



Setting the Standards for
Home Energy Efficiency

20 YEARS OF
SUCCESS | Setting the
Standards for Quality
1996 - 2016

Where is RESNET Heading?

**2015 ENERGY STAR Stakeholder Meeting
Portland, Oregon**

**Steve Baden
Executive Director
RESNET**

www.resnet.us



Commitment to Quality

**Qualified
HERS
Raters**

**Enhancing
Quality
Assurance**

**Consistent
Calculation of HERS
Index Scores**

**Quality
Assurance
Infrastructure**

Enhancing the National Consistency of the HERS Index

RESNET has initiated a comprehensive effort to enhance the consistency of HERS Index Scores. The pillars of RESNET's effort are:

- Qualified HERS Raters and Rating Field Inspectors
- Enhance Quality Assurance of HERS Ratings
- Consistency in the Calculation of HERS Index Scores
- Robust RESNET Quality Assurance Oversight Infrastructure

Ensuring Qualified HERS Raters and Rating Field Inspectors of the

RESNET has invested in the latest technology for the testing the practical knowledge of candidates.

Includes:

- Simulation Based Practical Test for New and Existing HERS Raters
- Tablet based mentoring and assessment of New and Existing Rating Field Inspectors (RESNET JobWerks)

Enhancing Quality Assurance Oversight of HERS Ratings

RESNET has proposed standard amendment that enhances requirements for the quality assurance oversight of HERS Raters.

Includes:

- Separating the financial interest of the quality assurance oversight over HERS Rating companies
- Creation of RESNET certified Quality Assurance Agents that have no financial interest in HERS Rating companies

Consistency in the Calculation of HERS Index Scores

It is vital that all HERS software programs consistently calculate a home's HERS Index Score.

At its Fall 2015 Board Meeting the RESNET Board will adopt a process to ensure all accredited HERS software calculate the HERS Index in a consistent manner.

Creating a Robust RESNET Quality Assurance Oversight Infrastructure

The proposed amendment to the RESNET standard will create financially independent Quality Assurance Agents that will serve as agents of RESNET

In addition RESNET will invest in new technologies, increase the quality assurance capabilities of the RESNET National Registry and have RESNET staff dedicated to quality assurance and accreditation of providers.

Strengthening Partnership with ENERGY STAR

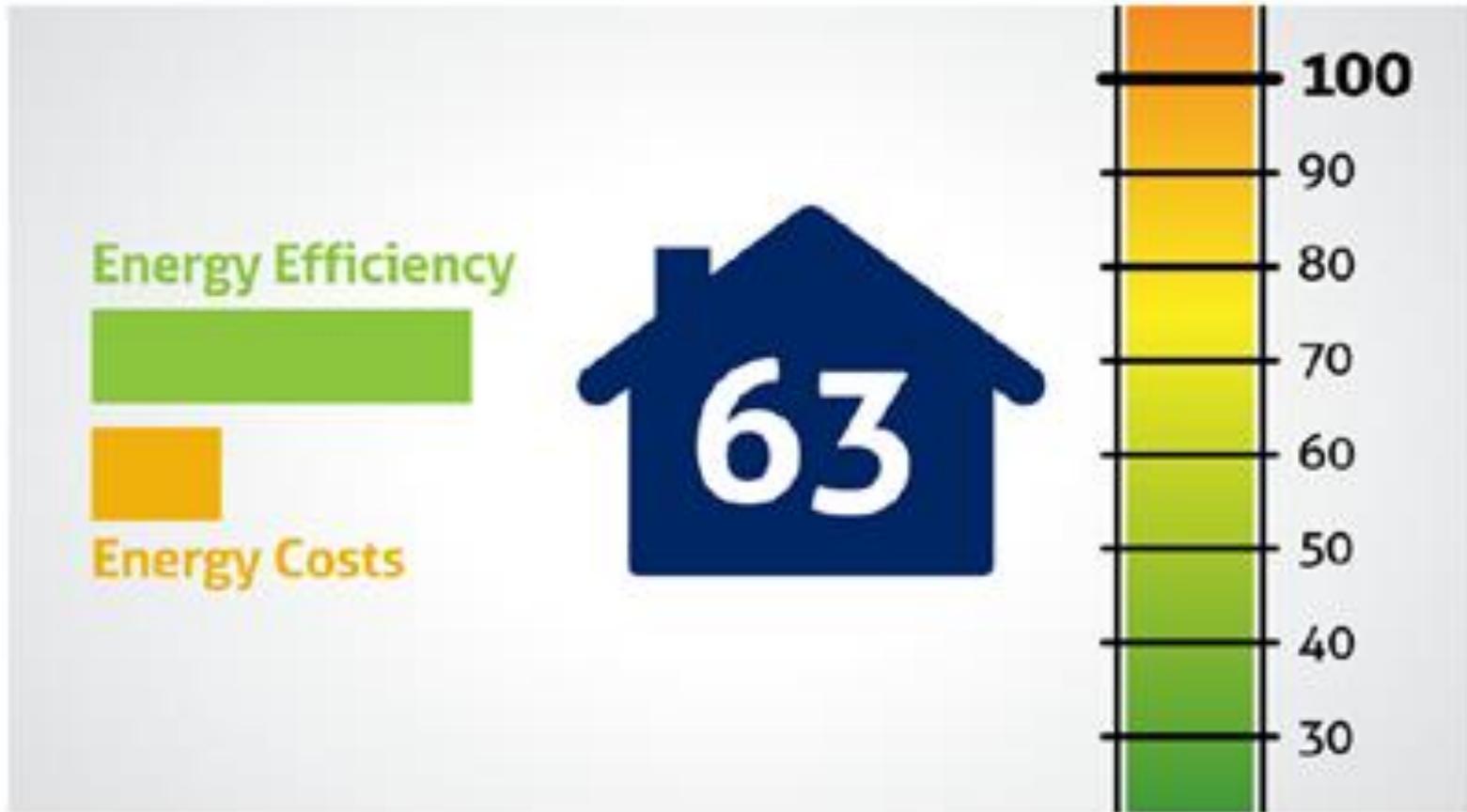
- Certified RESNET HERS Raters provide verification of ENERGY STAR at same time as producing HERS Index Score
- Sharing data in RESNET National Registry
- Discussions on how to better harmonize ENERGY STAR with HERS Index

Educating Consumers on the HERS Index

In 2014 over 165,000 homes were rated in the U.S. (over a third of all new homes sold)

Average HERS Index Score was 63

RESNET HERS Index Video



www.youtube.com/watch?v=klGa1rUdydo

RESNET HERS Index Web Site



WHAT IS THE HERS® INDEX?

The Home Energy Rating System (HERS) Index is the industry standard by which a home's energy efficiency is measured. It's also the nationally recognized system for inspecting, testing and calculating a home's energy performance.

[FIND OUT MORE](#)

Latest news: [SEE ALL](#)



What's Behind the Growing Popularity of HERS® Index Scores?
When it comes to buying cars and appliances, American consumers can shop around for the best value based on MPG (miles-per-gallon) stickers for cars and Energy Guide labels for...
Jun 17, 2014



A Homebuyers Guide to Energy Efficient Homes
The demand for energy efficient homes has risen dramatically over the last few years due to the fact that they provide their owners with: lower utility and maintenance...
Jun 11, 2014

*The information presented for educational purposes only. Savings are average estimates for single family homes in the U.S. developed by the National Renewable Energy Laboratory. Savings will vary based on house type, orientation, house size, utility rates, climate and operation of the home. For specific information on a home please have a home energy rating conducted by a certified RESNET Home Energy Rater.

www.hersindex.com

RESNET Energy Smart Builders



 Every Home is a
HERS Rated Home

RESNET Energy Smart Builder HERS Index Marketing Materials

RESNET's NEW HERS INDEX TOOLS

Helping builders demonstrate the value
of their Energy Efficient Homes.

Informative
HERS Index Video



Customizable
Brochure



Yard Sign
Templates



Promote your HERS-rated homes to prospective buyers!

The HERS Index tools are part of RESNET's ongoing commitment to support our builder partners in their efforts to successfully market their HERS-rated homes to consumers.

Visit www.resnet.us/professional/hers-index-tools to download your free suite of HERS Index tools.



Not a RESNET EnergySmart Builder yet?

Visit www.resnet.us/professional/builder-partners to find out how you can benefit from being an EnergySmart Builder.

Forging Dynamic Partnerships with the Housing Industry



Partnership Between RESNET and Appraisal Institute

- Sharing Data in RESNET National Registry to Appraisers in Real Time
- Undertake Analysis to Determine if There is a Correlation Between HERS Index Scores and Market Appraised Value
- Joint Appraisal Institute/RESNET Education Effort for Builders, HERS Raters and Appraisers

Adoption and Implementing Energy Rating Index of 2015 IECC



HERS Scores – 51 to 55 plus mandatory measures of 2009 and 2015 IECC

Maryland, Texas and Vermont has adopted (Illinois is final process of adopting)

Factsheets on Adoption of Energy Rating Index Score



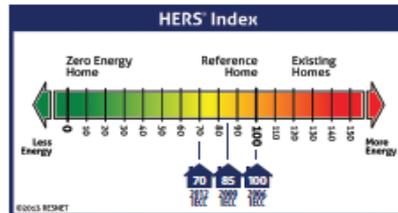
Energy Rating Index Performance Path



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.¹ 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.² 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.



Factsheets on Adoption of Energy Rating Index Score

- Overview of the ERI Performance Path in the 2015 IECC
- Benefits of the Energy Rating Index Score_Option
- Cost Effectiveness of Using the Energy Rating Index
- Energy Rating Index Performance Path Score Alternatives
- Implementation Guidelines
- Case Studies
- Energy Rating Index Performance Path Frequently Asked Questions

Builder Presentation on Adoption of Energy Rating Index Score



ICC and RESNET Video for Code Officials on the HERS Index



Uniform Energy Rating Index Compliance Report



2015 IECC R-406 Energy Rating Index Report

Property

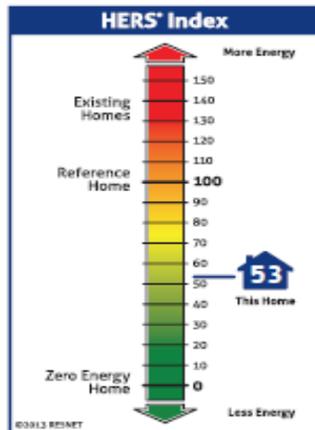
Name of Builder
Building's Address

Organization

Name of Rating Company
Phone Number of Rating Company
Name of Certified HERS Rater

Energy Rating Index Information

Confirmed Rating
Rating No: 199838
Rater ID: 8893201
Date Rated: July 15, 2015



Annual Energy Consumption*		
	Rated Home Calculated Energy Use (MBtu)	Rated Home Cost (\$/yr)
Heating	28.8	428
Cooling	41.4	509
Water Heating	4.0	96
Lights & Appliances	43.7	1382
Photovoltaics	-0.0	-0
Total	117.9	3365

*Based on standard operating conditions

Annual Estimates			
Electric (kWh):	16529	CO2 Emissions (Tons):	14
Natural Gas (Therms):	674	Energy Savings (\$)**:	2635

**Based on the 2015 IECC Energy Rating Index Reference Design Home

Energy Rating Index Target Score: 53 Energy Rating Index: 53 **PASS**

This home MEETS the Energy Rating Index Score requirement of Section 406 of the 2015 International Energy Conservation Code based on climate zone 7. In addition to the HERS Index Score other mandatory measures must be met (See Mandatory Requirements on second page).

Name	Signature
Organization	Date

Provider Data and Seal

TITLE

Company

Address

City, State, Zip

Phone #

Fax #

To determine if a Provider is properly accredited go to: www.resnet.us/professional/programs/search_directory

Changes That Will Effect RESNET HERS Index Scores

- Adoption of ANSI/RESNET Standard 300
- Adoption of RESNET Standard Development Committee Interpretation on Ventilation
- Adoption of HERS Software Boundaries

Adoption of ANSI/RESNET Standard 300

Changes ventilation baseline from
2004 to the 2006 IECC

Adoption of RESNET Interpretation on Ventilation

Clarifies interpretation of RESNET ventilation requirements.

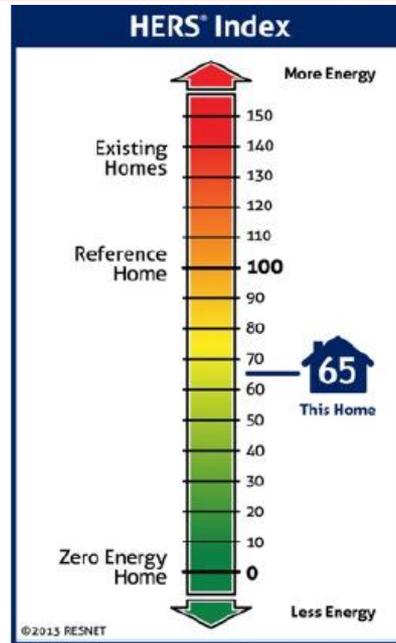
Adoption of RESNET Quality Assurance Software Fixes

Creates “flags” on HERS Rater entries that exceed the expected bounds for rated feature

Adoption of RESNET Standard on Water Heating Efficiency

Credit for efficient hot water systems and distribution

Study on Potential Impact of Changes on HERS Index Scores



Upcoming Changes to the
HERS Index and Potential
Impact on HERS Index Scores



<http://www.resnet.us/blog/wp-content/uploads/2015/05/Upcoming-Changes-to-the-HERS-Index-and-Potential-Impact-on-HERS-Index-Scores.pdf>

Study on Potential Impact of Changes on HERS Index Scores

Study was conducted by Brett Dillon of IBS Advisors
– Study was in aggregate and did not include specific raters nor builders.

Involved a statistically significant sample from the RESNET National Buildings Registry that was randomly pulled proportionally based on the number of ratings per state during 2013 and 2014.

Study had a 99% confidence interval in the quality of the analysis.

Key Findings on Impact of ANSI/RESNET 301 and Hot Water

- The implementation of ANSI/RESNET Standard 301-2014 this year will cause HERS Index scores to increase by an estimated 2 to 3 points due to infiltration and ventilation changes.
- The changes in efficient water heating will decrease by an estimated 3 to 6 points
- This results in a net change of 1 to 3 points in HERS Index scores over the current calculations.

HERS Software Boundary Checks

In the past, RESNET's standards and procedures allowed too much flexibility in the inputs of HERS software programs which allowed inconsistencies between software tools and raters. In some cases, this led to HERS Index Scores that were lower than they should have been.

The RESNET Board adopted quality assurance policies and established HERS software bounds checks to address this issue.

Key Findings on Impact of New HERS Software Boundary Checks

- The inconsistencies discovered in the study represented a small percentage of homes rated in the United States.
- RESNET has no evidence of wrongdoing in the current boundaries set by HERS software providers, nor of HERS Raters applying interpretations of the reasonability of data entries.
- The differences are HERS software dependent

Key Findings on Impact of New HERS Software Boundary Checks

- The HERS Index scores for builders whose raters made data entries that now exceed the new RESNET boundaries may go up by an average of 7 points.

Changes That Will Effect RESNET HERS Index Scores - Timelines

- The deadline for HERS software programs to be updated to meet new RESNET requirements has been extended from August 1, 2015 to September 1, 2015
- The deadline for HERS Raters to use the revised software programs on new projects has been extended from October 1, 2015 to January 1, 2016

Builders are urged to begin working with their HERS Raters to determine their home's specific changes and the new versions of the software are released

Join Us in Scottsdale in 2016

RESNET[®]
RESIDENTIAL ENERGY SERVICES NETWORK

**2016
Conference**

Scottsdale, AZ
Feb 29 - Mar 2

