

Alignment of Energy Rating Index Target Scores Based on Adopted Energy Code Efficiency Level (2330)

IECC: APPENDIX RM (New), RM101.1 (New), RM101.2 (New), RM101.3 (New)

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2024 International Energy Conservation Code [RE Project]

Add new text as follows:

APPENDIX RM Alignment of Energy Rating Index Target Scores Based on Adopted Energy Code Efficiency Level. *The purpose of this appendix is to align the target scores for R406 with the adopted energy code efficiency level. Where adopted, the table in this appendix is intended to be used to establish the maximum Energy Rating Index values in the adopted code.*

RM101.1 Scope. This appendix applies to new residential buildings.

RM101.2 Application. Residential buildings shall comply with Section R406 as amended by this appendix.

RM101.3 ERI based compliance. Replace Table R406.5 with Table RM101.3. The adopting entity shall determine whether to utilize the '2009 IECC Efficiency Level' or the '2012-2018 IECC Efficiency Level' based on the adopted energy code.[1]

	2009 IECC Efficiency Level	2012-2018 IECC Efficiency Level
CLIMATE ZONE	ENERGY RATING INDEX NOT INCLUDING OPP	ENERGY RATING INDEX NOT INCLUDING OPP
0-1	69	60
2	71	63
3	68	57
4	73	63
5	73	65
6	74	62
7	73	61
8	73	61

[1] (Informative Note) The U.S. Department of Energy's Building Energy Codes Program provides state-level analysis of an adopted energy code's efficiency level at <https://www.energycodes.gov/state-portal>.

Reason: Despite improvements in the residential provisions of the IECC to increase efficiency levels by about 37 percent over the 2006 IECC baseline, almost half of the states are still under 2009 IECC efficiency levels. According to the U.S. Department of Energy's Building Energy Codes Program (BECP), only eight states have adopted a residential energy code that is equivalent to the 2021 IECC efficiency levels.

Although many states have adopted versions of the IECC that are more recent than 2009, BECP lists 21 states with efficiency levels at the 2009 IECC or less ([State Portal | Building Energy Codes Program](#)). Since the Energy Rating Index (ERI) compliance option wasn't instituted until the 2015 version of the IECC, states don't have a reference for ERI target scores in these 21 states. Seven states have adopted a more recent version of the IECC (2015-2021), but have rolled back envelope levels closer to the 2009 IECC; while maintaining the ERI target scores from the model code. This makes the ERI path significantly more stringent than the state's adopted

code and therefore an unusable compliance option.

The intent of this proposal is to give builders an ERI compliance option that aligns the prescriptive efficiency of older versions of the IECC with ERI target scores. RESNET Building Registry data shows that when builders work with third-party energy professionals to measure the energy performance of their homes, their energy efficiency improves beyond the state code minimum. Giving builders an appropriately aligned ERI target score is the best way for them to start measuring their efficiency.

Important note about energy modeling to determine target scores: The energy models used to determine the target scores closely followed the methodology found here: [Cost-Effective Energy-Efficiency and Florida's](#) for both the 2009 and 2012 IECC, with a few exceptions:

- Only a 2,000 square foot one-story home was used
- All homes were modeled as slab-on-grade
- A 95 AFUE furnace was used for all homes (based on NAECA rule, set to take effect in 2028)
- A 0.62 efficiency gas storage water heater was used for all homes

Cost Impact: The code change proposal will neither increase nor decrease the cost of construction. This proposal aligns the ERI target scores with prescriptive efficiency levels and is an optional compliance path.

Cost Impact (Detailed): The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification:

This proposal aligns the ERI target scores with prescriptive efficiency levels and is an optional compliance path.