

HERS H2O

Training Raters & Conducting Pilot Projects

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Technical Guidelines Approved!



- The RESNET Board approved the HERS_{H2O} Technical Guidelines this month.
- Technical Guidelines will serve as the basis for the Water Rating Index Standard.

Background on HERS_{H2O}

Charge from the RESNET Board

Create an index that:

1. Leverages the advances made in the HERS standard

(ICC-301-2014)

- Calculates hot and cold water for all principle fixtures and appliances, requires additional outdoor uses
- Has compelling technical support

2. Is inline with the general HERS methodology

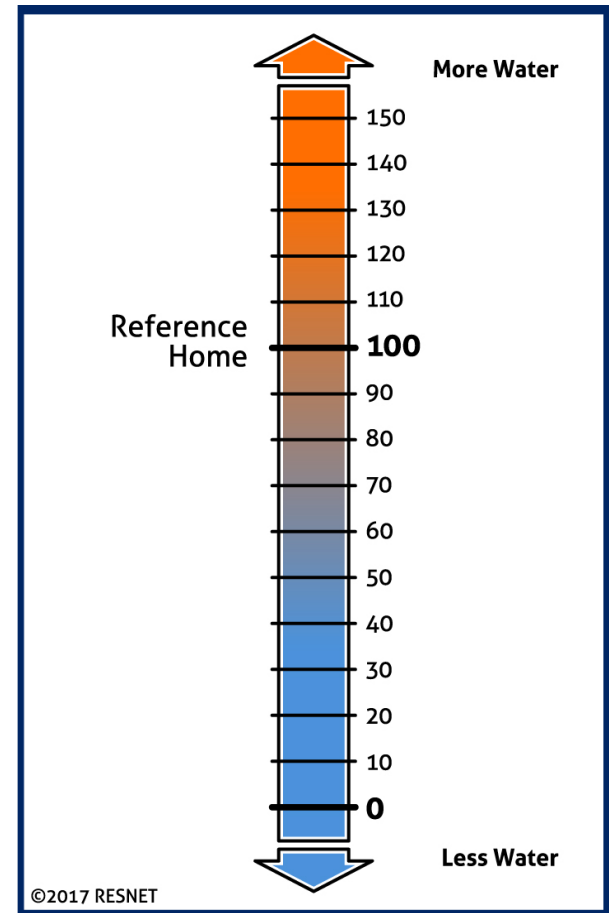
- Generates a score by comparing the rated home to a reference
- Reference home is representative of new construction circa 2006

3. Provides a low bar for participation

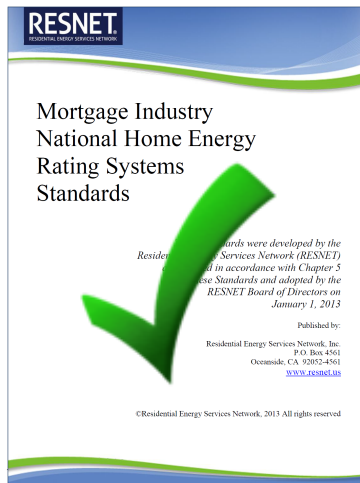
- Can be added to a HERS rating for a reasonable incremental cost

Key Objectives for HERS_{H2O}

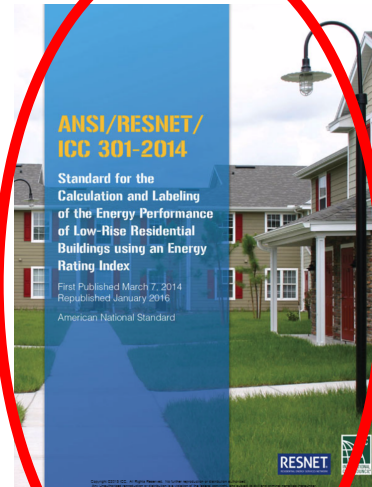
- Nationwide applicability
- Suitable for both new and existing homes
- Encompasses both indoor and outdoor water efficiency
- Practical and affordable to administer
- Scores usable for quantitative comparison



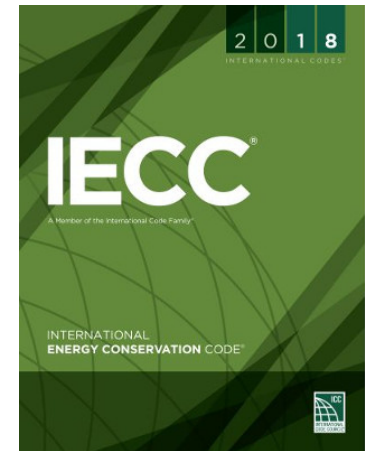
Development Process



Technical Guidelines



ANSI Standard



Reference in Code??

Water Rating Index Development will follow a similar path as the HERS and Energy Rating Index.

Any role in the code is still to be determined.

Conducting H2O Rating

Components of a Water Rating



Shower
Heads



Kitchen
Faucet



Lavatory
Faucets



Toilet Flush
Volume



Irrigation



Pool or Spa

Components of a Water Rating



Clothes
Washer



Water
Softener



Leaks/Other
Water Use



Excess
Pressure



Dishwasher

Other Factors Included in the Rating



House Size



Geographic Location



Number of Bedrooms



Lot & Landscape Size



Hot Water Distribution Layout



Hot Water Pipe Insulation

Preparing for a Typical Rating

Required information:

- House plan information
 - Square footage
 - Location
- Plumbing fixture and appliance product information
 - Rated flow rate for all toilets, faucets, showerheads
 - Clotheswashers and dishwashers
- Landscape information
 - Lot plan
 - Presence or absence of a pool and automatic irrigation system
 - Presence or absence of a smart controller
- Uncommon elements (water softener, pool, etc.)

HERS
basic info

HERS
Addendum A

What Moves a Score? Toilets



Reference: 1.6 gallons per flush (gpf)

Rated: WaterSense labeled 1.28 gpf toilets

What Moves a Score? Fixtures



Reference: 2.5 gpm showerheads
 2.2 gpm faucets (bathroom & kitchen)

Rated: 1.75 gpm WaterSense labeled
 showerheads
 1.5 gpm WaterSense labeled bathroom
 faucets
 1.5 gpm kitchen faucets

What Moves a Score? Appliance

Reference: 9.5 water factor clotheswasher
Standard (2006) dishwasher

Rated: 8.0 water factor clotheswasher
ENERGY STAR dishwasher



What Moves a Score? Outdoor

Reference: 3,600 square foot landscape with automatic irrigation and standard controller

Rated: 3,400 square foot landscape with WaterSense labeled weather based irrigation controller



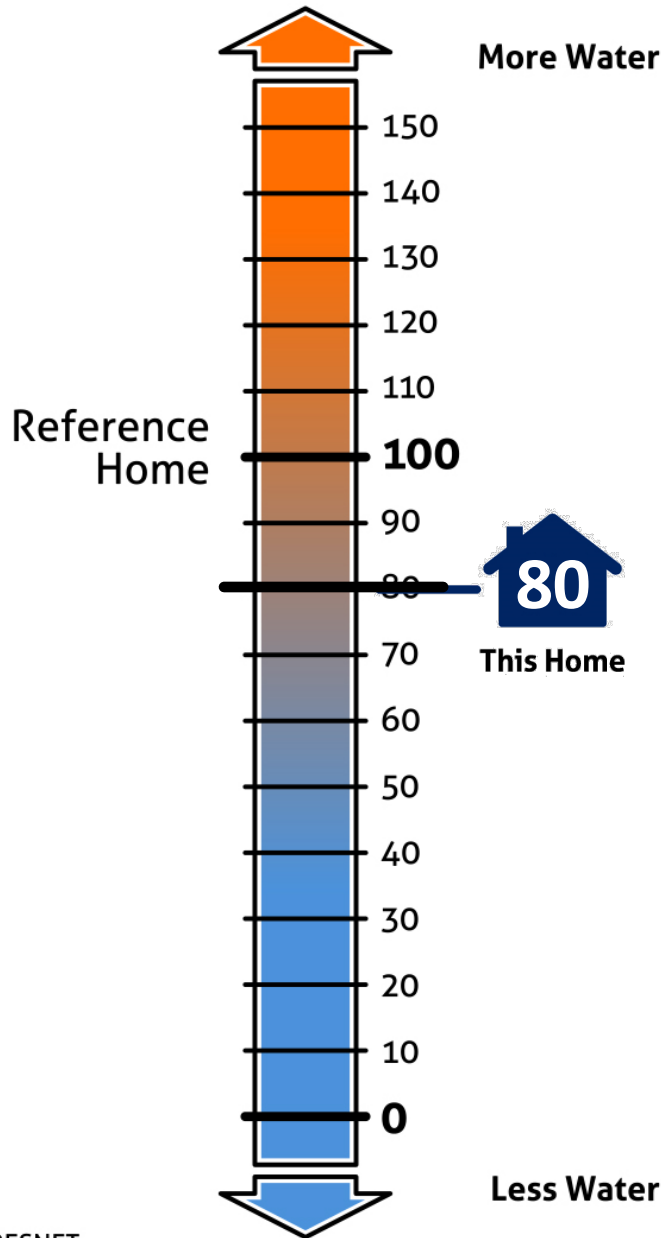
Calculation Example -1

House Characteristics

- 3009 ft² conditioned floor area
- 2 floors
- 4 bedrooms
- No hot water pipe insulation
- No recirc system
- WaterSense labeled fixtures
- ENERGY STAR dishwasher
- Std. clotheswasher
- Small landscape area with smart irrigation controller and typical sprinklers

**HERS_{H2O}
Score = 80**

RESNET HERS_{H2O} Index



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Water efficiency rating certificate for:

3184 Winesap Way
Winter Garden, FL 34787

Size of home: 3,009 sq. ft.
Number of bedrooms: 4
Size of lot: 6,513 sq. ft.
Size of irrigated area: 3,400 sq. ft.

This Home, Compared to the Reference Home

(Reference home is similarly sized, at same location, with attributes typical of a 2006 home)

20%

more water
efficient

19,280

gallons of water
annual savings

\$103

annual saving on water utility bills

Rated by:

Andrew Floyd
TopBuild Home Services
Daytona Beach, FL 32114

Date: February 27, 2018



Calculation Example -2

House Characteristics

- 3009 ft² conditioned floor area
- 2 floors
- 4 bedrooms
- Hot water pipe insulation
- Recirc system
- WaterSense labeled fixtures
- ENERGY STAR dishwasher
- ENERGY STAR clotheswasher
- Smaller landscape area with smart irrigation controller, efficient sprinkler design, and professional audit

HERS_{H2O}
Score = 68

H2O Training Webinars

- RESNET will announce webinars in April
- Especially important for providers that plan to participate in HERS_{H2O} pilot projects

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Recruiting for Pilot Projects

- RESNET is looking for builders, raters and providers to participate in HERS_{H2O} pilot projects
- Projects will provide important guidance to RESNET on:
 - HERS_{H2O} implementation standards
 - Refining the inspection checklist and guidance
 - Calculation spreadsheet and software
 - Developing Rater training

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2018 Activities

Further Development of HERS_{H2O}

- **Guidelines approved by RESNET Board**
- **Development of WRI Standard**
 - Review of draft Standard by SDC
 - Public Comment Period
 - Review/respond to Public Comments
- **Development of HERS_{H2O} Implementation Standards**
 - Quality Assurance
 - Registry
 - Training

Interested Parties

Know someone interested in staying up to date on the water efficiency work of RESNET?

- Have them email ryan@resnet.us.
- Will receive periodic updates
- Notices of public comment periods and webinars
- Monthly “Water Update Newsletter”

Thank you!



Setting the Standards for
Home Energy Efficiency

Outdoor Reference Home

Outdoor Reference Home is dependent on several factors:

- Size of the irrigated area in the reference home
- Size of the irrigated area in the rated home
- Annual historic sum of mean reference evapotranspiration minus the mean precipitation for all months that evapotranspiration exceeds precipitation
- Indicator representing the presence or absence of a swimming pool in the rated home

