



RESNET 2020 Building Performance Conference Schedule

Visit www.resnet.us/conference for more information & registration

SATURDAY - FEBRUARY 22

8:00 AM – 5:00 PM

ENERGY STAR Multifamily Rater Training – Day 1

Presenters: Emelie Cuppennell Glitch & Ethan MacCormick, Performance Systems Development;

Room: Pueblo II

This training will cover the new requirements of ENERGY STAR for Multifamily New Construction. The training will include an overview of the MFNC Program Requirements, Rater Design Review Checklist and Rater Field Checklist. At the conclusion of the training, each participant will take a test to qualify for the completion certificate.

[CLICK HERE TO REGISTER](#)

8:30 AM – 5:00 PM

PHIUS Rater Training – Day 1

Presenters: Tony Lisanti, Integral Building

Room: Apache III

This 2-day training includes one day of classroom work with a second day spent in the field demonstrating advanced testing and inspection protocols for the PHIUS+ Passive Building Standard certification program.

- Enclosure integrity design strategies
- Passive building mechanical/ventilation systems
- On-site verification of passive building construction features
- Airtightness/blower door testing protocols

The course concludes with an exam. Successfully completing the course and exam qualifies the trainee as a PHIUS+ Rater.

[CLICK HERE TO REGISTER](#)

SUNDAY - FEBRUARY 23

8:00 AM – 3:00 PM

ENERGY STAR Multifamily Rater Training – Day 2

Presenters: Emelie Cuppernell Glitch & Ethan MacCormick, Performance Systems Development;

Room: Pueblo II

This training will cover the new requirements of ENERGY STAR for Multifamily New Construction. The training will include an overview of the MFNC Program Requirements, Rater Design Review Checklist and Rater Field Checklist. At the conclusion of the training, each participant will take a test to qualify for the completion certificate.

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PHIUS Rater Training – Day 2

Presenters: Tony Lisanti, Integral Building

Room: Apache III

This 2-day training includes one day of classroom work with a second day spent in the field demonstrating advanced testing and inspection protocols for the PHIUS+ Passive Building Standard certification program.

- Enclosure integrity design strategies
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The course concludes with an exam. Successfully completing the course and exam qualifies the trainee as a PHIUS+ Rater.

[CLICK HERE TO REGISTER](#)

8:00 AM – 4:00 PM

The HERS Associate & Taking the Performance Path: An Introduction to the HERS Index & IECC Compliance

Presenters: Mike Barcick

Room: Papago I

This full-day, three-part live course reviews Building Science principles as they relate to the Performance Path option in the International Energy Conservation Code (IECC). This course will introduce RESNET and the HERS Index, and relate the principles of building science as they apply to HERS. Explore the ERI/HERS Index as a tool to successfully design and build houses that meet code using the ERI/Performance Path to compliance, while also meeting the minimum prescriptive requirements of the current IECC enforced and/or adopted in the region. Participants will learn about the strategies and tools used by HERS Raters to perform analysis of a house to produce a HERS Index Score. The last part of the session will be spent reviewing energy rating software that is most often used by HERS professionals, and manipulating various construction assemblies to see the effect of HERS Index scores.

[CLICK HERE TO REGISTER](#)

9:00 AM – 12:00 PM

International Energy Code Council (IECC) Residential Energy Inspector Training

Presenter: Chris McTaggart, The BER

Room: Arizona I

Learn the residential requirements of the 2018 International Energy Conservation Code (IECC) from this in-person class. Participants will be able to take the exam after the morning session on Sunday, February 23rd.

Log into your attendee registration to add this session!

[REGISTER FOR EXAM HERE.](#)

12:00 PM – 5:00 PM - RESNET Registration Opens

1:00 PM – 5:00 PM

Software Interoperability in the Modern Age

Presenter: Robert Burns, Pivotal Energy Solutions

Room: Pueblo I

Raters and utilities/program sponsors are invited to this session highlighting the opportunities to streamline the energy rating and program administration process and maximize the benefits of energy efficiency program participation through software interoperability and the cloud-based AXIS software platform. Invited speakers and Pivotal team members will discuss AXIS interoperability with: simulation engines (Ekotrope RATER, REM/Rate, and EnergyPlus), field data collection applications (RaterPRO), the DOE HES engine, custom energy savings and utility incentive calculators, incentive payment platforms, certification program databases, and data sharing platforms targeting the real estate market.

A Guide to the Future of Housing: The Easy Lift to Zero

Presenters: Jamie Lyons, Newport Partners, LLC; Joe Nebbia, Newport Partners

Room: Papago II

Make no mistake about it. The vast consumer experience imperative transforming every industry is coming to a housing industry near you...soon! This is because your buyers are growing exponentially smarter. The lowest cost per square foot will no longer close the deal. We haven't even begun to talk about the new risks confronting builders as energy codes have reached the building science tipping point... the point where homes can no longer dry if they get wet, get wet easier, provide less fresh air, experience longer swing seasons, and require much less airflow for heating and cooling. Zero is the answer...DOE Zero Energy Ready Homes that dramatically reduce your risk and result in a housing product that will vastly exceed your buyers' expectations. This includes a whole new level of affordability, comfort, health, safety, durability, quality, and future-readiness. American homebuyers want this level of excellence when they make the largest investment of a lifetime. They just don't know it's available and how to get it... yet. This seminar will provide a comprehensive review of the Zero Energy Ready Home program including the business case, specifications, and opportunities to be recognized as an industry leader. **(Submitted as an Advanced Session)**

International Energy Code Council (IECC) Residential Energy Inspector Exam

Room: Arizona I & II

The ICC Residential Energy Inspector/Plans Examiner Certification exam contains 50 questions. Once you begin the exam you will have two hours to complete it. The exam is open book so please be sure to bring a copy of the 2018 IECC. Please register for this session if you plan on taking the course before taking the exam.

[REGISTER FOR EXAM HERE.](#)

Single Software Solution

Presenters: Russell King, CalCERTS, Inc./Kwik Model; Rob Vieira, FSEC;

Room: Papago II

Is your company interested in a single software solution? Learn how to easily take a floor plan and make it into a 3D design, then seamlessly use the design data for energy code calculations, energy ratings, duct layout and ACCA Manual J8, Manual S and Manual D reports. Presentation will showcase the newly married EnergyGauge USA with Kwik Model for visualizing your entries.

5:00 PM - 7:00 PM

NAIMA Reception

Room: Sunset Plaza

Join us for drinks and food provided by NAIMA before the conference kicks off!

MONDAY - FEBRUARY 24

7:00 AM - ATTENDEE REGISTRATION OPENS

8:00 AM – 10:00 AM

RESNET Opening General Session

Presenters: Leo Jansen, Energy Efficient Homes Midwest; Matt Gingrich, Energy Diagnostics; Rod Buchalter, RenewABILITY Energy Inc.; Dominic Sims, International Code Council; Steve Baden, RESNET;

Room: Maricopa

Kick-off the 2020 conference with our first (and only) all-attendee session!

- Session Called to Order – Steve Baden, RESNET Executive Director
- Welcome to the 2019 RESNET Conference - Matt Gingrich, RESNET Board President
- Keynote Speech - Dominic Sims, ICC
- RESNET/CRESNET Cross Border Challenge Awards Presentation
- ELC Video Competition awards

10:00 AM – 10:30AM MORNING BREAK

10:30 AM – 12:00 PM MONDAY BREAKOUT SESSION 1

ENERGY STAR: The Year Ahead

Presenters: Elliot Seibert, EPA; Dean Gamble, ENERGY STAR Certified Homes program; Jonah Schein, U.S. Environmental Protection Agency's (EPA) WaterSense Program; Rebecca Hudson, ENERGY STAR Multifamily High Rise Program; Jonathan Passe, EPA;

Room: Apache I

If you go to just one ENERGY STAR session, this is the one for you! Learn how key initiatives will come to fruition in 2020 that will ease certification and expand the program – RaterPRO, HERS points for proper HVAC design and installation, and our new unified Multifamily New Construction program. Hear about key programmatic updates, like the latest revisions to program requirements and the revised Home Certification Organization application. Finally, tell our team how we can help you be even more successful with ENERGY STAR. By the end, you'll want to attend our entire track for a deeper dive on these topics and more.

RESNET New Policy on Enhanced Effectiveness and Efficiency of HERS Index Quality Assurance

Presenters: Laurel Elam, RESNET; Scott Doyle, RESNET; Billy Giblin, RESNET

Room: Arizona I

The RESNET Board of Directors is dedicated to continuously improving the effectiveness and quality of HERS Index ratings. To solidify the RESNET Quality Assurance Program as the Gold Standard, the RESNET Board of Directors adopted five initiatives for 2019. This session will feature the RESNET QA Team who will introduce the new initiatives, explain how they will be implemented and explore the implications for the HERS industry.

1. Amend & Incentivize QA efforts.
2. Improve internal policies for Rating Provider tracking & reporting to reduce the time burden of low-value QA activities.
3. Implement a pilot program in partnership with a utility QA program.
4. Develop ongoing Quality Assurance Designee (QAD) training content.
5. Implement regular reporting from RESNET's automated QA tool to the Rating Providers and Primary QADs in support of their ongoing QA activities.

(Submitted as an Advanced Session)

Taking Another Look at WaterSense with Version 2.0

Presenter: Jonah Schein, U.S. Environmental Protection Agency's (EPA) WaterSense Program;

Room: Papago II

In 2020 EPA is rolling out WaterSense for Homes, Version 2.0, which aims to further promote residential water efficiency and help enable market transformation in the building industry. With this new format, EPA will expand the reach of the WaterSense program, adapt to changes in the building industry, and increase flexibility so that a broader range of professionals can participate in the program. Best of all, the new program will work seamlessly with RESNET's new HERS_{H2O} water rating system and work more smoothly with ENERGY STAR and Indoor Air Plus, the EPA's other home certification programs. Come to this session to learn how earning the WaterSense label is more achievable than ever.

Energy and Moisture in Sealed and Insulated Attics

Presenters: Iain Walker, Lawrence Berkeley National Laboratory (LBNL); Brennan Less, LBNL; Kohta Ueno, Building Science Corporation;

Room: Pueblo I

Traditionally, attics have been insulated at the flat ceiling with deliberate venting between the attic and outside. It is also increasingly common to place the HVAC system and ductwork in this attic space. This exacerbates the thermal and air leakage losses for the HVAC system. One solution is to seal and insulate the attic at the sloped roof surface, with no insulation between the home and attic. This makes the attic more like conditioned space so that HVAC losses are minimized. However, this is offset by increased building envelope area and, sometimes, less insulation, leading to increased building loads. In addition, unvented attics present some unique moisture challenges. If the attic contains older, leaky duct systems, then the net savings could be significant. But what about a modern, insulated duct system, built to current code? How do we limit moisture risk? We will answer these questions through reviewing past literature, exploring data from current sealed attic monitoring studies, and will provide advice on how to limit moisture issues and get the best energy performance from sealed and insulated attics. **(Submitted as an Advanced Session)**

Lowest HERS Scores of 2019 - How are Builders Achieving Them?

Presenters: Rob Salcido, Salcido Solutions; Cy Kilbourn, Ekotrope

Room: Papago I

This session explores the more than 100,000 ratings performed using Ekotrope in 2019, presenting approaches taken to achieve the lowest HERS scores and offering potential insight into how to lower HERS scores across the industry. Whether you are looking to lower your HERS scores or would like an inside look at industry-wide trends, this session is for you.

The Times are a Changing - Having the HERS Industry Voice be Heard in Washington

Presenter: Carl Chidlow, Winning Strategies Advocates;

Room: Apache III

Policy interest in clean energy and energy efficiency is back in Washington. This has emerged as a key issue in the 2020 Presidential Campaign. To take advantage of this new awareness, RESNET has launched a public policy advocacy campaign to help the HERS® Industry and its allies engage with their Members of Congress during the 116th Congress. There are over 100 new Members of the U.S. Senate and House of Representatives as a result of the recent mid-term elections, many of whom may be unfamiliar with the HERS® Industry, RESNET, and our policy priorities. We must reach out to these new Members to educate them on who we are and what we do so that we can develop champions for our legislative agenda. In 2019, RESNET will be undertaking a Congressional advocacy campaign aimed at education Congressional offices on the HERS® Index and the contribution that the HERS® industry is making to the national energy policy. A key element of this effort is an online advocacy tool kit that will allow the HERS industry's voice to be heard in Washington. This session will introduce the advocacy campaign and tools as well as explore how our voices can be heard in Washington.

Live Training on Grade I with Fiberglass – New Resource for a Persistent Challenge

Presenter: Joel Martell, NAIMA; Cardice Howard, RESNET; Tom Calzavara, Johns Manville

Room: Sunset Plaza

Insulation Institute will conduct a live demonstration to teach contractors how to install fiberglass batt insulation to meet the new RESNET Grade I standard. Preview the new training resources and hear an insulation contractor/trainer talk about the persistent challenges of teaching insulation contractors to deliver a Grade I for each installation and why training is so essential.

The U.S. Housing Market Through the Looking Glass

Presenter: Clayton Traylor, Leading Builders of America

Room: Apache II

The U.S. housing market is currently in a challenging time. On one hand, interest rates and unemployment is low and on another hand there is a critical shortage of labor, land prices are high, supplies are being buffeted by trade wars and the emerging new homebuyers are burdened with large student loan debt. What does it mean to the future? This session will feature some of the largest home builders to peek into the looking glass and see what the road ahead portends.

ERI vs. Performance Path: Which is Better for Your Builder?

Presenter: Robby Schwarz, EnergyLogic

Room: Arizona II

Let's be real. Does the ERI path provide a sales and marketing opportunity for builders? It requires significantly more from a builder than any other compliance path and the code ERI score is significantly different than the HERS Energy Rating Index. As a byproduct of the Simulated Performance path, Builders get a HERS ERI score. To be able to make a wise decision you not only need to have in-depth knowledge of all the pathways available to demonstrate IECC compliance, but you need to know what is the most cost-effective way to achieve a builders' goals. This session will give you a precise understanding of the different pathways and an understanding of the most flexible/cost-effective means to achieve energy code compliance.

The 2021 IECC Development is Complete; What opportunities are available to Raters with New and Existing Requirement Updates

Presenters: Eric Makela, NBI; Jim Meyers, SWEEP

Room: Pueblo II

Code officials, home builders, architects, Raters, engineers and energy conservation professionals gathered in May and October 2019 to develop what will be the 2021 IECC. Changes are coming in the building envelope, lighting, and building science requirements in the code. Extensive discussions took place with renewable energy and energy efficiency and how they support energy savings to the home occupants. This interactive session will have the Raters weigh in on these new requirements, learn the new requirements and discuss business opportunities to leverage this new code in a Rater's business. The two presenters have been active in the development of the 2021 IECC, participated in ICC committees over the years and have worked with RESNET and Raters for many years.

Duct Testing Best Practices

Presenter: Sam Myers, Retrotec

Room: Arizona III

This session will cover all aspects of performing a duct leakage test. Whether you are a new or seasoned Rater, we'll introduce the processes, tools, and materials needed to make you a more efficient and effective tester. The information provided will include our field-tested best practices for total duct leakage, two methods for testing leakage to outside, and apps that make testing faster and easier. We'll also talk about different approaches to testing ducts at various stages of construction, as testing at rough-in can be a little different than testing the final stage of construction. This is also a prime opportunity to ask questions about your processes and leave the session with ideas to take back to your company.

12:00 PM – 1:15 PM LUNCH

12:00 PM – 3:30 PM EXPO HALL OPEN

1:30 PM – 3:00 PM MONDAY BREAKOUT SESSION 2

VISION House Seattle Cascades: A Template for Sustainable Building

Presenter: CR Herro, Meritage Homes

Room: Arizona II

In this session, CR Herro, VP Innovation Meritage Homes, will discuss the building science, sustainable design, and green building features of the VISION House Seattle Cascades, a project he is developing in conjunction with Green Builder Media. The off-grid, net-positive, healthy home optimizes demand-side energy management and incorporates the most advanced green building products, systems, and technologies available on the market today, all at a reasonable price point. **(Submitted as an Advanced Session)**

If Walls Could Talk...

Presenters: Jay Crandell, ARES Consulting; Amy Schmidt, Dow Building and Construction

Room: Arizona III

Learn why walls should be a priority and the impact of ignoring energy efficiency, durability, comfort, and serviceability. Explain ways that walls get messed up (trade-offs, poor design decisions, bad execution, etc.) and how to prevent these mistakes.

Homes continue to become more sophisticated and new technologies like dimmable lights and air conditioning have made modern-day living so much more comfortable and enjoyable but we can't forget the basics. Walls need to be a priority and unlike many other non-envelope elements they are intended to function for the life of the home. So why are they so often undervalued? We will look at the impact our decisions can make on the overall energy efficiency and durability of a home and explore envelope trade-offs that threaten those goals.

- Identify the IECC loopholes that allow building envelopes to be weakened
- Provide examples of wall trade-offs allowed by code
- Discuss consequences of weakening the energy efficiency of the envelope
- Discuss additional building science reasons for strengthening rather than weakening envelopes

(Submitted as an Advanced Session)

What's New in DOE Zero Energy Ready Homes?

Presenters: Jamie Lyons, Newport Partners, LLC; Joe Nebbia, Newport Partners; Nick Hurst, Environmental Protection Agency;

Room: Apache I

Whether it's the latest energy code requirement or a new rating feature that can drop the HERS score, Raters are a vital resource to guide their builders' decisions. To give Raters the latest on Zero Energy Ready Homes, we'll recap recent DOE ZERH program updates including a new alternative option for efficient hot water distribution; moving to 2015 IECC insulation levels; and increasing ZERH references in utility programs and affordable housing programs. We'll also preview the Zero Energy Ready Home – Multifamily program design that is under development and parallels the ENERGY STAR MFNC program, including how Indoor airPLUS now applies to MF buildings. This session will give Raters the latest developments on DOE Zero Energy Ready Homes and equip them to help their builders move to Zero.

Utility QA Pilot

Presenters: Chase Edge, ICF & Rick Gazica ICF; Billy Giblin, RESNET; Scott Doyle, RESNET;

Room: Arizona I

At its Spring 2019 meeting, the RESNET Board of Directors voted in favor of proposed revisions aimed at improving the effectiveness and efficiency of RESNET's overall Quality Assurance Program. There were five distinct initiatives in the proposed plan; one of which was to conduct a pilot involving utility program field Quality Assurance of RESNET certified raters and RFIs.

The purpose of the pilot is to identify and resolve any barriers to leveraging utility program QA with the intent of eliminating redundancy and reducing the field QA cost burden for Rating Providers.

In partnership with ICF, RESNET selected two separate utility programs for the pilot. The pilot launched at the beginning of Q3 in 2019. This session will share some of the takeaways from the pilot thus far including Provider feedback, pros and cons identified by RESNET QA Team, and where we're going from here.

RESNET and Pearl Certification to Measure Market Demand for HERS-Pearl Certified Homes in Phoenix, Arizona

Presenters: Robin LeBaron, Pearl National Home Certification; Cardice Howard, RESNET;

Room: Papago I

RESNET and Pearl Certification will partner with the City of Phoenix, the utility Arizona Public Service (APS), and Phoenix's largest broker, HomeSmarton, to market the benefits of RESNET/Pearl Labeled Homes. The effort will include:

- Translating over 40,000 existing HERS Rated Homes in the Phoenix market to Pearl Scores;
- Pearl contacting these homeowners and inform them of the joint designation of their homes;
- Evaluate the effects of the appraised value homes

This session will provide an overview of this new exciting project.

Changes for Multifamily in ANSI 301-2019 & 380-2019

Presenter: Gayathri Vijayakumar, Steven Winter Associates, Inc.

Room: Apache II

By the time of the RESNET conference, many Raters may have already completed the mandatory online Rater Training required for HERS Raters who perform energy ratings on multifamily units. Whether you have viewed the three videos yet or not, this session will provide an overview of the changes to these standards, with the bonus of a Q&A session, which was not available through the online portal. While attending this session in person is not a substitute for watching the videos (you can only get credit for the videos), attendees will gain a better understanding of the changes that impact the ERI and inspection & testing procedures for units in multifamily buildings. As a reminder, these changes will affect projects that are permitted on or after July 1, 2020, but Raters may optionally use them as of October 1, 2019, if they have completed the training.

Thermal Performance of Mass Wood Structures

Presenters: Robert Pickett, RobPickett & Associates, LLC; Matt Belcher, Verdatek Solutions LLC & Enhanced Building Systems LLC; Dr. Carl Manz, IMT-Institute;

Room: Apache III

Log homes have a long, successful, enduring heritage in the forested regions of the world, utilizing an indigenous resource to provide a healthy and comfortable living environment. In early American settlements, immigrants dwelling in log structures were notably healthier than those in masonry construction. Today's construction methods and materials have evolved since then, but occupants of log homes continue to report an energy efficient, healthy and comfortable lifestyle. How can that be? Energy conservation agents tell us that log homes are leaky, that they are poor insulators, and cannot meet the latest energy codes. Really? Built to ICC400 and with the care of any conscientious builder, they are as airtight as any other method of building. They are the innovators of continuous insulation, with interior conditioning buffering the passage of outside conditions. Truly, the greatest threat to the on-going viability of log/solid wood walled building is the interpretation and application of the IECC to log homes. This perspective is now what needs to evolve to move away from rules established for frame construction. Perhaps a new RESNET standard that focuses on alternative methods of construction such as mass timber/log?

Delivering to New Value Streams Evolving Programs Goals to Support an Integrated Home

Moderator: Alice Rosenberg, Consortium for Energy Efficiency;

Panel: TBD

Room: Arizona I

With utilities facing diverse integrated demand side management (IDSM) objectives, new construction programs are poised to experience change in how they are designed and implemented. Central drivers include energy savings, as well as resource flexibility, carbon reduction, load forecasting, distribution system reliability, avoided capacity, and customer satisfaction or amenity. How these manifest in new home programs is increased attention to the role of connectivity and communicating capabilities to serve these dynamic value streams. Connected thermostats, plug loads, major equipment, and service offerings can all contribute to an integrated home that sends and receives data as necessary to operate in an efficient and interactive manner. The integrated home may also leverage interactions with the user, by offering predetermined preferred settings, learning algorithms, or prompting consumer behavior. Hear from individual utilities actively working in this space to incorporate connected technologies and devices into their new home platforms, both today and looking towards the future.

HERSH₂₀: Nationwide Roll-Out

Presenter: Ryan Meres, RESNET

Room: Pueblo II

After 5 years of development and testing, the new whole-house water efficiency rating system, HERS_{H2O} is ready for a nationwide roll-out. HERS_{H2O} is based on BSR/RESNET/ICC Standard 1101 and is available to rate indoor and outdoor water efficiency for one and two family dwellings. Certified RESNET HERS Raters and Rating Field Inspectors can start offering HERS_{H2O} ratings after the successful completion of the online training program. In this session, you will learn what's included in a HERS_{H2O} rating, how HERS_{H2O} can be used in version 2.0 of WaterSense and why builders should be rating the water efficiency of their homes. Come learn how raters can expand their business with HERS_{H2O}.

Energy Codes are Going Beyond Energy Savings; How Can You Participate in a World with Storage and EVs

Presenters: Terry Rother, Salt River Project (SRP); Jim Meyers, Southwest Energy Efficiency Project (SWEEP)

Room: Papago II

States and cities are adopting ordinances and codes requiring electric vehicle (EV) charging infrastructure. Climate action plans are materializing across the nation with opportunities to add EV and storage support. Numerous proposals were submitted for the 2021 IECC energy code to add these capabilities to homes. Utilities are piloting and in some cases

Please note that session list is subject to change.

Last updated 2/6/2020

incentivizing EV charging and energy storage at the home. Learn how to work with utilities and municipalities as homes are connected to an interactive grid that supports energy efficient homes, renewables and now EV's and storage. How can Raters support these efforts and are their opportunities for the rating community to ride this new wave in the energy and building codes?

3:00 PM - 3:30 PM AFTERNOON BREAK / EXHIBIT HALL OPEN

3:30 PM – 5:00 PM MONDAY BREAKOUT SESSION 3

California Opens its Doors to the RESNET Index

Presenters: Matt Christie, TRC Energy Services; Ryan Meres, RESNET

Room: Papago I

RESNET HERS Ratings may soon be recognized in California. Thus fulfilling years of cooperative work between RESNET and the California Energy Commission (CEC) to harmonize their HERS scoring systems. This session will provide the context and history of this pursuit, explain the differences between California's Title 24 metrics and RESNET systems, preview how HERS-California scores will likely be generated, and discuss preliminary findings from RESNET's research project on the subject.

(Submitted as an Advanced Session)

What's Around the Corner - Mega Trends in Home Building and How Industry Should Prepare

Presenters: CR Herro, Meritage Homes; John Gillett, Energy Inspectors

Room: Arizona II

Dramatic changes are looming for the housing industry. The reality of a labor shortage, the price of land and the effects of the trade wars will affect home building in the near future. Some of these trends are already beginning to emerge. Increasingly we are seeing modular home components emerging. This session will look into the future with the insight of CR Herro of Meritage Homes and John Gillett of Energy Inspectors and explore their ramifications to the HERS and home building industries. **(Submitted as an Advanced Session)**

Referenced Standards: The Foundation of Code Requirements

Presenter: Dr. Theresa Weston, Dupont

Room: Apache III

Each new edition of building or energy codes brings requirements based on new or revised referenced standards. Several hundred standards are referenced in the I-codes, many of which are important to RESNET and the rating industry. This presentation will focus on insulation, air leakage, water management related standards and review new and revised standards which will be referenced in the 2021 I-codes. Also included will be a discussion of upcoming developments in standards which intersects with RESNET and I-codes, including those from ASTM and ASHRAE.

RESNET Board Town Hall Meeting: Opportunity to Have a Dialog with Your RESNET Board Representatives

Moderator: Bill Spohn, TruTech Tools, LTD;

Panel: RESNET Board of Directors

Room: Arizona I

A special feature at the 2020 RESNET Building Performance Conference with a townhall meeting with the RESNET Board of Directors. This session will allow the RESNET network to interact with the members of the Board. Issues that will be addressed include:

- What is the role of the RESNET Board?
- What is the direction that the RESNET Board will like RESNET to head over the next five years?
- What are RESNET priorities for 2020?
- Open question and answer session

Lessons Learned from using RESNET Field & File Checklist

Presenters: Leo Jansen, Energy Efficient Homes Midwest; Matt Dovenbarger, Southern Energy Management

Room: Pueblo II

Since its initial introduction at the 2018 RESNET Conference, the RESNET Field & File Checklist has been optional for those Providers and QADs that wanted to use it. With the approval of Addendum 30: Quality Assurance to the MINHERS, at the end of that addendum's transition period end date, this form will be the standard way in which a QA Review is conducted

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on a Rating File. Both SEM and EEHM have been early adopters of the RESNET Field & File Checklist, and want to share their lessons learned in how to effectively implement its use into both an in-house QA and 3rd party QA business model. This session will help both QADs and Providers consider the impacts to their business of using this Checklist, as well as benefit Raters that want to better understand the increased level of detail required for their Quality Assurance. This session will focus on:

- How to develop a systematic approach to timely check numerous data points in every QA Rating File
- Timing considerations to consider when using Checklist before submission to Registry vs. after submission
- Ideas to modify the scoring tool to fit your needs (with RESNET's approval)
- Tracking rater performance in one sheet
- General formatting best practices
- Developing formulas and graphs to track rater performance and improvement trends
- Advice on using QA Data to help identify training needs and set goals for Rater Improvement through use of QA Scorecards
- Guidance on how to update RESNET Registry with QA Results
- Thoughts on how to integrate QA Scoring Data in Google Sheets (or another Cloud platform) for internal organization

(Submitted as an Advanced Session)

25th Cross Border Builder Challenge Lowest HERS Score Awards Presentation

Presenters: John Godden, Canadian Residential Energy; Rod Buchalter, RenewABILITY Energy Inc.;

Room: Papago II

Join us for the 2020 award presentation for the lowest HERS scores for production and custom builders, along with net-zero awards for both the U.S. and Canada. Awards will be presented by John Godden of the Canadian Residential Energy Services. Additionally, there will be honorable mentions from this year's competition plus the presentation of the Enbridge Innovation Award open to all builders both sides of the border.

ENERGY STAR Multifamily New Construction Program: Are you ready?

Presenters: Rebecca Hudson, ENERGY STAR Multifamily High Rise Program; Gayathri Vijayakumar, Steven Winter Associates, Inc.;

Room: Apache I

EPA launched the ENERGY STAR Multifamily New Construction program last year, which is now available to multifamily projects of **all** sizes, including townhouses, garden-style apartments, and apartment buildings of any height. Join this session to make sure you understand the basics of the program, since multifamily projects permitted on or after January 1, 2021, won't be able to earn the ENERGY STAR through Certified Homes or MFHR. In this session, aside from the basics, you will also learn more about key differences in Rater responsibilities compared to Certified Homes and Multifamily High Rise, updates from Revision 01, and how the three performance paths compare.

Residential HVAC Design Basics for HERS Raters

Presenter: Russell King, CalCERTS Inc./Kwik Model

Room: Pueblo I

This class will cover the basic residential HVAC design principles, including ACCA Manuals J, S and D - load calculations, sizing equipment, and designing the duct system. HERS raters are becoming more and more responsible for verifying proper design. This class will help explain why certain items need to be checked and what happens if they are done incorrectly. Just doing Manual J, S and D calculations does not always ensure optimal performance. Other factors come into play, such as supply register locations, thermostat location, and duct layout. We will also cover why oversizing equipment can cause as many comfort complaints as under sizing.

How to Clearly and Effectively Communicate Problem Areas to Superintendents

Presenters: Rachel LaMantia, EnergyLogic; Nathan Kahre, EnergyLogic

Room: Arizona III

Energy Raters may walk the talk, but sometimes talking with supers can feel like you're speaking a different language. Raters face a number of challenges, but if we can't clearly communicate problem areas of a home with the superintendent what are we really doing in the first place? Join us for an interactive panel that will reference video clips from the field to discuss what has worked in creating good lines of communication between Raters and Builders.

RESNET HERS and American National Standards: Their Making and Implementation

Presenter: Rick Dixon, RESNET

Room: Apache II

RESNET both a proprietary standards developer for its HERS and an ANSI accredited standards developer (ASD) for American National Standards. The session will explain: the organization and oversight of its Standards Development Committees (SDCs) and the procedures they follow for developing and interpreting standards will be explained; the next protocols for implementation of new standards and amendments adopted in 2019; and where to find standards, amendments and interpretations and the information on their development.

5:00 PM – 7:00 PM EVENING RECEPTION / EXHIBIT HALL OPEN

TUESDAY - FEBRUARY 25

8:30 AM – 10:30 AM TUESDAY BREAKOUT SESSION 1

Preparing the Next Generation of High-Performance Builders

Presenters: Nathan Kahre, Thrive Home Builders; Leo Jansen, Energy Efficient Homes Midwest

Room: Apache II

Facing an ever-increasing labor shortage for both skilled labor and supervision, the residential construction industry is struggling to fill positions as the housing sector has recovered from the great recession. Come hear about efforts from EEBA, RESNET, and the Department of Energy to prepare and connect students to the high-performance construction industry and learn more about how to attract young professionals to your organization. Be prepared to be engaged in questions about the hiring of Generation Z/Millennials and how these groups have affected your organization. Learning Objectives:

- How the Labor Shortage is Affecting Construction Quality and Costs
- Why Gen Z/Millennials are perfect for green construction
- DOE Efforts in Workforce Development and Training; specifically, the Solar Decathlon
- Introduction to RESNET's Emerging Leadership Council and EEBA's Next Generation Development Committee

ENERGY STAR RaterPRO™ Version 1.0 – EPA's Free Inspection App

Presenters: Elliot Seibert, EPA; Dean Gamble, ENERGY STAR Certified Homes program;

Room: Apache I

Say goodbye to paper checklists. ENERGY STAR is happy to announce Version 1.0 of RaterPRO™, a free mobile app for all-digital, high-quality inspections. RaterPRO is officially ready for primetime. Catch up on the latest features, see a demo, and learn how easy it is to get started!

Brokers, Builders, and Blower Doors

Presenter: Todd Gamboa, Building Trust LLC

Room: Arizona III

Grow your customer base, promote efficiencies, and capture additional business by demonstrating the importance of high performance homes to those who sell them. Sales drive the bus when it comes to homebuilder business. Realtors have the largest sales network in the country. Unfortunately, HERS ratings, third party inspections, and energy efficiency are still subjects that are largely misunderstood by sales professionals. Learn the key talking points which will help you convert real estate professionals and homebuilders. Realtors will promote HERS scores, builders will incorporate more rater services, and energy professionals will generate greater revenue while adding value in their services.

Progress towards HERS Index calculation consistency: An update from the RESNET Software Consistency Committee

Presenters: Neal Kruis, Big Ladder Software; SCC Committee Members

Room: Apache III

RESNET's Software Consistency Committee (SCC) has been working towards improving consistency in HERS Index calculations across software tools for over a year. This session will be comprised of two parts:

1. RESNET's Energy Modeling Director (and SCC Chair) will provide an overview of the accomplishments of the committee and present a roadmap of strategic improvements to enforce greater consistency moving forward.
2. Members of the SCC, including representatives from each of the RESNET accredited software providers, will participate in a panel to answer questions from RESNET members regarding the consistency improvement process.

Creating New Business Opportunities for HERS® Raters - A Road Map

Presenter: John Gillett, Energy Inspectors

Room: Papago II

There is an emerging competition for energy scores of homes and Energy Rating Index ratings. In addition, there are signals of potentially disruptive trends in the home building industry. With these trends, it is prudent for RESNET and certified raters to understand these trends and explore new business opportunities. The RESNET Board of Directors authorized a working group to investigate creating new business opportunities for HERS raters. The working group developed a set of policy recommendations that address:

- The changing world of the home building industry
- What opportunities do these changes present?
- Definition of skills and attributes that RESNET and raters bring to the table
- A preliminary listing of new business opportunities outside of HERS Index scores based on near, mid and long term opportunities.
- Recommendation on how RESNET can position the industry to take advantage of these opportunities

This session will explore the changing environment for the industry, identify the new opportunities and explore how HERS Raters can take advantage of these new opportunities. **(Submitted as an Advanced Session)**

Premier Home Tour of Meritage Homes – Tour 1

Presenter: CR Herro, Meritage Homes

Room: Offsite, meet outside PIMA for bus

RESNET and Energy Smart Builder, Meritage Homes, are partnering to offer attendees a unique opportunity to see “tomorrow’s” home today in Phoenix, AZ. The 2020 RESNET Conference will hold a special breakout session where attendees will tour a Meritage built a home that incorporates the best design, engineering, material science and construction practices in the industry. 2020 RESNET Conference attendees have an opportunity to attend a breakout presentation by Meritage Home’s CR Herro, followed by a tour of the home on Tuesday, February 25, 2020. This session is free of charge to conference attendees but has limited availability. Transportation to and from the convention center and home will be provided by RESNET.

An Update on the New Sampling Standard

Presenter: Emelie Cuppernell Glitch, Performance Systems Development

Room: Arizona II

RESNET SDC 900 sampling subcommittee will give an overview of the new Sampling Standard that is expected to be ready for public comment by the 2020 Conference. **(Submitted as an Advanced Session)**

The Value of Energy-Efficiency Rated Homes and Financing Solutions Available for Consumers

Presenters: Lariece Brown & Daniel Ticono, Freddie Mac

Room: Pueblo II

On October 22, 2019, Freddie Mac published “Energy Efficiency: Value Added to Properties & Loan Performance”, a report that analyzes homes rated between 2013 and 2017. In this report, Freddie Mac found that rated homes are sold for, on average, 2.7% more than comparable unrated homes and that better-rated homes are sold for 3-5% more than lesser-rated homes. This session will provide information about Freddie Mac’s research findings, which also include information about the demographics of consumers that seek energy ratings and the geographic distribution of rated homes. Additionally, in this session, Freddie Mac representatives will provide an overview of Freddie Mac’s GreenCHOICE Mortgage, a mortgage product designed to finance energy efficiency improvements, including the costs of energy reports, to help more homeowners finance energy efficiency home improvements across the country.

LEVEL UP: Whole Building Blower Door Testing

Presenters: Emily Rhea & Lindsey Elton, Eco Achievers; Collin Olson, TEC; Tony Beres, MNCEE

Room: Pueblo I

As the certification and testing landscape changes, RESNET raters have an even greater opportunity to grow skills and services with whole building infiltration testing. Low and mid-rise residential, guarded testing for code compliance, and PHIUS multi-family + commercial projects are just a few of the many options. Join us as we lay out the must-know information:

- Planning and prep before arriving on site
- Various testing methods and the value of each
- Tools available for testing and what scenarios they apply to

Finally, we'll share case studies and diagnostic methods that can be used to improve your skills, along with overall testing process and effectiveness. **(Submitted as an Advanced Session)**

The Dike is Broken: Will Appraisals & HERS Survive?

Presenters: Jefferson Sherman, MAI, AI-GRS, Appraisal Institute; Sandra Adomatis, SRA, Appraisal Institute/Adomatis Appraisal Service

Room: Papago I

The mortgage lending procedures for home valuations are changing. Those changes can break the dike, and the real estate industry needs all hands on deck! That means appraisers and raters must engage to ensure the procedures value high performance homes when hybrid appraisals and AVMs are substituted for traditional appraisals. It is vital to understand these products and the importance of documenting the facts on houses that are high performing and to identify ways to make high performance more transparent. This session will be interactive and informative and will teach attendees how to stay relevant in the new procedures going forward.

RESNET SDC Townhall Meeting - Meet the Volunteers Tasked with Overseeing the Standards

Moderator: Bill Spohn

Panel: Gayathri Vijayakumar, John Hensley, Sharla Riaed, Jacob Atalla

Room: Arizona I

To better achieve its goal of setting the standards for quality, the RESNET Board of Directors has established standing committees. Each committee's purpose is to provide the RESNET Board with policy, implementation, and technical guidance. Of these, there are 4 Standards Development Committees or SDC's:

- SDC200 oversees education, training assessment, and certification standards;
- SDC300 oversees RESNET's technical standards, including chapters within MINHERS as well as ANSI 301 and 380;
- SDC900 oversees RESNET's quality assurance and sampling technical standards, and
- SDC1100 oversees RESNET's water rating index technical standards.

Building off the success of 2019's Townhall with the RESNET Board, this session will allow the RESNET network to interact with many volunteer members of these SDC's.

10:00 AM – 10:30 AM MORNING BREAK

10:30 AM – 12:00 PM TUESDAY BREAKOUT SESSION 2

EE meets IoT in MF

Presenter: Ben Adams, MaGrann Associates

Room: Arizona III

This session will address the opportunities and challenges of bringing "smart home" technologies to the multifamily market, and some of the exciting possibilities emerging at the intersection of energy efficiency and the Internet of Things. What does a value proposition look like that benefit both property owners (developers, managers & maintenance) and residents - especially when tenants are paying their utility bills? We will discuss lessons learned from a large scale utility pilot that installed almost 1000 smart thermostats in a wide range of low/moderate properties in combination with a variety of connectivity solutions. In addition, the session will look at how an IoT deployment can provide valuable insights into building performance issues, and bonus amenity benefits from access control to lighting. This fun and informative session may challenge conventional wisdom regarding the intuitiveness of smart devices and illustrate the importance of a well-crafted resident and staff education program.

Premier Meritage Homes Tour – TOUR 2

Presenter: CR Herro, Meritage Homes

Room: Offsite, Meet outside PIMA for bus

RESNET and Energy Smart Builder, Meritage Homes, are partnering to offer attendees a unique opportunity to see “tomorrow’s” home today in Phoenix, AZ. The 2020 RESNET Conference will hold a special breakout session where attendees will tour a Meritage built a home that incorporates the best design, engineering, material science and construction practices in the industry. 2020 RESNET Conference attendees have an opportunity to attend a breakout presentation by Meritage Home’s CR Herro, followed by a tour of the home on Tuesday, February 25, 2020. This session is free of charge to conference attendees but has limited availability. Transportation to and from the convention center and home will be provided by RESNET.

RESNET Rater Instructor Roundtable

Presenters: Scott Doyle, Laurel Elam, & Billy Giblin, RESNET;

Room: Arizona I

This is the required roundtable for RESNET Rater Instructors. In this session, we will review a host of current hot topics that are relevant to Instructors. Highlights include twelve months of aggregate data from the new rater exam, plus the main takeaways from RESNET Staff’s review of training curriculum that was collected with the annual Provider renewals.

Meaningful Ways to Build Trust, Gain Insight to Common Objections, and Market Your Services

Presenter: Sandra Adomatis, SRA, Appraisal Institute/Adomatis Appraisal Service

Room: Pueblo I

Gaining knowledge of how your service plays a role in marketing, valuing, and financing will give you the power to promote your services with important facts that are often a mystery. Builders, sales teams, the public, appraisers, and lenders are still in the early stages of understanding the importance of energy ratings. It is sometimes the words we use or don’t use that confuse potential users of our services. Often it is a lack of understanding of how the cost can convert to increased sales for the builder or better decisions for the home buyer and even better lending decisions. We’ll explore ways to overcome the common objections to using or relying on your services. This interactive session will engage the audience with thought-provoking questions to brainstorm ideas and result in powerful tips to move your target audience.

Delivering Healthy Air: The 4 Main Attributes of Indoor Air Quality and How to Control Them in the Modern Built Environment

Presenters: John Bloemer, Aprilaire

Room: Papago I

Aprilaire will examine all the attributes that make up indoor air quality (IAQ), including Air Purity (particulate level), Air Freshness (properly delivered outdoor air), Relative Humidity (level of moisture in the air) and Temperature. We will also review the numerous products and technologies that can be utilized to mitigate IAQ issues, how these products work and the basics of installation. Perfect for raters, home builders and HVAC contractors who want to learn about delivering and maintaining healthy air in new homes.

Opportunities for HERS Raters in Home Performance

Presenters: Xavier Walter, Energy Partners LLC; Casey Murphy, Pearl National Home Certification; Leo Jansen, Energy Efficient Homes Midwest; Jonathan Waterworth, Southwest Sustainable

Room: Papago II

There is a ton of opportunity for Raters to lend value outside of a traditional rating business model in both the new and existing homes marketplace. From energy auditing, partnering with contractors and realtors, quality control and program participation with entities like Pearl, the skills and knowledge of certified Raters can play a vital role in bringing value to the end customer of all of these services, the homeowner. The broader residential services marketplace is rife with untapped market potential for Raters expand their product offering, increase revenue, and connect with like-minded professionals. Come learn about what some of these opportunities are to help you access these untapped markets.

A Whole New World – ENERGY STAR + HVAC Grading

Presenters: Dean Gamble, ENERGY STAR Certified Homes program; Greg Cobb, Energy Inspectors

Room: Apache I

Ever since the launch of Version 3 in 2010, the HVAC design and commissioning requirements have been the biggest hurdle between a standard HERS rating and an ENERGY STAR certified home. Taking all the lessons learned, EPA, RESNET, and ACCA are nearing completion of a new HVAC grading standard that will integrate many of these requirements into the

Please note that session list is subject to change.

Last updated 2/6/2020

HERS rating process. Now is the time to learn how this major advance will once again put ENERGY STAR within reach of anyone doing a HERS rating.

Residential High Performance and the Three Rs: Resistance, Resilience, and Recovery

Presenters: Claudette Hanks Reichel, Ph.D, Louisiana State University AgCenter; Theresa Gilbride, PNNL

Room: Apache II

High-performance, energy-efficient homes feature carefully designed strategies to maintain the integrity and functionality of the building envelope. These measures include continuous control layers to block or retard the movement of vapor, water, air, and heat. This presentation explores how these strategies compare and align with features designed to help a building survive and minimize the effects of natural disasters. Disaster-resistant construction techniques will be described. Specific emphasis will be given to flood-hardy homes, which are homes designed to survive and recover from flooding, which is the most common natural disaster in the United States. Research and recommendations regarding construction best practices for other natural disasters including hurricanes, tornadoes, earthquakes, and wildfires will also be provided. Case studies of several award-winning homes from DOE's Zero Energy Ready Home program will also be presented with a focus on how these homes, located in different U.S. climate zones, were constructed to achieve both optimal energy efficiency and disaster resistance.

Learning Objectives:

- Participants will recognize the most vulnerable aspects of high-performance buildings during natural hazard events.
- Participants will understand how the four control layers for high performance homes relate to and can be integrated with strategies for high wind, rain, flood and wildfire events.
- Participants will learn about damage resistant and resilient, high-performance building assemblies for common natural hazards in various climate zones.
- Participants will become aware of how the Building America Solution Center is incorporating resilience in its content and can be a comprehensive resource for builders and designers of high-performance homes in various disaster risk areas.

Ways to Work with Builders

Presenter: Nathan Kahre, Thrive Home Builders

Room: Pueblo II

The relationship between energy rater and builder has become an essential component of the building process. Unfortunately, this relationship can become strained when builders and raters don't know how to communicate with each other or make assumptions about each other's goals. Taking a piece of land from bare dirt to a thriving community is a complicated process that often starts years before a single energy model or inspection happens and can have long term implications for the project. Come learn more about this process and what constraints builders work under and how understanding those constraints can help raters better collaborate, communicate, and support builders.

Habitat and the HERS Index®: High Performance, Affordable Housing

Presenter: Molly Berg, Habitat for Humanity International

Room: Apache II

Habitat for Humanity has been building some of the most energy-efficient homes in the country, and there is data to share. Using both HERS® models and third-party verification programs like Zero Energy Ready Home™, ENERGY STAR®, and PHIUS+, Habitat affiliates are investing in long-term affordability through the reduced operation and maintenance costs of durable, efficient homes. Find out what methods and materials have been most successful, and learn how you can get involved with affordable, energy-conscious housing in your area.

Jumpstart to Energy Efficient Construction: How the City of Phoenix's Sustainable Home Design Competition Created a HERS Zero Home Plan, Free to the Public

Presenter: Mark Hartman, City of Phoenix; Marlene Imirzian, Marlene Imirzian & Associates Architects

Room: Apache III

In 2016, in nearby Phoenix, the Mayor and City Council adopted ambitious 2050 Sustainability Goals, including an effort to encourage the construction of ultra-low energy use homes. The City of Phoenix, in partnership with the American Institute of Architects, Arizona (AIA) held a Sustainable Home Design Competition for a "near net-zero energy" single-family home with the best potential for wide-spread adoption in the region. The contest invited local architects to design homes that would achieve a nearly net-zero footprint and required a HERS Rating of 30 or lower; the winning plans would be

made available for free to encourage the public to build more eco-friendly homes. Join this session to hear from the City of Phoenix representatives, and the winning firm, Marlene Imirzian & Associates Architects, on the winning design of an affordable, three-bedroom home, dubbed HOME nz, with a HERS rating of zero.

12:00 PM – 1:30 PM LUNCH / EXHIBIT HALL OPEN

1:30 PM – 3:00 PM TUESDAY BREAKOUT SESSION 3

Emerging “Smart” Ventilation Strategies and Indoor Air Quality Monitoring

Presenters: Mike Barcik & Bryant Hains, Southface

Room: Apache II

This session will explore how emerging technologies in indoor air quality (IAQ) monitoring and smart whole-house ventilation systems could reach maximum potential in hot and mixed-humid climate zones and lessen industry push-back on fresh-air and tight building requirements. Presenters will dive into actual research findings from field studies utilizing real-time IAQ monitoring. Findings will include preliminary results from a current Building America project titled “Performance-Based IAQ and Optimized Ventilation”, which explores how a smart, weather-optimized ERV performs in the hot, humid south compared to a typical, continuously operating ERV. Additionally, presenters will demonstrate ASHRAE 62.2-2016 Relative Exposure calculations and how these calculations compare to real-world data. Learning Objectives:

- Discuss the design and application of smart whole-house ventilation strategies in the existing market
- Analyze the impact of these systems in hot and mixed-humid climates in regard to indoor air quality, predicted energy savings, occupant comfort, industry feedback, and more
- Identify opportunities presented through internet of things (IoT) as it applies to indoor air quality (IAQ) and comfort
- Gain familiarity with the latest ASHRAE 62.2-2016 compliance pathway(s) for smart ventilation and how to apply to real-world applications

How to Troubleshoot Air Leakage in Single Family Homes

Presenters: Kevin Weer, Home Energy Group; Xavier Walter, Energy Partners, LLC;

Room: Arizona III

Reducing air changes per hour can be a daunting task for builders old and new. The Rater is in the perfect position to help builders understand where the air is lost, and how to seal up small and large holes to meet code requirements. Topics to include detailed framing techniques, product and application concepts for air reduction, and simple tricks to help reduce unwanted airflow into the home.

Incentives Drive Ratings, but What Incentive Structures Drive Savings?

Presenters: Kathy Greely, Performance Systems Development; Alice Rosenberg, Consortium for Energy Efficiency;

Room: Pueblo I

Utility/state incentives for efficient new home construction are one of the biggest drivers of energy ratings across the country. However, there's a wide array of different incentive structures, which can drive, or hobble, builder uptake and overall program savings. This session will dive into the pros and cons of different approaches, and share real-world experience in successfully implementing different structures.

New Designation of HERS Rating Modeler

Presenters: Matt Gingrich, Energy Diagnostics; Scott Doyle, RESNET; Clayton Morris, DPIS

Room: Arizona I

One of the largest problems in the consistency of HERS Index scores is user inputs and currently the required inputs differ by the HERS software tool, to meet its goal of increasing the consistency of HERS Index Scores at the 2019 Spring RESNET Board Meeting the Board voted to establish a task group to investigate a HERS Rater modeling designation. Like a Rating Field Inspector, the HERS Rating Modeler would work under a certified HERS Rater and the HERS Rater would be responsible for the analyst work. This session will explore this new designation. **(Submitted as an Advanced Session)**

Insulation Grading, Part I: What it is and Why it Matters

Presenters: Kelly Parker, Guaranteed Watt Savers; Robert De Vries, Nu-Wool; Chris Conway, Conway Energy

Room: Papago I

With the publication of 301-2019, insulation grading is now Appendix A of this ANSI standard. Learn about what changed, why it changed, and why it matters. Come hear SDC 300's Enclosures Subcommittee, authors and updaters of 301-2019 Appendix A, Insulation Grading, share their perspectives.

Residential Air Balancing

Presenter: Russell King, CalCERTS Inc./Kwik Model

Room: Pueblo II

This class will cover the science and art of balancing residential forced air HVAC systems for optimal comfort. HERS raters are getting more and more involved with testing systems for efficiency. This class can help them add another service. Because ducts only come in certain sizes and the difference in airflow between one size duct and the next size up can be nearly 50%, even a very well designed HVAC system needs some fine-tuning.

Mandatory... It's Kind of a Big Deal

Presenters: Michelle Britt, International Code Council; Amy Schmidt, Dow Building and Construction

Room: Arizona II

The International Energy Code (IECC) is the only I-code with Mandatory and Prescriptive sections. However, these section labels didn't appear until 2006. Since then trainers, users, and enforcers have struggled with the meaning of these labels and the inconsistent labeling of sections. Why? Because over the years the labels didn't keep up with code changes (amendments, deletions, and additions). What did we do about it? The ICC SEHPCAC went on a mission to fix it. Several code change proposals have altered the structure of the IECC so that we no longer have to rely on these terms to know what is required mandatory in any given code compliance options. We will discuss this new structure and walk through some of the challenges the SEHPCAC dealt with and how this is a better structure for years to come.

Indoor airPLUS Leader Panel: Successfully Building and Selling Improved Indoor Air Quality

Moderator: Nick Hurst, US Environmental Protection Agency

Panelists: Steven Winter Associates; Mandalay Homes; Energy Inspectors; JKP Energy Inspections; Thrive Home Builders

Room: Apache I

As builders continue to recognize comfort and health as driving motivators, Indoor airPLUS continues to grow, and Version 2 of the program is in development. Join this session to hear about program updates in the year ahead and get first-hand perspectives from Indoor airPLUS Rater and Builder partners that have successfully implemented the program and earned the Indoor airPLUS Leader Award. Panelists will discuss how they've collaborated in marketing approaches and technical innovation, as well as what hurdles they've experienced over the years. Session attendees are encouraged to bring questions for the panelists.

Enhanced Capacity: Using Super Powers for Good When it Comes to Heating and Cooling

Presenters: Dan Wildenhaus, TRC; Greg Davenport, Mitsubishi

Room: Papago II

Air source heat pumps are not new to our industry. That said, enhanced capacity (extended capacity, cold climate, or extra capacity) heat pumps are changing when and where heat pumps can provide a heating and cooling solution. Dan and Greg will discuss what exactly is an enhanced capacity heat pump, how they perform in hot and cold climates, the importance of sizing them correctly, recommended practices around selecting them, and how they do or don't model well in our Rating software. This session will feature expertise that is currently going into both program and product designs around the country and will help Raters and builders have a more firm grasp on what they should be asking for and expecting from the modern heat pumps on the market.

Onsite HERSH2O Demonstration – TOUR 1

Presenter: Jacob Atalla, KB Homes; Ryan Meres, RESNET

Room: Offsite, Meet outside PIMA for bus

RESNET has developed a new water efficiency rating system, HERSH2O, that will be open to builders and HERS Raters in 2020. KB Home is one of RESNET's Energy Smart builders that has volunteered to field test the new RESNET water efficiency ratings across the country and will showcase one of their homes for this exclusive tour! KB Home will host a live demonstration of RESNET's water efficiency rating, a short distance from Scottsdale Resort, Tuesday, February 25, 2020. This session is free of charge to conference attendees but has limited availability. Transportation to and from the convention center and home will be provided by RESNET.

Humidity Control: Tales from the Damp Side

Presenter: Michael Brown, ICF; Frank Swol, EAM Associates

Room: Apache III

In recent years builders of high performance housing have seen a rise in comfort and durability issues related to humidity and moisture factors, particularly in areas such as the Northeast and Mid-Atlantic where they have not traditionally been an area of concern. Sustained periods of high outdoor temperatures and humidity, when combined with the requirements of current energy codes, and above code programs, have resulted in problems at many new construction projects. As a result of those complications, builders and design teams are now working with their building science consultants to incorporate new approaches, helping mitigate risk moving forward. This session will examine the issue through the lens of field case studies, current and developing program requirements, best practices, and new strategies and technologies. **(Submitted as an Advanced Session)**

3:00 PM - 3:30 PM AFTERNOON BREAK / EXHIBIT HALL OPEN

3:30 PM – 5:00 PM TUESDAY BREAKOUT SESSION 4

The DOE Zero Energy Ready Home Program: A Path to Zero for High-Performance Home Builders

Presenters: Theresa Gilbride, Pacific Northwest National Laboratory; Joe Nebbia, Newport Partners

Room: Apache I

Zero energy home construction is not beyond the reach of the average builder. In this presentation Raters will learn about the path to zero offered by the DOE Zero Energy Ready Home program and the techniques used by award-winning builders in DOE's Zero Energy Ready Home Program to achieve HERS scores at or below 0. We'll look at how the ZERH program is growing with more builders signing on just as more states and municipalities around the country are committing to zero energy ready construction. We'll cover what choices Zero Energy Ready Home builders, especially production home builders, are making for wall construction, HVAC, and more. Attendees will discover simple, cost-effective techniques for improving home performance from the practices of Zero Energy Ready Home builders around the country.

Onsite HERSH2O Demonstration – TOUR 2

Presenter: Jacob Atalla, KB Homes; Ryan Meres, RESNET

Room: Offsite, Meet outside PIMA for bus

RESNET has developed a new water efficiency rating system, HERSH2O, that will be open to builders and HERS Raters in 2020. KB Home is one of RESNET's Energy Smart builders that has volunteered to field test the new RESNET water efficiency ratings across the country and will showcase one of their homes for this exclusive tour! KB Home will host a live demonstration of RESNET's water efficiency rating, a short distance from Scottsdale Resort, Tuesday, February 25, 2020. This session is free of charge to conference attendees but has limited availability. Transportation to and from the convention center and home will be provided by RESNET.

New Tools for Energy Code Compliance - How to Make Something Boring Leap from the Pages!

Presenter: Mike Barcik, Southface

Room: Papago I

Southface's Mike Barcik has been involved with Energy Code adoption and implementation for decades and has helped Georgia push out the details of its 2020 energy code using some unique approaches. "I think there's a definite future for inexpensive 10-minute training videos regarding aspects of code", says Mike of their Pre-drywall Walk-through Inspection video. Other tools include the creation of free, custom Energy Code Field Guides - pictorial manuals in readable language for how the code applies to individual components of the building. Mike adds, "Our code didn't really change that much in terms of R-values so we thought we'd message getting the details done right." In fact, Georgia drew from RESNET's Insulation Grading process to write a Go/No Go spec (with graphics) to help code officials who want to do better. Come and learn how these approaches helped make the code real and pertinent!

QAD Roundtable

Presenters: Scott Doyle, RESNET; Laurel Elam, RESNET; Billy Giblin, RESNET;

Room: Arizona I

This is the required roundtable for RESNET Quality Assurance Designees. As usual, we will cover the latest updates on RESNET Standards and quality assurance initiatives. Highlights include:

- Updated QAD Exam
- Final Takeaways from 2019 RESNET QA Oversight Activities
- Addendum 34 update

Efficient and Healthy IAQ - We Can Have Both

Presenter: Patrick Nielsen, Broan

Room: Apache III

Airtight dwellings and healthy air do not need to be at odds with each other. With today's wide range of ventilation solutions - especially whole house - homeowners can have both. Harmful pollutants such as particulates, VOCs and mold-causing excess humidity can be handled effectively and energy efficiently. There are a variety of ventilation solutions available to fit most any situation, climate zone, and budget. After a short review of how homes have changed in recent years to make healthy indoor air more challenging as well as how codes and standards are evolving, this session will focus on the options for whole-house ventilation - exhaust, supply and balanced. Opportunities with balanced will be given special emphasis

Essential Market Trends to Grow your Business!

Presenter: Sara Gutterman, Green Builder Media

Room: Apache II

Understanding key market trends, consumer behavioral patterns, purchase drivers, and sentiment can help any building professional make better business decisions. In this session, Green Builder Media CEO Sara Gutterman will reveal the latest market intelligence gathered by COGNITION Smart Data, offering deep insights into consumer preferences that will enable you to improve your marketing, sales, product development, and competitive positioning. Learning objectives:

- Understand key market trends that will affect your business
- Learn about market drivers that influence homebuyer decision making
- Explore innovative solutions that address pressing topics like energy, water, indoor air quality, and connected living
- Examine research that clarifies and supports market transformation

Infrared Cameras for Energy Performance & Air Infiltration Identification

Presenter: Bill Fabian, Monroe Infrared Technology

Room: Pueblo II

Infrared cameras have long been used for sidewall insulation performance. This class will familiarize the students with required temperature differences, manufacturing the temperature difference and what insulation voids, deficiencies and air infiltration will look like. A basic understanding of thermal science is necessary to be able to acquire quality data and ensure realistic results.

Grading the Installation of HVAC Systems "A Time That Has Come"

Presenters: Greg Cobb, Energy Inspectors; Wes Davis, Air Conditioning Contractors of America; Dean Gamble, ENERGY STAR Certified Homes program

Room: Papago II

HVAC systems usually consume a large chunk of the energy in any home. So, it follows that optimizing HVAC systems can lead to lower home energy consumption, hence a lower HERS score/better HERS rating. Currently, the HERS Index relies only on the nameplate efficiency information of the HVAC system. This is being changed. In partnership with the Air Conditioning Contractors of America, RESNET is developing standards that will reward builders who have their HVAC systems graded. This is an important development for the rating industry. Builders will properly install HVAC systems that will lower their HERS Index Scores while HERS Raters will have new business opportunities. This is a session you cannot afford to miss. **(Submitted as an Advanced Session)**

Tips and Tricks for Blower Door, Duct Testing and Other Diagnostic Tests

Presenter: Sam Myers, Retrotec

Room: Pueblo I

This popular session returns to RESNET to provide some easy solutions to common problems that Raters encounter in the field when running blower door and duct tests. Your blower door and duct tester systems can do much more than tell you how

much a building and duct system is leaking. They can also help you determine where the leaks are and how severe some leaks are compared to others. There are also cases where you can use your blower door to determine if some ventilation systems are working properly. In this session, we'll introduce the blower door and duct tester to show how they work for those who are new to the industry. Then we'll get into some of the methods you can use to make your fans work harder, impress your clients, and increase the services you offer. This session is great for testers of all skill levels. Here are some topics we'll discuss:

- Intro to Airtight Assemblies and Blower Door Mechanics
- Zonal Pressure Diagnostics
- Thermal Imaging
- Smoke Testing
- Ventilation Check
- Additional Applications where a Blower Door is Used

No matter what brand of equipment you use, the tips in this session include helpful information such as apps you can download to your mobile device, methods for locating leaks, tricks for making duct testing easier, and field checking and caring for your fans and manometers. We'll even show you how you can make your own exhaust fan flow meter to measure bath fan exhaust and other forms of mechanical ventilation. We also have some special clear manometers that we'll pass around so you can see the inner workings of a gauge. These gauges show how pressure ports connect to small hoses that connect to digital pressure switches and sensors. This is also a prime opportunity to ask any troubleshooting questions you may have for a blower door and duct tester manufacturer.

Selling HERS Ratings to the Modern Builder-Using Modern Methods

Presenter: Sandy Gallo, PEG

Room: Arizona II

This session will be a deep dive into the ever-changing world of sales-and selling to the modern builder. From building sales skills to cold calling and web and social media presence, this will be a comprehensive overview of what it takes in the new world of promoting the HERS Rating and energy efficiency.

Growing the Number of New HERS-Rated Homes Across America: RESNET's 2019/20 Marketing Initiatives

Presenter: Micky Singh, Fourth Dimension

Room: Arizona III

In 2019, RESNET began a series of marketing initiatives that worked towards consumer education, engagement with builders, empowerment of HERS Raters, and much more; all with the overarching goal of increasing the penetration of HERS rated homes across the United States. In this session, we will discuss these initiatives in detail and provide an update on the progress.

5:00 PM – 7:00 PM EVENING RECEPTION / EXHIBIT HALL OPEN

WEDNESDAY - FEBRUARY 26

7:00 AM – 10:00 AM

Greenfiber® SANCTUARY™ Experience – Tour 1

Presenters: Greenfiber Company

Room: Offsite, Meet outside PIMA for bus

Join us at our NEW state-of-the-art 74,000 sq. ft. facility in Mesa, AZ to see how the first-ever-two-in-one cellulose product is made! This one-of-a-kind tour will give you a sneak-peek of the insides and outsides of proprietary equipment while engaging you in an immersive experience of our unique benefits. All of this will be followed by an authentic Mexican meal on our outdoor patio. Buses leave at 7:15 am and 10:30 am on Wednesday, February 26th. Get ready for something different! This is more than just insulation – it's SANCTUARY.

8:30 AM – 10:00 AM WEDNESDAY BREAKOUT SESSION 1

Getting into the Details of the ENERGY STAR Multifamily New Construction Program

Presenters: Rebecca Hudson, ENERGY STAR Multifamily High Rise Program; Gayathri Vijayakumar, Steven Winter Associates, Inc.

Room: Apache I

Working on certifying a project to ENERGY STAR Multifamily New Construction (or will be soon)? Have you taken MFNC Rater Training, but want to know more about what is required in the common spaces or for central systems? Have you heard all the "basics" and are now ready for more details? Come to this interactive session with questions on any of the following and we'll dive into the details based on the level of audience interest: certification process & training, common space requirements, the HVAC Design Report and Functional Testing Checklist, impacts on energy modeling, and whatever else you want the program leads to explain in greater detail. Before the session, please visit www.energystar.gov/mfnc to print or download the program documents that we will be discussing, such as the MFNC National Program Requirements, Rater Design & Field Checklists, HVAC Design Report, Functional Testing Checklist, and ERI Target Procedures.

Insulation Grading, Part II: How to Grade Insulation in the Field

Presenters: Robert De Vries, Nu-Wool; Kelly Parker, Guaranteed Watt Savers; Chris Conway, Conway Energy

Room: Pueblo II

How do you know if installed insulation achieves Grade I or II? How do you assign a grade? Is the process different for different products or assemblies? What do the referenced ASTM standards incorporate? In this session, you will hear members of the Enclosures Subcommittee of SDC 300 share boots-on-the-ground guidance for grading insulation according to the new insulation grading standard, Appendix A of 301-2019.

State of the HERS Rating Industry: Data Trends in HERS Ratings

Presenter: Ryan Meres, RESNET

Room: Arizona III

RESNET houses a wealth of information on more than 1.6 million HERS rated homes in its National Buildings Registry. In 2018, RESNET began providing analysis of HERS data as a benefit to its Suppliers Advisory Board (SAB) members. To date, an analysis of more than 50 data points for the top 20 states for HERS ratings has been provided to SAB members. Come to this session to hear about the trends in how and where HERS rated homes are being built and how your company could benefit from this and other SAB member benefits. In addition, you will get a sneak peek at a first-of-its-kind study on net-zero and net-zero capable HERS rated homes. Finally, attendees will learn about the data that came out of a recent Freddie Mac study that looked at the value and loan performance of HERS rated homes; as well as the demographics and credit profiles of the purchasers of these homes.

Water in the Building World: Increasing Water Efficiency Through Codes and Practices

Presenter: Olga Cano, US Environmental Protection Agency

Room: Papago II

This session takes a look at data, building codes and construction practices pertaining to water and how these have an impact in the industry for designers, builders, verifiers, and homeowners. Learn more about how water usage data and information is collected, analyzed and used to increase water efficiency throughout the country. As RESNET rolls out

Please note that session list is subject to change.

Last updated 2/6/2020

HERS_{H2O} Score, verifiers, builders, and designers will find this type of information to be a valuable resource in their daily workflows.

Results from a Pilot to Automate Energy Tradeoff Analysis

Presenters: Cy Kilbourn, Ekotrope; Michael Berry, ICF; Derek Briggs, ICF

Room: Papago I

Many raters are expected by builders to present cost-effective design alternatives that increase energy savings and maximize incentives (when they are available). Others see it as an opportunity for premium services or differentiation. Until now, coming up with these alternatives was a manual process of trial and error. This session will present the results of a pilot run by ICF in Massachusetts utilizing a new innovation developed by Ekotrope to automate the design trade-off analysis. It will include an overview, lessons learned, steps to get involved, and a pattern for other regions to successfully implement similar enhancements.

IAQ Monitoring and Healthy Home Essentials

Presenter: Iain Walker, Lawrence Berkeley National Laboratory

Room: Apache II

Stringent ventilation and airtightness requirements are becoming commonplace in the high-performance homes industry, and green building rating systems are starting to encourage and sometimes require aggressive IAQ provisions, including the use of low-emitting materials, chemical avoidance, and enhanced air filtration. But do these challenging requirements result in better indoor air quality for home occupants? There are also an increasing number of consumer products that could be used as IAQ monitors. In this session, learn how air pollutants found in homes compare with health-relevant guidelines and what factors contribute to IAQ in high performance homes, such as kitchen exhaust fans, commissioning and source control. How important is, occupant education, cooking, or commissioning? Can you rely on a consumer IAQ monitor? This session will answer these questions by presenting summaries of field and laboratory studies including results from recent studies of air pollutant levels in high performance homes.

RESNET Remote Field QA Protocol

Presenter: Scott Doyle, RESNET

Room: Arizona I

Video conferencing technology and remote monitoring has already found its way into the construction industry. Addendum 30 to the MINHERS added an allowance for Remote Field Quality Assurance Reviews of Raters and Rating Field Inspectors. But what are the benefits for stakeholders and what are the challenges? This session will cover in detail the rules, restrictions, and protocols to be used for this type of field quality assurance monitoring.

Be an Agent of Change - How to Affect Change Through the RESNET Standards Development Process

Presenters: Leo Jansen, Energy Efficient Homes Midwest; Nate Kleist, Energy Diagnostics, Inc.; Glenn Pease, EnergyLogic; Kevin Weer, Home Energy Group

Room: Apache III

While much of the standards development process is outlined in the RESNET Standards Development Policy and Procedures Manual, it does not really cover the specifics that can increase the likelihood of your proposed changes getting adopted into the standard. This session will teach you to navigate the process, and provide you with recommendations on how to best succeed in affecting the change you would like to see! Specifically, we will cover:

- Provide an overview of the three ways for RESNET members to interact with Standards Development Process (Proposing a New Standard, Submitting Public Comment, and Requesting Interpretations)
- Explain when and how a RESNET member should use each of these three methods based off of what they are trying to change
- Describe the process of how each of these three methods is reviewed after being submitted
- Discuss the general rules for Public Comments (i.e. – no proposed change = automatic rejection, how should my comment be formatted?, how should the form be completed based on the nature of my comment?)
- Clarify what is actually allowed to be commented on, and how that can affect your comment's success
- Cover strategies for commenting on multiple sections or aspects of a single amendment (if one part is rejected will all of it be? How should you break it up?)
- Report on initiatives RESNET is taking to make Standards Development Process more transparent
- Highlight some opportunities to get involved in the Standards Development Process

We hope by attending you will be encouraged to participate in the Standards Development Process, and help make our industry better!

Overview of Diagnostic Testing Equipment Used in RESENT standards

Presenter: Bill Spohn, TruTech Tools, LTD

Room: Arizona II

Come learn about the variety of tools and test instruments that apply in RESNET standards 310 (pending) and 380. We'll cover the proper procedures as well as the pros and cons of various devices.

Incorporating When Energy is Used in the HERS Index

Presenters: David Goldstein, NRDC; Alice Rosenberg, Consortium for Energy Efficiency; Dave Roberts, National Renewable Energy Laboratory; Gregg Cobb, Energy Inspectors

Room: Pueblo I

When energy is used is rapidly becoming as important as how much energy is used. Utilities are already beginning to curtail grid-scale renewables during certain times of the day/year because supply exceeds load. Homes that can respond to this varying renewable energy supply with high levels of efficiency, thermal and electrical storage, control, and on-site power production offer the grid support that electric utilities are seeking. Utilities will increasingly be incentivizing load flexibility through real-time/time-of-use rates and technology rebates. To stay relevant for utility Demand Service Management programs in this changing environment, RESNET needs to account for when energy is used, not just how much energy is used. In the near future, the HERS Index must be able to reflect the value of the technologies that provide grid services. Already some builders and manufacturers seeking credit in HERS Index scores for connected/smart thermostats and batteries. The pressure to respond will only increase with time. The RESNET Board supported the appointment of a working group to explore this issue. This session will review the issue and share the working group's findings. **(Submitted as an Advanced Session)**

10:00 AM – 10:30 AM MORNING BREAK

10:30 AM – 12:00 PM WEDNESDAY BREAKOUT SESSION 2

WaterSense Homes HERS_{H2O} Verification: Inspecting and Verifying Water Efficiency Systems and Practices in the Field

Presenters: Olga Cano, US EPA; Robby Schwarz, EnergyLogic

Room: Apache I

Water efficiency goes beyond plumbing fixtures and requires a building science systems approach to be successful. Designing, installing and verifying these systems present opportunities to increase a home's overall efficiency and improve the homeowner's experience. However, they may also present various challenges ranging from financial feasibility and return on investment to lack of technical expertise. This session will provide insight to the verification process of WaterSense Labeled Homes using RESNET's HERS_{H2O} verification protocols and showcase past experiences from verifiers highlighting findings from the field and providing tips for best practices.

Greenfiber® SANCTUARY™ Experience – Tour 2

Presenters: Greenfiber Company

Room: Offsite, Meet outside PIMA for bus

Join us at our NEW state-of-the art 74,000 sq. ft. facility in Mesa, AZ to see how the first-ever-two-in-one cellulose product is made! This one of a kind tour will give you a sneak-peak of the insides and outsides of proprietary equipment while engaging you in an immersive experience of our unique benefits. All of this will be followed by an authentic Mexican meal on our outdoor patio. Buses leave at 7:15 am and 10:30 am on Wednesday, February 26th. Get ready for something different! This is more than just insulation – it's SANCTUARY.

Guide to Getting Grade I for All Insulation Types

Presenter: Charlie Haack, NAIMA

Room: Pueblo II

The new ANSI/RESNET/ICC 301-2019 standard stipulates specific requirements for getting Grade I for each of the most common insulation types. Hear from representatives for each of the most common insulation products on how the new

requirements differ from previous guidelines and why the emphasis on quality installation matters more now than ever (hint: energy codes will continue to get tighter).

Mechanical Ventilation and Indoor Air Quality in New US Homes

Presenters: Wanyu Rengie Chan, Lawrence Berkeley National Lab; Iain Walker, Lawrence Berkeley National Laboratory; Chrissi Antonopoulos, Pacific Northwest National Lab; Dave Chasar, University of Central Florida; Eric Makela, New Buildings Institute

Room: Pueblo I

A core component of energy efficient home design is an airtight envelope that minimizes uncontrolled air infiltration. Reduced infiltration should lower in-home concentrations of some outdoor air pollutants while increasing concentrations of indoor-emitted contaminants. A study of new US homes with and without mechanical ventilation is gathering data to answer key questions about IAQ challenges and the linkages between ventilation requirements and IAQ. This ongoing project sponsored by DOE Building America program is targeted to gather data from 100+ homes, widening the geographical representation beyond the recently completed 70-home field study in California. Preliminary analysis of mechanical ventilation performance and impacts on IAQ will be discussed in this session. **(Submitted as an Advanced Session)**

The Green Building Registry Efforts to Harmonize HERS and HES

Presenter: David Heselam, Earth Advantage

Room: Arizona II

David Heselam with Earth Advantage will describe the ongoing efforts to use the Green Building Registry in localities across the country, such as Missouri, to provide green home data to the real estate market. Data that has been supplied from trusted sources like RESNET and DOE, but branded with the seal of approval by a local government. Additionally, the session will review how data from HERS or HES is harmonized and used to create consistently formatted energy labels that utilize local data to inform label components like the annual Energy Cost Estimate.

New California Energy Code Moves State to Closer Alignment to RESNET HERS® Index

Presenters: Matt Christie, TRC Energy Services

Room: Apache III

Recent changes to California's energy code, Title 24, move the two rating systems closer to alignment. The 2019 edition of California's Title 24 Energy Code will include a new compliance path called the Energy Design Rating (EDR). The California EDR is similar to the HERS Index in that the reference home is a score of 100 with every percentage of energy-reduced represents a score reduction of one point. In the 2019 version of California's Title 24 Energy Code, the new EDR compliance path replaced the previous Compliance Percent performance path. One of the most important changes with the new EDR path is that the reference home for that path is also based on the 2006 IECC. This means the EDR and RESNET's HERS index are very close to being in harmony. This session will explain the new California energy code and explore how the process of harmonization with HERS is proceeding.

Learning From Experienced HERS Professionals

Moderator: Kevin Weer, Home Energy Group;

Panel: Xavier Walter, Energy Partners, LLC; Casey Murphy, Pearl National Home Certification

Room: Papago I

If you're new to the HERS and the rating industry, then here is your chance to learn from the experience of HERS rating veterans. This moderated Q&A will include a panel of experienced raters coming together to talk through what is needed to excel in the HERS Rating Industry, with builder relationships, rating techniques, data management, business best practices.

Streamlining QA with Cloud-Based Software

Presenters: David Pedrick, Southface Institute; Cy Kilbourn, Ekotrope

Room: Papago II

Southface Energy Rated Homes has built tools utilizing Ekotrope™'s API that have reduced their QA overhead by 25%. This session will highlight those tools which automatically process all ratings, randomly selects ratings for File QA and submits the remainder to the Building Registry, preemptively catching common modeling mistakes. There will also be an introduction to the Ekotrope API, describing how to get started, how to use the documentation and some functionality that Southface has not yet implemented. **(Submitted as an Advanced Session)**

Reaching New Heights with Industry Training

Presenters: Clint Shireman, Knauf Insulation; Ryan Miller, North Carolina Building Performance Association

Please note that session list is subject to change.

Last updated 2/6/2020

Room: Arizona III

In the last few years research has pointed to training as a major factor of not only getting employees up to speed, but also engaged, and keep them fulfilled. This session seeks to provide information on what training is available in the market place that can complement your rating, contracting, or construction business, where you can get it, and how to find it. We'll cover everything from national certifications, to regional workshops, to manufacturer offerings.

Who We Are - A Town Meeting with RESNET Staff

Moderator: Bill Spohn, TruTech Tools, LTD

Panel: RESNET Staff

Room: Arizona I

With the growth of the rating industry, the RESNET staff has expanded. The number of RESNET staff has doubled in the past two years. This session will provide an opportunity for attendees to connect with RESNET staff and understand what each staff member contributes. The session will allow participants to enter into a dialogue with the RESNET Team.

From HUD to a Stud: The Untapped Potential of the Manufactured Housing Market

Presenter: Nic Dunfee, TRC Energy Services

Room: Apache II

The rising frequency of natural disasters coupled with the rising cost of housing and the plague of homelessness makes the availability and advancement of manufactured housing more and more important. As the industry advances improvements in efficiency and resilience will be key to assuring that energy affordability and energy reliability are accessible to everyone regardless of demographics or locality. Utilizing energy models, and drawing from experience working with manufactured housing, this session will explore and compare current industry standards along with programs, and certifications. We will compare the cost-effectiveness and savings potential of various efficiency upgrades to demonstrate the untapped energy savings potential held by this overlooked yet rapidly growing segment of the housing market.

12:00 PM – 1:15 PM LUNCH**12:00 PM – 3:00 PM EXPO HALL OPEN****1:30 PM – 3:00 PM WEDNESDAY BREAKOUT SESSION 3****Defining and Assessing Resilience**

Presenter: Dr. Theresa Weston, Dupont;

Room: Arizona III

With the increasing threat to communities from storms, floods, wildfire, and extreme temperatures, there continues to be a growing focus on the resilience of the built environment. The National Infrastructure Advisory Council (NIAC) (2009) described resilience:

"Infrastructure resilience is the ability to reduce the magnitude and/or duration of disruptive events. The effectiveness of a resilient infrastructure or enterprise depends upon its ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive event."

Government entities, industry organizations, and standards development organizations are developing criteria with which to assess and improve resilience. These criteria range in scope from the individual building to the community level. This presentation will review the industry resilience assessment and improvement activities. An overview of resilience programs and how buildings are playing a part in them will be provided. The presentation will also include a review of the progress of industry-standard practice and guideline development for resilience.

Tablets in the Field, 10 Years On

Presenter: Ethan MacCormick, Performance Systems Development

Room: Papago II

iPads and Android tablets are ubiquitous but are used inconsistently and in fact are often used in parallel with cameras and paper forms. Technologies as diverse as HPXML and Augmented Reality have the promise of delivering consistent measurements and data efficiently, and some field staff are maximizing the available tools brilliantly to streamline and

improve quality. We will present the diverse options available including ENERGY STAR's RaterPro, while focusing on some of the proven data collection tools we have used since 2012 in Building Stock Assessments and Quality Assurance.

What We've Learned from 10 Years of Multifamily HERS Ratings

Presenters: Sean Evensen-Shanley, Viridiant; Chris Conway, Conway Energy; Matt Waring, Viridiant

Room: Pueblo II

If you're considering doing multifamily HERS rating work (or more of it), come to hear about our experience with it over the last 10+ years. We've worked with over 20,000 units in that time, both new construction and existing, in building types ranging from garden style to high rise. Learn about the similarities between multifamily and single-family ratings, the differences, and potential pitfalls to watch out for. The presenters will offer perspectives on energy modeling, quality assurance, field verification, and project management. We'll share strategies, as well as case studies from several projects.

Blower Door System Maintenance and Calibration

Presenter: Bill Graber, The Energy Conservatory

Room: Arizona II

This session will cover the regular maintenance and calibration recommended for your entire blower door and Duct Blaster systems. It will include a demonstration of performing a field calibration check on your fans and gauges. We will also demonstrate some common repairs including replacing a blower door fan flow sensor, frame crossbar hooks, cam levers, and gaskets.

Adapt and Overcome: Maintaining A Young Workforce

Presenter: Clint Shireman, Knauf Insulation

Room: Pueblo I

Where can you find new employees and how will you keep them? What are the priorities of the new generation(s) of workers? After last year's session providing general information to help with recruitment and engagement of younger employees, this year's session seeks to identify high performing firms in the construction and rating industry and share their secrets, successes, and pains of holding on to good employees.

The International Code Council (ICC) and RESNET Dynamic Collaboration to Increase Energy Code Compliance and Home Energy Efficiency

Presenters: Laurel Elam, RESNET; Mark Johnson, International Code Council;

Room: Papago I

ICC and RESNET have entered into a dynamic collaboration to achieve three goals:

1. Increase energy efficiency and compliance with residential energy codes, and
2. Increase the confidence of code officials and consumers in the expertise of HERS Raters that have obtained the ICC IECC/HERS Compliance Specialist designation in doing the above.
3. Provide a simple means for code officials and consumers to evaluate the energy efficiency of new homes

Activities that will take place through the ICC/RESNET collaboration include:

- Concentrated RESNET/ICC effort to have HERS Raters trained and certified by ICC for energy code plans review and inspection
- Creation of a new ICC certification, IECC/HERS Compliance Specialist, for certified HERS Raters that have been trained and certified by the ICC for energy code plans review and inspection
- Creation of a national consistent IECC compliance certificate that HERS Raters will complete to demonstrate compliance to the energy code
- An education program aimed at code officials on why they should trust the verification of the IECC by ICC certified IECC/HERS Compliance Specialists and third-party verification of the IECC.

Join this session and learn the implications on enhance code compliance and HERS Rater opportunities.

Enhance Your Value to Builders: Free Tools & Resources from DOE Zero Energy Ready Homes and the Building America Solutions Center

Presenters: Chrissi Antonopoulos, PNNL; Sam Bowles, Newport Partners

Room: Apache I

The DOE Zero Energy Ready Home program and the Building America Solutions Center both offer highly effective tools and resources that let Raters up-serve their builder clients. The ZERH program offers a suite of builder-tested marketing solutions that give ZERH builders special recognition, credibility, and relevance to home buyers. These user-friendly tools

let builders communicate the benefits of their superior consumer experience and use DOE's voice of authority to cut through industry greenwashing. This session will provide a live demo of how to access and create builder customized ZERH marketing resources, along with examples of how builders across the country have leveraged them.

The Building America Solutions Center compiles the vast expert knowledge from the DOE Building America program and packages it into an actionable tool that is continuously updated. This includes access to hundreds of resource guides for all major federal government residential labeling programs (e.g., ENERGY STAR Certified Homes, Indoor airPLUS, Zero Energy Ready Home, and WaterSense). Additionally, new content on resilience is planned for 2020. This session will provide a walkthrough of the entire tool, how to best access targeted information, how to create customized content packages, and an introduction to the latest content for existing homes and Home Improvement Expert checklists. And... did we mention it's all free?

Northeast HERS Alliance – the How and the Why of Running a Regional HERS Organization

Presenters: Frank Swol, EAM Associates; TBD, Performance Systems Development; Mike Browne, Advanced Building Analysis; Kevin Hanlon, Horizon Residential Energy Services; Ben Adams, Magrann

Room: Pueblo I

The Northeast Home Energy Rating System (NEHERS) Alliance was formed in 1998 to foster, unify and promote HERS programs in the Northeast. Since that time, the Alliance and its members have worked together to standardize and increase home energy ratings (HERS), and promote energy mortgages (EM's), ENERGY STAR Homes, and other green building programs throughout the region. In this session, Alliance board members will discuss how the organization fulfills its mission through Rater training, advocacy, continuing education, our comprehensive Rater Manual, and other means. Board members will also highlight some of the issues the Alliance has encountered in order to inform other Raters and Providers who might like to form their own regional HERS group.

3:00 PM - 3:30 PM AFTERNOON BREAK

3:30 PM – 5:00 PM WEDNESDAY BREAKOUT SESSION 4

Easy-to-Miss Holes in New Construction

Presenter: Xavier Walter, Energy Partners, LLC; Patrick Kiker, NAIMA

Room: Arizona I

With the advent of the 2012 and 2015 editions of the International Energy Conservation Code (IECC), thoroughly air sealing an assembly is essential to creating the tight thermal envelope needed to meet more stringent blower door testing requirements. Moreover, builders want to know how to make their homes better while protecting their bottom line. Simple air sealing techniques tackled at the proper time, and attention to detail can dramatically impact the quality of construction without increased cost. This session will cover some of the most commonly missed holes in new construction and highlight how raters can help their builder customers address these areas.

HERS_{H2O} and EarthCraft House

Presenters: Amelia Godfrey, Southface Institute; David Pedrick, Southface Institute

Room: Pueblo I

EarthCraft, the original residential green building program, is changing the paradigm of green building programs again. A thorough programmatic design charrette re-oriented EarthCraft for the modern consumer. The resulting program keeps the fundamental value of third-party verification intact but replaces point values with targeted results-driven strategies. The modern consumer looks for authentic brands that exude principles that align with their personal lifestyle aspirations. EarthCraft has created its program to clearly market those principles and outcomes to the consumer. This new EarthCraft includes HERS_{H2O} and HERS to promote and document the reduction in energy usage and water usage in EarthCraft Homes. Learn about the lessons learned in implementing the HERS_{H2O} in EarthCrafts' worksheet, program, and completed projects.

One Standard, Multiple Software, Inconsistent Results?

Presenter: Robby Schwarz, EnergyLogic

Room: Arizona II

Has anyone compared the three most widely used softwares? We have. From a Rater's perspective, we will reveal our opinion of the pros and cons of the three most widely used Rating softwares. How do they stack up and how are they delivering consistent results. Some of the criteria for comparison include:

- Usability/navigation
- Functionality HERS, Code, Programs
- Reporting
- Result alignment
- Ease of troubleshooting
- Help menus
- Other Strengths & Weaknesses
- Error messages
- Software support

Improving the Energy Savings Potential of Supplemental Mini-Split Heat Pumps with Integrated Control Strategies

Presenter: Chrissi Antonopoulos, PNW National Lab; Karen Fenaughty, FSEC

Room: Arizona III

High-efficiency ductless mini-split heat pumps have been shown to greatly reduce HVAC energy use when installed as supplements to a home's existing, lower-efficiency central system. However, a lack of integrated controls to coordinate operation of the mini-split with the central system limits potential savings. This session will provide overviews of two projects aimed at identifying control approaches for ductless mini-split heat pumps intended to limit the use of cooling and electric resistance heating or other backup heating systems. It will include a description of an approach to identifying control options, modeling, and physical experiments, along with a brief discussion of how utilities are incentivizing enhanced controls and the qualifying control products that are now becoming available.