



2014 RESNET Building Performance Conference Agenda

Monday February 24, 2014

Conference Registration

7 AM – Grand Ballroom Foyer

Coffee Service

7:30-8:30 AM- Grand Ballroom/Expo Hall

Opening General Session

8:30-10 AM- Capital Ballroom

Welcome from Georgia Power

Michelle Wagner, Georgia Power

Welcome to 2013 RESNET Conference

RESNET Board President

New Morning

Steve Baden, RESNET Executive Director

Best Ideas in the Mainstreaming HERS Index Scores in the Market Place

Cross Boarder Challenge Awards Presentations

RESNET & CRESNET

U.S. Department of Energy Recognition of Outstanding Home Energy Raters

Sam Rashkin, U.S. Department of Energy

Monday- Session 1

10:30 AM-Noon

The Building Shell Game: How to Find the Winner for your Project

Presenters: David Carolan, Solid Green Systems & Panelists

Room: Georgia 2

Why keep constructing buildings the same way, just because it is the way it has always been done? There are plenty of other construction methods for the exterior shell of a building now available to homeowners that don't necessarily cost more but have countless benefits. Just because builders have typically used wood doesn't mean it is the only or best answer. EPS and steel, ICF, spray foam etc. are alternatives to the traditional building envelope that are proven and beginning to be cost comparable to wood. In this panel discussion, industry experts including an energy rater, energy modeler, energy monitoring provider, former volume home builder and building material manufacturer will discuss

specific topics related to their area of expertise. The audience can come away learning more about the various building methods and their advantages, including:

- Myths vs. Facts
- Energy Benefits
- Cost Implications
- Real World Examples
- What Does it Mean to be Green?

HERS Ratings as Compliance Option in the 2015 International Energy Conservation Code – Builders’ Perspectives

Presenters: Jacob Atalla, KB Home, Jim Petersen, Pulte Group & Dean Potter K. Hovnanian Homes

Room: Georgia 3&4

The International Code Council adopted an energy rating index as a performance compliance option of the 2015 International Energy Conservation Code. The new option sets maximum HERS Index Scores on a regional basis and also requires that a builder must meet the mandatory envelope requirements of the 2009 IECC. The new performance option will serve to both increase the energy performance of new homes while giving builders more flexibility in complying with the 2015 version of the International Energy Conservation Code. This session will be a roundtable of builders on the implications of the new provision.

Valuing the Future: Keys to Appraisal of High-Performance Building

Presenters: John Brennan, The Appraisal Foundation; Carlton Segars, Licensed National Appraiser Instructor; Douglas Loren Rives, Certified SRA Texas Appraiser; Michael Jorgenson, Certified National Appraisal Management Company; Certified National Appraiser; Michael Hobbs, SRA, RAA Licensed Appraiser; Teresa Lopez, Green Energy Money & Mortgage Banker w/ Security National Mortgage & Jason La Fleur, Eco Achievers

Room: Georgia 5&6

The Appraisal Panel session-describes new success with recognized valuations for high-performance projects; accepted industry guidelines and methods for assigning value utilizing HERS Audits for quantification. The session will cover new regulatory policies and how they will impact the green building industry; and implementation of new appraisal standardization for advancing high-performance building. Other topics will include trends: brown discounts verses green premiums; neighborhood revitalization; communities embracing renewable energy and water conservation, i.e., rainwater harvesting.

Multi-Family Ventilation Update: Best Practices, Practical Applications and ASHRAE 2013

Presenters: Ray Ivy & Mike Barcik, Southface

Room: Athens

ASHRAE 62.2 is one of the standards that are continuously maintained, which means it can change often. These changes can make it very difficult for you as an industry professional to ensure you are providing proper guidance to current and potential customers. If you are not fully comfortable with the differences between the 2010 and 2013 versions as they relate to multi-family construction, you need to attend this session. New products and solutions are constantly being introduced but how do you know which ones add the most value? Which best practices should you always recommend and implement? Ray Ivy and Mike Barcik have a broad range of experience with practical applications of ventilation in new construction and retrofit/weatherization situations. Come and refresh your knowledge base on this critical topic!

What’s Next with ENERGY STAR?

Presenters: Dean Gamble, U.S. EPA; Zak Shadid, U.S. EPA; Jon Passe, U.S. EPA

Room: Augusta

Get a quick recap of the ENERGY STAR Certified Homes program in 2013 and learn about EPA’s plans for 2014. This session will also include marketing updates, the ENERGY STAR Home Advisor and a discussion of the ENERGY STAR Version 3.1 program requirements, applicable to states that have adopted the 2012 IECC or equivalent, including Maryland, Illinois, and Massachusetts.

Why the Housing Market is Ready for Zero Energy Ready Homes Today: The Business Case for DOE Challenge Home

Presenter: Sam Rashkin, U.S. DOE

Room: Macon

If you put your ear to the track, you'll hear a fast approaching train. In fact, the zero energy ready home train has officially left the station. Thousands of these homes are complete and many more are committed to the U.S. DOE Challenge Home program in an incredibly short amount of time. This session will examine the effective business strategy and outstanding customer value propositions driving builders to this extraordinary level of performance. But in the end it's very simple, zero energy ready homes provide a product that is emotionally exciting to homebuyers, dramatically lower in builder risk, and substantially differentiated in a highly competitive market. DOE Challenge Home provides an easy solution for builders and raters to embrace this opportunity.

Do You Want Them To Pass a Test - OR - Learn How To Do Their Job Right?

Presenters: Rob Moody, Organic Think Inc; Doug Donovan, Interplay Energy & Brett Dillon, IBS Advisors, LLC

Room: Valdosta

In the days of social media and drinking from a firehose, the old school classroom methods of long lectures and death by bullets are outdated. Learn how to learn through dynamic Facebook-style online education, on the job training, self-learning from your mobile device and computer simulated Home Energy Ratings.

Train the Trainer Sales Session

Presenter: Gord Cooke, Building Knowledge

Room: Savannah

The goal of this session is to empower you to help new home builders sell the value propositions the energy efficiency programs you deliver offer. Now that HERS ratings are commonly used by a wide range of builders in most areas of the country, the next challenge is to ensure new home sales agents and realtors demonstrate the value of energy rated homes to potential buyers. This session has been adapted specifically for raters from the EEBA Houses That Work Sales Training session delivered directly to new home sales agents. In this session you will develop a sales training plan outline that you can use to engage sales managers and the sales staff of new home builders to ensure more frequent opportunities for education sessions that will build commitment, enthusiasm and greater consistency in the message. The session will include identification of the 3 most common sales processes used by new home sales agents and how you can help them integrate the energy efficiency message into each one. Come learn the top 4 questions you should be asking each of your builders and the top 3 questions new home sales agents should be asking when speaking with homebuyers to ensure the success of the services and programs you offer. The presenter for this session has helped hundreds of new home sales agents effectively integrate energy efficiency messages into their sales process.

Evidence of Energy Savings Produced by Radiant Barriers and Interior Radiation Control Coatings: Experiments and Modeling

Presenters: Mario A. Medina, University of Kansas and Gene Bassham, Fi-Foil Company, Inc.

Room: Piedmont

By attending this session, participants will understand both radiant barrier (RBs) and interior radiation control coating (IRCCs) technologies, the physics that make these technologies work in buildings, and the energy savings produced by each technology. Results of energy savings produced by these technologies, extracted from experiments and theoretical studies carried out by several research organizations over a 50 year period, will be presented. Parameterization results that affect the performance of these technologies will also be presented. These include climate, existing building insulation level, RB and IRCC installation configuration, and building construction.

Noon-1:30 PM- Lunch- Garden Courtyard, Fandangles

Monday- Session 2

1:30- 3:00 PM

All for One or One for All: Modeling Multifamily

Presenters: Michael Hackney & Jamie McKenzie, ICF International

Room: Georgia 2

The session will be a presentation on the advantages and disadvantages of modeling multifamily units on a per-unit basis vs a per-building basis. The presenters are experienced field assessors who will be sharing their personal experiences and the experiences of their peers. Topics explored will include: in what situations and for what intended goals are each testing and modeling methodology best suited; what equipment is most appropriate for each method; and finally, evaluating different circumstances which should be considered when trying to decide between various testing and modeling methods to provide the best results. The presentation will be formatted as an instructional talk targeting energy efficiency programs and individuals who may be considering a multifamily component of focus.

HERS Ratings as Compliance Option in the 2015 International Energy Conservation Code – Raters' Perspectives

Presenters: Brett Dillon, IBS Advisors; Eric Makela, Britt/Makela Group & Nancy St. Hilaire, Home Energy Group

Room: Georgia 3&4

The International Code Council adopted an energy rating index as a performance compliance option of the 2015 International Energy Conservation Code. The new option sets maximum HERS Index Scores on a regional basis and also requires that a builder must meet the mandatory envelope requirements of the 2009 IECC. The new performance option will serve to both increase the energy performance of new homes while giving builders more flexibility in complying with the 2015 version of the International Energy Conservation Code. This session will be a roundtable of Home Energy Raters on the implications of the new provision.

HERS Index and Utility Brand Make a Powerful Partnership

Presenters: Tim Carter & Danna Clary, Georgia Power

Room: Georgia 5&6

Join us to take an in depth look into how Georgia Power designed and launched a comprehensive consumer awareness campaign focused on educating customers about energy efficient construction and specifically the value of the HERS Index in a Georgia Power EarthCents® New Home.

The SAVE Act, or How Energy Raters Play A Crucial Role in Updating our Housing Stock

Presenters: Mike Collignon, Green Builder Coalition; Laureen Blissard, Green Builder Coalition & Bill Fay, Energy Efficient Codes Coalition

Room: Athens

The SAVE Act is proposed federal legislation to update HUD's underwriting guidelines by including a home's expected energy cost savings when determining the value and affordability of energy efficient homes. While only voluntary, the demand for both energy audits and energy ratings is expected to grow quickly. This session will help you educate your local builders, real estate agents, appraisers, bankers and homeowners on the new financial benefit of energy efficient construction.

ACCA Manual J Basics for ENERGY STAR Certified Homes

Presenters: Dean Gamble, U.S. EPA; Joe Schambach, ICF International; Charlie Haack, ICF International

Room: Augusta

This is where the 'HVAC design train' leaves the station. The first step of designing a complete HVAC system is to determine how much heating a home needs in the winter and how much cooling it needs in the summer. This session will cover the basic concepts behind ACCA Manual J load calculations, the value of these calculations, common challenges that hinder accurate loads, and the impact that key inputs have on the resulting load. Learn about the

surprising overlap between Manual J and a HERS rating; why doing load calcs. should never be like pin-the-tail-on-the-donkey, but often is; and why a Rater should be a contractor's best friend. After this, be sure to attend the next session in the series - "ACCA Manual S Basics for ENERGY STAR Certified Homes".

Rating Zero Energy Ready Homes: How to help builders participate in DOE Challenge Home and certify their homes using RESNET software

Presenters: Jamie Lyons, Newport Partners, LLC and Daran Wastack, DR Wastchak

Room: Macon

Today's leading Raters offer their builder clients a growing tool kit of market "difference makers". Using the DOE Challenge Home label to distinguish a Zero Energy Ready Home is a powerful distinction that innovative builders want. These builders are creating homes people simply must have once they experience their incredible benefits – comfort, health, low/no utility bills, innovation, and many other areas. And the best part for Raters is that certifying these homes involves just a few additional steps beyond ENERGY STAR for Homes Version 3. In this session you'll learn how to certify for DOE Challenge Home using RESNET-accredited software; how specific field verifications are conducted; and how homes are labeled and can become eligible for case studies and national awards.

How to Verify Manual-J Accuracy and Properly Select Equipment

Presenter: Isaac Savage, Home Energy Partners

Room: Valdosta

You're being asked to review Manual-J's and S's as part of your job. But how do you know what the HVAC contractor entered into the software? Did they pick the right sized unit? How do you read "detailed cooling capacity" data? How do you adjust the listed capacity for your location's outdoor design temperature?

This session will cover the basic load reports from both RightSuite Universal (Wrightsoft) and RHVAC (Elite) in detail, helping you understand where you need to go to find the info you're looking for. We'll also cover the Manual-S process, working through an example from start to finish, while exploring detailed cooling capacity data from a few of the main HVAC equipment manufacturers.

Selling Your Value as a RESNET Energy Rater Session

Presenter: Gord Cooke, Building Knowledge

Room: Savannah

Now that energy ratings have gained wide popularity across the country, a whole new range of potential builder and remodeler clients will be emerging, as will competition for rating services. This session will provide you with proper, proven sales techniques to ensure your prospective clients understand and appreciate the full value of the professional services you offer. The workshop will focus on sales methods often described as relationship selling or consultive selling, methods that encourage participants to understand the varied needs of a wide range of client types and then matching the services you offer to those important needs. Learn, too, proven techniques for overcoming price objections. The presenter has delivered similar training sessions to energy raters across North America, helping them ensure the clients they serve truly appreciate and value the service they offer.

Program QA vs. Provider QA - What's the Difference?

Presenters: Doug McCleery, MaGrann Associates and Pat Fitzgerald, NYSERDA

Room: Piedmont

Program administrators offering incentives for energy performance in residential new construction programs will often deploy a quality assurance program that can appear to Providers and Raters to be an unnecessary duplication of the QA they are already doing to meet their RESNET obligations. Yet program QA serves a different purpose that can provide added value to both administrators and participants. Through some case study examples, this session will explore strategies for effective program QA, examine the objectives and obligations of each, and provide the opportunity to discuss challenges and lessons learned from the two perspectives.

TOUR- How SWEET it is!

Presenter: Brad Turner, Southface

Meet in front of the Georgia 2 Meeting Room on the lowest level of the hotel to walk to the tour. SWEET Center Tour Address for those driving over (parking is located South of the building – drivers will see the lot just before the building): 590 Piedmont Avenue, Atlanta, Georgia 30308

Looking to enhance your trainings with hands-on props and demonstrations? Considering creating or updating educational materials related to energy efficiency and green building? Join us for a tour of the Southface Weatherization and Energy Efficiency Training (SWEET) Center and experience a state-of-the-art training facility. See first-hand how Southface approaches experiential learning and kick-the-tires on training props to gain ideas on how your organization can better convey your green story to funders, contractors and trades, consumers and clients. Learn from the experts and identify training tools and techniques for all budget levels.

3-3:30 PM- Afternoon Break- Grand Ballroom/Expo Hall

Monday- Session 3

3:30- 5:00 PM

The Future - HERS in 2024

Presenters: Laura Capps, Southface Energy Institute; Steve Byers, EnergyLogic; Ben Adams, Magrann Associates & Jesse Krivolavek, American Energy Auditors

Room: Georgia 2

Ten years from now, where will we be collectively? What will the state of the industry be? Can you plan for ten years from now? How about ten days from now? This panel discussion will have each member give a short personal perspective on where the industry is going to be. The moderator will then ask directed questions of the panel and the audience together.

Extend and Amend – Breathing New Life into the Federal Energy Efficient New Homes Tax Credit

Presenters: Steve Baden, RESNET; Carl Chidlow, Cardenas Partners; David Goldstein, Natural Resources Defense Council & Clayton Traylor, Leading Builders of America

Room: Georgia 3&4

The \$2,000 tax credit for builders for building energy efficient homes was a popular market transformation. At its peak in 2011 32,000 homes qualified for the credit. In 2012 the credit expired. In 2013 Congress retroactively extended the credit and changed the basis of the credit from the 2003 IECC to the 2006 IECC. This action resulted in the number of homes qualifying for the credit falling to 3,780 in 2012 and 7,506 in 2013. The credit expires again on December 31, 2013.

Clearly the credit needs to be amended if it to prove to be an effective market transformation tool. RESNET, the Natural Resources Defense Council, the Leading Builders of America and the American Council for an Energy Efficient Economy are working on legislation to be introduced that would among other things base the credit on a whole house assessment such as the HERS Index Score.

The Building Science Fight Club Roars – ASHRAE 62.2 vs. Building Science Corporation's New Ventilation Standard

Presenters: Allison A Bailes III, PhD, Energy Vanguard & Kristof Irwin, Positive Energy

Room: Georgia 5&6

The only game in town since 1989 for a residential ventilation standard has been ASHRAE 62. In 2003, it became ASHRAE 62.2 and has been the subject of much discussion, debate, grumbling, and outright animosity. In 2013, Joseph Lstiburek

and Building Science Corporation introduced their own ventilation standard, BSC-01, to compete against ASHRAE 62.2. In this session, we'll take an objective look at the research, the debate, and the two standards. We'll also look at how the new standard is faring since its introduction in August 2013.

Mobile Data Collection and Ratings: Touch and Go

Presenters: Ethan MacCormick, Performance Systems Development & Rob Salcido, Architectural Energy Coporation
Room: Athens

The tablet has changed expectations for data collection and communications in the field, and allows significant time (and cost) savings over traditional paper-based methods. PSD's Quality Assurance team uses iPads for all of their field work, and Architectural Energy is moving REM/rate into the cloud, while the emerging HPXML standard is opening up possibilities for more tools and easier communication between programs, providers, and raters.

This session will address the possibilities, and limitations, of mobile data collection, and strategies for synchronization with a central data system. We offer real-world experiences in deploying such systems.

ACCA Manual S Basics for ENERGY STAR Certified Homes

Presenter: Dean Gamble, U.S. EPA; Michael Brown, ICF International; Greg Cobb, iEngineer, LLC
Room: Augusta

Full steam ahead for the 'HVAC design train'. The second step of designing a complete HVAC system is to select heating and cooling equipment that meets the Manual J loads. This session will cover the basic concepts behind ACCA Manual S equipment selection and the value of this process. Compared to Manual J, Manual S is so simple that it can almost be done with your eyes closed. Unfortunately, the most common mistake makes it seem like sometimes it is. Learn what this mistake is and how to avoid it. After this, be sure to attend the next session in the series - "ACCA Manual D Basics for ENERGY STAR Certified Homes."

What are These Builders Thinking: Zero Energy Ready Home Builder Roundtable

Presenters: Luis Imery, Imery & Co; Pete Fusaro, Preferred Builders; Jacob Atalla, KB Homes & Todd Usher, Addison Homes
Moderator: Sam Rashkin, US DOE
Room: Macon

Why would US homebuilders, in the midst of a historically bad housing market – dare to innovate with Zero Energy Ready Homes? Facing fire sale prices from existing homes and just a fraction of the buyers from the boom market – how are these builders succeeding in the Zero Energy Ready Home space? Join this builder roundtable of DOE Challenge Home builders to hear about their Zero Energy Ready Homes, the business decision leading them to this level of excellence, and their business outcomes. These are truly leading builders in the housing industry that raters need to listen to.

Valuing the Future: Mortgage Lending for High-Performance Building

Presenters: Teresa Lopez, Green Energy Money & Kristin Clardy, Security National Mortgage
Room: Valdosta

This session will provide participants with up-to-date new lending guidelines including:

- Dodd Frank Quality Mortgage regulatory guidelines impacts on consumer markets and lending financials – how these new guidelines can support market expansion in "green" mortgage financing
- New Green Initiative FHA and Conventional expanded guidelines - including energy efficiency upgrades and renewable energy
- How lending institutions can play an environmental leadership role in lending for high-performance buildings
- New funding opportunities with private capital and incentivized green mortgages and monetized appraisals
- Overview of the targeted regional High-Performance Pilot (HIPP) Initiative for 20,000 single-family homes and multi-family project

Add Value to Your Services Using the EPA Indoor airPLUS program.

Presenter: Gord Cooke, Building Knowledge

Room: Savannah

This session will build on information previously presented to RESNET members about the EPA Indoor airPLUS Program and demonstrate how participants can use the program overall, and specific elements to help their clients make better decisions and to incorporate healthy indoor initiatives into their building projects. You will learn the four important, cost-effective strategies for controlling and improving indoor air quality that all of your clients should be made aware of. Participants will leave the session equipped to avoid potential risks and identify new opportunities for building and remodeling homes to simultaneously improve energy efficiency and indoor air quality and thus add value to the services you offer. The session will include advice on how to market and sell air quality services from the presenter, who has done hundreds of effective and profitable indoor air quality investigations.

The Evolution of a Crawlspace – Lessons Learned from a Big Energy Retrofit

Presenters: Mike Barcik, Southface & Skye Dunning, Building Performance Specialists

Room: Piedmont

Applying building science principles to an existing home's crawlspace is much more complex than meets the eye. The stakes are high and many entities don't always agree on what is the best approach. Learn from professionals with years of research and real world experience about what works (and what doesn't) for successfully converting an old vented crawlspace into a functional encapsulated one.

This session takes you through the essentials of closed crawlspace performance issues. Details such as bulk moisture management, vapor retarder placement, air sealing, wall insulation materials and techniques, methods of conditioning, pest control, air quality, combustion safety and energy efficiency impacts are all fully vetted.

Mike will showcase energy performance data and unique details from his home's retrofit while Skye will share his vast experience with guiding numerous crawl renovations. Lots of pictures, lots of discussion, and interactive group exercises – come get your nerd on with us!

5:30-7:30 PM- Opening Reception- Grand Ballroom/Expo Hall

Monday Evening Session

6:30-7:30 PM

Cross Border Challenge

Presenter: John Godden, CRESNET

Room: Piedmont

At last year's RESNET conference in Orlando, CRESNET President, John Godden issued a challenge to RESNET President, Steve Baden and the HERS rated builders in both the United States and Canada on who could build the lowest HERS rated homes. John Godden will review some of the top submissions from the past year in the Cross Border Challenge. Plus the awards for lowest HERS score for American and Canadian builders will be presented for production and custom builders. You don't want to miss this post Olympic competition!

Tuesday February 25, 2014

7:30-8:30 AM- Coffee Service- Grand Ballroom/Expo Hall

Tuesday- Session 4

8:30-10:00 AM

Introducing the RESNET – ASNT MOU: Certification in Infrared Thermography for Building Diagnostics

Presenter: L. Terry Clausing, P.E., American Society for Nondestructive Testing

Room: Georgia 2

On May 3, 2013, RESNET entered into a memorandum of understanding with the American Society for Nondestructive Testing to develop and offer the ASNT NDT Level II certification in infrared thermography for building diagnostics. RESNET will require HERS Raters who wish to utilize infrared thermography in the evaluation of residential structures to be certified in accordance with the ASNT certification. This session will provide an overview of the agreement, the process for becoming certified and the timeline for implementation.

Mainstreaming the HERS Index in the Market Place – Incorporating HERS Index into the Multiple Listing Service

Presenters: David Siegel, Builders Association of the Twin Cities & Peter Rusin, Colorado Energy Office

Room: Georgia 3&4

In states from Washington to Maine local Multiple Listing Services (MLS) are including the HERS Index Score in the listing of a home for sale. Including the HERS Index Score in the MLS is a significant push to the mainstreaming of the HERS Index Score in the housing market. REALTORS® rely on the MLS to guide potential homebuyers and appraisers use the service to locate comparable properties. Having this information will make it easier for builders to market their HERS Index Scores and appraisers to calculate the market value of rated homes. This session will explore how HERS Index Scores were incorporated in Colorado, Minneapolis and Oklahoma. It will look into the role that home builder associations and HERS Raters played in getting HERS Index Scores into MLS.

Increasing Confidence in the HERS Index Through Consistency

Presenters: Jim Petersen, Pulte Group & Dean Potter K Hovnanian Homes

Room: Georgia 5&6

Across the nation homebuilders are using the HERS Index Score to market the energy performance of their homes and building codes are using the Score as a compliance method. It is even more critical that there is consistency in how the HERS Index Scores are issued. In 2013 RESNET formed a task force aimed at improving the consistency of the HERS Index Score. The task force is composed of representatives of the nation's large builders, rating providers and rater software tools. This session will explain what the task force is recommending.

Beyond Mini-Splits: An Introduction to Variable Capacity Equipment for Whole-House HVAC Designs

Presenters: Kristof Irwin, Positive Energy & Allison Bailes III, Energy Vanguard

Room: Athens

As building envelopes improve, dealing effectively with part load conditions for heating and cooling becomes a priority. Variable capacity heating and cooling equipment is one answer to this important performance consideration. Combining inverter technology with variable refrigerant flow (VRF) allows the equipment's delivered capacity to adjust to meet changing building loads. Many know that mini-splits are efficient and VRF is why. What is not commonly known is that there are ducted versions of VRF air handlers that are capable of handling high (up to 0.6" w.c.) static pressures for whole-home, ducted designs with completely independent zone control. This session will present the basic principles of VRF technology and the VRF design process with real-world examples.

Getting Builders' Sales Staff Committed to ENERGY STAR

Presenters: Rick Gazica, ICF International; Nick Hurst, ICF International

Room: Augusta

Many homebuilders invest significant time and energy to build homes that earn the ENERGY STAR. Yet, in many cases, homebuilders don't make a comparable effort when it comes to selling ENERGY STAR certified homes. As a result, the sales staff is often left feeling undereducated and uncomfortable selling the features and benefits of high-performing

homes. Come to this session to learn how you can help your builder's sales staff create an effective ENERGY STAR elevator speech and incorporate ENERGY STAR into each part of their sales process.

Making Zero Energy Ready Homes Easy: Resources for Verifying, Constructing, and Marketing Zero Energy Homes

Presenters: Michael Baechler, Pacific Northwest National Lab & Sam Rashkin, U.S. DOE

Room: Macon

Plan review... energy modeling... field inspections... certification...done! Right? If it were only that simple to design, build, and market Zero Energy Ready Homes. The reality is that there's a lot more involved to be successful – like technical resources, tools to navigate the lending process, and marketing collateral to connect in a meaningful way with buyers. In this session you'll learn about recently developed DOE resources you can use to succeed: the Building America Solution Center; the DOE Challenge Home Appraisal Guidance; the DOE Challenge Home Customizable Brochure, and the DOE Challenge Home Virtual Parade of Zero Energy Ready Homes.

WiFi Enabled Gauges: Test Faster & Smarter with Built-in QA/QC

Presenters: Colin Genge, Retrotec Inc. & Joe Medosch, Energy & Environmental Consulting LLC

Room: Valdosta

WiFi enabled gauges are the new rage! What are the logistics, limitations and benefits? The gauges today can be operated from a PC, smartphone or tablet thru apps on Android and Apple devices. This allows Raters to be free from the cables and tubes of the manometer when performing a CAZ or other diagnostics test. Q/A is moving to a new level of documentation - share your results live or document the readings as an Excel spread sheet or (see whats next). Providers, QAD's, clients or your mom can see the live test and confirm compliance and settings.

This demonstration will show the latest and greatest from Retrotec and TEC. There will be live gauges and equipment and that show how this technology will change the industry.

Multifamily HERS Ratings: Applying RESNET's Technical Standards

Presenters: Brian Christensen, Architectural Energy Corporation; Abe Kruger, SK Collaborative; Ted Leopkey, EPA & Gayathri Vijayakumar, Steven Winter Associates

Room: Savannah

In the Rater community, there are often various interpretations of the RESNET Mortgage Industry National Standards as they apply to HERS ratings of multifamily units and/or buildings, leading to inconsistent results and practices among Raters. To reduce confusion and eliminate misinterpretations of the Standards, RESNET has convened a working group of multifamily experts to expand and clarify RESNET Standards as they apply to HERS ratings provided in the multifamily sector. During this session, working group members will provide clarification on the technical guidance related to performance testing, inspections of minimum rated features, energy modeling, and sampling, as they pertain to multifamily ratings. The working group will also discuss key definitions and the use of the HERS Index for individual units within multifamily buildings and/or whole multifamily buildings, when deemed appropriate.

The goal of the session is to introduce the [proposed guidelines](#) that will provide a consistent and clear approach to providing multifamily ratings.

Incentivizing the Next Generation of High Performance Homes: Program Administrators discuss a Post-IECC 2012/2015 Environment

Presenters: Patrick Fitzgerald, New York State Energy Research & Development Authority (NYSERDA) & Michael Burke, Conservation Services Group; Enoch Lenge, Connecticut Light & Power/Yankee Gas; Kathy Greely, Performance Systems Development; Chris Gordon, Vermont Energy Investment Corporation & Doug McCleery, MaGrann Associates

Room: Piedmont

With the adoption (or forthcoming adoption) of IECC 2012 or IECC 2015 by many states and the potential for upgraded minimum equipment efficiencies, above-code Program sponsors and administrators have had to quickly adapt their

Programs to reflect the new benchmark. How do we best promote the construction of high-performance new homes? Program design and implementation experts will discuss their organizations' involvement in the evaluation of above-code Program offerings (including, but not limited to: ENERGY STAR, Net-Zero Ready, Passive House, and Challenge Home) and discuss how careful analysis led each of them to make design decisions regarding the future of their Programs. The session will also touch on how a Program can maintain its ability to correctly claim energy savings without violating cost-effectiveness regulations, and remain marketable to the Program Partners. Come learn from these valuable experiences to enable you to help influence the direction of the Programs in your region!

Tuesday- Session 5

10:30 AM-Noon

High-Performance Fiberglass Insulation Systems; What to Know and How to Know It

Presenter: Jeff Boone, NorthStar Comfort Systems

Room: Georgia 2

Increasing demand for high-performance wall systems brings new questions on proving performance. Join us for an in-depth discussion of the many high-performance insulation systems on the market, and what tools are available for energy professionals to prove their performance. Learn what to look for on the insulation job site, what you and your client should expect from the contractor, and how to earn the High-Performance Insulation Analyst certification; the new credential offered by BIBCA to prove that you know good insulation work when you see it.

Rater Trainer Roundtable

Presenter: Doug Donovan, Interplay Energy; Andy Gordon, Washington State University Energy Program; Rob Moody, Organic Think & Kathy Spigarelli, RESNET

Room: Georgia 3&4

The Rater Trainer Roundtable will review requirements and new timelines for Rater Trainers and the status of revisions to the National Test. This session will also discuss the CAZ curriculum and getting input from Rater Trainers on the curriculum. This is the annually required Rater Trainer Roundtable.

Ventilation: Effective Strategies & Lessons Learned

Presenters: Doug McCleery, MaGrann Associates

Room: Georgia 5&6

Complying with ASHRAE Standard 62.2 is critical for program compliance. This session will provide a review of the requirements and answer the question "How much air do you need?". Also, different ventilation strategies will be presented, including a review of the benefits (effectiveness, ease of installation) and drawbacks (cost, complexity) of each one. Additionally the presenter(s) will provide information on duct sizing and pressure drop calculations – how to design to achieve the necessary performance. Case studies of real installations will be presented, and lesson-learned will be shared, to assist contractors, builders and raters in avoiding costly mistakes.

Current and Future State of Solar PV in New Residential Construction

Presenters: Walter Cuculic, SolarCity; Katie Everett, Shea Homes & Bill Webb, Lifestyle Homes

Room: Athens

The economics for incorporating solar into new residential construction have never been better. This year over 10,000 new homes will incorporate solar PV into their design. Solar PV is being used in new residential construction in +20 states including California, Arizona, Colorado, Texas, Florida, Washington, Oregon, Maryland and New Jersey to name a few.

Also, the option for incorporating solar into new residential construction have never been more diverse. Home buyers and builders have the option to purchase solar or do a 20 year prepaid lease or in some states they can even offer solar for zero up front costs.

Currently, in the Orlando, Florida market 2 national home builders (Shea and Pulte) have decided to incorporate solar as a standard feature into their communities. They will speak about why and how they decided to make solar a standard feature in their homes. SolarCity is the largest solar installer and financier in the country. We will be giving an update on the current and future status of solar across the US.

The “V” in HVAC: Mechanical Ventilation in ENERGY STAR Certified Homes

Presenters: Dean Gamble, U.S. EPA; Ashley Fowler, ICF International; Iain Walker, LBNL

Room: Augusta

Every ENERGY STAR certified home is required to have a complete ventilation system. Gain an understanding of the value that this system adds. Then, become versed in its three major components – whole-house ventilation, local mechanical exhaust, and filtration – and discuss strategies for meeting them. Finally, review the relevant portions of the HVAC System QI Checklists that the contractor and Home Energy Rater must complete. This session will benefit contractors, Home Energy Raters, and builders still seeking to gain knowledge on this important topic.

Why Zero Energy Ready is Readily Achievable: Technical Specifications for DOE Challenge Home

Presenter: Jamie Lyons, Newport Partners, LLC

Room: Macon

HERS scores have swept into the housing industry providing a widely recognized “MPG” for homes. But a car’s performance doesn’t end there... and neither does a home’s. As DOE Challenge Home establishes a label for Zero Energy Ready Homes, what specifications ensure both energy efficiency and performance? As we move into HERS 60, 55, or lower homes... how do we ensure adequate moisture management, IAQ, and combustion safety in addition to the home’s efficiency? In this session you’ll learn how the DOE Challenge Home specs provide a systems-based path that defines truly zero energy ready performance.

Advanced Energy Lessons Learned: The Good, the Bad and Ugly of Existing Homes

Presenters: John Tooley, Advanced Energy

Room: Valdosta

Remember pre-ARRA when an abundance of existing homes work was just an idea with a big backing? Well we sure do and having seen the before, during and after impact on our industry first-hand we invite you to come hear Advanced Energy share some of the lessons learned from the field over the past 5 years. And don’t worry like the title says there is good in there too.

Modeled vs. Measured Energy Consumption for Single Family Homes

Presenters: Brian Lieburn, Dow Building Solutions

Room: Savannah

This presentation will compare HERS Index to actual measured energy used in a designed community of 12 single family homes. The research homes are built in Midland, Michigan, the northern part of Climate Zone 5. Energy use, hygrothermal data and qualitative information are being collected as part of the 5 year study. Three different floor plans were built to four different energy performance levels to determine which designs have the greatest impact on actual energy savings. We will present data from the first heating and cooling seasons.

Social Media Essentials: A Guide for RESNET Members

Presenters: Dru Vagale & Rejoy Chatterjee, Fourth Dimension Inc

Room: Piedmont

When used correctly, social media can be an incredibly powerful marketing tool, getting your message out exactly where it needs to be: directly to consumers. But what is social media and how does it work? In this session, RESNET’s digital agency, Fourth Dimension, will talk about what social media is and how RESNET is using it to promote member services

and educate homeowners about the benefits of home energy efficiency. RESNET members can learn how they can take advantage of RESNET's ongoing social media campaigns to market their services effectively to their target audience.

Noon-1:30 PM- Lunch- Garden Courtyard, Fandangles

Tuesday- Session 6

1:30- 3:00 PM

More Bang for Your Buck: Combining Thermal, Air and Water Barriers

Presenter: Linda Jeng, Dow Building Solutions

Room: Georgia 2

As continuous exterior insulation becomes a more common part of high performance buildings and energy efficient homes, builders and contractors can simplify their assembly by choosing sheathing which can comply with the energy code, weather resistive barrier, and air barrier requirements. This presentation will explore the code requirements, testing and how to choose the right products to maximize performance while simplifying installation and reduce cost.

The Future of the Quality Assurance of Ratings

Presenters: Ben Adams, MaGrann Associates; Steve Baden, RESNET; Brett Dillon, IBS Advisors & Dean Potter, K. Hovnanian Homes

Room: Georgia 3&4

With the increasing of the HERS Index Scores entering into the mainstream of the nation's market and the growth on ratings into the regulatory environment through being accepted as an option to building energy codes it is essential that there is a national consistency of home energy ratings.

In 2014 RESNET will be undertaking a significant enhancing of RESNET quality assurance protocols. Options being considered include:

- Development of tools for quality assurance protocols and procedures for RESNET Quality Assurance Designees (QAD)
- Enhancing the RESNET National Building Registry to serve quality assurance functions for Rating Providers
- Improvements to rating software programs
- Development of a standardize HERS Rater Quality Assurance Evaluation Form
- Evaluating the independence of QADs

This session will explore the necessity of enhancing RESNET's quality assurance procedures and explain the changes being considered.

Business Opportunities in Energy Codes and Performance Testing

Presenters: Robby Schwarz, EnergyLogic, Mike Turns, Performance Systems Development, Sydney Roberts, Southface & Pam Cole, PNNL

Room: Georgia 5&6

As building energy codes rapidly advance, performance testing of new homes and major renovations is poised to become the norm rather than the exception. More than half of U.S. states have implemented the 2009 IECC and several more have adopted, or are slated to adopt, the 2012 IECC in the next few years. Raters can capitalize on this growing market by understanding energy code requirements and how to market their services to builders. This session will cover air sealing verification, envelope leakage and duct leakage requirements of the 2009, 2012 and 2015 IECCs, including blower door testing, duct testing, and required inspections. This session will also provide guidance on how Raters can turn these requirements into money in their pockets. Energy codes are the new home performance program – don't be left behind.

Blower Door Pressurization Test? - Homes with “Suspect Conditions”

Presenters: Joe Medosch, EEC llc & Corbett Lunsford, Green Dream Group

Room: Athens

What are the inherent risk factors in performing a depressurized blower door test on an existing home? Hazardous construction materials that have been covered over or non-visible water damage is a health risk waiting to be created by a depressurization blower door test.

Are you testing leakage or for compliance / Rating.

The presentation will cover some of the visible and not visible conditions that warrant a pressurization test? The overview will include the technical procedures for a pressurization test and suggestions for compensating for building challenges.

The presentation focuses on the bottom line of reducing infiltration and improving IAQ and performance of the home.

We will discuss the results of pressurized test vs depressurized test, and compare the results to testing standards in Large Building Air Barrier testing which include pressurization & depressurization.

The class will include a section on the liabilities that should be addressed in the “Client Agreement”, client interview, scope of work and what are the responsibilities for disclosure from the Auditor and Client. The most important disclosure is what you cannot see or do not have access to evaluate

ACCA Manual D Basics for ENERGY STAR Certified Homes

Presenters: Dean Gamble, U.S. EPA; Charlie Hack, ICF International

Room: Augusta

This is the end of the line for the ‘HVAC design train’. For most homes, the third step of designing a complete HVAC system is to configure a duct system that gets heated and cooled air from the equipment to the rooms, and back. This session will explain how ACCA Manual D helps designers achieve this goal, how a limit on total duct leakage contributes, and which half of the design is most often forgotten. Too many designers get off the ‘HVAC design train’ one stop too soon. Learn how a proper duct system completes the HVAC design and prevents it from going off the rails.

Zero Energy Ready Home Technical Solutions: Indoor Air Quality (including Whole-House Ventilation best practices)

Presenter: Sam Rashkin, U.S. DOE; Bob Axelrad, US EPA; Nick Hurst, ICF International & James Jackson, ICF International

Room: Macon

“Build tight, ventilate right.” But is that enough for a comprehensive approach to indoor air quality? Absolutely no. A complete indoor air quality system addresses three critical functions: source control, dilution, and filtration. This session will include the details and best practices for a complete indoor air quality system and examples how they were applied in DOE Challenge Homes.

Are You Getting Your Fan Flows Right?

Presenters: Eurieha Speciale, Building Efficiency Resources & Stan Harbuck, A Better School of Building Inspection

Room: Valdosta

This section will discuss some of the ways that fan flow testing can be done, how the testing is conducted, and the advantages and pitfalls of the techniques. Using anemometers, fan flow meters, flow hoods, amongst other devices or methods, will be covered.

Making the Grade: HERS Indices for Code and Above-Code Programs

Presenter: Dave Roberts, National Renewable Energy Laboratory

Room: Savannah

Everyone's always looking for a super decoder ring to compare code-compliant, EPA Energy Star and DOE Challenge Homes on the HERS Index Scale. This is because the HERS Indices for homes meeting code and program requirements vary by climate, heating fuel and other design elements. While the decoder rings are not yet available, this session will present a colorful, graphical overview of HERS Indices for homes meeting requirements of recent versions of the IECC, Energy Star Qualified Home Program and DOE's Challenge Home Program. The content will help rating professionals understand and communicate the relationships between code and above-code programs in a common metric – the HERS Index.

ACCA's Residential Service and Installation Program

Presenters: Wes Davis, ACCA

Room: Piedmont

ACCA's new RSI program opens a new range of services that a properly skilled Rater can perform with regards to objective evaluation of an HVAC system installation. This session reviews the RSI Program and the special role that Verifiers will fill in the delivery of this program. Additionally, this session will discuss special tools and training for those interested in this new opportunity.

TOUR- Southface- Walk the Talk

Presenter: Mike Barcik, Southface

Meet in front of the Georgia 2 Meeting Room on the lowest level of the hotel to walk to the tour. EcoOffice Tour Address for driving over (parking is located in front of the building and on the East side of the building):
241 Pine Street NE, Atlanta, GA 30308

We all make money by selling energy efficiency, but how well do we walk the talk in our own workplaces? Join us for a fun-filled tour of the Southface Resource Center and Eco Office to learn how one non-profit built two nationally acclaimed offices and uses them today for client engagement. See grey-water reuse and composting toilets in action along with hundreds of other green building technologies. Find out how Southface brought together the design and construction community to create these beautiful spaces and how they use them to continue their mission towards sustainability in the Southeast. Discover which strategies they would repeat, and which technologies they would avoid on future projects.

3-3:30 PM- Afternoon Break- Grand Ballroom/Expo Hall

Tuesday- Session 7

3:30- 5:00 PM

2012 National Green Building Standard®: A Road Map for Performance

Presenter: Matt Belcher, Verdatek Solutions

Room: Georgia 2

In its first four years, the ICC 700 National Green Building Standard® (NGBS) has begun transforming the residential marketplace by providing single and multifamily builders, remodelers and land developers with ANSI-approved guidance on going green. The latest version features significant increases in energy efficiency requirements and new sections devoted to improving the performance of existing homes. This session will begin with a summary of the green building and remodeling market outlook and provide an overview of the 2012 NGBS and the different compliance methods.

Learning Objectives:

- Explain the various methods for compliance in the 2012 National Green Building Standard®
- Identify the major differences between the 2012 and 2008 versions
- Discuss the significant increases to the energy efficiency section

- Learn what the minimum requirements are for new construction as well as renovations

RESNET Annual QAD Roundtable: Results of QA Reviews, Strategies for Success in 2014 and Quality Assurance Amendment

Presenters: Laurel Elam, RESNET; Abe Kruger, SK Collaborative & Daran Wastchak, DR Wastchack
Room: Georgia 3&4

This session will share the findings of the 2012 annual Rating Provider Quality Assurance reviews. We'll discuss common issues identified and simple strategies to ensure compliance for 2013. This session will provide valuable information for all QADs and Provider managers.

This session will also review the changes that resulted in the recent Quality Assurance amendment to the RESNET Standards.

Multi-Family Blower Door Best Practices and Newest QA/QC Innovations

Presenter: Colin Genge, Retrotec Inc. & Joe Medosch, Energy & Environmental Consulting LLC
Room: Georgia 5&6

Occupied multi-family buildings are difficult to test because you may only be able to access small portions of the building at one time. See how much can be learned with just one gauge to locate pressure imbalances. Then, using only two blower doors, learn how to locate and measure air leakage paths between units and common areas.

This Demonstration will show how multiple fans and pressure gauges can now communicate over Ethernet cables or with WiFi, allowing all the test fans and other diagnostic tools to be controlled and data logged from one location. The leakage of a single unit or entire building can be measured this way. The results and challenges from several large buildings will be presented.

The live demonstration will show how to control multiple fans and record all the data. Software runs the fans and records thousands of data points automatically.

RESNET's CAZ Simulation Test

Presenters: Doug Donovan, Interplay Energy & Andy Gordon, Washington State University Energy Program
Room: Athens

Beginning on January 1, 2014, in order to be certified as a Home Energy Rater a candidate must have passed the RESNET CAZ simulation test. Existing raters have until January 1, 2015 to pass the test. This means that in order to train raters all Rater Trainers must also have passed the test. This session will demonstrate the new RESNET test and provide resources for raters and rater trainers to be prepared to pass the test.

Cost-effective Strategies for Building ENERGY STAR Certified Homes

Presenters: Rick Gazica, ICF International; Charlie Haack, ICF International; John Hensley, PEG
Room: Augusta

The ENERGY STAR Certified Homes Program covers more details than ever before. Many partners jump to the most obvious default compliance option to reduce analysis paralysis, even when other options might suit them better. This session will highlight the most common default compliance options, along with alternative compliance options successfully used by partners to ease both the cost and effort of obtaining certification.

Zero Energy Ready Home Technical Solutions: High-R Walls and Air-Tight Construction

Presenters: Sam Rashkin, U.S. DOE & Cheryn Metzger, National Renewable Energy Lab
Room: Macon

Most builders have moved beyond 2x4 walls, a compressed batt, and a couple tubes of caulk for their thermal envelope strategy. But how far do we need to go with insulating and air-sealing? What levels make sense? And equally important – how can we build to these levels effectively and avoid unintended problems with production, moisture management, and IAQ? DOE Challenge Home – DOE’s label for Zero Energy Ready Homes – establishes envelope insulation levels anchored to the 2012 IECC and infiltration levels half those of ENERGY STAR for Homes Version 3. In this session you’ll learn about implementing these specs, key design issues, and the latest recommendations from DOE’s Building America program on high R value, air-sealed envelopes.

Peak Performance – Why Installation Matters with Insulation

Presenters: Bill Hulstrunk, National Fiber & John Tooley, Advanced Energy & Rick Duncan, SFPA

Room: Valdosta

Learn about the RESNET grading criteria for insulation and how the quality of the installation affects performance. There are many types of insulation available to today’s builders. Most builders use some combination of cellulose, fiber glass, rock wool or spray foam to insulate homes today. Every material has unique factors that affect performance and HERS raters need to understand what to look for when inspecting and grading insulation to the RESNET grading criteria. Experts from the cellulose, mineral fiber and spray foam industries will discuss specific factors that make their products work as advertised and what issues can reduce product performance.

IAQ, Ventilation, and Airtightness in High Performance New and Existing Homes

Presenter: Brennan Less & Iain Walker, Lawrence Berkeley National Laboratory

Room: Savannah

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 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? Researchers at LBNL have recently completed two projects addressing these issues. One was a study of Volatile Organic Compounds (VOCs) in LEED certified new homes in New Mexico, and the other was an assessment of IAQ in 24 high performance new and deep retrofit homes in California. In this session, learn how air pollutants found in these homes compare with health-relevant guidelines, and how they compare to those measured in conventional new California homes. Most importantly, learn what factors contribute to IAQ in high performance homes, such as kitchen exhaust fans, commissioning and source control, as well as how raters, contractors and designers can improve what they promise and deliver to homeowners.

The Value of Foamed Plastic as a Residential Sheathing

Presenters: Dan Tempas, Dow Building Solutions

Room: Piedmont

As seen in the recent energy codes, insulated sheathings are recognized for their ability to reduce energy loss from a residential wall through both a reduction in conductive heat loss and air infiltration. Less well known is the capacity of such sheathings to reduce the probability of condensation moisture problems within the cavity. This talk will review the physics and methods for reducing condensation potential and increasing drying potential within residential walls.

5:30-7:30 PM- Reception- Grand Ballroom/Expo Hall

Tuesday Evening Session

7:30-9:00 PM

HPwES Forum for Contractors and Raters

Presenters: Ely Jacobsohn, DOE

Room: Savannah

As the Department of Energy explores options to create new business opportunities in HPwES, we want to know more about how contractors and raters are currently doing business and what is needed to promote greater participation in the home performance market. This meeting is intended to be an open discussion and is your chance to tell us what works for your business.

Wednesday February 26, 2014

7:30-8:30 AM- Coffee Service- Grand Ballroom/Expo Hall

Wednesday- Session 8

8:30-10:00 AM

Air Leakage Testing: What's New and What's Coming?

Presenter: Theresa Weston, DuPont Building Innovations

Room: Georgia 2

Energy Codes are moving towards requiring verification for building air leakage performance. To more effectively meet these evolving code requirements, test methods and specifications are also evolving. This presentation will review code requirements for air barrier and air leakage testing in the 2009 IECC, 2012 IECC and what will be in the 2015 IECC. In addition to energy code updates, this presentation will also review progress on ASTM air leakage test method and air barrier specification standards and how they will aid in Energy Code compliance.

Learning Objectives:

- Understand Energy Code air barrier and building air leakage requirements
- Learn air leakage requirement changes coming in the 2015 IECC
- Understand the different air leakage test method standards
- Learn what developments in ASTM air leakage test methods are underway

Appraisal Institute's Residential Green & Energy Efficient Addendum

Presenter: Sandra K. Adomatis, Adomatis Appraisal Service

Room: Georgia 3&4

The Appraisal Institute has adopted the new Form 820.04: Residential Green and Energy Efficient Addendum. This is the first residential green and energy efficient appraisal report addendum made by appraisers, for appraisers. The addendum includes the HERS Index Score of the home.

RESNET has entered into an agreement with the Appraisal Institute to incorporate the Residential Green and Energy Efficient Addendum into rating software programs. Raters will be able with a push of a button complete the addendum in addition to the rating report. It will also be a very cost effective way for builders to have appraisers consider the energy efficiency features of the home.

This session will focus on completing the Appraisal Institute Green Addendum. Now is the chance to ask questions on how the information should be presented on the addendum. A walk through the addendum will be followed by a Q & A Session.

The Energy Water Nexus

Presenters: John Tooley, Advanced Energy

Room: Georgia 5&6

The energy and water crisis looms ahead of us and must be solved together. A growing population and the failure to adapt U.S. water policies and maintain our national water infrastructure have left us with a potentially serious threat -- a severe water crisis in the United States. Thermo-electric power plants, industrial waste water wells, and now "fracking"

stress our water needs. The good news is that the home performance industry can help bring about major change. Fact: every KWH reduction we affect can help reduce water use by 0.5 gallons (hydroelectric is greater). Most people wait for over one minute for hot water. We can reduce this to a one cup wait. This session promises to equal results.

Powerful New Tool for Builders - Guaranteed Energy Performance

Presenter: Roger Lange, Bonded Builders Warranty Group

Room: Athens

You invest in building and marketing energy efficient homes. Homes that give your home buyer comfort, enjoyment, and savings on their utility bills. You promote your commitment to energy saving building methods and materials, and project the efficiency of your homes over anyone else's. Then your attorney writes the disclaimer that waters down the reliability of your projections in the "small print". Wouldn't it be great if you could eliminate the uncertainty and the "small print"? This session will tell you how you can replace the "small print" with a revolutionary new benefit for you and your home buyer.

Case Studies in Coordination: ENERGY STAR Partners and HVAC Contractors Working Together to Ensure Success

Presenters: Dean Gamble, U.S. EPA; Daran Wastachak, D.R. Wastack & Greg Cobb, Sonoran Air

Room: Augusta

More than ever before, builders, Home Energy Raters, and HVAC contractors must coordinate throughout the construction process to certify an ENERGY STAR home. This popular panel presentation will highlight the experiences and perspectives of ENERGY STAR partners who have teamed up with their HVAC contractors to ensure a successful experience.

Zero Energy Ready Home Technical Solutions: Low-Load High-Efficiency HVAC

Presenters: Duncan Prah, IBACOS & Chuck Withers, Florida Solar Energy Center

Room: Macon

Raters know these homes well: It's the 10-20 year old home built with an HVAC system big enough to heat the neighbor's house too – and the garage. And if the 100 kBtu furnace was oversized for that leaky, poorly insulated home – just imagine the real design loads we see in today's Zero Energy Ready Homes! But the load calc is just the start... what does a design load which is a small fraction of a typical new home's load mean for product options? Do we need an exotic HVAC system now? Or can we take money out of the HVAC system because it'll hardly run? What about controls ... will the setback thermostat still work? How do we manage longer swing seasons with no demand for space conditioning? In this session you'll learn about these design issues based on actual projects from both DOE Challenge Home and the US DOE Building America program.

Performance Rater Certification by NATE

Presenters: Denny Smith, NATE; Brett Dillon, IBS Advisors & Dennis Stroer, Calcs Plus

Room: Valdosta

Attend and have all your questions answered about and why the NATE Rater Certification will take your business to the next level.

Habitat for Humanity's Sustainable Building Strategy: A Business Opportunity for Raters

Presenters: Rob Howard & Mike Mongeon, Habitat for Humanity International & Scott Lee, Southface

Room: Savannah

Habitat for Humanity is launching a new sustainable building strategy that encourages affiliates to certify homes to a national or regional program that includes a HERS Rating. Come learn more about opportunities to assist your local Habitat affiliate in building sustainable affordable homes.

The goal of the session is to introduce the proposed guidelines that will provide a consistent and clear approach to providing multifamily ratings.

Testing 1-2-3: A New Testing Method for Software

Presenters: Ben Polly, National Renewable Energy Laboratory & Joel Neymark, Neymark & Associates

Room: Piedmont

An industry working group is developing a standardized accuracy test for residential energy analysis tools using energy consumption and building description data. Empirical data collected from around the United States have been translated into a uniform Home Performance Extensible Markup Language (HPXML) Standard format that provides software developers efficient access to the data and facilitates modeling lots of homes. This provides an opportunity to implement a software test case made up of many homes where predicted energy usage can be compared to measured energy usage en masse. This session will provide an overview of the working group's progress toward developing an empirically-based method of test for residential energy analysis tools.

Wednesday- Session 9

10:30 AM-Noon

Advanced Energy Lessons Learned: Closed Crawlspace Revisited

Presenter: John Tooley, Advanced Energy

Room: Georgia 2

After working with industry to do the research, create the closed crawl install protocols and literally writing the book on it we decided to revisit and take a second look to see how things were holding up. Come see what Advanced Energy found years later, aside from spiders, lawnmowers and kids toys.

Ensuring the Practical Knowledge of of Home Energy Raters – New RESNET Simulation Based HERS Rater Practical Test

Presenter: Doug Donovan, Interplay Energy; Rob Moody, Organic Think & Kathy Spigarelli, RESNET

Room: Georgia 3&4

Currently RESNET requires that the accredited Rater Training Provider provide field testing of home energy rater candidates. This has been unevenly applied and raises doubt over the RESNET rater certification process. As RESNET Standards are codified and adopted by more municipalities and communities, the requirement for a defensible field testing procedure becomes more paramount. Further, the risk of litigation of persons being denied a profession because of inconsistent testing practices becomes a larger threat. Currently, there exists inconsistency across training providers in the application of the Graded Field Evaluations of candidates. A more consistent Graded Field Evaluation vehicle or procedure is necessary. To date, despite a number of efforts over the last three years, the Training and Education Committee has been unable to formulate an effective strategy or reasonable execution plan to address this issue. Three dimensional computer desktop simulation offers a potential solution that is consistent, defensible, scalable and cost-effective. To address this issue the RESNET Training and Education Committee has proposed a cost-effective, scalable practical field exam solution that requires HERS Rater candidates to demonstrate a level of competency outlined in its standards. The exam will allow the evaluation of different construction methods and multiple regional climatic conditions.

2012 Code: the Good, the Bad, and the Ugly from Maryland, the first state to adopt 2012 IECC

Presenters: Rick Gazica, ICF International

Room: Georgia 5&6

On July 1st 2012, all homes permitted in the state of Maryland were required to meet the stringent IECC 2012 code requirements. After going through the seven stages of grief, builders, Raters, and utilities figured out ways to use the code to each of their respective advantages. This presentation will discuss real world business solutions for raters,

compliance options for builders, and methods utilities can use to capture savings above and beyond the 2012 code to keep the program relevant.

IAQ Expert: "Backdrafting Hazard is Overblown" [or Rethinking Combustion Appliance Safety]

Presenters: Brett Singer, Lawrence Berkeley National Lab

Room: Athens

Release of combustion gases into homes represents a potential hazard. But current combustion safety test protocols use excessively conservative hazard thresholds that fail many appliances that present very low or no risk. Combustion safety failures can limit air sealing or direct energy efficiency improvement funds into unnecessary repairs and equipment replacement. At the same time, serious combustion appliance hazards are not being addressed in many cases. LBNL and other researchers are rethinking the standard combustion safety diagnostics and developing new approaches to more assuredly reduce risk at lower cost. This session will describe the fundamental factors that determine combustion appliance hazards and preview our thinking on cost effective hazard identification and risk mitigation.

Building and Verifying Indoor airPLUS Homes Just Got Even Easier

Presenters: Bob Axelrad, U.S. EPA; Nick Hurst, ICF International

Room: Augusta

Indoor airPLUS is a companion to the ENERGY STAR Certified Homes program that provides valuable differentiation from competitors through a robust package of indoor air quality protections, with minimal additional builder or Home Energy Rater effort.

Based on extensive partner feedback, EPA has refined the program requirements to provide more flexibility and significantly streamline the compliance process, while still ensuring that labeled homes lead the industry in indoor air quality protections.

Learn about the most recent changes in Revision 2, including revised combustion pollutant requirements for attached garages and additional flexibility for meeting moisture control requirements.

Home Energy Raters will learn how to capitalize on this opportunity with forward-thinking builders and efficiently integrate the Indoor airPLUS label into their current ENERGY STAR Certified Homes verification process.

Zero Energy Ready Home Technical Solutions: Ducts in Conditioned Space

Presenter: Sam Rashkin, U.S DOE & Jamie Lyons, Newport Partners

Room: Macon

Raters don't like it. Energy codes penalize you for doing it. And in Zero Energy Ready Homes - - we just can't accept it. Ducts carrying cool, comfortable air in the 50s just don't belong in a 130F degree attic with a mere 2" of insulation. The good news is that keeping ducts in conditioned space isn't a 1-size-fits-all design requirement in DOE Challenge Home. Over the last several years, DOE's Building America research program and its partners have worked out the kinks on a toolkit of duct design strategies. In this session you'll learn the pros and cons of these strategies so you can specify distribution systems which are effective in any type of project.

Energy Efficient Homes Represent Lower Mortgage Risk - The Evidence

Presenters: Robert Sahadi, Institute for Market Transformation

Room: Valdosta

It's a well-known fact that energy efficient homes save their owners money but now a new study shows that they're also better mortgage investments. The report, titled, "Home Energy Efficiency and Mortgage Risks" found that homes with lower HERS Index Scores were deemed as low mortgage default risks, and that on average, mortgage default risks were 32 per cent lower on ENERGY STAR labeled homes that were rated by a certified RESNET Home Energy Rater. The study was conducted by the University of North Carolina's Center for Community Capital, and sponsored by the Institute for

Market Transformation (IMT). This session will explain the results and explore the implications in the mortgage underwriting process.

Changes to LEED for Homes Certification – Introducing LEED v4 for Homes

Presenters: Asa Foss, USGBC

Room: Savannah

The US Green Building Council released their newest version of LEED, LEED v4, in late 2013. LEED v4 for Homes or LEED v4 for Homes Multifamily Midrise will be required on all residential buildings up to 8 stories. Other major updates include adopting ENERGY STAR v3, and creating new total water use and total energy use calculators. Learn about these changes and more to the nation's leading green building program. This is a "must attend" session for LEED Green Raters.

New Metrics of Weatherization Success

Presenters: Darren Maguire, Southeast Energy Assistance, Inc. (SEA)

Room: Piedmont

This session will present the results of monitoring several homes before and after weatherization using inexpensive precision temperature and relative humidity sensors (Onset HOBO loggers). The presentation will highlight how measuring the rate of change in these measurements as well as the pattern of these measurements permits a new class of performance metrics where the shell, HVAC and behavior can all be characterized. This new method separates the shell from the HVAC system and isolates behavior. It also can illustrate internal gain and separate the walls from attic and west facing glass, etc.

Noon-1:30 PM- Lunch- Garden Courtyard, Fandangles

Wednesday- Session 10

1:30- 3:00 PM

Pushing the Limits of Thermal Imaging - Unique Challenges That Thermographers Face

Presenter: Ron Conner, The Snell Group

Room: Georgia 2

There is no question that infrared thermography is a valuable tool which helps energy auditors and home performance professionals better evaluate the thermal performance of residential buildings. From examining the effectiveness of insulation to locating air leakage bypasses, this technology allows individuals to work more intelligently and efficiently.

Key to this success, however, is understanding the entire building system and environmental conditions that one encounters during an infrared inspection. Differences in construction materials, varying weather conditions, and limitations of the technology can all make inspecting buildings with IR a challenging endeavor.

While this presentation will address instances where thermal imaging is used successfully, it will focus more on showcasing numerous examples of where thermography did not yield desirable results due to difficult conditions or situations that limited the technology's effectiveness. These limitations will be explained and outlined so that attendees will learn how to recognize, and work with, these circumstances. Best inspection practices and techniques will be covered so that participants can learn to better evaluate data captured in challenging situations.

Learning Objectives:

- Upon completion, participants will be able to understand how IR is successfully applied to residential building envelope inspections.
- Learn about challenging conditions and situations that thermographers encounter where thermal imaging is difficult to use.

- Participants will discover ways to better approach these situations and get the most out of their camera.

Lead Generation 101 for Raters, Auditors and Home Performance Companies

Presenters: Peter Troast, Energy Circle and Allison Bailes III, Energy Vanguard

Room: Georgia 3&4

As the web increasingly replaces traditional forms of marketing, raters, auditors and Home Performance companies face the challenge--and opportunity--of understanding this complex and ever changing landscape. This workshop, aimed at those just starting to understand internet marketing, will cover the bases from managing your primary company web presence, understanding search engine optimization, the keyword landscape in our field, the rapidly evolving local search landscape, social media opportunities such as blogging, Facebook, Twitter and Google+, as well as paid internet advertising options--lead generation services, pay per click advertising, and more. But it's not just about the internet--we'll also review proven "old school" techniques that still work. The workshop will cover both consumer and business to business strategies, reflecting the reality that successful raters need to market their services to multiple audiences.

Field Testing Nightmares Game Show!

Presenter: Colin Genge, Retrotec Inc.; Joe Medosch, Energy & Environmental Consulting LLC & John Viner, Energy Center of Wisconsin

Room: Georgia 5&6

Don't miss the first RESNET Live Game Show. Attendees will have an interactive remote and be full participants. Test your knowledge and find solutions to common errors.

No matter what brand you use, most problems have to do with the gauge and connecting tubes. They can be baffling but easy to solve and corrected on site if you follow the test procedures laid out in this session. Trouble shooting thru elimination - it is the gauge, the fan, the structure or me!

This fast-paced Game Show is entirely visual. Participants will see the problem created, identified and corrected in seconds for every major issue that can befall air leakage test equipment.

- Blocked tubes, Leaking tubes, locating and correcting
- Gauge out of calibration?
- Duct tester or blower door out of calibration?
- Common problems caused by gauge settings such as @ Pressure and Time Averaging?
- Identifying unstable results and how to correct Baseline and wind problems
- Set up for optimum results every time
- Pressurization blower door testing. What do the results mean. When should I use it?
- What are meaning of all the acronyms EqLA, EflA, SLA, XZY?
- and ...

Sampled Ratings: As Clear as We Can Make Them

Presenters: Emelie Cuppernell, PSD & Daran Wastchak, D.R. Wastchak, L.L.C

Room: Athens

The RESNET Sampling Standard has been carefully crafted to provide a high level of confidence for a high volume of ratings. Significantly rewritten in 2006, and currently being refined to strengthen and clarify, it is still one of the most misunderstood and commonly misapplied standards in use by raters.

This session will clearly describe the current standard with vivid examples, walking participants through cases involving the simplest 1-in-7 testing situations, all the way through complications of scheduling, and followup to testing failures. Further, the details of upcoming changes to the standard will be carefully spelled out.

The presenters administer 2 different Accredited Sampling Providers; PSD has independent raters throughout the Northeast, most of whom do a minority of their work as sampled ratings, while D.R. Wastchak has successfully applied sampling to many thousands of homes in the Southwest.

New Opportunities for Raters: ENERGY STAR's Multifamily High Rise Program

Presenters: Ted Leopkey, U.S. EPA; Gayathri Vijayakumar, Steven Winter Associates

Room: Augusta

Energy efficient multifamily buildings from townhouses to high-rises are eligible to earn the EPA's ENERGY STAR label through two paths offered by the EPA: Version 3 of the Certified Homes program and the new Multifamily High Rise Program. This presentation will explain which multifamily buildings are eligible for the ENERGY STAR label through each path, compare and contrast the procedures for earning the ENERGY STAR in the two approaches, and explain how Raters can be involved in the process.

Zero Energy Ready Home Technical Solutions: Renewable Energy Ready, Water Conservation, Disaster Resistant Construction, and Water Resistant

Presenters: Fred Malik, Institute for Business & Home Safety & Jamie Lyons, Newport Partners & Jonah Schein EPA WaterSense

Room: Macon

The "Ready" in the Zero Energy Ready name means these homes are designed to accommodate renewable energy systems to offset most or all on-site energy use. And this means more than a south-facing roof. It includes a comprehensive set of low-cost/no-cost details that can save thousands of dollars downstream where homebuyers install solar electric and solar thermal systems after they move in. In addition to being ready for solar, it is important that Zero Energy Ready Homes start addressing opportunities for water conservation for additional energy savings and sustainability. That's why DOE Challenge Homes encourage builders to meet EPA WaterSense specifications. And lastly, homes built this well are prepared to last hundreds of years... if they are ready for disaster risks prevalent in their location. That's why DOE Challenge Home also encourages builders to meet disaster resistant guidelines from the Institute for Business and Home Safety's Fortified Home Program. Learn about all these important details and specifications that will become increasingly important in the housing industry and provide further business opportunities for HERS raters.

Ducted Heat Pump Water Heaters Open Opportunities for Tight Spaces

Presenters: Sydney Roberts, Southface

Room: Valdosta

Water heating is the second largest energy load in most homes. Heat pump water heaters (HPWH) deliver high energy efficiency performance compared to alternative hot water storage systems. However, most HPWH systems require large room volumes (e.g., basement) for effective heat exchange with the heat pump. Using a duct kit will allow builders to install HPWH's in confined spaces and duct the incoming and outgoing air to larger areas such as enclosed attics or ambient air. Ducted HPWHs were tested for energy efficiency and impact on the indoor temperature and humidity in three separate single family homes. Energy and comfort data are compared to manufacturer specifications and energy models.

Advanced Energy Lessons Learned: Valuing HERS Raters and the HERS Score

Presenter: Kristi Matthews, Advanced Energy

Room: Savannah

For years our industry has worked on the issue of valuing energy efficiency, creating market demand, consumer awareness and the list goes on but finally there is some movement and much of it catalyzes with the appraisal world. Come learn about some of the exciting things taking place in the appraisal world while participating in an interactive facilitated discussion.

Indoor Air Quality Concerns When Building Energy Efficient Homes

Presenters: John Warren, SkyeTec

Room: Piedmont

Building and energy code compliance requirements continue to demand that homes are tightly sealed, which can inadvertently lead to moisture and microbial issues. This session will demonstrate how builders can maximize energy efficiency while maintaining acceptable levels of indoor environmental conditions. In this panel discussion, attendees will learn how to identify potential areas of indoor air quality concern; how to respond to moisture intrusion and/or visible mold growth; how to document builder best practices for maximum liability protection; and how to effectively market the strategy to home buyers.

3-3:30 PM- Afternoon Break- Grand Ballroom/Expo Hall

Wednesday- Session 11

3:30- 5:00 PM

Tips & Tricks for being a more effective QAD

Presenters: Abe Kruger, SK Collaborative

Room: Athens

This will be a 90 minute interactive session that focuses on how to actually perform QA in accordance with the RESNET Standards. The first 30 minutes will be dedicated for small group activities. The goal will be to get QADs talking and sharing experiences without disrupting the whole group. The next 30 minutes will be dedicated to allowing the groups to present their findings and the last 30 minutes will be reserved for Q&A and discussions.

ENERGY STAR v3 from a Raters Perspective

Presenters: Robby Schwarz, EnergyLogic

Room: Augusta

When will we feel comfortable with Energy Star Version 3. Stumbles, fumbles, and rumbles but we are making progress and yes we are still learning. Come hear one Raters perspective on how ESv3 is going, what builders are thinking, and where we may want to go from here.

What Your HERS Provider Wishes You Knew

Presenter: Allison A Bailes III, PhD & Jeffrey L Sauls, Energy Vanguard

Room: Macon

Would you like your rating files to get approved quicker? Ever wonder exactly what's required when your Provider does your RESNET-mandated 10% file QA? Have you spent hours looking up HVAC or appliance info and wished you knew of more resources or how to use the ones you have better? In this session, we'll give you an inside look at what your provider really wishes you knew when you work on HERS ratings:

- Quality assurance requirements
- What's included in the 'rating data file'
- Resources: Provider policies & procedures, HERS Standards, ENERGY STAR, AHRI Directory, energy codes
- Documentation: field notes, photos, record-keeping
- Software tips and techniques (REM/Rate)

We'll go into the details on these issues and more as we show you the most common problems that can slow down the rating process and lead to trouble. When you leave this session, you'll have the knowledge and tools to help you be a better rater.

Moving REALTORS® from Introductions to Engagement in Energy Efficiency

Presenters: Lisa Diffenback, Conservation Services Group; Bruce Mast, Build It Green & John Shipman, Energy Efficiency Management

Room: Valdosta

Real estate transactions are prime opportunities to promote energy efficiency. A growing number of Multiple Listing Services are integrating “green” and energy efficiency-related data fields within their listing forms. Sales of newly constructed certified energy efficient or green homes command a premium in some cases; while the average buyer of an existing (resale) home will spend over \$6,000 on improvements during the initial year of ownership, according to the Joint Center on Housing Studies. Energy efficiency advocates such as raters and program representatives are reaching out to the REALTORS® who serve their territories to bring residential energy efficiency to the forefront, ultimately serving consumers and expediting market transformation. However, simply making contact through advertising channels may not be enough. This panel will explore a variety of methods and media used to engage REALTOR® audiences, and discuss targeted training for various specialties within the real estate community such as New York ENERGY STAR® Ambassador Sales Training and Build It Green’s training and certifications of agents in California. Discussion will also encompass “greening” multiple listing services and energy efficiency business case examples for real estate brokers and appraisers.

Infiltration Testing and Results in Multifamily High-rise Apartment Units

Presenter: David Ruggiero, ICF International & Michael Schofield, Conservation Services Group

Room: Savannah

Infiltration rates compiled over the past 4 years from sampling data from more than 3000 apartments and 50 mid and high-rise multifamily projects will be presented. Comparisons will be made between typical single-family and/or low-rise results and these sampled mid and high-rise results. These comparisons will focus on: guarded vs. unguarded testing, single vs. multipoint testing and single vs. bidirectional testing. LEED, ENERGY STAR and a Massachusetts utility specific baseline and their respective performance metrics will be discussed. As will the lessons learned from problems associated with sample selections to the most commonly identified construction and performance issues. Raters will come away from this session with a working knowledge and a greater appreciation of the testing protocols unique to high-rise residential buildings and testing results they can expect.

HERS and Energy Code Compliance – The Whole Picture

Presenters: Mike DeWein, Institute for Building Technology and Safety

Room: Piedmont

This presentation will take a look at the dynamics nationwide and in States for the resurgence of utilizing HERS and Energy Raters to provide 3rd party compliance services for the Energy Code in their States and communities. We will also review the IECC changes that may help promote these services, in overall compliance but also in providing Duct and Envelope testing services. The audience will be introduced to the current status of Energy Codes in their states, and where the action is in terms of promoting compliance services, as well as encourage a general discussion around how to best access those opportunities. We hope encourage that attendees bring their experience in codes in their market areas, and discuss issues and other related topics with the group.