

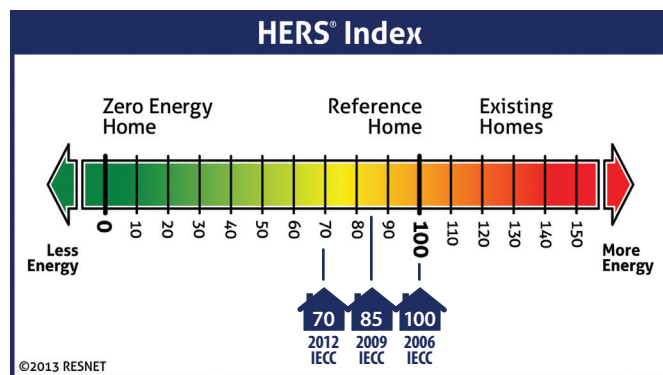


# Energy Rating Index Performance Path

## Benefits of the Energy Rating Index Score Option

The Energy Rating Index (ERI) performance path gives builders yet another option for complying with the International Energy Conservation Code (IECC). In addition to the prescriptive and performance paths of previous versions of the IECC, builders now have the option of meeting a target ERI score through a wide range of performance options to demonstrate compliance. The ERI performance path also requires builders to achieve the mandatory code requirements of the IECC, including water heating piping provisions, and comply with the minimum insulation and window envelope performance requirements of the 2009 IECC.

The ERI score is defined as a numerical score where 100 is equivalent to the 2006 IECC and 0 is equivalent to a net-zero home. Each integer value on the scale represents a one percent change in the total energy use of the rated design relative to the total energy use of the ERI reference design.



Using the ERI performance path for compliance with the IECC has several benefits, including more flexibility in complying with code, decreased emissions, lower building costs, reduced jurisdictional manpower, utility bill savings, increased resale value and market competition.

### FROM A BUILDER'S PERSPECTIVE

**Lower First Costs.** The ERI performance path allows builders flexibility in achieving the ERI performance goal of the 2015 IECC rather than following the prescriptive approach. The greater flexibility allows builders to select the most cost effective efficiency measures that perform the best for each home. Leading Builders of America (LBA) estimates that a level of energy performance that would have cost \$3,000 extra using the prescriptive approach of the IECC would cost only

\$1,300 with the ERI performance path, including the cost of the HERS rating.<sup>1</sup> NRDC estimates that the extra costs of the down payment for the more energy-efficient home will pay back in net monthly savings in just over six months. Increased flexibility for builders also means lower construction costs, lower costs to the buyer and continual improvement in energy efficiency.

### FROM A CONSUMER'S PERSPECTIVE

**Utility Bill Savings.** The ERI performance path provides substantial reductions in utility bills—about \$468 a year for a typical house compared to the 2012 IECC.<sup>2</sup> As such, energy efficient homes following the ERI performance path are more affordable since the monthly utility bill savings more than pay for the increase in mortgage payments. In addition, ERI scores will be provided to the buyer, creating stronger markets for beyond-code homes by clearly demonstrating lower operating costs and providing guidance to the occupant on what utility bills should be.

**Resale Value.** The ERI score of a home will be included on the energy label that is required by the IECC and can be used to market the efficiency of the home. In addition, many markets around the US are including HERS scores on real estate MLS listings. Energy labels and inclusion in the MLS allow builders and homeowners to effectively demonstrate the extra value of energy efficient components and utility bill savings to the next buyer for a better selling price. The Institute for Market Transformation and the University of North Carolina also found a correlation between HERS ratings and mortgage loan foreclosure. The risk of defaulting on a mortgage was found to be 32% lower on HERS rated homes and reduced correspondingly with lower HERS index scores.



# Energy Ratings Index Performance Path



## FROM A CODE OFFICIAL'S PERSPECTIVE

**Reduction in Compliance Verification Time.** The ERI performance path requires verification by an approved third party as well as the use of an industry standard efficiency report to demonstrate compliance. By using a qualified third party, jurisdictions will reduce the manpower needed to conduct inspections. In addition, the compliance report could be utilized by the code official to verify compliance in lieu of or in addition to their own inspections and documentation, reducing jurisdiction manpower requirements to review energy and compliance documents as well.

**Quality Assurance.** The HERS index, a qualified ERI method, is built on elaborate quality control and quality assurance. HERS raters are certified by RESNET after they have taken training courses and have passed field and online tests. RESNET requires HERS raters to have continual professional education and periodic recertification; HERS raters must also demonstrate compliance with ethical standards. At least 1% of every rater's output each year must be rechecked by an independent rater, and the two ratings must agree within 3 ERI/HERS points. In addition, it is recommended that all HERS raters take the residential IECC certification exam.

**Building Performance.** An increase in compliance boosts an increase in building energy savings. The ERI approach provides a platform that focuses both on the assessment of the quality of installation as well as building performance.

## FROM THE MARKET'S PERSPECTIVE



**Market Competition and Innovation.** The added flexibility of the ERI performance path drives innovation and encourages

competition in the energy efficient product and service industries, further lowering the cost of efficiency and increasing potential for future cost-effective efficiency improvements. Competition in the product and service industry will foster continual improvements in products and advances in building technology, creating new jobs, new businesses and additional energy savings down the road. The ERI approach also encourages innovation and competition amongst builders. Homeowners are interested in the most energy efficiency for the lowest cost; builders will combine performance options with creativity to compete with one another to demonstrate the lowest HERS scores to home buyers.

**Integrated Market.** Rather than insulation manufacturers competing solely with one another and with window manufacturers for UA tradeoffs, the ERI performance path opens the competition to HVAC equipment vendors, white goods producers, plumbing fixture manufacturers, lighting product manufacturers, solar water heater producers, solar PV firms, energy recovery ventilator producers and others.

**Increased Sales and Job Opportunities.** Energy efficiency will become less expensive as more builders buy efficient components and those selling high-efficiency products will see an increase in sales as well. As these businesses sell more, they also generate more jobs.

**Future Programs.** The ERI performance path complements performance-based residential efficiency programs by providing a "shell" for existing residential energy code and above code programs to fit. It also provides a format for the development of future energy programs, including those designed for net zero energy. The ERI approach provides a platform to move the code toward building zero energy homes by allowing trade-offs and credit for regulated and unregulated loads.

## FROM AN ENVIRONMENTAL PERSPECTIVE

**Decreased Emissions.** The Natural Resources Defense Council (NRDC) estimates that the ERI performance path will cut energy bills and greenhouse gas emissions by 20 percent compared to the 2012 IECC and by 40 percent compared to the 2006 IECC if adopted nationwide. The ERI performance path in the 2015 IECC will accumulate to a national cost savings of over \$110 billion by 2030 compared to the 2006 IECC. Cumulative greenhouse gas emissions reductions will be over 271 million metric tons of carbon dioxide, or the approximate equivalent to the emissions produced by 77 coal-fired power plants.<sup>3</sup>

1 [http://www.imt.org/uploads/resources/files/Fact\\_Sheet\\_on\\_ERI\\_Proposal.pdf](http://www.imt.org/uploads/resources/files/Fact_Sheet_on_ERI_Proposal.pdf)

2 <http://www.resnet.us/blog/resnet-commissions-study-on-cost-effectiveness-of-the-2015-iecc-energy-rating-index-option>

3 <https://www.resnet.us/blog/natural-resources-defense-council-posts-blog-on-home-energy-rating-compliance-option-proposal-for-the-2015-international-conservation-code/>