



## **2012 RESNET Building Performance Core Conference Sessions**

### **BUSINESS DEVELOPMENT/MARKETING**

#### **The changing role of a rater**

The entire EEP argument goes directly to the issue of the expanding role and responsibility of RESNET and our Providers/Raters. We have far outgrown just doing ratings and, it could be argued, never really were ever just “Raters”. We are project managers, trainers, salesman, confirmers of quality assurance, consultants and technical experts in fields ranging from home energy ratings to HVAC to water drainage management of buildings to everything the “green” world can come-up with. This is the new vision for RESNET that we are embracing and trying to capitalize on.

Presenter: Daran Wastchak, DR Wastchak

#### **Make Money on Your Cell Phone**

According to Forrester Research, videos are 50 times more likely to receive an organic first page Google ranking than traditional text pages! And when you consider conversion, video marketing is essential for high performance profits as an energy auditor or performance contractor. Customers want to see you in action! Nothing removes their fears like seeing you doing what you do for happy people just like them. Video marketing isn't just for big budget businesses and digital geeks! It's for you, and you can do it. It's easy and it's inexpensive. Bring your smart-phone, and before this session is even over, you'll have your first video online!!

“Mobile Marketing: Putting your business in the palm of their hands”

Frustrated that everyone you see walking, driving and even eating has their face in their phone? What if what was on their phone was your website? According to Google, 1 in 3 searches for local business is done on a smart phone. And the demographic of the smart phone user is very favorable for the energy auditor and performance contractor. So, how does your website look on a smart phone? What are the must have features on your mobile website for profitable conversion? The whole world is going mobile, find out how you can be seen where your customers are looking for you! Mobile marketing makes sense and generates sustainable dollars!

Presenter: Wally Conway, HomePro

#### **Don't do what I did - Critical Paths to Business Success**

What are the most critical path items that will determine your business success or failure as a HERS Rater? Particularly addressed to start ups and young companies.

Presenter: Steve Byers, EnergyLogic

#### **3 Essential Components of a Successful Green Business**

While the economic downturn has hit the construction industry hard, there have been companies who have figured out a way to not only survive, but grow. In this presentation, we'll address 3 components of a successful green business, and show how any blossoming builder or contractor can move in a greener, more successful direction.

Component 1: Knowledge, or the Ability to Obtain It

Component 2: Common Sense

Component 3: Basic Math

Join Mike Collignon and Ron Jones, co-founders of the Green Builder Coalition, for this lighthearted yet informative presentation.

Presenters: Mike Collignon and Ron Jones, Green Builder Coalition

### **Internet Marketing 101 for Home Performance Raters, Auditors and Contractors**

As the web increasingly replaces traditional forms of marketing, the energy efficiency contracting community faces 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 options--lead generation services, pay per click advertising, and more.

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

### **Efficient New Homes in Young Markets in Changing Times**

Energy-efficient new homes programs face many challenges in young, undeveloped markets during the current new construction downturn. And now ENERGY STAR for Homes is changing, adding new hurdles for builders and raters to surmount. By drawing on the experience gained through a Mid-Atlantic electric utility new homes program, this session will focus on performance-based incentive design that creates a low barrier to entry, yet encourages builders to reach deeper levels of efficiency. By incenting but not requiring ENERGY STAR, programs can continue to collect energy savings as builders work through the ES 3.0 transition, while creating an ENERGY STAR-friendly economic environment. In addition, this session will look at problems unique to a young marketplace, including:

- Creating raters and interested builders simultaneously (not one before the other),
- Helping raters learn not just technical skills but also sales techniques,
- How appropriate QA can help new raters and builders climb the learning curve, and
- Why recent code changes can help promote ratings to builders.

Further techniques for making new homes programs more efficient will be examined, including the pivotal role of software in managing performance-based incentive approaches. Results from the program's first year, including builders' strategies for managing the ENERGY STAR transition, will be discussed.

Presenter: Kathleen Greely, PSD Consulting

### **How Are You Going To Manage All That Paperwork? Practical Software Solutions**

As the home energy ratings business gets more and more complex, so does the necessity to manage all the documentation that is required by RESNET, EPA and other Energy Efficiency Programs (EEP's). This session will demonstrate some of the software tools that have been created to assist home energy rating Providers and Raters with the daunting task of managing this complexity. Software capabilities include managing RESNET quality assurance, submitting of homes to the new RESNET Rating Registry, assisting with the mind twisting requirements of scheduling and keeping track of tests and inspections for sampled homes, and keeping track of the significant number of checklists and documents that EPA now requires for the new ENERGY STAR version 3.0 program. The best software solution is one that reduces stress and increases profitability. Come learn how.

Presenters: Daran Wastchak, DR Wastchak, Robert Burns, Burns Consulting, and Steve Byers, EnergyLogic

### **Partnership For Success**

We propose a session for RESNET raters to learn how they can work with our affiliated contractors coast to coast to drive success in the market. Our contractors are fully vetted, insured, professional and experienced. We are a preferred contractor for Home Depot and Lowes as well as many utilities. Our network provides additional opportunities and resources for the professional RESNET rater.

Insulate America is the nation's largest independent insulation contractor. We operate in 45 states and currently have approximately 200 physical locations. We are not a division of a conglomerate or owned by a financier. We are in the insulation business.

Presenters: David Beam and Amy Goforth, Insulate America

### **NATE's new HVAC Performance Verification Certification and You**

NATE is currently developing, in conjunction with RESNET and ACCA an exciting new certification especially designed to validate the competencies of HERS Raters in performance verification. This certification will be administered by NATE and be incorporated into the family of NATE specialty certifications. Successful passage of the certification will allow Raters to distinguish themselves as having NATE recognition and identification in this specialty. Learn how this new certification will elevate acknowledgement of your expertise in the marketplace and symbolize your professionalism through both RESNET and NATE.

Presenters: Peter Schwartz and Patrick Murphy, NATE

### **How RESNET Raters Can Work Effectively with NARI Members**

The new strategic alliance between RESNET and NARI provides the opportunity to expand business opportunities as well as to increase knowledge and networking between both memberships. This session can expose NARI so that RESNET members have a better understanding of who NARI members are and what they do.

Presenter: Paul J. Zuch, NARI

### **Build a Successful Home Performance Team**

RESNET EnergySmart Home Performance Teams are the new way of working with homeowners to achieve maximum energy efficiency. Raters/Auditors and EnergySmart Contractors work together to ensure energy efficient installations and upgrades. Each team member promotes the team's services for mutual benefit and to better serve the homeowner. In this session you will learn:

- Home Performance Teams: What they are and how they work
- Which professionals make up a Home Performance Team
- How to build a Home Performance Team
- How to market your Home Performance Team

Join us for this informative session and learn how working in a Home Performance Team can benefit both your business and homeowners.

Presenter: Wally Conway, HomePro

### **Overcoming Valuation Barriers and the Stakeholder Solution to Market Transformation**

The content for this session is partially based on a recently published doctoral dissertation which assessed the green building education needs of North Carolina's real estate appraisal industry. This study incorporated appraiser surveys, extensive appraiser interviews, and appraisal case studies. A snapshot of the study's results which generated numerous recommendations for the building industry will be highlighted. Additional content of this session is based on the research and outreach work of the North Carolina Energy Efficiency Alliance (NCEEA). This session will identify the barriers within the construction industry that are prohibiting mass market growth of energy efficiency and will serve to explore the solution. Their research has concluded that the support of lenders, appraisers, utility providers, REALTORS, home builders and the home energy rater is needed in order to drive the construction and sale of energy efficient homes.

This session will also showcase how each of these stakeholders can be part of the solution and demonstrate how to "reel in" the ultimate stakeholder, the consumer. Hear an update on key NCEEA educational efforts with realtors, lenders, and appraisers to achieve market transformation. Speakers will present learning outcomes and lessons learned based on follow up educational programs. The information provided by this session is important for anyone hoping to see increases in the market penetration of energy efficient homes.

Presenters: Lee Ball, PhD at Appalachian State University; Chuck Perry, Nicholas Hurst, and Victoria Bloise North Carolina Energy Efficiency Alliance

### **Managing and Growing Your Rater Business**

As the President of PEG, one of the largest Rater Network businesses in America (65 Raters conducting more than 22,000 inspections per year), Matthew Cooper has a unique insight into the successful design, marketing, management and quality control of being a RESNET rating business. This session will focus on key elements to develop internally, critical aspects to effectively outsource and pitfalls to avoid at all costs. Having seen steady double digit growth for each of the past five years in this industry, the PEG process of conducting business has become a model for independent raters throughout the U.S. Matthew Cooper will provide essential resources and tools as well as specific examples of successful execution of each of the key elements that drive success in a complex economic climate.

Presenter: Matthew Cooper, PEG

### **Marketing Energy Code Testing & Inspections**

It's one thing to know how to do the 2009 code inspections and testing- it's another thing to sell those services! Brett and Rob use their experience in marketing these services to builders and municipalities to bring you the information and techniques you need to increase your profitability and sales. If you are interested in being successful in a down housing market, this session is a must!

Presenter: Brett Dillon, IBS Advisors and Rob Moody, Organic Think

### **Partnering with Insulation Manufacturer: Rating Opportunities for the Future**

This course gives an overview of new partnership programs and opportunities one manufacturing company is offering to assist Raters, Builders and contractors in building a larger customer base, greater profitability and build lasting, mutually beneficial relationships at no cost. Raters will be given an overview on the programs, accessibility, the benefits and new tools offered to assist in building a larger base of customers / clients.

Presenters: Teri Davis, Randy Straight, and Kyle Crompton, CertainTeed

### **Marketing Energy Efficiency to Homebuyers**

In order to distill all possible future events into a coherent business strategy, it is important to understand evolving building science, code requirements, and consumer expectations. Learn from this leading builder the “who, where, what, and why” opportunities which appear to be driving changes in building processes and business practices in the upcoming years.

Presenter: C.R. Herro, Meritage Homes

### **Using the RESNET HERS Index Attract Buyers**

Lead by the leading builders of the nation there is a growing trend where builders are committing to marketing their homes' HERS Index to prospective buyers. This session will feature a “view from the street” of how builders are using this to attract new buyers. The presenters will represent a representation of production and custom builders and national builders as well as local builders. Each of the builders will explain how they incorporated the home's HERS Index in their marketing and consumer reaction.

Presenters: Jacob Atalla, KB; Jim Peterson, Pulte Homes; Orlo Stitt, Stitt Energy Systems and Mike Funk, David Weekly Homes

### **The Need for a Market Based National Label for Home Energy Performance**

Currently there is no national label that expresses the energy performance of a home. Even with the RESNET HERS Index are a variety of ways builders are presenting the information to consumers. This misses the opportunity to present a standard “miles per gallon” label for all homes. Lead by representatives of the housing industry RESNET is developing an

ANSI standard for the labeling the energy performance of a home. This session will present builder's perspective of the need for a standardized label and the efforts that RESNET is taking to meet the need.

Moderator: Steve Baden, RESNET

Presenters: George Atalla, KB and David Kaiserman, Lennar

### **Train the Trainer Sales Session – Learn the skills to help your builder sell ENERGY STAR to homebuyers**

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. 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 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.

Presenter: Gord Cooke, Building Knowledge

### **Growing Green Jobs: The Economic Impact of Auditors & Raters**

Much political and social importance nationally has been placed on growing "green jobs" and creating economic development through a viable energy efficiency marketplace. Auditors and Raters can be catalysts for expanded economic development and the creation of green jobs within their own communities. It's long been understood that every dollar that is spent in a local economy produces more a dollar's worth of benefits to that community. When an independent Auditor/Rater works with a customer to assist them in their Journey to Energy Efficiency, they create a value stream that ripples through the local marketplace, through Direct, Indirect, and Induced means. As customers undertake efficiency upgrades, the dollars they spend increase opportunity for equipment manufacturers, contractors, suppliers and distributors, as well as for restaurants, barbershops, accountants, and other personal and business service providers. These dollars also attract new businesses to the local economy which in turn hire new employees, who themselves buy local products and services. This paper will cite the Economic Impact (Jobs and Dollars) of a specific Ohio utility In-home Audit program (a modified Home Performance program) implemented through Auditors and Raters. It will detail how Auditors and Raters create the environment for dollars to multiply as they roll through the marketplace, expanding economic impact on affected sectors, increasing tax collections, and creating of new jobs.

Presenter: Bill Streetman, CLEAResult Vice President

### **Differentiating Yourself by Building Efficient New Homes**

Learn the tools Nevada homebuilders are using to effectively sell profitable, high-quality homes in the nation's worst housing market.

Doug Eddie, Program Manager for NV Energy's Energy Plus New Homes Program, will present how building high-efficiency homes can help increase business for homebuilders, even in a severely depressed housing market. He will demonstrate how the combination of utility incentives and a sharpened sales message resulted in a significant increase in the construction of homes that are 30 percent more efficient than code – double the efficiency of ENERGY STAR v2.0 homes – all in a market that experienced a 71 percent decrease in home sales in the three years prior to program launch. The presentation will include useful information that you can incorporate into your own sales messaging to effectively convey all the advantages of buying an energy efficient home.

Presenters: Doug Eddie, NV Energy Program Manager & Steve Hofer, CLEAResult Program Manager

### **Seeing Beyond the Glare of EcoBling- Sensible Leadership in Green Building**

The green building movement is here to stay – as well it should be to right a ship that has gone off course for the past quarter-century or more. However, we need to take a step back and so we can try to see the forest through the trees –

look at the big picture. The green building movement has devolved into a checklist approach to integrating green building products into our buildings. What we really need is a sensible and integrated approach to building design and construction.

The very necessary leadership role of the “Inspired Generalist” is needed now more than ever in the US building industry – otherwise our buildings may simply become a collection of poorly coordinated “green” features whose sum doesn’t equal the investment in the parts.

The complexity of how various design decisions and building components interact with each other to effect human health & comfort; building durability & maintenance; conservation of natural resources; waste management; water conservation; energy efficiency and its relatedness to US energy independence and global warming will be addressed in an enlightening format that is timely, relevant, and inspiring

Presenter: Peter Pfeiffer, Barley & Pfeiffer Architects

### **Understanding the Value of Indoor airPLUS Program: Strategies for Creating Healthier Home Environments**

You will learn about the EPA Indoor airPLUS Construction Specifications so you can build and rate Indoor airPLUS homes. This session will provide an in-depth understanding of the benefits of being an Indoor airPLUS Partner, and explore the resources and tools available to help partners differentiate their homes from the competition. Participants will learn how to market their business through leveraging social media and other available marketing tools and promoting their commitment to providing healthier homes and improved indoor air quality. In addition participants will gain knowledge of how EPA interprets the Construction Specifications and walk away ready to build and rate Indoor airPLUS homes!

Presenters: Amy Beley, ICF International and Mert Oktem, Cadmus Group

## **TECHNICAL**

### **Lessons learned from the trenches - crawl spaces**

The North Carolina System Vision program now requires all new homes be built with closed crawl spaces. Come hear what raters and others have learned and seen this past year as builders across the state learn how to build closed crawl spaces. They will discuss what has helped builders, what have been their biggest hurdles, and what raters can learn from these experiences.

Presenter: Krista Egger, Advanced Energy

### **How much is the Air Infiltration? -Field and Lab Results for Three Different Scenarios**

Air infiltration is widely regarded as one of the largest sources of energy loss in residential constructions. How to choose a wall or building assembly with minimum air infiltration plays a vital role for a particular home to achieve ENERGY STAR program requirements, or meeting the energy code requirements using the performance approach.

This presentation will review three different scenarios of field and lab test results of air infiltration values. The first scenario is a field test with 15 different homes to check how to improve air infiltration performance of a home and how the improvement impacts home HERS ratings. The second scenario is a large-scale lab test to show how different wall assemblies perform in a large-scale lab conditions. The third scenario is a test hut with 8’x8’ room showing the measured air infiltration difference for the whole hut with different wall and roof components.

After this presentation, raters should be able to identify the correct way to minimize air infiltration for a wall assembly or building enclosure in general. Raters will also gain knowledge about what is the best way to reduce air infiltration, improve home HERS rating and energy performance with minimum costs.

Presenter: Chunlin Cao, Dow Building Solutions

### **Air Seal and Establish a continuous Thermal Boundary at the Rim Joist, Top Plate, and Around Fenestrations**

Strengthening energy codes and the migration toward Energy Star V3 have dramatically increased designer and builder focus on the continuity of the residential thermal boundary. While system R-value dominates planning, rating professionals understand that air and moisture infiltration plays a vital role in home energy efficiency. Nowhere is this more important than at the transitions: windows/doors, penetrations, wall-to-below grade intersections and attic-to-

wall intersections. This presentation focuses on managing energy and moisture transfer at these key discontinuities; particularly in systems sheathed with rigid foam insulation. We will start with an examination of the rim joist area to determine the best methods for tying wall systems to slab, basement, and crawlspace insulations. We will also explore strategies for tying attic insulation into the top of the wall to provide continuity, prevent moisture penetration, and minimize opportunities for wind-washing. We will finish with an in-depth analysis of the best methods for sealing wall penetrations from both the inside and the outside of the sheathing. While builders and planners generally agree on how to flash and seal housewrap systems, there is no such agreement on flashing and sealing wall penetrations in foam sheathing. This presentation will use a combination of laboratory test data, design modeling, and field examples to arrive at a set of design recommendations for these key trouble areas of a residential wall insulation system.

Presenters: Scott Cummings, Dow Building Solutions and Linda Jeng, Dow Building Solutions

### **Working Through ASHRAE 62.2**

Like everything else in building science, there's a lot more to residential ventilation than just opening the window. As houses get tighter, the need for mechanical ventilation to insure indoor air quality increases and the interaction with other air hungry equipment like combustion equipment becomes more critical. Recognizing these converging issues, building codes are increasing their mandate to require and scrutinize effective, mechanical ventilation systems in both new and existing homes. This session concentrates on applying the latest version of the ASHRAE 62.2 Standard through ventilation fundamentals, system design, selection, and operating costs, to compliance with the codes. The Standard has a multitude of parts including sizing, installed system performance, and documentation among other steps. It will describe taking advantage of the infiltration credit or conditions in existing homes in the clearest and simplest way.

Presenter: Paul H. Raymer, Heyoka Solutions

### **Basement Floor Insulation - How and Why**

Many homeowners are looking for ways to increase the comfort of their basement living areas, especially if their home uses a floor heating system. All too often the methods and materials are not well documented nor available. In this presentation the methods for insulating a basement floor for both retrofit and new construction are discussed. When, where, and how to insulate and the overall effectiveness of floor insulation.

Presenter: Daniel A. Tempas, Dow Building Solutions

### **The Devil in the Details; The Finer Points of Air Sealing**

When improving a home's energy efficiency, air sealing is generally near the top of the list, both in terms of effectiveness and payback. However, as anyone who has been in the field doing the air sealing will tell you, it is not always as easy in practice as it is in theory. This session will discuss air sealing for new and existing homes, commonly missed areas and best practices in getting a well-tightened house.

Presenter: Jeff Boone, North Star Comfort

### **Efficient and Effective Whole-house Ventilation**

Few topics in building science create stronger opinions than the chosen method of ventilation. But many people don't realize that there is a wide range in installed system cost and energy use among possible systems. Seemingly small differences in the way systems are installed can have a big influence on how much the system costs to operate or whether it can deliver the intended amount of ventilation air. There are also strategies that every rater should be aware of that can increase the likelihood that the system will be used and will continue to perform over time. In this discussion, an engineer, a rater, and a manufacturer's representative/distributor will introduce the major system types, including pointers on helping each to achieve its intended performance. We will also discuss some of the opportunities and pitfalls for "advanced" systems, including ways to distribute the ventilation air throughout the home, provide air turnover, or integrate a heat recovery system with restroom exhaust.

Presenters: Amy Musser and Matthew Vande, VandeMusser Design and Ron Pariseau, GreenR

### **Designing for Dewpoint**

Designing for dewpoint conditions in the hot, humid South is a necessity, not a luxury! Learn how improper HVAC design can have a huge impact on comfort and durability when dewpoint is neglected and how simple techniques can be used to avoid a terrible mess to begin with. Raters, you can be the hero that saves the day by learning how to help HVAC contractors and builders avoid disaster- and when they don't, you can rescue the homeowner!

Presenters: Dennis Stroer, Calc-Plus Brett Dillon, IBS Advisors and Kristof Irwin, Positive Energy Building Science Consulting

### **Assessing the Accuracy of Residential Building Energy Simulation Using a Large Empirical Dataset**

Energy efficiency programs that target residential buildings often rely on energy modeling software and HERS in the design, implementation and evaluation of those programs. The success of these programs can depend on the accuracy of the simulation tools utilized. The Residential Buildings Research Group at the National Renewable Energy Laboratory (NREL) is working to assess and improve the accuracy of residential simulation tools used to predict building energy use and the energy savings from efficiency upgrades.

NREL has assembled a database of residential buildings consisting of characteristics data sufficient to drive energy simulation models, coupled with historical utility billing data. This field data repository contains data from various historical energy efficiency programs and is being continually augmented with data from new national and regional programs. NREL has developed tools to create and run models through a number of energy simulation software tools (EnergyPlus, DOE-2.2, Home Energy Saver, REM/Rate) for the homes in the database. Energy modeling results are compared visually and statistically to utility billing data for the population of homes in the database.

NREL has utilized this capability to compare results across software tools, to isolate and identify potential sources of inaccuracy, and to assess the relative importance of data collected in the field. Results and conclusions drawn from these studies will be presented.

Presenter: Dave Roberts, NREL

### **Making Data Easier**

The whole-house upgrade industry continues to face challenges related to data collection, transfer and analysis. These issues have recently been addressed by three standards currently under development (and anticipated to be completed by the time of the RESNET conference). The first two standards seek to make data collection more standardized, and to develop a common protocol for data transfer via XML (HPXML). The third standard details procedures for making energy modeling more accurate by calibrating modeled pre-upgrade energy consumption with actual pre-upgrade energy consumption, as indicated by utility or fuel bills. The third standard also provides an optional procedure for adjusting the modeling process to reflect standard operating conditions, as opposed to the characteristics of the current occupant(s). Together, these three standards have the capacity to improve the efficiency of the whole-house upgrade industry, and, more specifically, to make the work of raters and contractors easier and more accurate. The third standard also has significant public policy implications, in that it can serve as a referent in subsidy or tax credit programs designed to promote whole-house energy efficiency upgrades. This panel will provide an overview of these standards, describe their significance for practitioners, and explore potential policy implications.

Presenters: Greg Thomas, PSD Consulting and Robin LeBaron, National Home Performance Council

### **RESNET Energy Modeling: Not Just for Breakfast Anymore.**

Walk through actual examples of projects that use REM/Rate's built-in tools for retrofit valuation and estimated impacts on energy bills. Learn how to glean critical information from modeling software reports and weird situations seen in the field. Tricks on inputs and how to communicate with homeowners.

Presenter: Rob Moody, Organic Think and Brett Dillon, IBS Advisors

### **Energy Codes- IECC 2009 and 2012- What are the big changes?**

The latest national energy codes have significant impacts on HERS Raters. Testing envelopes and ducts becomes more crucial as the codes now mandate these requirements. Understand the major differences in the newest 2012 version –

learn what got more stringent as this version strives to be 30% better than the 2006 code (the current HERS reference home). Finally, discover opportunities to get involved and make money for your organization in the code compliance world. Experience an informed, technical update from Southface's Mike Barcik, a seasoned energy code advocate with over 16 years of experience with adoption and enforcement of energy codes.

Presenter: Mike Barcik, Southface

### **Energy Code Performance Compliance with the International Code Compliance Calculator-IC3**

IC3 is a simple, fully performance based, web-based energy code compliance tool. It is currently accepted by major Texas Jurisdictions, including Dallas, Houston, San Antonio and Austin, to not only show compliance with the 2009 IECC, but to also to show the true above code percentages to improve the efficiency of newly built single family residences in Texas. Funded partially by the US DOE and the State of Texas, through the State Energy Conservation Office, the software creates a Registry, which allows trend calculations on new home construction, aggregation of energy savings for the jurisdictions or the State and quantification of the US EPA approved emissions reduction credits. IC3 can also verify the 90% compliance. It produces a code compliance certificate as well as an energy checklist.

IC3v3.10 is the latest in a long history of fully performance based, web based energy efficiency calculators produced by the Energy Systems Laboratory (ESL) at the Texas A&M University System.

Presenter: Cyndi Lewis and Ed Dryden, Texas A&M University

### **Work Smart with Low Pressure Spray Polyurethane Foam**

The weatherization / home performance market is growing rapidly, and polyurethane foam is critical to air-sealing applications. Low pressure spray polyurethane foam (SPF) can be used by a professional in several spots in a home to stop air infiltration and increase energy efficiency. Working smart is choosing the best solution for energy efficiency challenges and then executing projects safely. Fomo Products, Inc., a low pressure SPF manufacturer, will present best practices to work smart, including new weatherization applications for residential remodeling, and health and safety guidelines for low pressure spray foam. Learn about simple, cost-saving low pressure SPF applications, and health and safety guidelines for using low pressure SPF during this session.

Presenters: Leba Lualdi and Tim Kenworthy, Fomo Products

### **A Summary of Fifty Years of Radiant Barrier Research**

Attic Radiant Barriers (RBs) is a proven technology that significantly reduces the flow of radiant heat across attic spaces, which in turn lowers the heat flow across the ceilings of buildings, ultimately lowering space cooling and heating loads, which produces energy and cost savings. Results of fifty years of radiant barrier research are summarized in this paper. The reviewed data indicate that, on average, RBs reduce summer ceiling heat flows by 23 to 45% depending on the insulation level, whereas winter ceiling heat flow reductions are about 40% of the summer values for the same insulation levels. Similarly, the data indicate that RBs reduce space cooling loads by approximately 6 to 20% and that space heating loads reductions are also about 40% of the space cooling load values for the same insulation levels. Fundamental issues, such as, reduced ceiling heat flows, reduced space cooling and heating loads, and changes in attic temperatures produced by the installation of RBs in residential attics are highlighted. Causes that affect RB performance, such as the influence of attic insulation level and climate, are also presented.

Presenter: Mario A Medina, University of Kansas and Bill Lippy, Fi-Foil

### **SIPA Breakout Session**

This session will review Structural Insulated Panels as a building component and how SIPs are installed to create an air-tight envelope.

Conference attendees will be exposed to techniques that SIP installers use to ensure energy-efficiency. SIP successes and failures will be explored, with emphasis on common areas of weakness in sealing SIP envelopes and strategies to improve overall performance.

Presenter: Al Cobb, SIP School

### **For Homes with Swimming pools - Capture these enormous savings**

For the 10 million homes in the US with a swimming pool, their biggest energy hog is in the backyard. The average 1.5 Hp pool pump draws 2kW, is typically scheduled during peak load times, and consumes a whopping 4000 kWh per year. This accounts for the total capacity of 25 medium sized power plants nationally. The good news is that advanced new ECM technology can cut this demand by up to 90%. The pool pump savings alone can easily exceed the total savings proved by all the home's appliances, combined. This saving opportunity is so commonly overlooked because it lies outside of the traditional envelope, where it doesn't count towards a home's energy rating. It still makes the customer's meter go round and round and shouldn't be ignored! Learn how to identify, evaluate, and provide your customers this tremendous energy saving opportunity.

Presenters: Steve Easley, Easley & Associates and Jeff Farlow, Pentair

### **High Performance Wall Systems: How to Achieve the Best Results on a Budget**

This course offers a review of Good, Better, Best High Performance Wall Systems through a "systems based approach" to walls. Attics and crawlspaces will also be reviewed in this fact filled presentation that includes 2012 codes, greener products, moisture considerations in walls (Hygrothermal analysis) and their affect on Indoor Air Quality.

Presenters: Teri Davis, Randy Straight, and Kyle Crompton, CertainTeed

### **Decoding Thermal and Ignition Barrier Requirements for Spray Polyurethane Foam**

Because of its unique insulating and air-sealing properties, spray polyurethane foam (SPF) is undergoing a rapid increase in residential applications in both new construction and energy retrofit applications. Since SPF and other foam plastic materials are combustible, the model building code requires certain 15-minute thermal barriers and/or ignition barriers be used over foam plastics to separate them from the interior space. The model building code is complex. This presentation defines these fire protection requirements in simple terms, including how coverings, coatings and assemblies are tested, where they are required, and what alternatives are permitted.

Presenter: Rick Duncan, SPFA

### **AC Systems Best Practices: How to Evaluate and Optimize Peak Performance**

Using a simple three-step process, technicians can quickly evaluate, optimize and verify peak AC system performance even in less than ideal conditions. The tools used allow techs to "see the science" and better understand what corrective measures are necessary. Contractors currently using this system in a utility sponsored program are achieving better customer satisfaction, increased sales opportunities as well as compliance with the program goals and objectives.

Presenters: Joe Kuonen, CLEARresult and Bill Spohn, TruTech Tools

### **Manual J Verification**

Using tools provided by ACCA, this session covers how Raters can verify HVAC load calculations using a standardized method. We teach Raters how to communicate with HVAC contractors while enforcing the requirements in the code and federal programs. They can be your biggest ally or your worst enemy- the choice is yours!

Presenters: Brett Dillon, IBS Advisors; Wes Davis, ACCA; and Dennis Stroer, Calcs-Plus

### **Advanced Thermography Investigations**

Applying infrared cameras has opportunities and advantages to the diagnosis of building or related applications. Beyond the basic operation of the camera, applying this science in the real world has many avenues for investigation techniques. We will review the understanding of standards and the implications of the applications. We will answer your questions about IR cameras, building science, and applications with an emphasis on energy efficiency and a cost effective approach to building inspections.

Presenter: Jay Bowen, Infrared Training Center

### **Using infrared thermography all year long**

Thermography is widely used for building diagnostic work but too often it is used mainly in the winter. The latest technology is powerful enough that it can be used nearly all year long in most parts of the country. What is required is a clear understanding of the thermal conditions and influences in and around the building as well as mastery of the thermal imaging system itself. The presentation will also discuss particular difficulties that may be encountered in both the swing seasons (spring and fall) as well as the summer season and solutions for getting good results when situations are challenging. The presentation is 100% neutral with regard to any brand of imager and will also tie into the new RESNET standard where relevant.

The proposed presenter has extensive training and experience both using the technology as well as making presentations to groups who want to learn more about it.

Presenter: Matt Schwoegler, The Snell Group

### **The Truth behind the Walls**

This training will feature how to detect the quality of insulation installation through infrared technology. The topics to be included will be: utilizing infrared for building envelope (post construction), utilizing infrared with blower door (qualitative and quantitative testing), identifying defects (insulation, duct leaks, weather stripping etc.), and various standards on insulation specifications and inspections. The presentation will be based upon 50 homes worth of images that were taken. These were post-construction (final phase and existing home) inspections done for homeowners who wished to have their homes checked for thermal breaks or insulation quality. Of the group, not a single home complied with the insulation installation requirements. The session will be led by Peter Hopkins of United Infrared, Inc. This presentation has been presented at previous (3 years, 2007, 2008, 2009) RESNET conferences with great reviews. We were unfortunately unable to come in 2010. We will be updating this presentation to include some commercial and new case studies.

Presenter: Peter Hopkins, United Infrared

### **Verifying and Measuring Ventilation Systems**

Energy Star Version 3 and the LEED for Homes green rating system both require the HERS Rater to verify the ventilation system is designed and installed to meet ASHRAE 62.2 requirements.

This session will focus on the "what, why, and how" of ASHRAE 62.2. What – are the basics of the standard and how to calculate fresh air (CFM) requirements. Why – the rationale behind the requirement as it relates to building science and occupancy health. How – explore various approaches to measuring air flow in ventilation systems (pitot tube and manometer, balometer capture hood, and blower door) and the pros and cons of each approach.

Depending on allotted time, wrapping up with various real world examples of ventilation systems and connecting these examples to the Energy Star Version 3 HVAC System Quality Installation Contractor Checklist.

Presenters: Chip Henderson and Geoffrey Zawacki, Contects and Carsie A. Hall PhD, ResCom Energy Savers

### **Airflow Measurement Techniques**

Measuring airflow can be one of the trickiest tasks you encounter. This session will examine the a wide variety of methods used to test air flow and along with the positives and negatives of each technique.

Presenter: Bill Spohn, TruTech Tools

### **Measuring Air Leakage in Residential and High-Rise Buildings- in everything from a dog house to the White House**

Solve the three most common and often hidden blower door problems. Then take a look at the latest advances in air-leakage measurement methodology and hardware. See how the same equipment can be used to measure every type of building from a dog house to the White House. Faster set up, centralized automatic control and advanced computer control can perform complex tests more accurately and quickly; even measuring airchanges directly without a computer.

Presenters: Colin Genge, Retrotec

### **Combustion Safety Certification Simulation Test**

RESNET is offering its Raters the opportunity to take a performance simulation test to gain their certification in Combustion Safety. This innovative tool is part of a larger effort to improve learning outcomes of training and reduce time to competence. Simulation testing allows for unbiased, objective measurement of skills, knowledge and application of the Combustion Safety procedure.

Presenters: Rob Moody, Organic Think and Doug Donovan, InterPlay

### **ACCA's New ANSI Existing Home Evaluation and Performance Improvement Standard – What It Means to Certified RESNET Raters and Energy Smart Contractors**

The Air Conditioning Contractors of America (ACCA) is in the final process of adopting an ANSI standard on Existing Home Evaluation and Performance Improvement. The standard is built on the foundation of the RESNET Standard's Chapter 7 and 8 and was drafted with the participation of the RESNET Energy Smart Contractor Standard Task Force. This standard will be the first ACCA standard addressing energy audits and retrofits. This session will provide an overview of the new standard and explore its implications for the retrofit industry and RESNET professionals.

Presenter: Wes Davis, ACCA

### **Introduction to High Performance Homes and IAQ – The Implications of the EPA Indoor Plus program**

This session will teach participants essential information about indoor air quality as it applies to high performance homes. You will learn the four important strategies for controlling and improving indoor air quality. The session is based on the popular EEBA Houses That Work Indoor Air Quality program that was developed to highlight the key elements of EPA's Indoor airPLUS air quality home-labeling program and how it relates to Version 3 of the ENERGY STAR for New Homes program.

This knowledge will empower raters to sort through the quagmire of IAQ information that is currently available to help their builders and homeowners make better decisions.

Presenter: Gord Cooke, Building Knowledge

### **Advancing the IAQ Conversation – Cost-effective solutions**

This session will build on the information presented in the IAQ Introductory session to focus on the practical and affordable tools and strategies they can use to help their clients make better decisions and to incorporate healthy indoor initiatives into their building projects. 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. 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.

Presenter: Gord Cooke, Building Knowledge

### **Mechanical Ventilation – The right options for the right climate zone to optimize ENERGY STAR V3**

Wondering what's the best ventilation system - exhaust only, fresh air duct into air handler, ERV or HRV for your builders? Want to really understand when to use an HRV or ERV? This session presenter has been designing ventilation systems for over 25 years and can provide the practical advice you need to help your builders and homeowners make the right choice. This session will highlight the essential elements of ventilation systems for high performance homes. Based on the EEBA Houses That Work Ventilation session that has been delivered to hundreds of builders and HVAC contractors across the country, raters attending this session will be better able to help builders and homeowners make better decisions. A full discussion of appropriate and cost-effective ventilation systems for each climate zone will be outlined to prepare raters for ENERGY STAR, LEED for Homes, NAHB Green now and in the future.

Presenter: Gord Cooke, Building Knowledge

### **Unvented Attics using SPF: Best Practices for New Construction and Retrofit Applications**

Bayer MaterialScience along with industry recognized leaders in HERS Rating will explain the performance benefits of using SPF in an unvented attic for both new construction and in retrofit. Topics to include condensation control, the impact of ductwork in conditioned space on HVAC sizing, and the effects of UVA on building envelope tightness. As these benefits also lend themselves to retrofit applications, we will introduce Bayer's newly developed HPRP retrofit program that creates a guide for the safe and effective use of SPF in retrofitting existing residential structures. In addition, we will discuss functional benefits for the builder, effects on building cost and house design, and compliance with Energy codes and Energy Programs, such as Energy Star 3.0.

Presenters: Michael Strohecker & John Linnell, Bayer Material Science, Brett Dillion, IBS Advisors and Daran Wastchak, D.R. Wastchak, LLC. , Others TBD

### **RATINGS/AUDITS**

#### **Build Affordable and Energy Efficient: A Case Study - Mason County Texas Habitat for Humanity**

Mason is a small community in the Texas Hill Country where much of the economic activity is driven by the agricultural industry. Within this county is a Habitat for Humanity affiliate which only builds one house per year, but does so very seriously. Within the last five years, they have incorporated systems such as: Insulated concrete forms, ground source heat pump and solar thermal technology. This vision is being led by a retired mechanical engineer, Keith Kaan, who uses research and development in a very pragmatic way. Because of Habitat for Humanity's business model, affordability is the driving force behind his designs in conjunction with volunteer friendly construction methods. If you've always wondered how the masses can be reached with affordable green building, then this is a must see. You'll also learn how this affiliate has put a partner family in a home where monthly electrical consumption is as low as \$20.00!

Presenters: Keith Kaan and Michael Lopez, Habitat for Humanity Texas

#### **Making the Grade: Insulation Installation**

This session covers the requirements of the RESNET Standards governing insulation installation grading. From fiberglass to cellulose, spray foam to blown-in-blankets, these requirements are critical to determining proper installation and appropriate descriptions in the software. Learn what is a defect and what isn't- and how to communicate failures and successes to the insulation contractor.

Presenters: Charles Cottrell, NAIMA and Brett Dillon, IBS Advisors

#### **HERS Rating Software Forum**

This session will be structured as a panel discussion with representatives from REM/Rate and Energy Gauge that will be moderated by ICF. The primary purpose of the forum will be to discuss the features of each software and give users more insight into how to effectively model homes in each software program.

Presenter: Brian Moy, ICF International; Rob Salcido, Architectural Energy and Jeff Sonne, FSEC

#### **Meeting 90% Code Compliance with HERS Raters**

As states attempt to measure their code compliance rates and struggle to come up with plans that will achieve 90% compliance per ARRA requirements, they are beginning to see the challenges with traditional code enforcement models. BCAP has completed a code compliance and enforcement gap analysis for 15 states that addresses some of these issues. Other states, like New York and Vermont are completing studies that present new models of code compliance. All of these efforts look at a new paradigm in energy code compliance that recommend third party code inspectors. This session examines some of these studies and models and presents the opportunities HERS Raters will have to fill these new roles.

Presenters: Richard Faesy, Energy Futures Group; Mike DeWein, Alliance to Save Energy; and Representative from NYSERDA or PNNL

### **Energy Audit Round Robin Results - "A study in uncertainty"**

The session will share the results of two "round robin" events, conducted by Washington State University with funding by NIST and others. The round robin events were held at ACI and EEBA conferences in 2011. The round robin had multiple energy experts conduct field testing, energy audits and develop work scopes on energy retrofits of a single home. The session presents focuses on audit findings and work plan consistency. The session will include a panel of experts who will discuss the implications of the findings with audience participation. Discussions regarding the usefulness of these "round robins" and the identification of future potential opportunities will also be a focus on the session.

Presenters: Michael Lubliner, Andy Gordon and David Hale, Washington State University Energy Program; and Duncan Prah, IBACOS

### **Building a QA Network**

Two major changes to the RESNET Quality Assurance Standard include removing the low volume exemption for field quality assurance and ongoing quality assurance appropriate to volume. In order to cut down on QA costs to all raters it is even more important that national providers build a QA network of Quality Assurance Designees. This session will be a forum discussion on ways we can build this network, and will include ideas on how to best cut costs for raters.

Presenter: Glenn Pease, EnergyLogic and Abe Kruger, Kruger Sustainability Group

### **Performing Quality Assurance: How to Survive the RESNET Process**

Focusing on the elements required under the RESNET Quality Assurance Standard, this session brings real-life examples of how to perform and what to avoid to withstand the scrutiny of the RESNET QA process.

Presenter: Brett Dillon, IBS Advisors

### **The Revision of RESNET's Rater Training Standards**

The RESNET national standards on rater training were in need of a major revision. The skills set and knowledge base have not been modified since they were first adopted in 1998 even though the RESNET rating standards have undergone significant revisions. The skills set and knowledge base is what RESNET accredited rater training providers must base their rater training curriculum on. In 2011 the RESNET Training and Education Committee will be introducing an amendment to the RESNET standards to incorporate the needed changes. This session will explore the changes that are being made and count for the annual required roundtable.

Presenters: Mark Jansen, Chair of the RESNET Training and Education Committee; Darrel Tenter, Saturn Resource Management; and Kathy Spigarelli, RESNET

### **QAD Annually Required Roundtable**

Session description coming soon!

## **PROGRAMS/INCENTIVES**

### **Top Ten Building Science Innovations for 2012: U.S. DOE's Building America Program Look Ahead**

The homebuilding industry critically needs a compelling value proposition to compete with millions of used homes. With over a million foreclosed homes selling at prices below the cost of constructing new homes and millions more existing homes selling at fire-sale prices, competition has never been tougher. Compelling value can be provided using building science developments from the U.S. Department of Energy 's (DOE) Building America program that promise to take homes to a new level of excellence. High utility bills can become a thing of the past while homeowners experience dramatically higher levels of comfort, quiet, air quality, and durability. This session will provide insight into some of the most exciting innovations coming from Building America's industry-driven research with 4 national laboratories, 14 building science research teams, and numerous industry partners. The resulting real-world solutions are expected to

achieve significant energy and cost savings for homeowners and builders. This session will provide the latest details for ten of the most significant Building America developments forecasted to be market-ready in 2012.

Presenter: Eric Werling, DOE

### **Overdue Recognition for Attic Rats and Crack Fillers. RESNET's New Energy Retrofit Certificates**

An introduction to the new RESNET installer and crew leader credentials and how they fit into the DOE Retrofit Guidelines. Explore an illustration of the now-complete home energy career lattice that is possible with RESNET certificates and credentials.

Presenters: Brett Dillon, IBS Advisors and Rob Moody, Organic Think

### **Multifamily Buildings: Labeling and Energy Efficiency Beyond Residential Spaces**

A review of two existing multifamily whole-building energy efficiency programs - one in Massachusetts and one in Texas - will look at the unique energy saving profiles and opportunities of both residential and common area spaces within multifamily buildings. This session will cover how raters and energy efficiency program administrators can increase business and energy saving opportunities when servicing a multifamily project. Low-rise and mid-rise buildings will be addressed as will the ENERGY STAR Policy for Attached Housing and the new EPA Multifamily High-rise standard.

Presenters: David Ruggiero and Michael Flatt, ICF International, Ted Leopkey, EPA and Gayathri Vijayakumar, Steven Winter Associates

### **COMNET Commercial Buildings Energy Modeling Guidelines and Procedures**

This presentation will address the COMNET (Commercial Energy Services Network) quality assurance program. The purpose of this program is to improve confidence and reliability of building energy performance calculations used for green building ratings, tax incentives and energy labels. RESNET is a partner in the COMNET organization. The QA program includes:

- Process for accreditation of software that implements:
  - A detailed specification for energy analysis software (the MGP).
  - Automation of baseline building generation (required by the MGP).
  - Control of neutral variables (required by the MGP).
  - Generation of standard output reports (required by the MGP).
- Continued review and QA of accredited software.
- Updates and enhancements to the MGP along with requirements for re-accreditation
- Development and maintenance of the COMNET portal through which all COMNET accredited energy analysis would pass. The portal QA component would:
  - Make basic and automated quality assurance checks for every COMNET energy analysis that passes through the portal.
  - Select certain COMNET energy analyses for detailed QA checks by qualified engineer. The sampling size and procedure would be modified to suit the desired level of confidence and budget of the rating authority using the data.
- Official interpretations on how the MGP specification applies (these are numbered and cataloged on the COMNET website).
- Periodic internal quality audits to identify the extent to which the COMNET documented procedures are followed and the effectiveness of current processes, per ISO 9000.
- Credentialing and/or training of energy modelers who participate in the COMNET QA process. (Should we require that the individuals performing the modeling hold a credential such as BEMP for a certain class of buildings, say over 100,000 ft<sup>2</sup>?)

Presenter: Charles Eley, FAIA, PE

### **Rebates and Incentives - WTF (Weatherization through Funding)**

We would like to present on the state of the residential rebates and incentives programs in the US. The presentation would give an overview of how different states, utilities, municipalities, counties and other programs are funding energy efficiency upgrades for homeowners throughout the US, the differences in program structures, outcomes and the future of such programs. In addition, we will highlight the benefits of rebate and incentive programs for contractors, ways in which to take advantage of free funding opportunities to either up sell the consumer and/or maintain margins and the process to become an approved auditor/rater/contractor.

Presenter: Lee Guthman and Lynton Karfor, GreenOhm

### **Energy Efficient Mortgages - New and Existing Homes - How to help Finance Energy Efficiency Improvements**

This session will cover how HERS Raters can work with Lenders and Builders to offer Homeowners and Homebuyers both Fannie Mae and FHA Energy Efficient Mortgages. These products are both for new and existing homes.

FHA Energy Efficient Mortgages can help builders and homebuyers with both appraisal challenges and can help increase borrowing power based on the net energy saving from energy efficiency and renewable energy improvements.

Energy Efficient Mortgages can be an excellent tool for HERS raters to provide additional value to builders and homeowners.

Presenter: Walter Cuculic, Green Your Home Consulting and Stuart Williams, Mortgage Lender

### **Energy Disclosure Policies: How to Gain Traction**

While disclosing the energy performance of buildings at the time of listing to prospective buyers makes great sense, very little progress has been made in adopting this policy approach. When buyers have full energy information on buildings, the market can work to value efficient buildings and encourage inefficient buildings to be upgraded. However, political opposition has been effective at blocking implementation of these policies. How can we get over this opposition? What has worked in the jurisdictions that have adopted energy disclosure policies? What hasn't worked? How can rating and labeling be used to effectively convey information and encourage energy improvements? And, what can the RESNET community do to advance these policies?

This session will review disclosure policies that currently exist, review some national efforts to share experiences and resources to move others forward, and strategize on how to gain traction with these policies.

Presenters: Richard Faesy, Energy Futures Group; Tim Kisner, Austin Energy and Caroline Keicher, IMT

### **What's Going On - Legislation to Provide Financing for Improving Building Energy Performance**

One of the greatest draw backs to improving the energy performance of buildings in the U.S. is the lack of affordable and sustainable financing. There have been a number of bills introduced in Congress to address this including the SAVE Act, a performance based tax credit for homeowners to improve their homes energy efficiency and low interest on bill financing for members of a rural electric cooperative.

This session will explore the bills aimed at giving consumers access to affordable financing and will discuss how the building performance industry can make its voice heard in Congress on these key issues.

Presenter: Carl Chidlow, Cardenas Partners

### **Energy Improvement On Bill Financing for Rural Electric Cooperatives - A Time That Has Come**

There has been legislation introduced in Congress that would have the U.S. Department of Agriculture provide no interest financing to rural electric cooperatives to provide low interest financing of energy improvements to member homes which would be repaid through the electric bill. The legislation would require an pre and post energy audit by a certified professional.

This session would introduce the legislation and explore the implications to the building performance industry and how members of industry can become involved in advocating passage of the legislation

Presenter: Brian Cavey, National Rural Electric Cooperative

### **The SAVE Act - Mainstreaming Building Performance into the Mortgage and Appraisal Industry**

A broad coalition of home builders, environmental and energy groups and RESNET is advocating for the proposed legislation the "Sensible Accounting to Value Energy Act (SAVE Act). The legislation would modify the guidelines for mortgage underwriting by allowing for a value-added adjustment based on a home's energy features. This session will introduce the provisions of the SAVE Act and explore the implications to the builders and the building performance industry.

Presenters: Robert Sahadi, IMT and Ken Gear, Leading Builders of America

### **PHIUS+ Certification: Quality Assurance for Passive Houses**

The Passive House Building Energy standard is a rigorous, specific, and measurable building performance standard that comprises a whole structure, unified design approach to meet stringent energy goals. Both the design and certification of a Passive House, rely on accurate energy modeling through the Passive House Planning Package 2007 (PHPP) Software. For Passive House Buildings to perform at the highest level, strict attention needs to be paid to quality assurance and quality control of the final certified project. To this end, the Passive House Institute US (PHIUS) and RESNET entered into a strategic partnership that looks to synchronize standards, modeling, quality assurance, and quality control for low energy homes and buildings.

The RESNET Conference presentation focuses on the PHIUS+ Certification Process which is the culmination of the PHIUS-RESNET partnership. PHIUS+ Certification includes the harmonization of RemRate/EnergyGuage and the PHPP to give accurate and verified HERS results for super-insulated low energy buildings. A key component of PHIUS+ Certification is the quality assurance PHIUS-RESNET Rater Program which will be discussed in detail. The PHIUS+ Certification Process makes it possible to standardize Passive House HERS Ratings throughout the United States.

Presenters: Ryan Abendroth and John Semmelhack, Passive House

### **A 250 Home Energy Rating "Case Study", The City of Scottsdale Shares The Results**

In a program that runs from 2010 to 2012, the City of Scottsdale, Arizona carved out \$250,000 of ARRA funding to provide citizens in the older section of the City an opportunity to learn more about the energy efficiency of their homes by completing Comprehensive Home Energy Audits for them for free. These audits, which include home energy ratings, may be the largest uniform group of ratings completed by a single Rater in such a short period of time. The data collected, recommendations made and findings from this significant group of home energy ratings will be shared with the RESNET audience by representatives of the City of Scottsdale and the Rater who completed the work, D.R. Wastchak, LLC.

Presenter: Daran Wastchak, DR Wastchak

### **Managing a Home Energy Upgrade Program**

JEA, a public utility in Jacksonville, Florida, is managing several home energy upgrade programs. The programs went live on 11/1/2010. The program is managed by the JEA Conservation team and much has been learned about the design and implementation of an existing home upgrade program in an area that has never had an existing home retrofit incentive program.

JEA staff will discuss the results and the lessons learned from first 15 months of the programs. Specific areas of discussion will include: Goals and program design, types and levels of incentives and the issues surrounding them, building relationships and training contractors, local climate and code considerations, branding and marketing, program sustainability beyond incentives, budgeting and "moving money" and more. Attendees should gain a much better understanding of the key issues surrounding the development and management of an energy efficiency incentive program.

Presenter: David Reed, JEA

### **DOE's Builders Challenge: Recognition for America's Leading Edge Builders**

Building codes are rapidly increasing in rigor, and ENERGY STAR Version 3 is moving towards a comprehensive building science threshold. That's all good for helping mainstream builders incrementally improve their homes. But there are opportunities to work with leading edge builders who recognize best building science practices can take new home performance to an entirely new level of excellence. Moreover, these builders understand there is a growing demand for homes built significantly better than minimum code and that these homes also help minimize risk of call-backs while increasing customer satisfaction. DOE is working with EPA to promote a label for these builders called Builders Challenge that is fully coordinated with ENERGY STAR for Homes. Attendees will learn what package of measures consistently deliver a home that exceeds 2009 IECC by 50 percent, how Builders Challenge packages these measures into an important new label, and what is the business case for offering homes at this performance level.

Presenter: Sam Rashkin, DOE

### **LEED for Homes 2012: A Rating System Update in a Transforming Market**

Since its launch in 2008, LEED for Homes has registered over 59,000 residential units and certified over 12,000! While the housing market has staggered, the green home market has advanced exponentially. To ensure that LEED not only keeps up with the market, but remains an effective tool in transforming the built environment, all LEED Rating Systems are currently preparing for a 2012 update. Come to discuss the current residential landscape and the 2012 revision of the LEED for Homes Rating System. We'll discuss the proposed changes in rating system requirements, as well as the goals behind them. We'll also engage in active dialog about the changes and the direction of green homes and LEED.

Presenter: Asa Foss, USGBC

## **ENERGY STAR HOMES**

### **ESv3 from a Raters Perspective**

We have moved through the transition period and have a few months under our belts under the full requirements of the ESv3 program. What went well or is going well? What problems are we seeing? How many Builders actually continued with the program and what are they saying on both sides of the equation. What ideas are there for maintaining and growing the market? Does linking with Energy Star still make sense for your company?

Presenter: Robby Schwarz, EnergyLogic

### **ENERGY STAR in 2012: the Team, the Spec, and the Value Proposition**

The past year has been a time of great change for EPA's ENERGY STAR program and its partners, positioning us for great things in 2012 and beyond. This session will kick off the ENERGY STAR track, and highlight how ENERGY STAR's new guidelines address every builder's bottom line business objectives: how to increase sales, profit, and customer satisfaction while reducing risk and minimizing callbacks. EPA will explain the rationale behind the major changes to the guidelines and how you can incorporate these features into compelling messages for your homebuyers. The session will also address how you can differentiate yourself by marketing ENERGY STAR and the HERS Index together for a powerful and compelling message.

Presenters: US Environmental Protection Agency, ENERGY STAR for Homes Team

### **Home Energy Rater Essentials for Version 3**

Builders need – and expect – a lot more from Home Energy Raters under Version 3. Successful Raters effectively sell the value of the ENERGY STAR program and help their builders get up to speed smoothly. This session for new and prospective Raters will focus on the basics of Version 3: what the guidelines cover, how they help builders be more competitive, and how new builders can get started. Raters will leave this session better able to explain the guidelines and help new builder join ENERGY STAR and build qualified homes.

Presenters: US Environmental Protection Agency, ENERGY STAR for Homes Team

**Program Panel: ENERGY STAR Version 3 Builder Leaders**

Many builders have made a public commitment to qualifying their homes under Version 3. This session, facilitated by EPA, will feature several builders who have committed to ENERGY STAR in 2012. Presenters will discuss their rationale for staying with the program and how they successfully transitioned to the new ENERGY STAR guidelines.

Moderator: US Environmental Protection Agency, ENERGY STAR for Homes Team

**Getting the Home Envelope Right: The ENERGY STAR Thermal Enclosure and Water Management Checklists**

This session from EPA will highlight the most intricate details within the Thermal Enclosure System Rater Checklist as well as the Water Management System Builder Checklist. Builders and Raters who are already familiar with the Checklists will better understand the value of these specific requirements as well as options for complying with them.

Suggested Presenters: US Environmental Protection Agency, ENERGY STAR for Homes Team

**Critical Details in the HVAC System Quality Installation Rater Checklist**

This session from EPA is designed for Raters and builders who are already familiar with the Checklist requirements. The session will not provide an overview of all requirements, but will instead focus on specific details that have triggered significant feedback and questions from partners. Attendees will leave this session with a clearer understanding of the intent and value of each detail and be better prepared to address misconceptions and mistakes that they may encounter in the field.

Presenters: US Environmental Protection Agency, ENERGY STAR for Homes Team

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

The new ENERGY STAR program requirements mean that builders, raters, and HVAC contractors need to work together throughout the construction process. This 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 building ENERGY STAR Qualified Homes.

Moderator: US Environmental Protection Agency, ENERGY STAR for Homes Team

**Marketing to Homebuyers: Capitalizing on the Compelling New ENERGY STAR Value Proposition**

By building homes to the new ENERGY STAR Version 3 requirements, builders have a more compelling message to share with consumers than ever before. Learn how EPA is integrating these messages into new and improved marketing materials that builders can use with prospective homebuyers. This session will review ENERGY STAR's consumer messaging platform, explain how it was developed, and showcase some of the new collateral pieces available for ENERGY STAR partners in 2012.

Presenters: US Environmental Protection Agency, ENERGY STAR for Homes Team

**ENERGY STAR for Multi-Family High Rise Buildings**

EPA recently finalized guidelines and processes for multi-family high rise buildings to earn the ENERGY STAR. Learn about how you can participate as a Rater and hear case studies about some of the buildings that were qualified in the pilot phase of the program.

Presenters: US Environmental Protection Agency, ENERGY STAR for Homes Team