and manpower they need to do their jobs.

Conclusion

Mr. Chairman, members of the subcommittee, thank you for the opportunity to tell you about what we believe will be America's most significant energy, environmental and climate policy vote of 2008. I look forward to your questions.

Supporters of the Energy Efficient Codes Coalition

The Energy Efficient Codes Coalition (EECC) is a unique, broad-based alliance of longstanding energy efficiency advocates who have adopted the goal of boosting residential energy efficiency by at least 30% over current model energy codes.

Supporters of this goal include:

Government

US Conference of Mayors
US Department of Energy
National Association of State Energy Officials

Broad Based Energy Efficiency Groups

The Alliance to Save Energy
American Council for an Energy Efficient Economy (ACEEE)
United Nations Foundation

Regional Energy Alliances

Midwest Energy Efficiency Alliance (MEEA)
Northeast Energy Efficiency Partnerships (NEEP)
Northwest Energy Codes Group
Southeast Energy Efficiency Alliance (SEEA)
Southwest Energy Efficiency Project (SWEEP)

Academia/Think Tanks

American College and University Presidents
Climate Commitment
Institute for Market Transformation

Affordable Housing Advocates

Global Green

Architecture

Ed Mazria, Architecture 2030

Business and Insurance

American Chemistry Council
Bayer
Business Council for Sustainable Energy
Cardinal Glass
Current Energy
Extruded Polystyrene Foam Association (XPSA)
Fireman's Fund (*wrote support letter*)
North American Insulation Manufacturers Association (NAIMA)
Polyisocyanurate Insulation Manufacturers Association (PIMA)
Structural Insulated Panel Association (SIPA)

Energy Consumers

Consumers Federation of America

Environmental Groups

2020 Vision
Environment America
Natural Resources Defense Council (NRDC)
Sierra Club

New Energy Efficient Home Construction Advocates

New Buildings Institute

Utilities

American Public Power Association
Edison Electric Institute
National Rural Electric Cooperative Association

The 30% Solution” was supported by the US Department of Energy in testimony before the IECC Development Committee hearing in February 2008.

On June 23, 2008, the full US Conference of Mayors unanimously adopted Resolution #54, which “endorses the full adoption of ‘The 30% Solution’ at the ICC’s Final Action Hearings this September in Minneapolis and encourages eligible code officials to attend these hearings and to vote in favor of the adoption of ‘The 30% Solution.’”



Resolution No. 54 – ADOPTED JUNE 23, 2008

Submitted by:

The Honorable Will Wynn
Mayor of Austin

The Honorable Heather Fargo
Mayor of Sacramento

The Honorable Mark Begich
Mayor of Anchorage

The Honorable Shirley Franklin
Mayor of Atlanta

The Honorable Michael Belsky
Mayor of Highland Park

The Honorable Patrick Hays
Mayor of North Little Rock

The Honorable David Berger
Mayor of Lima

The Honorable John Hickenlooper
Mayor of Denver

The Honorable Michael Bloomberg
Mayor of New York City

The Honorable Elizabeth Kautz
Mayor of Burnsville

The Honorable Marty Blum
Mayor of Santa Barbara

The Honorable Scott Lang
Mayor of New Bedford

The Honorable James Brainard
Mayor of Carmel

The Honorable Brenda Lawrence
Mayor of Southfield

The Honorable Roy Buol
Mayor of Dubuque

The Honorable Tom Leppert
Mayor of Dallas

The Honorable Kevin Burns
Mayor of North Miami

The Honorable Gene Marks
Mayor of Northbrook

The Honorable Martin Chavez
Mayor of Albuquerque

The Honorable Thomas Menino
Mayor of Boston

The Honorable Robert Cluck
Mayor of Arlington

The Honorable Larry Nelson
Mayor of Waukesha

The Honorable Dan Coody
Mayor of Fayetteville

The Honorable Gavin Newsom
Mayor of San Francisco

The Honorable David Coss
Mayor of Santa Fe

The Honorable Thomas O'Grady
Mayor of North Olmsted

The Honorable Manuel Diaz
Mayor of Miami

The Honorable David Pope
Mayor of Oak Park

The Honorable Tom Potter
Mayor of Portland

The Honorable Laurel Prussing
Mayor of Urbana

The Honorable Adrian Fenty
Mayor of Washington DC



ENDORING 30% RESIDENTIAL EFFICIENCY IMPROVEMENT IN 2009 INTERNATIONAL ENERGY CONSERVATION CODE

1. **WHEREAS**, America's mayors have long recognized the importance of energy efficiency in the development of a successful national energy policy; and
2. **WHEREAS**, homes and non-industrial buildings represent America's largest energy-consuming sector – using approximately 40 percent of the nation's energy and 75 percent of its electricity; and
3. **WHEREAS**, the International Energy Conservation Code (IECC) is the most widely used model code for residential construction in the U.S., establishing efficiency baselines that are voluntarily adopted by cities throughout the country; and
4. **WHEREAS**, the IECC is currently undergoing a review and revision process that occurs once every three years, involving committee hearings in the spring and a final vote in the fall; and
5. **WHEREAS**, calls for increasing residential efficiency by 30 percent have been issued by the Western Governors Association, ASHRAE, the U.S. EPA/DOE National Action Plan for Energy Efficiency, the American Institute for Architects, the Business Roundtable and by leaders in Congress from both parties; and
6. **WHEREAS**, the broad-based Energy Efficient Codes Coalition has compiled a series of efficiency improvements into a comprehensive package of recommendations known as The 30% Solution and submitted it for adoption; and
7. **WHEREAS**, support for The 30% Solution comes from a diverse cross-section of energy efficiency professionals, including the National Association of State Energy Officials, all five regional energy efficiency alliances, the Alliance to Save Energy, the American Council for an Energy Efficient Economy, and electric utilities (IOUs, municipal and coops); and
8. **WHEREAS**, The 30% Solution incorporates affordable, off the shelf technologies and practices, and studies show these efficiency improvements would enhance the affordability and security of homeownership by creating net positive cash flow for homeowners; and
9. **WHEREAS**, at its February hearings, the IECC Development Committee took significant preliminary steps toward adopting The 30% Solution, recommending provisions estimated to improve efficiency by approximately 20 percent over the existing 2006 IECC; and
10. **WHEREAS**, this September the International Code Council (ICC), a body made up primarily of municipal code officials, will consider Development Committee recommendations and the input of voting members present and will vote to establish the 2009 IECC; and
11. **WHEREAS**, mayors are in a unique position to encourage the eligible code officials from their cities to participate in the ICC deliberations and vote for the full package of efficiency measure outlined in The 30% Solution; and
12. **WHEREAS**, the 2009 IECC will strongly influence efficiency performance in the more than three million homes expected to be built in the U.S. through 2012, and success in achieving full adoption of The 30% Solution will have a tremendous impact in reducing energy use over the life of those homes,

13. NOW, THEREFORE, BE IT RESOLVED, that the U.S. Conference of Mayors endorses the full adoption of “The 30% Solution” at the ICC’s Final Action Hearings this September in Minneapolis and encourages eligible code officials to attend these hearings and to vote in favor of the adoption of “The 30% Solution.”

**Summary of Testimony of
William D. Fay
Executive Director
Energy Efficient Code Coalition**

On or soon after September 20th, the International Codes Council will have a momentous opportunity to make a significant step to advance America's energy security. Adopting "The 30% Solution," the most ambitious single proposal before the ICC, would truly secure the ICC's leadership in the energy efficiency debate for new home construction.

Because homes and commercial buildings consume nearly half of America's energy, they represent one of the last great frontiers of wasted energy and must play a significant role in any *successful* effort to improve our nation's energy efficiency.

The Energy Efficient Codes Coalition (EECC) – comprised of supporters from government, non-profit national energy efficiency organizations (like the Alliance to Save Energy), all five regional energy efficiency alliances, academia/think tanks, affordable-housing advocates, architects, environmental groups, utilities, energy consumers and businesses – was formed in response to the growing chorus calling for a 30% boost in new home model code energy efficiency.

"The 30% Solution," authored by the EECC is an ambitious, yet fully achievable and affordable proposal to reduce wasted energy from our new homes. Homes built to meet its provisions will produce positive cash flow to new homeowners beginning on the day the move in.

Investments in more efficient homes *today* will pay myriad personal and societal dividends in the future and give homeowners greater certainty and control over their future energy budgets.

There are three emerging drivers for more energy efficient homes:

*. . . **Energy Imperatives:** \$12+/million Btu natural gas, \$130+/barrel oil, import overdependence, envelope leakage, greenhouse gas emissions, skyrocketing utility bills, record high utility bill defaults and shut offs.*

*. . . **Proponents of 30%:** The US Conference of Mayors, US Department of Energy, ASHRAE, Western Governors Association, the Business Roundtable, all five regional energy efficiency alliances, utilities (investor owned, rural coops and public), businesses, academia, think tanks, and environmental, consumer and low-income homeowner advocacy groups.*

*. . . **Codes, both past and future:** Unprecedented gains in the IECC Development Committee's recommendations, two decades of modest improvements.*