



Energy Rating Index Performance Path

ERI Performance Path Score Alternatives

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, follow hot water 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.

The ERI performance path allows a state or jurisdiction adopting the IECC to specify which qualifying Energy Rating Index method it will use. RESNET's Home Energy Rating System (HERS) index, based on ANSI RESNET Standard 301-2014, is the existing compliant ERI method and is nationally recognized for inspecting and calculating a home's energy performance. To date, over 1.5 million homes have been rated in the U.S. under the RESNET standards and in 2013, half of all new homes were rated and issued a HERS Index Score.

In viewing the relation of the IECC and ERI Scores, it is important for states and jurisdictions to remember that lower ERI Scores equate to less energy consumption and greater energy savings.

2009 IECC ERI SCORES

According to the U.S. Department of Energy, a home built to the 2009 IECC is expected to use 15 to 20 percent less energy than a home following the 2006 IECC. As a result, a home built to comply with the minimum prescriptive requirements of the 2009 IECC would achieve the following HERS Index Scores:

Climates	2009 IECC HERS Index Scores
Zone 1 – 2	79
Zone 3	78
Zone 4 – 5	82
Zone 6	83
Zone 7	85
Zone 8	86
U.S. Average	82

2012 IECC ERI SCORES

The 2012 IECC is expected to decrease energy consumption in homes by 30 percent when compared to the 2006 IECC. As a result, a home built to comply with the minimum prescriptive requirements of the 2012 IECC would achieve the following HERS Index Scores:

Climates	2012 IECC HERS Index Scores
Zone 1	74
Zone 2	73
Zone 3	71
Zone 4	76
Zone 5	80
Zone 6	79
Zone 7	78
Zone 8	79
U.S. Average	76

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2015 IECC ERI SCORES

The ERI scores required for the 2015 IECC are based on analysis performed by the Florida Solar Energy Center of HERS index scores for homes in 16 cities distributed across each climate zone. The homes used in the analysis were one-story 2000 ft² and two-story 2400 ft² homes built using the 2012 IECC envelope and air leakage requirements plus an additional 10% savings. In addition, widely-available high-efficiency HVAC and water heating equipment was installed and best-case orientation and architecture was assumed for the prototype homes. The homes were modeled for various versions of the IECC which provided a range of HERS Index scores by climate zone.

The ERI scores required in the 2015 IECC for each climate zone are:

Climates	2015 IECC HERS Index Scores
Zone 1 – 2	52
Zone 3	51
Zone 4	54
Zone 5	55
Zone 6	54
Zone 7 – 8	53

ALTERNATIVE SCORES

The Leading Builders of America (LBA), Institute for Market Transformation (IMT), Britt/Makela Group, Inc. (BMG) and Natural Resources Defense Council (NRDC) established a set of scores that they jointly believed to reflect the highest levels of cost-effective efficiency.¹ The proposed scores for each climate zone were:

Climates	Alternative Scores
Zone 1 – 3	59
Zone 4 – 5	63
Zone 6	62
Zone 7 – 8	60

The scores are based on two equivalent concepts: first, that energy use is reduced by an additional 10% compared to a home with the 2012 IECC envelope and duct systems, recognizing that minimum equipment efficiencies will be higher in 2015 than they are today, and also assuming best-case orientation and architecture of prototype homes. Alternately, the numbers are obtainable by combining the 2012 envelope with state-of-the-shelf HVAC (Heating, Ventilation and Air Conditioning systems) and water heating equipment: SEER 16 air conditioners in the South, 94% AFUE furnaces in the North, and point-of-use gas or ENERGY STAR[®] electric water heaters.

ERI SCORES FOR OTHER STANDARDS

A study performed by the Leading Builders of America and the National Association of Home Builders Research Center found the corresponding HERS index scores for Energy STAR, a level of 50% beyond the 2006 IECC and a level 60% beyond the 2006 IECC to be 70, 56 and 47, respectively.

¹ http://www.imt.org/uploads/resources/files/Fact_Sheet_on_ERI_Proposal.pdf