A Bright Future for HERS Ratings Through Standards, Incentives, and Markets

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Presented 24 February 2014

Performance Matters

- Encourages innovation
- Gives builder flexibility to achieve target at lowest cost
- Translates effectively to consumers

Goal of LBA/NRDC Collaboration on Codes

- Add a voluntary performance-based option to the 2015 IECC
- Allow for “trade-offs”
- Retain a minimum mandatory building envelope requirement
- Use HERS based system to set efficiency target & demonstrate compliance

NRDC / LBA Consensus Proposal

Efficiency targets by climate zone:

Zones 1-3:	59
Zones 4-5:	63
Zone 6:	62
Zones 7-8:	60

Proposal as Adopted

HERS Ratings by Climate Zone:

Zones1-2:	52
Zone 3:	51
Zone 4:	54
Zone 5:	55
Zone 5:	54
Zones 7-8:	53

- Minimum building envelope requirements of 2009 IECC
- Requires testing and certification of each home

Path to Implementation

- Published in Spring 2014(?)
- Adoption of 2015 IECC
- Amendment of 2012 IECC
- Amendment of 2009 IECC

The Opportunity

- Fundamentally change how builders approach energy efficiency
- Accelerate the market penetration for renewables
- Further consolidate HERS as the reference standard for energy efficiency
- Establish the framework for future versions of the IECC

Implementation Resources

- RESNET developing implementation playbook
  - Should be available late Spring
- Will include information on the HERS Rating System
- Include HERS benchmarks for recent versions of the IECC and above-code programs
- An index of communities that offer HERS based compliance options

Areas of NRDC/LBA Agreement

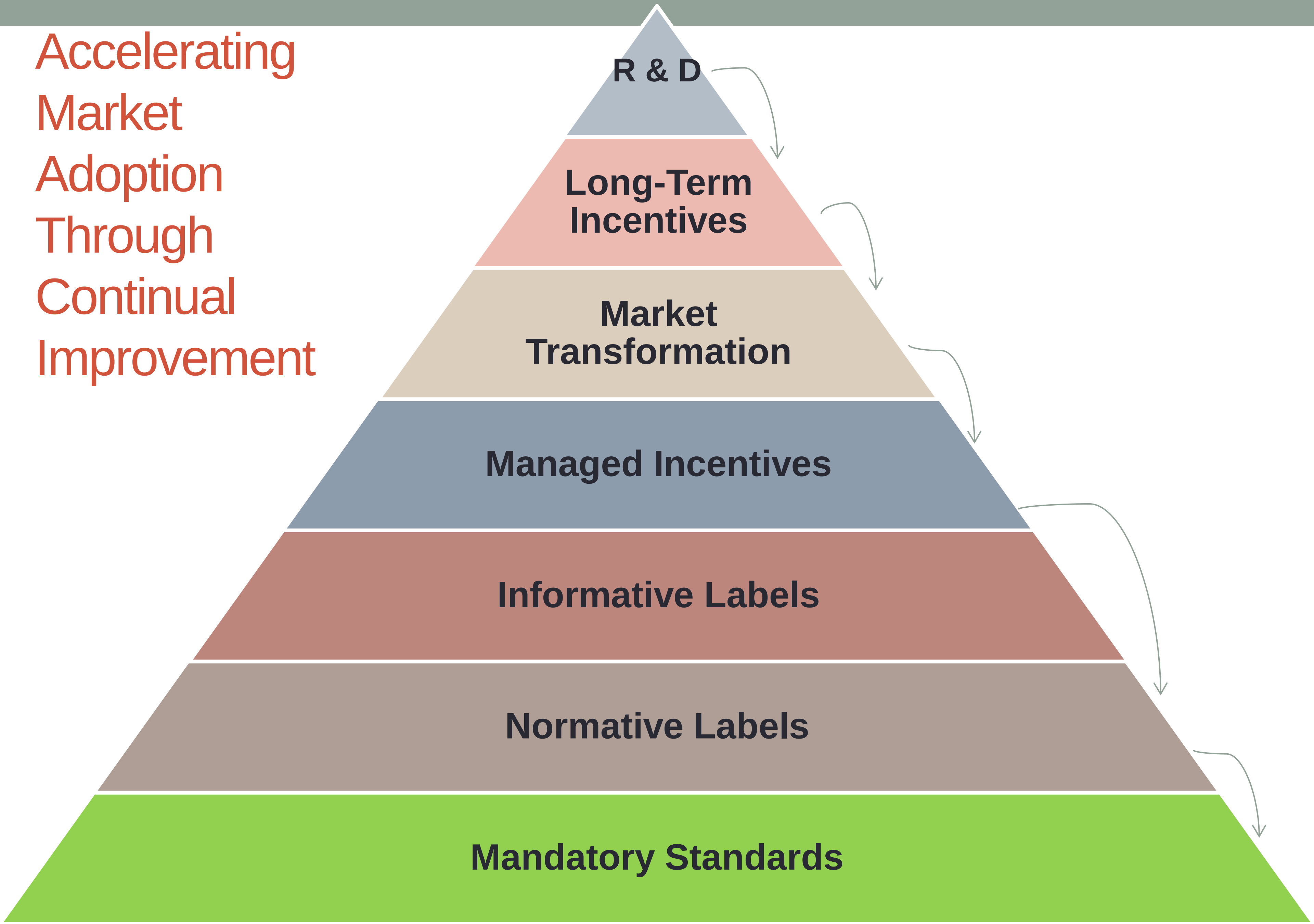
- We agree on the basic principles, which are consistent with those on which we first advocated successfully for 45L and the IECC, namely: we should specify performance rather than how to get there in all policies
- It is best to base the future performance targets on HERS Index scores
- The bar should be raised, both for codes and incentives, when the market share of complying houses gets too high
- Tax credit legislation should provide for ten years of incentives, with higher levels phasing in according to agreed-upon criteria of market share

Focusing on Performance

- We should not care as a society HOW efficiency is improved*
  - Market competition will allow builders to meet a target at decreasing price
  - …and provide the incentive to building materials suppliers to improve their contribution to efficiency
  - This process leads to continual improvement

- * (as long as we assure safety, health, indoor air quality, etc., and require measures whose performance we cannot model adequately)

Accelerating Market Adoption Through Continual Improvement



The HERS Index allows policies to work at all levels of the pyramid

- R&D proposals can be evaluated in terms of their HERS score reduction possibilities
- They are already the basis of labels
- Ratings can also be used to reform lending and appraisal practices such as would be required by the SAVE Act
- We should encourage HERS-score-based code compliance
- Together these policies will help consumers to understand and value efficiency better

Long-Term Incentives and Market Transformation

- Long-term (~3-5 year) incentives allow investment in new technology or design methods
  - Business needs certainty to amortize the investment
  - Therefore the program needs unlimited budget (so the money doesn’t run out before Builder A has gotten enough incentivized sales to justify the investment in efficiency
  - To justify an unlimited budget, it is necessary to set the bar very high
  - The best, or perhaps only, way to do this is through the tax system
- Market transformation programs are generally run by utilities
  - They have fixed budgets, so incentives may be cut off in the case of runaway success
  - Target need to be high enough to avoid free riders but low enough that some current product can qualify

What did we promise in advocating 45L?

- ***Will supporters of this legislation be back in 5 years asking for an extension of the same tax incentives?***

    A. “Definitely not. If the same incentives are required after the 6-year period offered in the [original but not adopted] legislation, we would consider this program to have been a failure… These adjustments would either involve [] or an increase in the performance needed...”

What else did we say?

- Successful examples of market transformation illustrate how a relatively small, but well-targeted financial incentive can encourage changes in the economy on a large scale – much larger than the original scope that was directly influenced by the incentive payments
- The 50% reduction goal [of the expiring 45L] is the target of a number of Department of Energy demonstration programs. The experience with DOE's Building America project shows this to be an achievable target [yet one that has only been realized in less than 600 homes cumulatively]

Promises, continued

Q. Why do this through the tax system?

A. One of the most difficult problems with utility-sponsored incentive programs is making multiple-year commitments. This is particularly important in new construction, where 2 or more years may elapse between the design phase for a building – the phase when key energy efficiency decisions are made by the architect – and the construction phase….

Promises, continued

- ***The targets were chosen intentionally to be quite high compared to current practice***. DOE project[s] only very slow improvements in efficiency … in the future. Indeed, if an advocate of energy efficiency advanced a claim that the building sector would, without policy intervention, become 50% lower in energy use over the next 6 years, this claim would be (correctly) treated dismissively by energy experts
- The [ ] level for air conditioners [ ] is available, but virtually impossible to buy at present.
- …the 50% savings target [for nonresidential buildings] has been achieved by roughly 5% of new buildings in California [and thus much lower nationwide], but … significantly larger numbers of buildings were already achieving a 40% savings [therefore it is too low a bar]

The success of 45L

- Thanks to RESNET staff we can track this:
- The percent of the market complying was:

pre-2006	~0
2006	0.7%
2007	3.0%
2008	4.6%
2009	10.0%

Where we agree

- There ought to be incentives for performance at the RE-188 level as adopted
- The incentives should automatically be terminated after market share in compliance reaches a target level no higher than 20%...
- …and replaced by a new target based on a set market share

Areas under discussion

- What is the best way to incentivize the Public Comment #2 IECC HERS scores that were not adopted by the ICC:
  - Utility programs?
  - Limited-duration tax credits?
- What are the target market shares for starting and ending tax credits?
- For which years should the levels in IECC 2015 be incentived?

Market Transformation

- The success of the HERS Index allows utilities to offer consistent targets throughout North America, working through the Consortium for Energy Efficiency (http://www.cee1.org/)
- Market transformation programs have been remarkably successful, almost always resulting in 100% market share of the target efficiency within a dozen years

Summary

- Builders and efficiency advocates are finding common ground around the HERS Index
- Performance-based policies will benefit builders, consumers, and the environment

THANK YOU!

Questions:

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