



2020 RESNET Building Performance Conference Session List

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Pre-Conference Sessions

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

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)**

Presenters: Sam Rashkin, U.S. DOE; Jamie Lyons, Newport Partners, LLC

Need a HERS Makeover? Find Out How to Make Your Company's Services/Deliverable's More Appealing to the Eyes (While Increasing Quality and Consistency)

[**CLICK HERE TO REGISTER**](#)

For most of us, the core role of a rater often gets overlooked in all of our passion for everything that makes us energy geeks. However, the deliverable we provide at the end of day is built around sharing digestible information with our clients and homeowners. The professionalism in our deliverable is crucial in the credibility of what we do. Come find out how to get a HERS makeover to up your game and increase your appeal, all while increasing quality.

Presenter: Glenn Pease, EnergyLogic

Software Interoperability in the Modern Age

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.

Presenter: Robert Burns, Pivotal Energy Solutions

ENERGY STAR Multifamily Rater Training

[**CLICK HERE TO REGISTER**](#)

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. After the training, each participant will take a test to qualify for the completion certificate.

Please note that session list is subject to change.

Presenter: Emelie Cuppernell, Performance Development Systems

PHIUS Rater Training

[CLICK HERE TO REGISTER](#)

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.

Presenters: Chris McTaggart, The BER; Tony Lisanti, Integral Building & Design, Inc.

SINGLE SOFTWARE SOLUTION

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.

Presenters: Russell King, Kwik Draw; Rob Vieira, FSEC

International Code Council (ICC) Residential Energy Inspector Training & Exam

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 the following the training. Certified HERS Raters successfully passing the ICC exam will receive the new ICC HERS Rater/IECC Certification Specialist.

Presenter: Chris McTaggart, The BER

Off-Site Tours

Onsite HERSH2O Demonstration

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.

Presenters: Jacob Atalla, KB Home; Ryan Meres, RESNET

Premier Home Tour of Meritage Homes

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 home that incorporate 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 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.

Presenter: CR Herro, Meritage Home

Greenfiber® SANCTUARY™ Experience

Join us at our brand-new facility in Mesa, AZ to see how our all-NEW product is made and engage in an immersive experience of our unique benefits! Buses leave at 7:15 am and 10:30 am on Wednesday, February 26th. Breakfast and lunch will be provided. Get ready for something different! This is more than just insulation – it's SANCTUARY.

Presenters: Greenfiber Company

Energy Policy and Programs that will Affect our Industry

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

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.

Presenter: Molly Berg, Building Science Specialist, Habitat for Humanity International

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

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!

Presenters: Elliot Seibert and Dean Gamble, EPA

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

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.

Presenters: Alice Rosenberg, Consortium for Energy Efficiency; TBD, Georgia Power; Margo Longland or Tim Mosley, BC Hydro; Nick Jones, Eversource CT

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

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.

Presenter: Nic Dunfee, TRC

Please note that session list is subject to change.

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

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.

Presenter: Carl Chidlow, Winning Strategies Washington

The U.S. Housing Market Through the Looking Glass

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.

Presenters: Clayton Traylor, Leading Builders of America; Jacob Atalla, KB Home; Andrew Harris, Richmond American Homes

Incentives Drive Ratings, but What Incentive Structures Drive Savings?

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.

Presenters: Kathy Greely, Performance Systems Development; Alice Rosenberg, CEE

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

On October 22, 2019, Freddie Mac published "Energy Efficiency: Value Added to Properties & Loan Performance", a report that analyses 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.

Presenter: TBD, Freddie Mac

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

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.

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

Home Energy Ratings – Practices and Procedures

An Update on the New Sampling Standard

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)**

Presenter: Emelie Glitch, Performance Systems Development;

Duct Testing Best Practices

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.

Presenter: Sam Myers, Retrotec

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

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.

Presenter: Sam Myers, Retrotec

Grading the Installation of HVAC Systems “A Time That Has Come”

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 installed 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)**

Presenters: Greg Cobb, Energy Inspectors; Wes Davis, ACCA; Dean Gamble, EPA ENERGY STAR Certified Homes

How to Clearly and Effectively Communicate Problem Areas to Superintendents

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.

Presenters: Rachel LaMantia, EnergyLogic; Robby Schwarz, EnergyLogic

How to Troubleshoot Air Leakage in Single Family Homes

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.

Presenters: Kevin Weer, Home Energy Group; Patrick Kiker, NAIMA

Incorporating When Energy is Used in the HERS Index

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)**

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

Part I: The WHAT and WHY of Insulation Grading

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.

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

Part II: The HOW of Insulation Grading

How do you know if an installation achieves Grade I or II? How do you assign the grade? Is it different for different products or assemblies? The new insulation grading standard, Appendix A of 301-2019, includes references to numerous ASTM standards. How do those get incorporated in-field inspections? In this session, you will hear members of the Enclosures Subcommittee of SDC 300 share boots-on-the-ground guidance for grading insulation.

Presenters: Bob De Vries, Nu Wool Company; Leo Jansen, Energy Efficient Homes Midwest Inc.; Kelly Parker, Guaranteed Watt Savers; Chris Conway, Conway Energy

LEVEL UP: Whole Building Blower Door Testing

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)**

Presenters: Graham Giovagnoli, EcoAchievers; Emily Rhea, Eco Achievers; The Energy Conservatory

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

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.

Presenters: Rob Salcido, Ekotrope; Cy Kilbourn, Ekotrope

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

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

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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.

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

Overview of Diagnostic Testing Equipment Used in RESENT standards

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.

Presenter: Bill Spohn, TruTech Tools, LTD

RESNET HERS and American National Standards: Their Making and Implementation

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.

Presenter: Rick Dixon, RESNET

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

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.

Moderator: Rick Dixon SDC Charis: Gayathri Vijayakumar, John Hensley, Sharla Riaed, Jacob Atalla

Ways to Work with Builders

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.

Presenter: Nathan Kahre, Thrive Home Builders

Learning From Experienced HERS Professionals

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.

Moderator: Kevin Weer, Home Energy Group; Panel TBD

Blower Door System Maintenance and Calibration

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.

Presenter: Bill Graber, The Energy Conservatory

Residential HVAC Design Basics for HERS Raters

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.

Presenter: Russell King, Calcerts

Infrared Cameras for Energy Performance & Air Infiltration Identification

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.

Presenter: Bill Fabian, Monroe Infrared Technology

Launching the HERS Rating Industry to a New Trajectory

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

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 are 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 off 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!

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

Adapt and Overcome: Maintaining A Young Workforce

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.

Presenter: Clint Shireman, Knauf Insulation

California Opens its Doors to the RESNET Index

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)**

Presenters: Matt Christie, TRC; Ryan Meres, RESNET

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

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 does these changes present
- Definition of skills, 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)**

Presenter: John Gillett, Energy Inspectors

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

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.

Presenter: Micky Singh, Fourth Dimension

Opportunities for HERS Raters in Home Performance

There is a ton of opportunity for Raters to lend value in the existing homes marketplace. From energy auditing, quality control, and program participation, the skills and knowledge of certified Raters can play a vital role. The existing residential marketplace can be an untapped market to help Raters expand their product offering, increase revenue, and connect with like-minded professionals.

Presenters: Xavier Walter, Energy Partners LLC; Robin Lebaron, Pearl; Leo Jansen, Energy Efficient Homes Midwest

Reaching New Heights with Industry Training

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.

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

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

A special feature at the 2020 RESNET Building Performance Conference with a town hall 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

Moderator: Bill Spohn, TruTech Tools; RESNET Board of Directors

RESNET HERS EBx (Energy Benchmarking/Existing Buildings)

HERS EBx is an initiative spearheaded through the RESNET Board of Directors to help mainstream the use of RESNET HERS ratings to provide an asset rating on existing residential buildings. This group intends to collaborate to seek solutions to promote uniform, streamlined benchmarking and asset labeling of existing residential building performance. The value of the end-product of this group's efforts will be to assist state and municipal governments with energy savings/emissions reduction goals through assessing macro-scale performance of their building stock in order to set targets for performance enhancement, as well as to engage consumer understanding of home energy performance and grow demand for existing home evaluation and home energy renovation services.

This session will discuss the approach and progress of this concept. **(Submitted as an Advanced Session)**

Presenter: Chris McTaggart, The BER

Selling HERS Ratings to the Modern Builder-Using Modern Methods

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.

Presenter: Sandy Gallo, PEG

When vs. How Much - How Time-Based Energy Savings are primed to Dominate the Efficiency Industry*

The energy efficiency industry has spent decades with a laser-like focus on helping reduce overall energy use in our buildings. Due in part to that success, and also from aggressive renewable portfolio standards, increasing penetration of rooftop solar, and the advent of in-home battery storage - utilities and regulators across the country now care more about when energy is used more-so than how much energy is used. Buzz words like peak-reduction, summer-twilight peak, the duck curve, demand response, load-shaping, load shifting, self-utilization, and grid-harmonization fill the pages of regulatory filings and industry research reports. Already the norm in California, time-base energy efficiency metrics and savings methods are reaching new markets, utility programs, and the HERS Score itself. This session will unpack and explore these market changes, how they're manifesting across the country - and peek into the initial progress from RESNET's working group on Incorporating When Energy Is Used or Load Flexibility in HERS Index Scores.

Presenters: Matt Christie, TRC; David Goldstein, NRDC

Please note that session list is subject to change.

Who We Are - A Town Meeting with RESNET Staff

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.

Moderator: Bill Spohn, TruTech Tools; Panel: RESNET Staff

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

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 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?

Presenters: Sharon Bonesteel, SRP; Jim Meyers, SWEEP

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

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.

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

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

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, 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 value and loan performance of HERS rated homes; as well as the demographics and credit profiles of the purchasers of these homes.

Presenter: Ryan Meres, RESNET

New Technologies and Building Practices that are Changing Our Industry

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

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.

Presenters: Dan Wildenhaus, BetterBuiltNW; Greg Davenport, Mitsubishi

Defining and Assessing Resilience

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.

Presenter: Theresa Weston, DuPont Performance Building Solutions

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

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.

Presenters: Scott Grefsheim, Product Line Manager Dehumidification & Ventilation, Aprilaire; John Bloemer, Director of Engineering, Aprilaire

Efficient and Healthy IAQ - We Can Have Both

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

Please note that session list is subject to change.

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-

Presenter: Patrick Nielsen, Broan

Energy and Moisture in Sealed and Insulated Attics

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)**

Presenters: Iain Walker, LBNL; Brennan Less, LBNL; Kohta Ueno, Building Science Corporation

IAQ Monitoring and Healthy Home Essentials

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.

Presenter: Iain S. Walker, Lawrence Berkeley National Lab

Humidity Control: Tales from the Damp Side

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)**

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

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If Walls Could Talk...

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 the 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)

Presenters: Jay Crandell, Foam Sheathing Committee; Amy Schmidt, DuPont

Mechanical Ventilation and Indoor Air Quality in New US Homes

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)**

Presenters: Wanyu Rengie Chan, Lawrence Berkeley National Lab; Iain S. Walker, Lawrence Berkeley National Lab; Chrissi Antonopoulos, Pacific Northwest National Lab; Eric Martin, University of Central Florida

Results from a Pilot to Automate Energy Tradeoff Analysis

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.

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

Tablets in the Field, 10 Years On

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

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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.

Presenter: Ethan MacCormick, Performance Systems Development

VISION House Seattle Cascades: A Template for Sustainable Building

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 of 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)**

Presenter: CR Herro, Meritage Homes

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

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 Gillette of Energy Inspectors and explore their ramifications to the HERS and home building industries. **(Submitted as an Advanced Session)**

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

Easy-to-Miss Holes in New Construction

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.

Presenter: Xavier Walter, Energy Partners, LLC

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

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.

Presenter: NAIMA representative

Guide to Getting Grade I for All Insulation Types

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).

Please note that session list is subject to change.

Presenter: NAIMA representative

Thermal Performance of Log/Solid Wood Structures

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?

Presenters: Rob Pickett, RobPickett & Associates, LLC; Matt Belcher, Verdatek Solutions LLC & Enhanced Building Systems LLC; Dr. Carl Timo Manz, CTManz consulting inc.;

Residential Air Balancing

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.

Presenter: Russell King, M.E., CalCERTS, Inc.

Opportunities for HERS Raters with the International Energy Conservation Code

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

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 have a precise understanding of the different pathways and an understanding of the most flexible/cost-effective means to achieve energy code compliance.

Presenter: Robby Schwarz, EnergyLogic

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

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.

Presenters: Michelle Britt, International Code Council; Amy Schmidt, DuPont;

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

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.

Presenters: Matt Christie, TRC Companies;

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

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

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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!

Presenter: Mike Barcik, Southface Institute;

Referenced Standards: The Foundation of Code Requirements

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.

Presenter: Theresa Weston, DuPont Performance Building Solutions

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

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.

Presenters: Eric Makela, NBI; Jim Meyers, SWEEP

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

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

Please note that session list is subject to change.

- 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.

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

Rating Water Efficiency

HERSH₂O and EarthCraft House

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 HERSH₂O 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 HERSH₂O in EarthCrafts' worksheet, program, and completed projects.

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

HERSH₂O: Nationwide Roll-Out

After 5 years of development and testing, the new whole-house water efficiency rating system, HERSH₂O is ready for a nationwide roll-out. HERSH₂O 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 HERSH₂O ratings after the successful completion of the online training program. In this session, you will learn what's included in a HERSH₂O rating, how HERSH₂O 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 HERSH₂O.

Presenter: Ryan Meres, RESNET

Taking Another Look at WaterSense with Version 2.0

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 HERSH₂O 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.

Presenter: Jonah Schein, EPA-WaterSense

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

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 HERSH₂O Score, verifiers, builders, and designers will find this type of information to be a valuable resource in their daily workflows.

Presenter: Olga M. Cano, Environmental Protection Agency

Tapping the Appraisal and Real Estate Market

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

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.

Presenter: Sandra K Adomatis, Adomatis Appraisal Service

The Dike is Broken: Will Appraisals & HERS Survive?

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.

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

Brokers, Builders, and Blower Doors

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.

Presenter: Todd Gamboa, Building Trust LLC

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

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
-

Please note that session list is subject to change.

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

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

The Green Building Registry Efforts to Harmonize HERS and HES

David Helsam 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.

Presenter: David Heslam, Earth Advantage

The Emerging Multi-Family HERS Rating Market

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

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.

Presenter: Gayathri Vijayakumar, Steven Winter Associates, Inc.

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

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.

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

EE meets IoT in MF

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.

Presenter: Ben Adams, MaGrann Associates

The Latest on Enhanced HERS Index Consistency and QA

How to Apply Mechanical Ventilation Testing Procedures Effectively in the Field

You have read Section 6 of ANSI/RESNET 380, but have you applied that testing guidance to all of the different types of Mechanical Ventilation systems available in the market? Come and learn about the basics of applying Section 6 of ANSI/RESNET 380 in the real world, and how to handle the many Mechanical Ventilation situations that may come up in your Rating Career.

This session will focus on:

- An overview of the different testing procedures and equipment options available to Raters within Section 6 of ANSI/RESNET 380
- How to correctly test the different types of Mechanical Ventilation systems (Exhaust, Supply, ERV, HRV, Air Cyclor) in the market
- How to correctly determine the total required ventilation rate per ASHRAE Standard 62.2-2016
- How to correctly determine other key Mechanical Ventilation modeling data, like fan wattage, operational hours, etc.

Presenter: Leo Jansen, Energy Efficient Homes Midwest

Lessons Learned from using RESNET Field & File Checklist

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 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 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)

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

Please note that session list is subject to change.

New Designation of HERS Rating Modeler

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)**

Presenters: Matt Gingrich, Energy Diagnostics; Scott Doyle, RESNET

One Standard, Multiple Software, Inconsistent Results?

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

Presenter: Robby Schwarz, EnergyLogic

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

The RESNET HERS Index quality assurance process is seen as the gold standard by the housing industry and building code officials. The RESNET Board of Directors is dedicated to continuously improving the effectiveness of the quality of HERS Index ratings. To solidify the RESNET QA Program as the Gold Standard, the RESNET Board of Directors adopted five initiatives for 2019. This session will feature the RESNET QA Team that will introduce the new initiatives, explain how they will be implemented and explore the implications for the HERS industry. **(Submitted as an Advanced Session)**

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

RESNET Remote Field QA Protocol

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.

Presenter: Scott M Doyle, RESNET

Streamlining QA with Cloud-Based Software

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)**

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

Utility QA Pilot

Give an overview of the utility QA pilot to interested raters and utilities.

Presenters: Chase Edge, Kevin Reza, Billy Giblins, Scott Doyle, ICF/ RESNET;

RESNET Rater Instructor Roundtable

This is the required roundtable for RESNET Rater Instructors and will be updated on RESNET Standards and exams.

Presenters: Scott M Doyle, Laurel Elam and Billy Giblin, RESNET

QAD Roundtable

This is the required roundtable for RESNET Quality Assurance Designees and will be updated on RESNET Standards and quality assurance initiatives.

Presenters: Scott M Doyle, Laurel Elam and Billy Giblin, RESNET

EEBA Track

Essential Market Trends to Grow your Business!

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

Presenter: Sara Gutterman, Green Builder Media

Emerging “Smart” Ventilation Strategies and Indoor Air Quality Monitoring

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 regards 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

Presenters: Mike Barcik & Bryant Hains, Southface

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

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 minimize or survive the effects of disasters such as hurricanes, tornadoes, fires, and earthquakes. These disaster-resistant features are also focused on the building envelope and share many specific measures with high-performance, energy-efficient structures. The presentation will discuss how building science has evolved in researching and demonstrating solutions for high-performance energy-efficient homes versus disaster-resistant homes and how builders can draw on the results of both disciplines for superior results. The presentation will also discuss experiences with branding programs for both energy-efficiency and

Please note that session list is subject to change.

disaster-resistant homes and efforts at changing building codes to improve baseline performance in both areas. And finally, this presentation will discuss the role that insurance companies may play in achieving changes in building practices related to high-performance, energy efficiency, and disaster planning.

Learning Objectives:

- Builders will be introduced to the four control layers for high-performance homes and how these layers compare with control strategies for high-wind and high-rain events.
- Builders and designers will learn how high-performance specifications may be enhanced to improve disaster resistance.
- Builders, program managers, and building code professionals will be introduced to comparisons of adopted energy-efficiency and disaster-resistance codes.
- Builders will be introduced to plans to incorporate disaster resistance information in the Building America Solution Center (basc.energy.gov).

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

Preparing the Next Generation of High Performance Builders

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

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