

Does Home Performance Have a Role in the IECC?

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What is the Role Of Performance
in the IECC?

Background on DOE's RICC

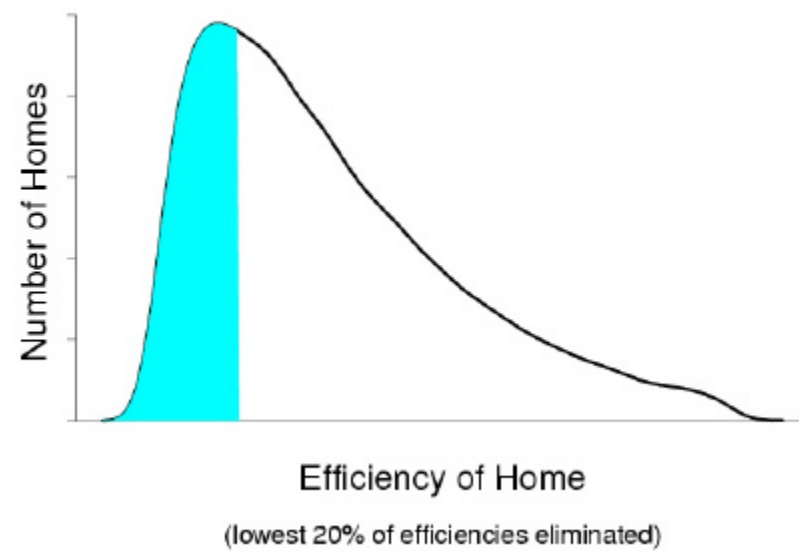
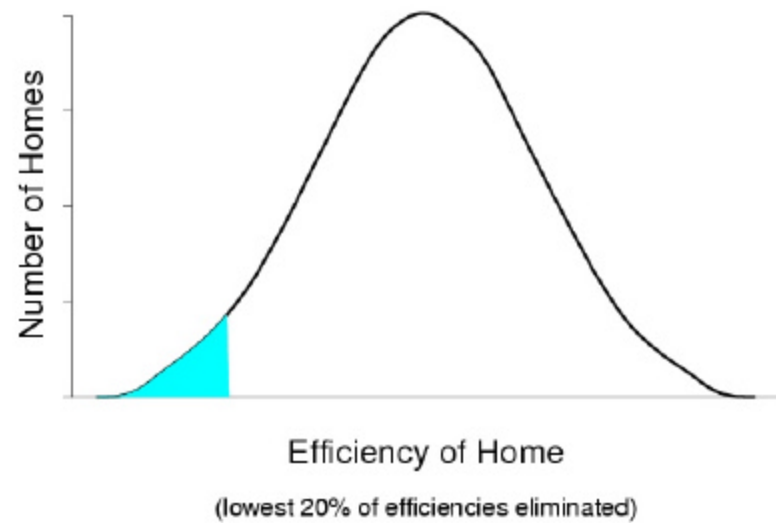
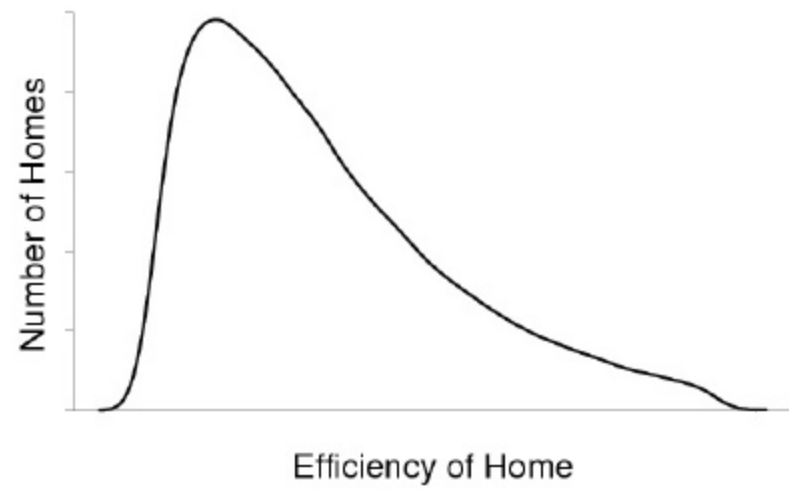
(Residential IECC Code Change proposal)

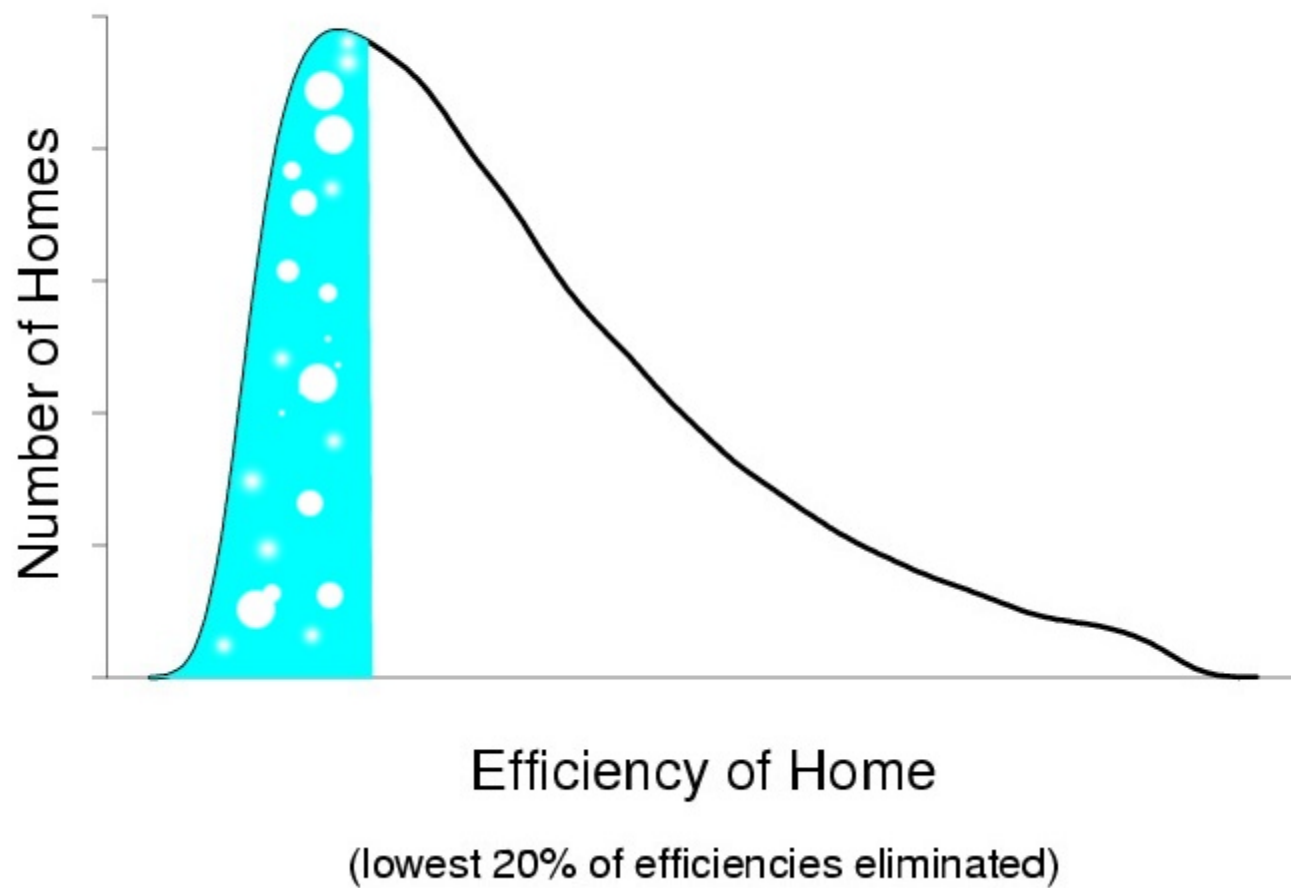
- Impetus—two most common comments
 - Complexity
 - Cooling inadequacies
- Approach—a friendly amendment
 - Focus on usability
 - Leave stringency as-is (mostly)
 - Clarify permissibility of existing programs and tools

Why the Code Works

- Purpose is to “chop off the lower tail”
- “The worst house allowed by law”







DOE's RICC—Usability

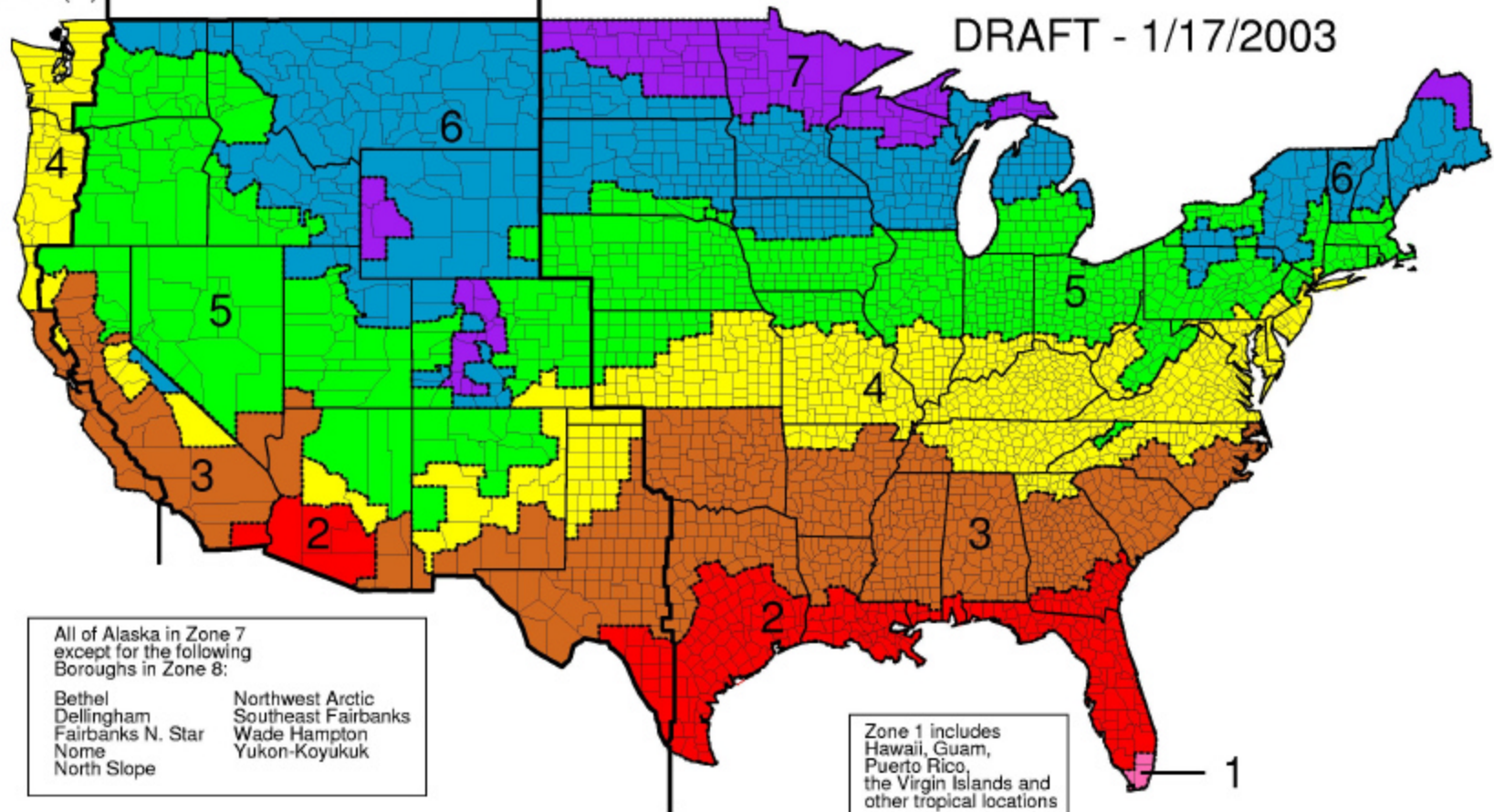
- Clean up ambiguities and superfluities
- Eliminate need for climate data
- Consolidate geographically and honor political boundaries
- Homogenize baseline requirements
- Scratch common itches
- Lean on existing tools and programs

DOE's RICC—Cooling Issues

- Redefine climate zones
- Upgrade some envelope requirements

← Marine (C) | Dry (B) | Humid (A) →

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Performance Path—Issues with IECC Chapter 4

- Was evolved more than designed
- Is largely independent of Chapters 5 and 6
 - Some loopholes
 - Usually more stringent for common trade-offs
- Used very rarely

Energy Codes—The Ideal World

Code = Performance Metric

- But...
 - Adoption difficulties (builder opposition)
 - Enforcement difficulties (lack of infrastructure, lack of staff, lack of budget)
 - Market difficulties (suppliers, homebuyers have no yardstick)

Energy Codes—The More Typical World

- Code budgets are inadequate
- Plan reviews are hasty or nonexistent
- Paperwork flows are inadequate
- Field inspectors have inadequate time

Implications of the Typical Codes World

- Domain necessarily smaller (not all interesting energy features are “regulatable”)
- Level of rigor necessarily and practically lower (the answer is binary—*how much better* is irrelevant)
- Regulations and code officials will do little to promote rigorous performance calculations in most jurisdictions

Performance Path—RICC Approach

- Tie (almost) directly to prescriptive path
- Disadvantage: Limited “credit” for esoteric options
- But... Credit means little to code officials—*how much better* is irrelevant
- Encourage use of outside tools
 - Modifications of other code tools
 - “Blessed” above-code tools
 - “Blessed” above-code programs

Performance Calculation for Code Compliance—Summary of Recommendations

- Let the code be the code
- Let the code encourage above-code
- Don't limit scope of above-code approaches
- Scratch itches
- Add value

Let the Code be the Code

- The code is not above-code (all that credits is not savings)
- Let the code do what the code can do
 - Too many good ideas can overwhelm the infrastructure
 - Elements included in the code—but ignored—are no longer a value-add for builders
- Performance tools (& HERS) should not be limited by the scope of the code

Design the Performance Path to Encourage *Above-Code* Tools for Compliance

- Bless Energy Star, HERS ratings, etc., wherever possible
- Add value for the builder
- Make “credit” count
- Relieve code official of detailed inspections
- Scratch specific (local) itches

“Make minimum-code
compliance a side effect of
above-code demonstration”

Performance Details—In or Out of the Code?

- Size – a thorough ruleset can overwhelm the code
- Control – ICC process not conducive to technical debate
 - Good code changes fail
 - Bad code changes pass
- Carts, horses, chickens and eggs – new simulation techniques are “illegal” until codified

Performance Path – Recent Updates

- DOE's original “statement of principle” version still available for review
- Alternative version with more specificity and looser ties to prescriptive also available for review
- <http://www.energycodes.gov/>, follow link to “DOE's Proposed Code Changes”