Indiana HERS Ratings: Comparison to the State Energy Code

November 1, 2017
MEEA received a dataset for all HERS rated homes in Indiana from RESNET (2014 – 2016)

Dataset includes HERS score, plus all features that impact building efficiency (e.g. wall insulation level, envelope air sealing, etc.)

MEEA conducted an analysis to determine:
- Typical construction practices for HERS rated home
- How rated homes compare to the energy code
IN HERS Data set

- # of homes: 20,446
- Average size: 3200 Sq. Ft. (Conditioned)
- Average HERS Score: 66
- HERS Rated vs. new 1-family permits statewide
  - 2014: 54%
  - 2015: 56%
  - 2016: 48%
HERS Score Breakdown

**All Homes**

**Avg. HERS Score:** 66

**REMRate v. 14.6 or less**
Energy Star Homes
All Homes

- 59% yes
- 41% no

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Comparing Data to Code Requirements
2009 IECC w/ Indiana Amendments (CZ 5)

• 2009 IECC
  – Foundation Insulation: R-13
  – Wall Insulation: R-13
  – Ceiling Insulation: R-38
  – Windows: U= 0.35
  – Air Leakage: 7 ACH50 (Mandatory)
  – Duct Leakage: 8 CFM 25/100 sq. ft. (Mandatory)
  – High Efficacy Lighting: 50% (Mandatory)
  – AC Efficiency – 13 SEER
  – Furnace Efficiency – 80 AFUE
Above Grade Wall Insulation (R-Value)

Prescriptive Code Requirement

R-13 or greater: 100%
R-20/ 15+3 or greater: 10%

# of Homes

Cavity (R-value)

Continuous Insulation (R-value)
- Null
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 13
- 14
- 15
- 20

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Insulation Quality

Installations Rated with a Value of 1,2,3

* Grade 1 is a mandatory requirement
Window Efficiency (U-Factor)
Prescriptive Code Requirement

- U - .35 or less: 97%
- U - .32 or less: 84%
Air Leakage (ACH50)
Mandatory Code Requirement

- 7 ACH50 or less: 100%
- 4 ACH50 or less: 77%
- 3 ACH50 or less: 45%
Ventilation Type

- None: 61%
- Exhaust Only: 22%
- Balanced: 15%
- Air Cycler: 2%
Ceiling Insulation (R-Value)
Prescriptive Code Requirement

R-38 or better: 86%
R-49 or better: 9%
Ducts in Conditioned Space
Prescriptive Code Requirement

Ducts in 100% Cond. Space: 12%
Duct Leakage to Outside – Unconditioned Space*

Mandatory Code Requirement

* Only showing homes w/ ducts in unconditioned space

8% leakage or lower: 99.7%
4% leakage or lower: 74%
High Efficacy Lighting (%)
Mandatory Code Requirement

- 0%: 41%
- 50% or greater: 50%
- 75% or greater: 35%
AC Efficiency (SEER)
Meet Federal Minimum

Null = Heat Pump

0%: 41%
50% or greater: 50%
75% or greater: 35%
Furnace Efficiency (AFUE)

Meet Federal Minimum

Number of Homes

Null = Heat Pump