



The IECC Energy Rating Index and HERS Index: What's the Difference?

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The 2015 and 2018 versions of the International Energy Conservation Code (IECC) contain an Energy Rating Index (ERI) – Section R406 alternative compliance path for residential buildings.

The 2015 IECC did not reference a standard for the ERI calculation and most certified RESNET HERS® Raters observed that the 2015 IECC ERI was the same value as the HERS Index, since their rating software used the same standard as used by RESNET for HERS Ratings. For the 2015 IECC this is true.

This worked until the 2018 IECC was adopted.

The 2018 IECC explicitly references the same underlying standard used to calculate the HERS Index, ANSI/RESNET/ICC 301, yet HERS Raters have observed a difference between the calculated 2018 IECC ERI and the HERS Index. While the biggest difference is caused by the 2018 IECC modification in the modeled ventilation rate, that's just part of the variation.

There are several reasons for the additional variation. First, the 2018 IECC can only reference one version of a Standard, that was published at the time the code was being developed. In the case of 2018 IECC, Section 406 refers to the ANSI/RESNET/ICC Standard 301-2014, with Addendum A and B.

It must be remembered that RESNET HERS ratings are not tied to the code and are required to comply with the most current version of Standard 301. This means that HERS ratings are dynamic and based on all addendum to Standard 301, based on their effective dates.

The 2021 version of Section 406 of the IECC will refer to ANSI/RESNET/ICC Standard 301-2019.

It is for this reason that RESNET HERS Index scores and IECC Section 406 ERI scores will always remain out of sync to varying degrees.

As an example, homes with permits in the fall of 2020 and seeking a HERS Rating will be using ANSI/RESNET/ICC Standard 301-2019. If their state has adopted 2018 IECC, their code-compliance ERI will still be based on the much older 2014 version of Standard 301 with Addendum A and B. The result is different index scores, since the older version of Standard 301 with only Addendum A and B was before amendments like the Index Adjustment Factor or the allowance of credit for LED lighting.

How does this affect HERS Raters and Builders? Not much, as long as they understand the difference in scores. The IECC Section R406 ERI is a snapshot in time where the sole audience is your local code

official. The HERS Index is a value that can evolve over time and is used to represent the energy performance of a home to homeowners, homebuyers, renters, utilities, and program implementers.

The table below demonstrates some of the other differences between the HERS Index and the ERI as calculated in accordance with the 2018 IECC.

Element	2018 IECC Section 406 ERI	HERS
Standard for calculating scores?	ANSI/RESNET/ICC 301-2014, with Addendum A and B (not updated unless specific action taken by code-adopting entity or new code is adopted)	ANSI/RESNET/ICC 301-2014, with Addendum A through T (updated in accordance with RESNET's standard amendment process) NOTE: HERS will be based on the 2019 version of Standard 301 effective July 1, 2020.
Subject to amendments to 2018 IECC, section R406?	Yes, one amendment to the 2018 IECC revises the ventilation rates as contained in Standard 301 which can lead to a difference of 2-8 points between ERI and HERS scores.	No. The HERS Index is based on Standard 301 and not subject to actions taken in the updates to the IECC.
Must meet mandatory code requirements?	Yes, homes complying with the ERI are also subject to all mandatory requirements in the 2018 IECC.	No.
Completed by a Certified HERS rater?	No, the IECC requires compliance verification by an approved third party, but does not explicitly require a HERS rater.	Yes. Only Certified RESNET HERS raters can complete HERS ratings.
Calculated with RESNET accredited software?	No, this is not explicitly required by the IECC.	Yes. Only RESNET accredited software can be used to calculate HERS index scores.
Scores submitted to RESNET?	No. (Unless a HERS rating is also being provided with the ERI)	Yes. Only homes submitted to RESNET's National Buildings Registry can be considered "HERS Rated".
Requires quality assurance oversight?	No.	Yes. All HERS rated homes are subject to RESNET's strict quality assurance oversight for both file and field review.
Home available for appraisers to view in the Appraiser Portal?	No.	Yes. All HERS rated homes are available to be viewed by more than 3,600 appraisers when determining a home's value through the RESNET/Appraisal Institute Appraiser Portal.
Can be marketed as a HERS rated home?	No.	Yes.