

EECC

ENERGY EFFICIENT CODES COALITION

1850 M Street, NW • Suite 600 • Washington, DC 20036 • Phone: (202) 857-0666 • <http://ase.org/extensions/eccc>

“The 30% Solution”: Boosting Home Energy Efficiency Through Codes

***Presentation of
William Fay***

Before

Energy Codes 2008

July 24, 2008

St. Paul, Minnesota



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***America's most significant
Energy, Environmental and
Climate Policy Vote of 2008
will be cast on or soon after
September 21st!!***

***And You Get to Cast that Vote
. . . Here in Minneapolis!***



A Great Opportunity to Vote for the Future

- **If “The 30% Solution” EC-14 is adopted and implemented, our least energy efficient new home will be 30% more energy efficient.**
- **Because NAHB says that half the homes America will need by 2030 haven’t yet been built, your vote will have great consequence.**
- **Because these new homes will be around for generations, you will have voted for a policy to protect your grandchildren, not just today’s new homebuyer.**

The Stakes of Success Are High

- *Homes/buildings: 40% of US energy, 71% of US electricity; largest source of US GHG*
- *National imperatives:*
 - *Improve energy security*
 - *Lower energy demand/cost*
 - *Reduce greenhouse gas emissions*

The Stakes of Success Are High

- *Last great frontier of wasted energy*
- *Today's homes will last 2-3 generations*
- *McKinsey: "30% Solution" measures among most cost-effective means of GHG reduction*
- *Only modest energy efficiency gains in IECC model code since 1991*



Growing Outside Interest in Codes

- *Congress to ICC: Boost IECC by 30% now and by 50% in 2020 or we'll instruct DOE "make up the difference"*
- *Calls for strengthening model energy codes – by 30% or beyond – coming from highly respected governmental and other sources:*
 - *US Department of Energy*
 - *EPA/DOE National Action Plan for Energy Efficiency*
 - *ASHRAE,*
 - *Western Governors Association*
 - *National Petroleum Council*
 - *The Business Roundtable*
 - *American Institute of Architects*
 - *Mayors for Climate Protection*

The logo for the Energy Efficient Codes Coalition (EECC) is displayed in white text on a dark blue background. To the right of the logo is a silhouette of a city skyline with several skyscrapers of varying heights.

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EECC Forms to Answer Calls for 30%

In mid-2007, an eclectic group of recognized energy efficiency advocates (and strange bedfellows) joined forces to create the Energy Efficient Codes Coalition to mount a comprehensive, integrated campaign to achieve a 30% boost in the energy efficiency of the 2009 IECC over its 2006 counterpart.



EECC Goals and Guiding Principles

- ***We believe that existing and affordable technologies and practices are available today that can boost the energy efficiency of new home construction by 30% and that our nation must set model energy codes to meet this goal.***
- ***In approaching the 2009 IECC deliberations, the EECC operates under four guiding principles:***
 - ***We support the adoption of a 2009 model energy code (the IECC) that is at least 30% more energy efficient than the 2006 model code.***
 - ***We support any energy efficiency proposals that are superior to ours or cover new energy efficiency ground***
 - ***We oppose proposals or amendments that weaken energy efficiency.***
 - ***We oppose industry- or product-specific special exemptions or provisions.***



What's Magic About 30%?

- **Nothing. But this fully affordable and achievable boost in energy efficiency is significant enough to help America confront today's urgent energy crisis.**
- **Experts call a 30% boost in energy efficiency “low hanging fruit” that employs current, everyday products and practices and pays dividends through positive cash flow for the homeowner.**
- **Consensus: Few policy makers and experts are calling for less than 30%, and some are calling for more.**



EECC's Answer: "The 30% Solution"

- *A comprehensive proposal to boost energy efficiency of America's model energy code, the International Energy Conservation Code (IECC), by 30%.*
 - *Only proposal before ICC that will achieve 30% goal.*
 - *Boosts energy efficiency in virtually every part of the house – space heating and cooling, thermal envelope, duct sealing, air sealing, hot water heating and lighting.*
- *Achievable with everyday, "state-of-shelf" technology,*
- *Affordable, and*
- *Enforceable, adding no substantial burden to code officials' current duties.*



EECC's Answer "The 30% Solution"

- **"The 30% Solution" only amends the IECC:**
 - *It is the national energy code, used in over 40 states*
 - *It alone is referenced in the U.S. Code, federal regulations, LEED, and many other state and federal programs.*
 - *Only model energy code for federal tax credits, energy efficiency standards for federal residential buildings and manufactured housing, state energy code determinations, and qualification for FHA and other government-backed mortgages.*



RE-3: We Need ONE Model Energy Code

- **EECC has submitted RE3 to modify the IRC to:**
 - Eliminate the specific requirements in IRC's current energy efficiency chapter
 - Formally recognize the *IECC* as the national "Gold Standard" for energy efficiency
 - Eliminate confusion and potential enforcement problems of two conflicting model energy codes.
- **By adopting RE3, the ICC would:**
 - Unify the energy efficiency requirements of the *IBC*, *IRC* and *IECC* into a single document
 - Ensure that the *IRC* energy efficiency chapter keeps pace with the *IECC*.
 - Conserve substantial time and other resources by avoiding duplicative hearings before the *IECC* and *IRC* committees.
 - Recognize that, unlike the *IECC* Development Committee, energy issues are not the primary focus or expertise of the *IRC* Development Committee.



What Happened in February?

- **“The 30% Solution” narrowly rejected by the Development Committee on a 6-8 vote. Close vote is remarkable when one considers:**
 - The ambitious, comprehensive nature of “The 30% Solution,”
 - The fierce opposition it faced from the gentlemen at the dais,
 - The ICC’s cautious history of taking “baby steps” and
 - The Development Committee hearing is the *first real opportunity* to air *any* I-Code proposal
- **Razor-thin vote clearly signaled that the committee found both the goal and the substance of “The 30% Solution” worthwhile.**
- **The EECC itself felt other proposals *were superior to ours.***
- **ICC process is iterative – *encourages* proposals to be refined and resubmitted for consideration.**



“The 30% Solution” – New & Improved

- **The new and improved version of “The 30% Solution” reflects and incorporates comments and recommendations from the Development Committee and others.**
- **Includes ALL 14 individual pro-energy efficiency proposals recommended by the Development Committee – including those from other authors. If fully implemented – would boost energy efficiency by about 15% . . . half of our 30% goal.**
- **Identifies & Improves 7 other proposals with great potential for energy efficiency, but which were not recommended by the Committee.**



“The 30% Solution” – New & Improved

- **Our Process**
 - Review the oral and written comments by the committee
 - Review floor debate, including comments of opponents, and reaching out to other key stakeholders.
 - Collaborate with DOE and other stakeholders
- **As a result of these extensive deliberations, EECC improved and included 7 important proposals that the committee did not recommend**



“The 30% Solution” – New & Improved

- The 21-provision comprehensive proposal that resulted is *the new and improved version of “The 30% Solution”*
- **STILL** the only single proposal before the ICC that will achieve a 30% boost in the efficiency of the 2009 IECC.
- Result of extensive collaboration and deliberations with key stakeholders,
- **THE** version specifically referenced and endorsed in the unanimous US Conference of Mayors resolution.
- And, like the original, the *new and improved* version of “The 30% Solution” is designed to be:
 - Achievable (using readily available, “state-of-the-shelf” technologies),
 - Affordable, and
 - Enforceable, adding no substantial burden to code officials’ current duties.



“The 30% Solution” – New & Improved

- **Support for both our proposal and for the EECC has grown since this package was submitted, notably by addition of American Public Power Association and Sierra Club.**
- **The new and improved version of “The 30% Solution” will give the ICC the opportunity to cast a single vote to adopt the very best of the energy efficient proposals that are before them.**



Who Supports “The 30% Solution?”

Government

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

Broad-Based Energy Efficiency Grps

- 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
- New Buildings Institute

Affordable Housing Advocates

- Global Green

Business

- American Chemistry Council
- Bayer
- Business Council for Sustainable Energy
- Cardinal Glass
- Current Energy
- Extruded Polystyrene Foam Association (XPSA)
- North American Insulation Manufacturers Assn (NAIMA)
- Polyisocyanurate Insulation Manufacturers Assn (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

Insurance

- Fireman’s Fund

Utilities

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

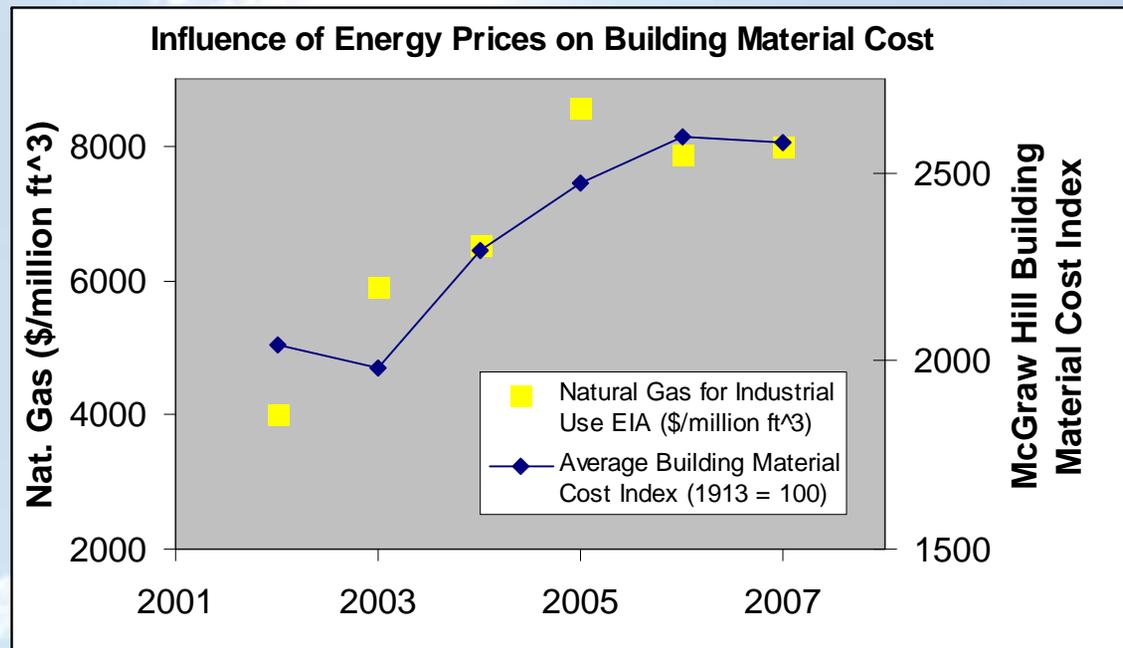


The Rewards of Success

- **Benefits to Homebuilders through reduced building material cost**
- **Benefits to Homeowners: Positive Cash Flow**
- **Societal Benefits to America**

Energy Prices are Boosting the Cost of Homes?

The impact of the decreasing supply and skyrocketing cost of Natural Gas!



Energy Efficiency (Demand Reduction) is one of the fastest ways to mitigate rising raw material costs of buildings

DOE's NREL Analysis: 30% Saves \$512/year!!

Estimated Annual Cost Savings: 30% Energy Savings Target

	Greensburg
Estimated Incremental First Cost Relative to Standard Practice ¹	\$4,000
Annual Amortized Cost 7%, 30Year mortgage ²	\$211
Estimated Annual Utility Bill Savings	\$723
Net Annual Savings	\$512

(2000 ft², 2-story, 16% window to floor area ratio, unconditioned basement)

¹Evaluated relative to minimum IECC 2003

²Assumes 28% marginal tax bracket and includes present value of future replacements of equipment over 30 year life of mortgage.

DOE's NREL Analysis: 40% Saves \$508/year!!

Estimated Annual Costs: 40% Efficiency Target

	Greensburg
Estimated Incremental First Cost Relative to Standard Practice ^{1,2}	\$7,000
Annual Amortized Cost 7%, 30 Year mortgage ³	\$411
Annual Utility Bill Savings	\$919
Net Annual Savings	\$508

(2000 ft², 2-story, 16% window to floor area ratio), unconditioned basement

¹Evaluated relative to minimum IECC 2003. Cost does not include impact of \$2000 tax credit.

²Qualifies for federal new home tax credit

³Assumes 28% marginal tax bracket and includes present value of future replacements of equipment over 30 year life of mortgage.

DOE's NREL Analysis: 50% Saves \$456/year!!

Estimated Annual Costs: 50% Efficiency Target

	Greensburg
Estimated Incremental First Cost Relative to Standard Practice ^{1,2}	\$13,000
Annual Amortized Cost 7%, 30Year mortgage ³	\$706
Annual Utility Bill Savings	\$1162
Net Annual Savings	\$456

(2000 ft², 2-story, 16% window to floor area ratio), unconditioned basement

¹Evaluated relative to minimum IECC 2003

²Qualifies for federal new home tax credit

³Assumes 28% marginal tax bracket and includes present value of future replacements 12 of equipment over 30 year life of mortgage.

Benefits to Society . . .

The Big Picture View of Codes

- Codes Aren't Just About Houses
 - About overdependence on imports
 - About skyrocketing energy prices driving businesses out of US
 - About Energy Efficiency: America's 5th fuel
 - About climate policy inexorable link to energy
- We must do all we can to eliminate *wasted* energy!

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[www.thirtypercentsolution.org!](http://www.thirtypercentsolution.org)

- **Facts about the ICC**
- **Myths and Facts**
- **About “The 30% Solution”**
- **News About Stronger Energy Codes**

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Thank You!

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