

RESNET and Utility Efficiency Programs

Enhancing Collaboration

Tuesday, February 27th 2018

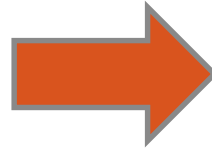
2:15–3:45pm Eastern in Grand Salon VIII

RESNET Conference | Orlando, FL

Why is This Important Today?

OLD WORLD

Rating tool
monopoly by region



NEW WORLD

Diversity of rating
tools within regions

SO: how do utility programs best
work with multiple rating tools?

Who We Are

STAKEHOLDER	SPEAKER	ORGANIZATION
Moderator	Alice Rosenberg	Consortium for Energy Efficiency
Software Provider	Cy Kilbourn	Ekotrope
Rater	Nate Kleist	Energy Diagnostics
Implementer	Kathy Greely	Performance Systems Development
	Matt Christie	TRC Energy Services
Utility	Terry Rother	Salt River Project

And Who Are YOU??

RESNET Utilities and HERS Software Programs Advisory Working Group

June – October, 2017

MISSION

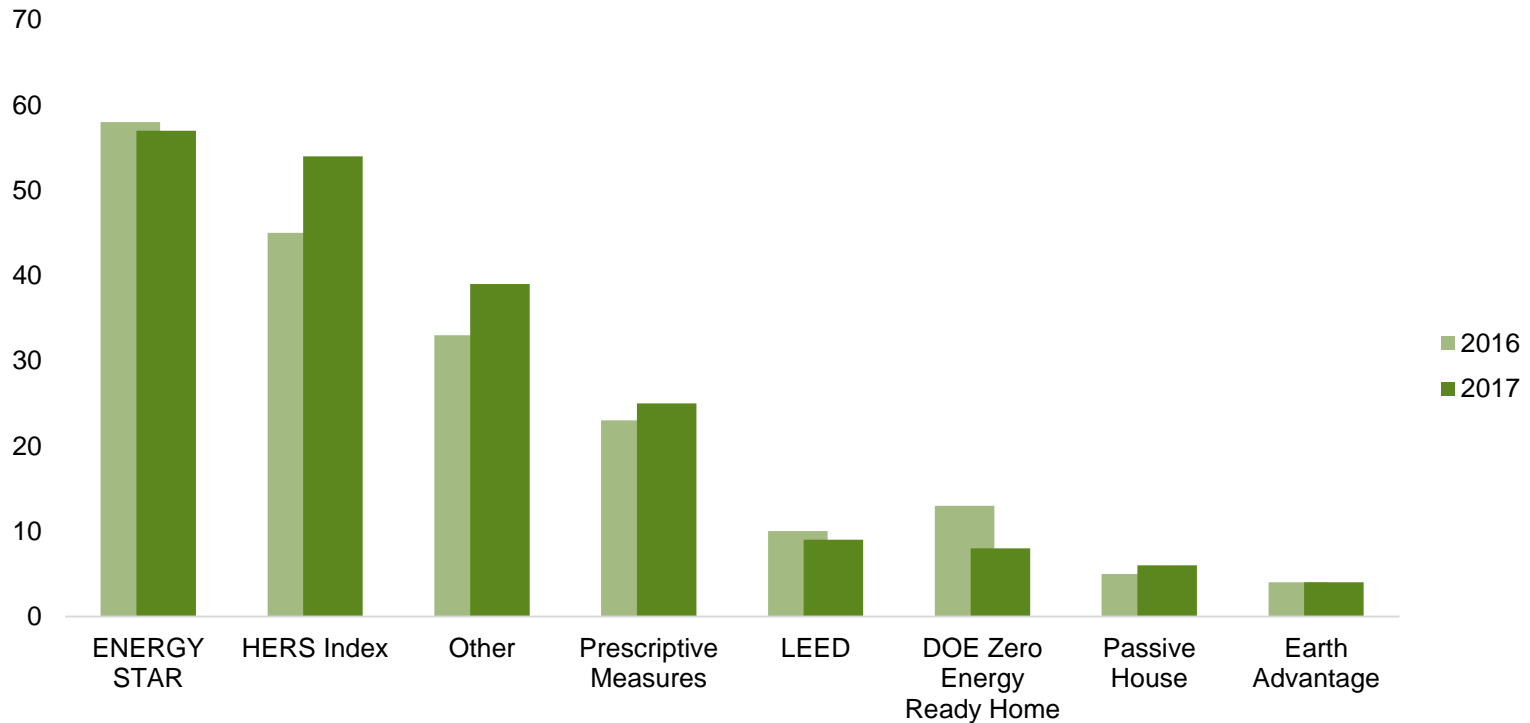
Create a path for utility programs to accept submissions from any RESNET Accredited Rating Tool with the following constraints:

1. Ease access to and acceptance of information, thus reducing barriers to participation
2. Low effort from raters to participate (beyond HERS Rating)
3. Consistent data transfer and model reporting across tools, thus increasing confidence in claimed savings

Utility Programs: Snapshot

- There are 72 active CEE member new home programs
- 54 of those programs promote the HERS Index

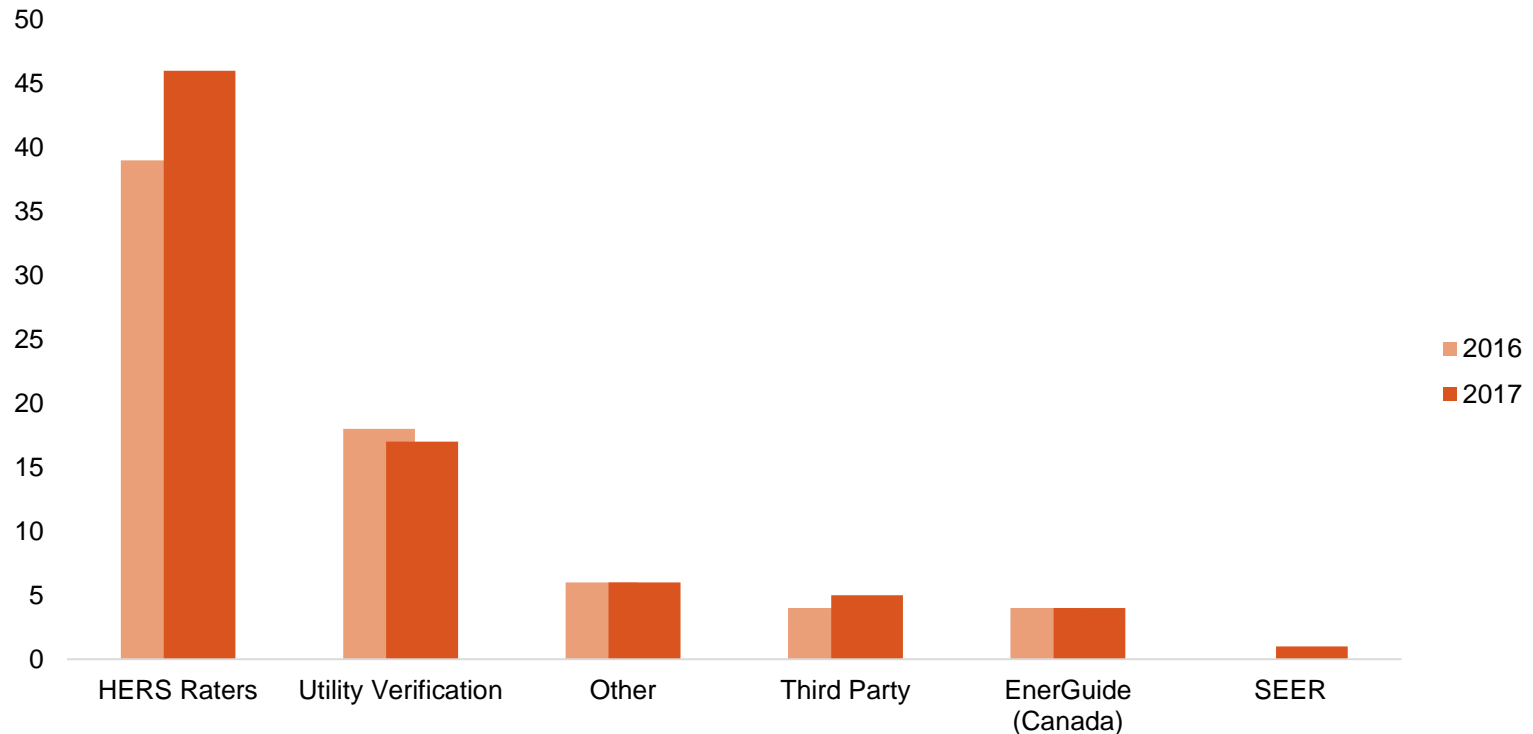
Specification or Platform Used



Utility Programs: Snapshot

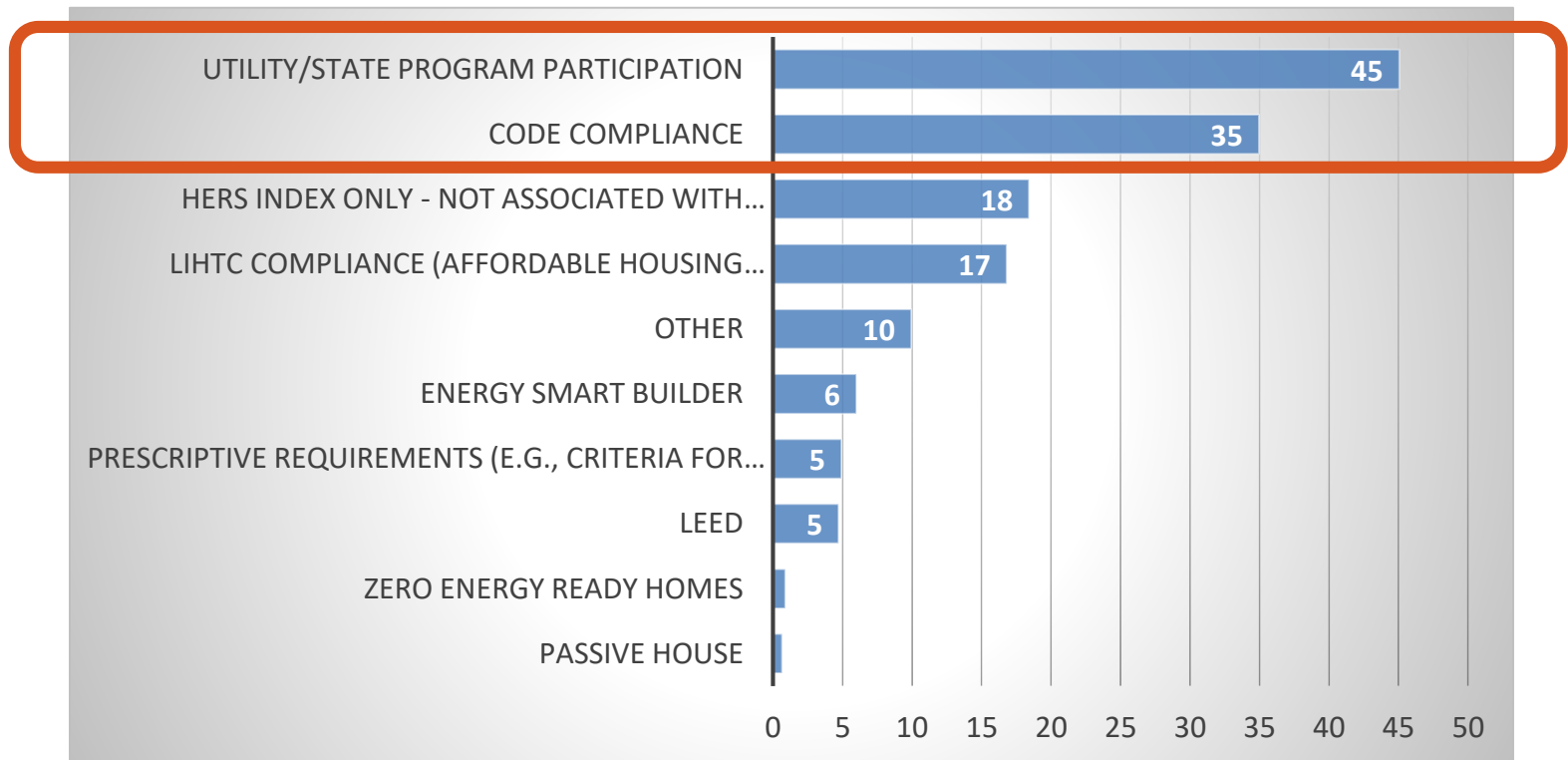
- There are 72 active CEE member new home programs
- 46 of those programs use HERS for verification

Program Verification Methods



Importance of Utility Programs

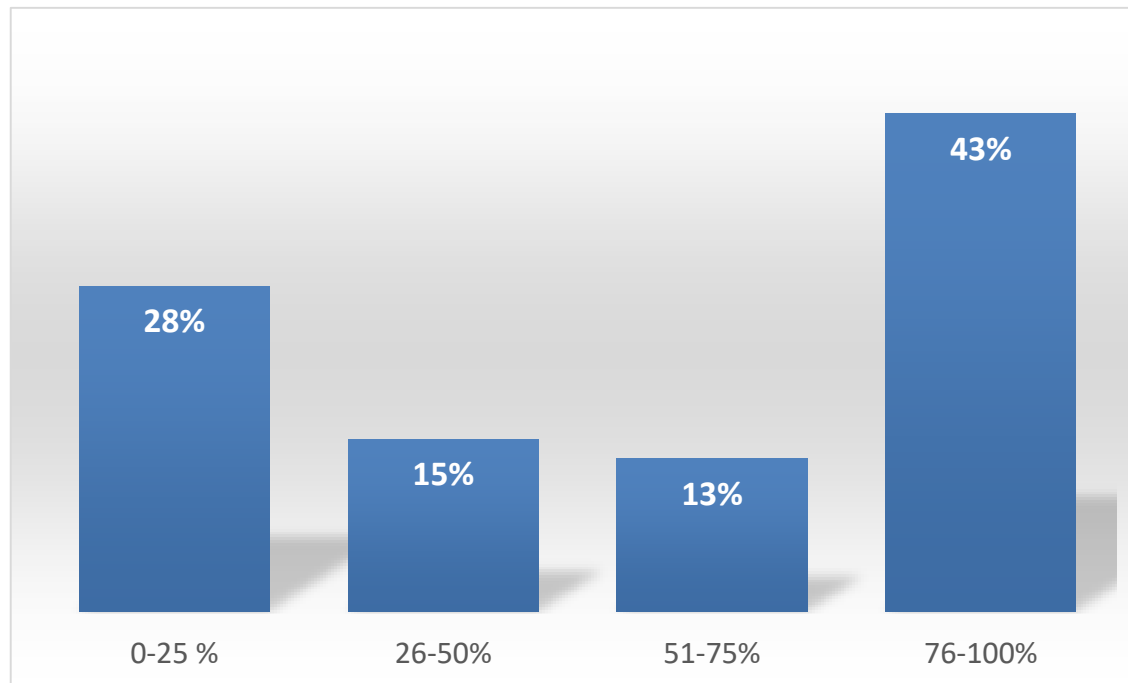
What percentage of your HERS Ratings are submitted for each of the following?



Rater survey implemented by Performance Systems Development across the U.S.

Importance of Utility Programs

What percentage your current ratings would you continue to do, in the absence of program incentives?

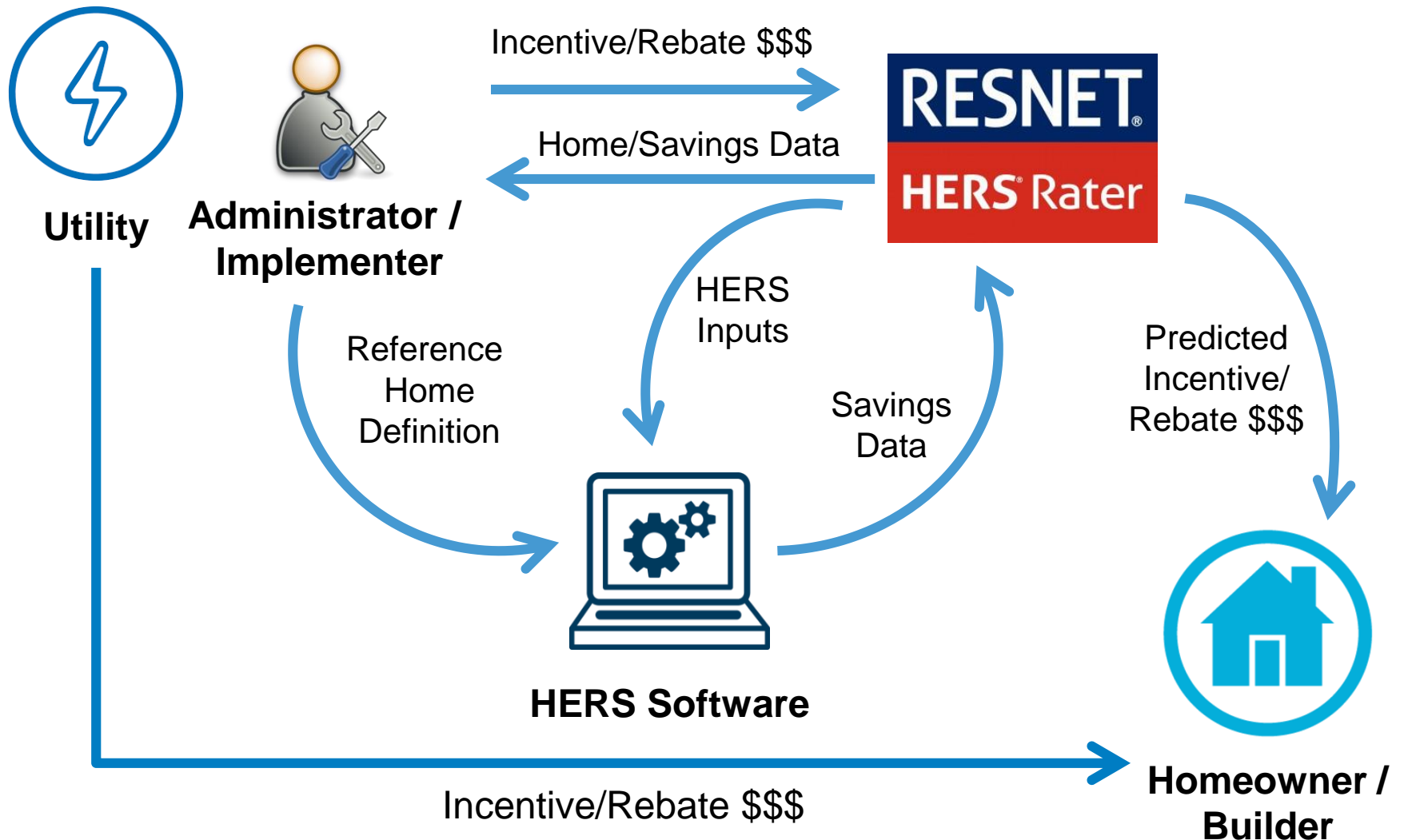


Rater survey implemented by Performance Systems Development across the U.S.

So... What's the Problem?



Anatomy of a Utility Program



Problems Today (Prioritized)

1. **Savings calculations are not perfectly consistent** or standardized across software tools.
2. **Reference homes are difficult to build** and maintain, especially in multiple software tools.
3. **Hourly calculations** are not always available
4. **Lots of data transfer file formats** and data manipulation.
5. **Extremely high effort for utility program administrators** when supporting multiple software tools.
6. **Calculations may not be “utility-grade”** for some utilities.

Solution Strategy

- Standardize software output/input schema
 - Enhance RESNET registry schema to contain commonly required data
 - Develop or adopt common input data schema to capture all input data
 - Develop guidelines for both software vendors and utility programs to enhance collaboration
- Ease burden and improve consistency of program reference homes across multiple software tools
- Ease burden from variations of calculations between software tools

Findings and Recommendations



Priority 1

Highly recommended to implement as soon as possible



Priority 2

Highly recommended to implement



Priority 3

Recommended to implement

Recommendation 1



1. Make modifications to the RESNET Registry XML Schema

– Add hourly total electric consumption

- Further split by end-use (i.e. heating, cooling, hot water, lighting, appliances) would be valuable, but is not critical yet.

– Add structured place in XML for software tools to put Energy Results for various reference homes, including:

- Annual energy consumption split by end use and by fuel type for both the proposed and reference homes.
- Hourly electric consumption for both the reference and proposed homes.

Recommendation 2



- 2. Define a standardized Reference Home Language (RHL) that describes a reference home “transformation”**
 - RESNET standardized openly available language/syntax
 - Build the HERS Reference Home in standardized transformation schema.

Recommendation 3



- 3. Improve consistency in energy consumption between software tools (not just HERS Index Scores)**

Recommendation 4



4. Develop RESNET guideline resources for key stakeholders

- Develop a set of guidelines for software vendors to support utility program markets
 - Includes guidance for building a customizable PDF report that can be used by utility programs.
- Develop a set of guidelines for utility programs to design their programs to align easily with HERS Rating software capabilities
- Recommend not using ratings that are not submitted to the RESNET registry

Recommendation 5



5. Develop or adopt a common HERS Rating software input schema

- Recommended option: adopt a HERS use-case of HPXML

Recommendation 6



- 6. Develop an “input file generator” that applies a “transformation” to create another input file based on a given input file (see recommendation #2)**

Discussion

Panelist Questions

1. What are the impacts from an **evaluation** standpoint of these recommendations?
2. What is the **business value** for your organization associated with these recommendations
3. How does having **hourly simulation** in the modeling software deliver benefit?

Thank You!

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Additional Slides

Utility Program Evaluation

Energy savings must be measurable,
verifiable, and persistent

Greater Consistency



Greater Confidence



Greater Claimed Savings

Utility Program Evaluation

Credibility of software programs and standardization has impact on overall costs

Reduced Data Transfer and Variance



Reduced Administrative Costs



Reduced EM&V Costs