2015 RESNET Building Performance Conference
Session Nominations

Building Science

Title: (BS-1) 2015 IECC and why Builders may not embrace the Energy Rating Index path

Abstract:
The 2015 IECC development process was quite an experience to go through. The NAHB fought any attempt to make the code more stringent and embraced any attempt to make the code more flexible. The crowning achievement was a new path way through the code section R406 the Energy Rating index path. Let me tell you why section R406 will not be embraced, or at least should not get embraced, and how to find the flexibility in the code that builders are searching for.

Suggested Presenter(s):
Robby Schwarz, EnergyLogic

Knowledge Level: Advanced

Title: (BS-2) A Case Study in Installing Foam in Balloon Frame Houses

Abstract:
This session presents a case study in the problems that can occur when installing foam insulation in balloon frame construction. The case study looks at the process of using infrared thermography to diagnose the quality of installation of foam insulation in the perimeter walls. The case study then examines the use of infrared thermography as a tool for on-site quality assurance during installation of foam insulation.

Suggested Presenter(s):
L. Terry Clausing, P.E., Drysdale & Associates Inc

Knowledge Level: Beginner

Title: (BS-3) R-value is Higher at -20? The Real Effects of Temperature and Air Leakage in Walls

Abstract:
Learn what affects the thermal performance of walls and how different insulation products perform under a variety of conditions. Building Science Corporation, along with 6 industry partners, has developed a state-of-the-art test apparatus to measure the performance of walls insulated with fiber glass, cellulose and spray and board foam in “real-world” conditions. The new test method measures heat loss due to air infiltration and exfiltration. In addition to quantifying the effects of air movement on a variety of walls, the new test showed how walls performed in climates with outdoor temperatures ranging between +140° and -20°F.

(Note: This presentation is the results of 7 years of research, development and testing of insulated wall systems and the results will be presented by Mr. David Ober, one of the thermal testing experts involved in the project since it conception.)

Suggested Presenter(s):
David G Ober, Consultant

Knowledge Level: Beginner

Title: (BS-4) Benefits of an Air Barrier

Abstract:
Air barriers can save up to 40% of the energy used to heat and cool buildings. Buildings in turn use 40% of the prime energy in the United States and 70% of the electricity generated. Making buildings air tight can save a lot of energy. Air barriers in buildings can address a number of moisture issues. An air tight building is a water tight building in that if air molecules cannot pass through then water molecules cannot pass through. In addition, air containing water vapor is kept from entering the building envelop when it can condense and turn to liquid water. This presentation covers how air barriers work, the issues that need to be dealt with when installing an air barrier in a building and a summary of the benefits of using an air barrier.

Suggested Presenter(s):
Laverne Dalgleish, Air Barrier Association of America

Knowledge Level: Beginner

Title: (BS-5) Best Uses of Foam Insulation - Unique Solutions for Every Home

Abstract:
With an ever-growing emphasis on high-performance homes from a thermal and air sealing perspective, foam plastics are finding their way in to more and more residential walls, attics, basements, and crawlspaces. This presentation will provide an overview of the 2009 and 2012 IRC requirements surrounding foam plastics, and also explain the specific approvals and testing required for leaving these products exposed (or covered with an ignition barrier) in wood framed construction. The physical differences in the four common foam plastic types, EPS, XPS, Isocyanurate, and SPF, will also be discussed in terms of application advantages and differences to guide the design selection.

Suggested Presenter(s):
Dan Tempas, Dow Building Solutions
Linda Jeng, Dow Building Solutions

Knowledge Level: Beginner

Title: (BS-6) Case Study: The Net Positive “Proud Green Home” - Atlanta, Georgia

Abstract:
The owners of the Proud Green Home will never pay for electricity as long as they live in this home. The home produces approximately twice as much energy than it consumes. The home was earned a HERS Index of -10, with an infiltration rate of 0.2 ach50. On average, the home loses about 1.5% of the heating and cooling it generates in a day and the peak cooling load in the home is over 1,400 s.f per ton. How was this achieved through design and construction? How much did it cost to build? What does it teach us about the future of home construction in America? Attendees will be walked through the design-build process of this home, as well as the five certifications and get a glimpse at what a home like this costs. The presenter will review the strategies, best practices, HVAC system design, and many of the details and decisions that made this one of the highest performing homes in Georgia, acheiving EarthCraft and NAHB Green project of the year.

Suggested Presenter(s):
Chris Laumer-Giddens, LG Squared, Inc.
Luis Imery, Imery Group

Knowledge Level: Beginner

Title: (BS-7) Conditioned attics: Building strategies and solutions

Abstract:
Changes in California's 2013 Building Energy Efficiency Standards Energy Code (effective July 2014) and implications of the International Residential Code (IRC) R806.5 have made conditioned vs. unconditioned attics an industry hot topic. One issue not up for debate is that regardless of conditioned or unconditioned attics, managing the energy flow used to heat and cool a home is largely based on how the home is – or is not – insulated.

In climates that typically have conditioned attics, options have been historically limited with many professionals defaulting to spray polyurethane foam (SPF) solution. However, a recent case study from KB Home illustrates how the company partnered with Owens Corning to successfully identify a fiberglass solution that maximized performance, energy efficiency and safety. Ultimately, the fiberglass applications delivered high-performance conditioned attics and increased the comfort, durability and energy efficiency of the homes.

To help today's energy efficient experts stay fully informed of their product options, this educational session will highlight performance results from this case study's field testing as well as new research data. Ultimately, audience attendees will leave this session with new cost-effective energy efficiency practices for conditioned attics.

Suggested Presenter(s):
Jacob Atalla, Senior Director of Sustainability Initiatives at KB Home
Achilles Karagiozis, Owens Corning

Knowledge Level: Advanced

Title: (BS-8) Creating Excellence in Insulation Installers and Air Sealers - The New RESNET National Designation

Abstract:
A key concern to the insutation industry is to maintaining a comptent work force. RESNET has intrdocued a tablet based mentoring program for insulation installers and air sealers that will lead to a national designation of RESNET Energy Smart Insulation Installers. The program is being piloted in the Dallas-Fort Worth market. This session will demonstrate the new tool and have the insulation company explain the results of its pilot effort.

Suggested Presenter(s):
Cardice Gray, Garland Insulation
Rob Moody, Organic Think
Dallas Jones, Green Traiing USA

Knowledge Level: Beginner

Title: (BS-9) Inverted Demand Compliant Construction may be an indispensible key to a Renewable Energy Future

Abstract:
- Energy Efficiency is only 1 of 15 means of Energy Conservation.
- Energy Conservation by Timing, instead of EE, should be our first priority.
- Inverted Demand, demanding power when other consumers' demand is low, merits 25% retail discount.
- Supply Response, allowing the utility to control your batteries' charging and discharging, together with Inverted Demand merits a 50% discount.
- Utility 3, similar to that found in the 3rd World, belongs here.

- Utility 3 with Inverted Demand provides more reliability than Utility 1, our 1st world utility design.
- $ Cost of Dispatch, $ cost difference between Utility 1 and Utility 3, > 2 cost of Utility 1.
- Conjecture: Energy Cost of Dispatch is probably much less than 1/2 the fossil energy consumed by Utility 1, but that ratio could easily rise to over 80%.
- To get this result requires a significant, but surprisingly lucrative, change in what we call optimal building performance.
- Currently and in the long run, batteries in buildings has and will have a bigger bang-for-the-buck than PV

Suggested Presenter(s):
Myron Katz, Building Science Innovators, LLC

Knowledge Level: Beginner

Title: (BS-10) European Co-heating Test Method to Assess Real Performance

Abstract:
Several studies show that the actual 'as-built' thermal performance of the building envelope can differ significantly from the theoretical, calculated value. Characterisation of building envelope performances based on in situ dynamic measurements can help to bridge this gap between 'designed' and 'as-built' performances. A common method to evaluate the thermal performance of a building in situ is the co-heating test, which is a quasi-stationary method based on linear regression analysis of dynamic measurement data.

After a short state-of-the-art on the co-heating test methodology, the limitations and opportunities associated with the use of the co-heating test method to characterise the thermal performance of buildings are investigated on the basis of a real full-scale experiment: a co-heating test performed on a terraced house in Herstal, Belgium. Renovation induced drops in the overall heat loss coefficient of the dwellings are characterised by the test method and compared with calculated values.

Suggested Presenter(s):
Geert Bauwens, University of Leuven, Building Physics Dept of Civil Engineering
Frederic Delcuve, Knauf Insulation

Knowledge Level: Advanced

Title: (BS-11) How Indoor Air Quality & Energy Efficiency Can Play Well Together

Abstract:
Indoor Air Quality in new homes is just as important as energy efficiency. Although homes today are being designed to higher energy efficiency standards, the indoor air quality aspect cannot be ignored. The recent emphasis on whole house tightness in itself is a good thing, however if wet materials are trapped inside the wall cavity or are used during construction, problems can occur.

Verification that building materials are dry, proper air filtration exists, exterior penetrations are sealed, no leaks are present in the plumbing prior to turnover, and the ductwork is protected during construction are just a few ways to make sure the air quality inside the home is properly addressed. The best time to do this is during construction.

Suggested Presenter(s):
Tommy Spain, SkyeTec

Knowledge Level: Beginner

Title: (BS-12) Increasing Home Water & Energy Efficiency By Eliminating Shower-Based Behavioral Waste

Abstract:
RESNET is in the process of adding provisions to consider the distribution of hot water within its energy consumption calculations. The waste associated with hot water distribution can be broken down into two major categories, structural waste and behavioral waste. Structural waste is an inherent consequence of todays' plumbing architectures. Namely, conventional home designs and building codes necessitate the use of lenghty plumbing runs to connect a home's hot water source to its bathrooms. Throughout the years, the increasing presence of structural waste has led rise to a new category of waste, behavioral waste. Recognized, but much less understood, behavioral waste occurs after bathing temperature water reaches the showerhead, but before the user beings showering. Through the analysis of primary data collected by Lawrence Berkeley National Labs via a wireless sensor network that monitors water flows and temperatures in homes throughout California, and previous analysis of the 1999 REUWS survey this presentation demonstrates the following:

1. The water and energy use associated with behavioral waste is significant - ranging from 1.8 to 2.6 gallons of hot water wasted per shower.

2. On an individual basis behavioral waste varies widely. Some people consistently produce little to no behavioral waste while others regularly generate large amounts - almost no one is "average".

3. There appears to be no correlation between low structural waste and low behavioral waste. This finding has broad implications as many in the building industry commonly believe that reducing structural waste and delivering hot water quickly to the point of use will produce a behavior change in users.

4. Technologies, referred in the BSR RESNET Addendum "a" to ANSI/RESNET 301-2014 as an Approved Hot Water Operational Control Device, can be an effective tool in eliminating behavioral waste without requiring behavior changes. As such a Hot Water Operational Control Device is essential for guaranteeing the deemed savings commonly attributed to efficient plumbing configurations and products capable of reducing structural waste i.e. hot water recirculation systems.

Suggested Presenter(s):
Troy Sherman, Evolve Technologies - ShowerStart

Knowledge Level: Beginner

Title: (BS-13) Keeping people safe from their own cooking: kitchen ventilation for high performance home

Abstract:
Recognizing that cooking and the use of cooking burners release moisture and pollutants that can reach harmful levels in homes, the importance of kitchen ventilation is clear. We will present the merits and limitations of common kitchen ventilation approaches with specific focus on the performance of venting range hoods. Results from in-home and controlled laboratory studies of range hood performance will be presented. Guidance will be provided on the features that distinguish product performance. The presentation will include a report on efforts to develop a standard test method and consumer information about the effectiveness of range hoods at removing pollutants

Suggested Presenter(s):
Brett Singer, LBNL

Knowledge Level: Beginner

Title: (BS-14) Maximum efficiency = Maximum living

Abstract:
As the 2015 International Energy Conservation Code (IECC) continues to push the industry to create tighter building envelopes, today's professional energy experts are increasingly seeking sound solutions that deliver energy-smart and cost-effective performance. In today's market, using the right products and leveraging industry expertise has never been more important to the success of HERS raters, energy experts and builders.
Expert panelists, consisting of an architect, HERS rater and building scientist, will explore best practices and relevant insights from case studies to help attendees identify materials, solutions and energy-smart design strategies that achieve maximum efficiency performance in a home. Ultimately, attendees will walk away with new information to help build for maximum efficient, resulting in maximum living.

Suggested Presenter(s):
Gord Cooke (Moderator), Construction Instruction
Steven Sutter, Energy Performance Partners
Stuart Cline, architect, Thomas Porter Architects
Dave Wolf, Ph.D., Owens Corning

Knowledge Level: Beginner

Title: (BS-15) Modeled vs. Measured Energy Consumption for Single Family Homes - Part 2

Abstract:
The winter of 2013-14 was one of the coldest winters on record in many parts of the country. This presentation will provide an update comparing 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. The "Polar Vortex" winter produced some very interesting hygrothermal data, measured energy use and occupant commentary.

Suggested Presenter(s):
Brian Lieburn, Dow Building Solutions

Knowledge Level: Advanced

Title: (BS-16) Multi-Family Building Envelope Solutions

Abstract:
Effective and efficient building envelope assemblies will be discussed in terms of multi-family options to meet the 2009 and 2012 IECC. Up front investment in the assembly can potentially maximize operational returns especially for developer owned rental properties. Options and benefits will be discussed from design, construction to occupancy.

Suggested Presenter(s):
Brian Lieburn, Dow Building Solutions
Dan Tempas, Dow Building Solutions
Linda Jeng, Dow Building Solutions

Knowledge Level: Beginner

Title: (BS-17) Smart Ventilation - Minimizing Cost, Maximizing IAQ

Abstract:

The goal of this session is to provide the technical background for developing smart ventilation strategies and to provide concrete application examples. As we move to high performance housing and especially toward zero-energy homes, ventilation represents a larger and larger fraction of the space conditioning energy requirements and more homes are meeting IAQ standards such as ASHRAE 62.2. Higher indoor air quality (IAQ) performance, as well as lower HVAC power and energy consumption, can be achieved by being smarter about how and when ventilation occurs.

This session will discuss smart ventilation strategies, such as increasing ventilation when the outdoor temperature is less extreme, scheduling ventilation during off-peak hours, avoiding ventilation during periods of poor outdoor air quality, and reducing whole house ventilation operation in response to incidental ventilation (e.g., bathroom or kitchen fan operation) and occupancy. The impact of these smart ventilation strategies on IAQ and energy use will be discussed together with recent and future commercially available approaches to adopting these strategies.

Suggested Presenter(s):
Iain Walker, LBNL

Knowledge Level: Beginner

Title: (BS-18) Spray foam application considerations for high performance basements and crawl spaces

Abstract:
Basements and vented and unvented crawl spaces can pose unique building enclosure challenges with regard to meeting airtightness, insulation and vapor diffusion retarder goals for high performance. Spray polyurethane foam can meet these challenges head on. This presentation will show which spray foam types, either low or medium density, work best to meet energy efficiency and durability goals in basement wall applications in the North and crawl space ceiling and wall applications in the South (among other scenarios). With reference to decades of field experience, application best practices will be made. This session will arm you with plenty of practical knowledge on handling airtightness and insulation challenges for these unique spaces and aid you in your quest to get your builders to the next level in energy efficient construction.

Suggested Presenter(s):
John Broniek, Icynene

Knowledge Level: Beginner

Title: (BS-19) The benefits of an air barrier system

Abstract:
Air barriers are starting to be used across the country. What are the key requirments of air barriers and what mistakes do you need to avoid. Learn the key requirments for the selecting and installing air barriers.

Suggested Presenter(s):
Laverne Dalgleish, Air Barrier Association of America, Inc.

Knowledge Level: Advanced

Title: (BS-20) The Devil is in the Details: Designing Wall Systems for Energy Efficiency and Moisture Resiliency

Abstract:

As building, energy and green codes become more stringent, new building technologies and innovations are being incorporated into the building envelope. When incorporating new technologies into building assemblies traditional construction practices need to be adapted.

However, as these adaptations of construction practices take place they still need to maintain adherence to basic principles of barrier continuity, moisture management and durability. This presentation will describe some of the water management challenges and choices that arise when increasing the thermal performance of walls. The presentation will include a review of the progress of industry standard practice and guideline development on the development of details to maintain air, water and thermal barrier continuity and integrity.

Suggested Presenter(s):
Theresa Weston, DuPont Building Innovations

Knowledge Level: Beginner

Title: (BS-21) The Good, the Bad and the Ugly of Combustion Safety Diagnostics

Abstract:
Are standard combustion safety diagnostics identifying the most important combustion appliance hazards in air-sealed homes? Or, are the diagnostics overly focused on rare, fatal failures and potentially ignoring more common, less severe failures? Is this focus resulting in unnecessary testing and repairs of appliances that pose little to no hazard? In this session, we will tell you! We will assess the health risk of combustion appliances from hundreds of homes with gas appliances. We will also assess acute health hazards associated with combustion appliances and provide practical advice for efficiently minimizing combustion hazards when air-sealing homes.

Suggested Presenter(s):
Brett Singer, LBNL

Knowledge Level: Beginner

Title: (BS-22) Tighter, Quieter, Warmer: Comparing Building Tightness Between Blown-In and Batt Insulations

Abstract:
With building tightness standards continuing on a downward trend (can you believe 3 ACH50 will be a standard requirement for large parts of the country as soon as 2015?), builders continue to seek feasible and cost-effective strategies for building tight enclosures. This session is focused on research, recently completed for the Energy Trust of Oregon, which compares the difference in tightness between a set of houses insulated with a blown-in system and a set of houses insulated with batts. In addition to highlighting the study's design and results, this session will address the acoustics and thermal benefits of a blown-in system and why one builder won't use anything else.

Suggested Presenter(s):
Bruce Manclark, CLEAResult
Dan Lutz, Knauf Insulation

Knowledge Level: Beginner

Title: (BS-23) Understanding Moisture Performance of Frame Walls

Abstract:

Moisture and energy control are critically important to achieve energy efficiency, structural integrity and durability, and occupant health and comfort. Understanding the dynamics of moisture movement is essential to minimize moisture issues through proper design and to properly diagnose any issues that may occur. How moisture is transported; why, how much, and under what conditions is covered in this presentation. The science controlling moisture dynamics is presented to give the audience an understanding of what governs the speed and direction of moisture diffusion, how the amount of moisture movement via diffusion compares to the amount of moisture moving via air infiltration, and the role of framing materials in determining the moisture tolerance of the wall structure. An attendee exercise, using appropriate tools and techniques, provides understanding needed to know the amount and direction of moisture vapor flow under specific conditions and how it relates any need for a vapor retarder.

Suggested Presenter(s):
James R. Wells, PhD., Tremco Barrier Solutions

Knowledge Level: Advanced

Title: (BS-24) Wrapping it Up: Air Barrier Detailing of Mechanically Attached Air Barrier Materials

Abstract:
Whether it is verification of energy code compliance, green building certification, or enhanced quality assurance programs, the visual inspection of air barrier details is becoming a more frequent occurrence. Using building wraps as an example air barrier material, this presentation will present critical air barrier details, how variation from prescribed details can reduce air barrier performance, and key items to look for when doing a visual air barrier inspection.

Suggested Presenter(s):
Dana Perry, DuPont Building Innovations
Theresa Weston, DuPont Building Innovations

Knowledge Level: Beginner

Business Development & Marketing

Title: (BD-1) Advanced Marketing and Advertising for Raters and Auditors

Abstract:
This course is ideal for pros looking to take the next step to grow their business. Industry marketing expert Peter Troast will help you cut through the clutter, identify best practices, and talk about what's really working for contractors right now. We'll discuss what you need to know about online advertising opportunities including Pay Per Click (PPC), Remarketing, Facebook ads, and more. We'll talk about targeting and the crucial differences in leads, based on their entry point. And finally, we'll talk about how to tie it all together: integrating marketing into your everyday processes, while maintaining consistency and building customer confidence.

Suggested Presenter(s):
Peter Troast, Energy Circle

Knowledge Level: Beginner

Title: (BD-2) Business Models That Work

Abstract:
Why aren't we as profitable as we should be? Brett shares how aligning your company's people, processes, and philosophy aroung the right business model improves profitability- and why you will continue to lose money if you don't!

Suggested Presenter(s):
Brett Dillon, IBS Advisors, LLC

Knowledge Level: Beginner

Title: (BD-3) Commodities - Steel! Cotton! Ratings?

Abstract:
There is a tremendous danger in the commodification of HERS Ratings. How we define ourselves, our services and the industry as a whole is pivotal in what the future looks like for all of us. What does it look like for our services to become a commodity? What are the alternatives? What should we expect from ourselves and our peers?
This will be an engaging, provocative and interactive session. Bring your thinking caps!

Suggested Presenter(s):
Steve Byers, EnergyLogic

Knowledge Level: Beginner

Title: (BD-4) ecoSelect, do it and then lets drink beer

Abstract:
There are markets across the country that have fully embraced the paperwork and requirements of Energy Star v3+. But every rater has hit the wall with a new builder that cannot breach the gap from no home performance rating to the Energy Star program. HERS ratings need a label and a certificate to deliver to the homeowner, complete with estimated heating and cooling monthly costs, and easy, fresh marketing materials for the builder to

really sell their value. FInd out more about the gateway program that will get new builders in your door and advancing to additional certification programs (and your services) in no time.

Suggested Presenter(s):
Laurie Colwander, Southern Energy Management
Jamie Hager, Southern Energy Management
Eric Calhoun, Home Wellness Inc

Knowledge Level: Beginner

Title: (BD-5) Effective Lead Generation Tactics for Raters, Auditors, and HP Contractors

Abstract:
With an increasing abundance of services promising high-quality leads, just sorting through the options can be overwhelming, much less planning and managing a successful campaign. Most services out there offer a one-size-fits-all approach, which often doesn't work for the building performance industry resulting in wasted time, effort, and money. During this workshop we'll break down the options for paid lead gen, and help you find what's most effective for your business type. We'll share both the benefits and drawbacks of each, as well as some tried and true tactics that have made us successful. Included in the workshop: Pay Per Click Advertising, Retargeting, Social Media Advertising, Review Sites (paid and unpaid), and services like Yodle. If you are considering investing in one of these options, you need to attend this workshop.

Suggested Presenter(s):
Peter Troast, Energy Circle

Knowledge Level: Beginner

Title: (BD-6) Energy Code Compliance and HERS Index scores

Abstract:
What business opportunities have you been missing out on? Well Code Compliance. What does Energy Code compliance mean? What are the different pathways through the code? How does the HERS Index interact with the Energy Code? Let's figure it out so that our business will be sustainable and profitable.

Suggested Presenter(s):
Robby Schwarz, EnergyLogic

Knowledge Level: Beginner

Title: (BD-7) Everyone is A Salesperson

Abstract:
One of the hallmarks of the successful person in every field is that he is influential and persuasive in his interactions with other people. He has the ability to get other people to cooperate with him to achieve his goals and fulfill his aspirations. The truly successful person is the one who can influence the greatest number of people in a common direction to help him get more of the things he wants in life.

We're going to discuss:
- A fundamental principle of all sales
- "ABC Theory" of human motivation
- FOCUS ON THE GAP
- key points in GAP Analysis

- Questions to How to ASK YOURSELF
- How to PINPOINT DISSATISFACTION
- GAP ANALYSIS QUESTIONS
- and MORE!

Suggested Presenter(s):
Lee ONeal, MABTEC

Knowledge Level: Beginner

Title: (BD-8) Good - Better - Best Scenario Selling for Home Performance

Abstract:
"Good - Better - Best Scenario Selling for Home Performance" will offer implementation contractors ways to increase overall sales by offering potential customers different initial proposals that offer solutions from different points of view; Indoor Air Quality vs. energy usage or different pricing strategies of both. A collection of sales statistics based on human behaviour will also be discussed.

Suggested Presenter(s):
Frank Wickstead, ICF International

Knowledge Level: Beginner

Title: (BD-9) High Performance Homes Recognition in the Multiple Listing Service

Abstract:
In real estate a green built, energy efficient or high performance new home or retrofit is essentially invisible to the consumer if the MLS covering that market does not support green fields. Studies on energy benchmarking of commercial properties have revealed a simple truth: when information is disclosed to the market, the market has the opportunity to react to that information. Market reaction can be reward or punishment ~ that is the nature of a free market, but either way the consumer then can choose between homes based upon their identified health, resource efficiency and environmental features. Transparency determines the ability to identify market reaction, which lies at the heart of both real estate investments and valuation.

This presentation will tell the story of the “greening” of the three major MLSs in the Pacific Northwest and what lessons can be applied to Cincinnati, Ohio, and the Midwest. The presentation will provide an overview of systems that must be in place in order to begin the process of greening the MLS, the significant and ongoing role of education, how to ensure the green features on the MLS are accessed and used once they have been added, and how valuation research is informing the real estate industry.

Suggested Presenter(s):
Fiona Douglas-Hamilton, SEEC LLC

Knowledge Level: Beginner

Title: (BD-10) How HERS Rating and Green Building Continue to Grow

Abstract:
HERS Raters have been in the market for decades and with new energy codes their presence will continue to increase in the existing home sphere. Simultaneously, McGraw Hill is citing an increase in green building remodeling over the next 3 years. As the building industry continues to move forward, learn how to increase your services to implement green building programs and provide financing information to meet the demands and needs

of homeowner and property owners. HERS Raters completing inspections pre-permit can play a role in educating homeowners on opportunities that go beyond energy efficiency to address indoor air quality, water conservation and durability of the home.

Suggested Presenter(s):
Amy Dryden, Build It Green
Kevin Beck, Building Performance Services

Knowledge Level: Beginner

Title: (BD-11) How to Build Your Business with EnergySmart

Abstract:
In this session, energy professionals will be given the sales tools and resources that will improve their business opportunities leveraging the EnergySmart Builder program. Performance contractors, sales reps, and HERS raters will learn how to capture new builder accounts by educating their sales teams. Many contractors focus on selling their services to the purchasing agent, when they should be focused on converting the people who sell the homes! Demonstrate how EnergySmart Builders can differentiate themselves in a competitive market as you help them improve the customer experiences, generate new leads, and increase sales contracts leveraging HERS ratings.

Now is the time to act! Implement effective new strategies that will help your grow your business AND help your builders thrive in a tough economy.

Suggested Presenter(s):
Todd Gamboa, Building Trust LLC

Knowledge Level: Beginner

Title: (BD-12) How to Snag the Big Fish - Getting Developers Bought in to Community Certification Programs

Abstract:
Approaching builders individually can be challenging for Raters, especially in a new market. Capturing an entire builder group provides efficiencies and volume to grow your business. Getting a developer to incorporate energy or green certification programs into their community requirements can be a game changer, for the builders, the developer and the Rater involved. In this session we will explore 2 case studies of master plannned communities that incorporated energy and green programs into their builder group requirements, the effect that has had on sales for the builders especially through the 2008 recession, and the change it had on the mainstream builder market in the NC Triangle area. We will also discuss what not to recommend to developers when trying to design a system they will like and that works.

Suggested Presenter(s):
Jamie Hager, Southern Energy Management
Representative from Newland Communities
Representative from Crescent Communities

Knowledge Level: Beginner

Title: (BD-13) How to speak builder

Abstract:

As Raters become more technical and builders are faced with more challenging codes; the opportunity for raters to bring value to their clients increases as well. This session will focus on how raters can bring value to their home builder clients.

Suggested Presenter(s):
Mat Gates, Residential Science Resources

Knowledge Level: Beginner

Title: (BD-14) How Working Together Benefits NC's Home Energy Raters, And How It Can Work For Your State

Abstract:
In this session, staff from the NC Building Performance Association (NCBPA) and member home energy rating companies will discuss how collaboration, resource sharing and forming a voice for the industry lowered the costs of home energy ratings while achieving benefits including increased marketing, lead generation and efficiencies throughout the home energy rating process. Officially launched at the RESNET conference in 2014, the NCBPA was formed by the state's home energy raters to represent them politically and help bring efficiencies and attention to their role across the state. By joining together, North Carolina's home energy raters have positioned themselves to be more profitable than ever before and have their collective voice heard. Attend this session to learn how and why they did it, what the benefits have been and how other states could achieve the same results!

Suggested Presenter(s):
Ryan Miller, NC Building Performance Association
Sam Galaphin, Performance Point
Rob Howard, Habitat for Humanity International

Knowledge Level: Beginner

Title: (BD-15) If You Rate It, Will They Come?

Abstract:
Just because a home is built to high-performance standards doesn't mean buyers will show up. Hear how to effectively communicate a HERS rater's importance and work results to buyers and appraisers in a language they will understand. The panel will consist of a HERS rater, a green appraiser, and a green real estate broker.

Suggested Presenter(s):
Laureen Blissard, Green Builder Coalition
Michael Hobbs, PahRoo Appraisal & Consultancy

Knowledge Level: Beginner

Title: (BD-16) Is Deeper Cheaper?

Abstract:
Low cost energy efficiency measures have a quick payback and make financial sense for new home construction. Does the next efficiency investment make sense? Massachusetts builders are shooting for a variety of efficiency targets including Massachusetts Building Code, MA Stretch Energy Code (2012 IECC), HERS 50, Passive House, and Net Zero Energy Building homes. Builders need to know that they can succeed in building cost effective homes and show home buyers, realtors, banks and utility companies that efficiency measures are worth investing in. Case studies conducted over the past 10 years from New England and mid Atlantic states, climate zones 4 & 5, will track the costs of building to these many aforementioned standards and determine if Deeper is Cheaper!

Suggested Presenter(s):
Peter Hubbe, ICF International
David Ruggiero, ICF International
Rick Gazica, ICF International

Knowledge Level: Beginner

Title: (BD-17) Navigating the QA Rapids

Abstract:
Over the past few years, Quality Assurance requirements have increased for Providers and Raters. What are the implications for the various provider business models? Some Providers have had systems in place for accommodating certain changes, while others have required significant change in practice. This panel will discuss various strategies and examples for managing the RESNET Building Registry, increased file QA, and in identifying critical control points, such as HERS Index variation thresholds.

Suggested Presenter(s):
Emelie Cuppernell, PSD
Gayathri Vijayakumar, SWA
Allison Bailes, Energy Vanguard
Peter Harding, Home Energy Technologies

Knowledge Level: Beginner

Title: (BD-18) Opportunities for Independent Raters

Abstract:
Training, testing, providers, certification, equipment, professional development credits, standards, software, and then finding work! For the new raters and those who have been in the business awhile, maintaining a business as a Rater can be a challenge. This session will focus on ways to maintain and expand your rating business. There are so many opportunities for Raters at the moment. This session will give an overview of ways to expand a rating business beyond ENERGY STAR as well as offer tips for maintaining credentialing and finding a provider that works well for your business.

Suggested Presenter(s):
Emelie Cuppernell, PSD

Knowledge Level: Beginner

Title: (BD-19) Pricing Problems: Why Are We Losing Money?

Abstract:
A look at pricing as a strategic growth tool, and why discounts are a really bad idea. Brett shares how to price your work to capture appropriate value.

Suggested Presenter(s):
Brett Dillon, IBS Advisors, LLC

Knowledge Level: Beginner

Title: (BD-20) Project Management: The Modern Day MacGyver Approach

Abstract:
With transparency and accountability becoming more and more important, keeping track of the day-to-day is vital. This session will feature tips and tricks for project management using what you may already have in your office!

Suggested Presenter(s):
Laureen Blissard, Green Builder Coalition

Knowledge Level: Beginner

Title: (BD-21) Rating The Appraiser

Abstract:
How can HERS raters protect their clients from inexperienced appraisers? Learn what to look for and methods of communicating liability effectively. Our panel, which will include an appraiser, a builder and a HERS rater, will provide guidance to attendees.

Suggested Presenter(s):
Michael Hobbs, PahRoo Appraisal & Consultancy
Laureen Blissard, Green Builder Coalition

Knowledge Level: Beginner

Title: (BD-22) RESNET Cross Border Builder Challenge President's Award winners review their HERS commitment and the value of being the first winners in Atlanta

Abstract:
Its been a year now. Last year's President's Award winners, KB Home and Brookfield Residential each will review winning their awards at the Atlanta RESNET Conference. Both builders will present how they utilized the awards to to support their corporate sustainability message plus enhance their commitment to HERS rate their homes and the benefit it provides them. The session will be hosted by CRESNET President John Godden, who proposed the original Challenge to RESNET Executive Director Steve Baden.

Suggested Presenter(s):
John Godden, CRESNET

Knowledge Level: Beginner

Title: (BD-23) Selling the Invisible

Abstract:
This session focuses on the challenges and difficulty of selling Home Performance in a mild climate such as California.
Key topics include:
1. Shifting gears to sell what can't be seen
2. Identifying and cultivating low maintenance/high value customers
3. Share don't sell
4. Creating a free salesforce
5. Reach back to move forward

Suggested Presenter(s):

Kevin Beck, Building Performance Services

Knowledge Level: Beginner

Title: (BD-24) Social Media Essentials: A Guide for RESNET Members

Abstract:
When used strategically, 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 consultants, Fourth Dimension will talk about what social media is and how RESNET is using to promote member services and educate homeowners about the benefits of HERS Ratings. RESNET members can learn how they can take advantage of RESNET's ongoing social media campaigns to market their services effectively to their target audiences.

Suggested Presenter(s):
Dru Vagale, Fourth Dimension
Rejoy Chatterjee, Fourth Dimension
Micky Signh, Fourth Dimension

Knowledge Level: Beginner

Title: (BD-25) Sold!

Abstract:
Technological advances, growing awareness, and lucrative incentive programs in energy efficiency drive increasing numbers of prospective homeowners to desire green homes. Wi-Fi thermostats used to remotely control comfort levels are being embraced by a new tech-savvy generation keen on home performance. Just like the home of the future, interconnectivity between Realtors, Appraisers and energy efficiency is vital to leverage this ongoing market transformation. This session will assist you in developing, educating, and leveraging strategic partnerships with the Real Estate and Appraisal markets to get your energy efficient homes Sold!

Suggested Presenter(s):
Mark Pignatelli, ICF International
Frank Nitti III, ICF International

Knowledge Level: Beginner

Title: (BD-26) Successful Lead Generation: Tips & Hints from Contractors Making it Work

Abstract:
This session will feature a panel of raters that are successfully leveraging specific tactics to drive leads and grow their businesses. The format will be highly structured, with a practitioner individually covering a specific lead channel: paid internet advertising, social media, referral programs, other inbound strategies, and more. We'll share best practices, the practical reality of keeping up, and specific approaches to how to resource these activities for maximum ROI.

Suggested Presenter(s):
Peter Troast, Energy Circle (moderator)
Nate Adams, Energy Smart Home Performance
Jeremy Begley, National Heating and Air Conditioning
Dewitt Kimball, Complete Home Evaluaitons
Diane Milliken, Horizon Residential Services

Jeff Rhodin, Sustainable Energy Analytics

Knowledge Level: Beginner

Title: (BD-27) Turn REALTORS® into Energy Efficiency Ambassadors

Abstract:
Every purchase of an existing (resale) home is an opportunity to integrate energy efficiency. And this matters to homebuyers. A National Association of Realtors survey found that 88% of consumers say energy efficiency is important. Furthermore, the average homebuyer of an existing home will spend over $6,000 on improvements during their initial year of ownership, according to the Joint Center on Housing Studies. These older homes, which make up over 90% of homes sales, are in the most need of energy efficiency improvements. Raters and program representatives can benefit from engaging REALTORS© as energy efficiency ambassadors since they serve as the gatekeepers to homebuyers and these transactions. However, advertising to REALTORS© is not enough; a fully integrated approach is necessary to turn REALTORS© into collaborators. This session will explore the methods that have successfully engaged nearly (500) realtors in California. Outreach strategies for local real estate communities will be discussed. Certification training and continuing education for REALTORS© will be explored. And additional tools and ongoing support necessary to turn education into action will be reviewed. Discussion will also encompass currently available financing products that can help homebuyers turn their next home into an energy efficient dream home.

Suggested Presenter(s):
Marcia Tolentino, Build It Green

Knowledge Level: Beginner

Title: (BD-28) Understanding and Wrangling Customer Reviews

Abstract:
Reviews have built and broken businesses. Only growing in popularity, sites like Google My Business, Google+ Reviews, Yelp and Angie's List are easier than ever for your potential customers to use and access. What's more, these sites are consistently showing up above most business' organic search listings. If you haven't been paying attention, you should now. In this session, we'll learn which review sites are the most important, best practices for growing reviews, tactics for handling negative reviews, and the things you may be unwittingly doing to negatively impact your standing.

Suggested Presenter(s):
Peter Troast, Energy Circle

Knowledge Level: Beginner

Title: (BD-29) Web Marketing 101: Making Your Website Perform

Abstract:
Your website serves many functions, including being a low risk, and -- if you're doing it right -- high reward avenue for brand awareness and lead generation. The opportunity is great, and the web is rapidly continuing to replace traditional forms of marketing. Are you doing what you should be to navigate this complex and ever-changing landscape? In this session we will cover the bases: managing your website presence, understanding search engine optimization (SEO), the keyword landscape in our field, and the rapidly evolving local search landscape. We'll also look at the nuances of strategic marketing in our industry and how to best tell the "home performance" story.

Suggested Presenter(s):

Peter Troast, Energy Circle

Knowledge Level: Beginner

Title: (BD-30) What is Home Performance with ENERGY STAR and how you can get involved?

Abstract:
This session will focus on the U.S. Department of Energy's flagship existing homes program and plans for results-driven enhancements and continued growth across the country through stakeholder engagement and innovation. Since 2002, more than 350,000 homeowners increased their home efficiency using Home Performance with ENERGY STAR (HPwES) to improve comfort and indoor air quality, while helping to reduce energy bills. These energy improvements result in an estimated $100 million in annual energy savings. Come to this session to:

- Hear about the current HPwES program and vision for the future
- Hear about opportunities for Raters to take advantage of HPwES to improve their sales in the existing homes market
- Find out about the benefits of participation and how to join the HPwES program
- Learn about the new "aggregator" concept and how it creates new private-market entry points for HPwES participation

Suggested Presenter(s):
Ely Jacobsohn, US DOE
Courtney Moriarta, SRA International

Knowledge Level: Beginner

Title: (BD-31) What is Your Strategy?

Abstract:
Brett provides insight into what strategy is and why you need to have one. He also shares how to craft your strategy to align with your purpose.

Suggested Presenter(s):
Brett Dillon, IBS Advisors, LLC

Knowledge Level: Beginner

Title: (BD-32) Why Am I in Business?

Abstract:
Why did you start your own business? Brett looks at why- and helps you discover your deeper purpose.

Suggested Presenter(s):
Brett Dillon, IBS Advisors, LLC

Knowledge Level: Beginner

Title: (BD-33) Why Aren't We Succeeding?

Abstract:
Brett shares the common reasons most businesses fail- and what you can do to avoid being among them!

Suggested Presenter(s):
Brett Dillon, IBS Advisors, LLC

Knowledge Level: Beginner

Title: (BD-34) You're Not in Kansas Anymore: Communicating Building Science to Non-Technical Audiences

Abstract:
As a rater or auditor your success is in part dependent on your ability to communicate a variety of technical concepts to non-technical audiences. The builder or the home performance contractor understands the building science issues that support efficient and sustainable construction methods and materials, but what about all the other people the value chain? Are you making the most of this opportunity? Hear education and marketing experts discuss proven and effective ways to deliver these key concepts to the following audiences: homeowners, lenders, appraisers, contractors, building products suppliers, HVAC equipment suppliers, realtors, inspectors. This presentation looks at ways of communicating building science to non-technical audiences, what kinds of tactics and tools work to motivate action, what level of technical information is suitable, and how it is all best presented.

Suggested Presenter(s):
Shawna Henderson, Blue House Energy
Bethany Profaizer, Energy Circle

Knowledge Level: Beginner

Energy Codes

Title: (EC-1) 3 ACH: A Better Mousetrap

Abstract:
There are lots of great air sealing products on the market, but the best way to seal a hole is to not build it. While the concept of air barriers and construction techniques have come a long way in the past thirty years, numerous opportunities for improving conventional framed construction exist. In the spirit of advanced framing techniques, this interactive session will feature brainstorming and small group work to explore practical solutions to challenges submitted by builder partners.

Suggested Presenter(s):
David Treleven, Advanced Energy
Dan Lutz, Knauf Insulation

Knowledge Level: Beginner

Title: (EC-2) Air Leakage Testing Codes and Standards: How They are being Used and How They are Evolving

Abstract:
Energy Codes are moving towards requiring tighter building envelopes as well as verification for building air leakage performance. To more effectively meet these evolving code requirements, test methods and specifications for air leakage testing are also evolving. This presentation will review code requirements for air barrier and air leakage testing in the 2009 IECC, 2012 IECC and 2015 IECC and how they are modified during state code adoption. 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.

Suggested Presenter(s):
Theresa Weston, DuPont Building Innovations

Knowledge Level: Beginner

Title: (EC-3) Aligning HERS Index Values With Code Requirements: Properly Assessing Windows

Abstract:
Changes to the IECC in 2009, 2012 and 2015 have caused a divergence in how HERS index values are calculated compared to common energy code requirements. Recent changes to the IECC have now also opened the door for using the HERS Index as an energy code compliance mechanism. Imperative to code compliance is alignment with the calculation tools and techniques by which window impacts on whole building energy use is determined. This presentation will review the current inconsistencies that exist between the HERS Index calculations and requirements within the IECC. Critical differences in assumptions and techniques include how interior shading is calculated and shading assumptions, thermostat set point requirements in energy analyses and equipment sizing, window-to-wall area ratio limits and assumptions and others. We will discuss possible solutions for raters in the field to reconcile the code requirements with more accurate HERS index calculations. Ideally these refinements will strengthen the HERS rating pathway as a potential energy code compliance option.

Suggested Presenter(s):
Chris Mathis, Mathis Consulting Company
Jim Larsen, Cardinal Coporation

Knowledge Level: Beginner

Title: (EC-4) Do Building Codes really incorporate Building Science or does adoption and enforcement bastardize the codes intent?

Abstract:
The perception is that the Building code, including the energy code, is the legally worst standard available to build a house to. I don't believe that is true. Let's look more closely at how the Energy code, in particular, is structured and discover how Building Science is steeped in the code and has transformed it into a platform to build a high performance home. Then let's look at how adoption and enforcement blows it all up.

Suggested Presenter(s):
Robby Schwarz, EnergyLogic

Knowledge Level: Beginner

Title: (EC-5) Duct Leakage Testing - Codes, Compliance and Testing

Abstract:
Duct leakage issues affect homes of all types. Leakage of ducts in unconditioned space wastes energy as well as introduce air quality issues. Leakage of ducts in conditioned spaces can cause pressure imbalances which affect the house and its occupants. New building codes are swiftly moving across the country and affecting new construction as well as retrofits.

This session will cover the new building codes how to be in compliance with the codes and how to perform a variety of tests to satisfy the code official as well as the home owner. The session will also cover best practices, trends in the field and proven applications

Suggested Presenter(s):
Frank Spevak, The Energy Conservatory

Knowledge Level: Beginner

Title: (EC-6) Energy Code Compliance-A peek into DOE's approved methodology for measuring compliance

Abstract:
Energy code compliance improvement efforts are happening around the country! Find out first-hand how the DOE approved methodology works for measuring energy code compliance,how it's working in the southeast and what we've learned so far.

Suggested Presenter(s):
Jonathan Coulter, Advanced Energy
Lauren Westmoreland, SEEA
Bourke Reeve, Southface

Knowledge Level: Beginner

Title: (EC-7) HERS-As-Code Compliance: What Raters and Code Officlas Need to Know First...

Abstract:
This session will explore the expanding use of HERS Ratings and Raters in Energy Code compliance in states across the country. Case studies of states utilizing HERS and Raters as thrid-party compliance mechnisms will be reviewed. The knowledge needs of both Raters and Code Enforcement Officials (CEOs) - what they need to know about each others busnesses and standard operating procedures -will be discussed in depth, with input from representatives of both groups during the presentation. The Rater community will learn of new business opportunities for applying their skills and trade to the increasing interest in achieving better code compliance, and we hope to work with attendes to solve some of the logistical issues presented by the use of HERS-As-Codes in the U.S..

Suggested Presenter(s):
Michael C. DeWein, Institute for Building Technology and Safety

Knowledge Level: Beginner

Title: (EC-8) I'll Have a Tight House, Please . . . and Hold the Foam

Abstract:
Used to be that a few cans of convenience foam could be considered an air sealing strategy. Today, a number of issues—from ever increasing building tightness standards to liability concerns about spray foam—are driving builders to consider alternative air sealing strategies. Using results from laboratory and field research, this session will help builders and raters to understand common leak paths, their comparative importance, and how to devise cost-effective air sealing strategies that will meet even the most stringent requirements.

Suggested Presenter(s):
Dan Lutz, Knauf Insulation
Dave Wolf, Owens Corning
Alan Sealock, Huber Engineered Woods
Ken Levenson, 475 High Performance Building Supply

Knowledge Level: Beginner

Title: (EC-9) Meet Energy Codes at Lower Cost with Performance Build

Abstract:
Builders fear that building to the 2012 and or other advanced energy codes is cost prohibitive, but this fear is unwarranted. In most cases, they can meet the advanced energy codes at little additional or even reduced construction cost. The importance of three items in meeting the energy codes at the lowest cost are stressed: 1) using the performance path to show compliance with the energy code, 2) use the cost-effective performance trade-offs enabled by reduced air infiltration to lower construction cost, and 3) use more effective means of air sealing than have been used traditionally to reduce the level of infiltration. Specific examples of how lowering air infiltration compares to other alternatives for lowering energy use are given, including increased insulation values and reduced window U-values. The presentation also discusses the impact of reduced air infiltration on moisture performance as well as energy use. The question of whether the dwelling is “too tight” is specifically addressed and clarified, giving the audience an understanding of the relative importance between the movement of moisture by vapor diffusion and the movement of moisture by air infiltration. Specific examples are given to aid understanding.

Suggested Presenter(s):
James R. Wells, PhD., Tremco Barrier Solutions

Knowledge Level: Beginner

Title: (EC-10) Meeting the Code: Incentivizing building code required testing and verification (T&V) while claiming significant energy savings and transforming the industry

Abstract:
For the first time in the history of construction, residential building codes now require testing and verification (T&V) of energy related components. The critically energy important duct and envelope systems are now required to meet specific requirements for energy performance, and pass T&V, in order to meet the building code. Most states throughout the country have adopted a version of the International Energy Conservation Code (IECC) that requires T&V for duct and envelope systems. Since the building community has never had these detailed energy requirements, there is tremendous opportunity for utility energy efficiency programs to transform the market, through proper tools, trainings, and incentives. The Connecticut utility companies, through the Energize CT initiative, first targeted this as an opportunity in 2011 by hosting twelve energy code trainings where a total of 600 code officials and builders attended. As a result of the trainings, the building industry representatives expressed confusion around the duct and envelope T&V requirements. Their concerns included the added time involved with the T&V, confusion around who is approved to do the T&V, who pays for the T&V, and how to properly correct issues if the duct or envelope does not pass the T&V. As a result of these concerns, the CT utilities created a process that is helping to transform the CT industry. This presentation will explain how Connecticut has implemented this program, which will offer other states a resource for creating a standardized approach to properly implement a program around effective code required testing and verification.

Suggested Presenter(s):
Jennifer Parsons, United Illuminating Company

Knowledge Level: Beginner

Title: (EC-11) Opporunities of HERS Raters Expanding Their Services to Include Code Inspections

Abstract:
An increading number of code jurisdictions have adopted a HERS Index Score compliance option to their energy codes. The 2015 IECC will include a Energy Rating Index option. The awareness of home energy ratings is growing among code officials. With this awareness comes a new business opportunities for certified RESNET HERS Raters. RESNET has entered into a partnership with the International Code Council to open this opportunity to raters. This session will explore this opportunity.

Suggested Presenter(s):
Dominic Sims, ICC
Steve Baden, RESNET

Knowledge Level: Beginner

Title: (EC-12) Pick your poison and how to get there

Abstract:
3 ACH50 or 5 ACH50, depending on your climate, is the poison pill of the 2012 and 2015 IECC. However this level of house tightness is more than achievable. In fact the IECC tells you exactly how to do it. Follow the bread crumbs and help your builders achieve not only a code compliant house but a house that performs well.

Suggested Presenter(s):
Robby Schwarz, EnergyLogic

Knowledge Level: Beginner

Title: (EC-13) Prescriptive, Performance, and ERI: Perspectives on the Requirements in the 2015 IECC and HERS Provider Risks, Responsibilities and Opportunities

Abstract:
The 2015 IECC now includes an Energy Rating Index (ERI) compliance option for residential construction. This pathway includes guidance on the use of the Home Energy Rating System (HERS) Index for energy code compliance with the IECC. One of the advantages of this compliance pathway is flexibility when complying with the code. Another is to provide valued relief to building inspections departments by delegating some of the aspects of IECC compliance enforcement to professional raters. However, as this new responsibility shifts from building inspectors to HERS raters, it is critical that raters are aware of their increased responsibility and some of the risks embodied therein. This presentation will discuss what the new code requires along with some of the risks and responsibilities of raters as de facto code compliance officials. It will discuss opportunities embedded in providing increased value to the wider marketplace of utility programs, remodeling and replacement projects, mortgage lenders and others.

Suggested Presenter(s):
Chris Mathis, Mathis Consulting Company
Bridget Herring, Mathis Consulting Company

Knowledge Level: Beginner

Title: (EC-14) RESNET HERS and the 2015 IECC

Abstract:
The 2015 edition of the International Energy Conservation Code (IECC) now includes a new Energy Rating Index (ERI) approach. Given the popularity of RESNET's Home Energy Rating System (HERS) within the building community, the HERS Index is likely to be the metric of choice for homes choosing to comply using the ERI path. Because the HERS Index is a whole building performance index while the traditional IECC performance-path considers only heating, cooling, domestic hot water and lighting end-uses, there are differences in how the two systems behave in terms of traditional code compliance. Pacific Northwest National Laboratory (PNNL) and Florida Solar Energy Center (FSEC) conducted analyses exploring the correspondence between the HERS Index values and traditional IECC performance-path compliance. This session provides a brief overview of the analyses and results followed by a detailed discussion of how those results can address potential code adoption issues at the state level.

Suggested Presenter(s):
Vrushali Mendon, Pacific Northwest National Laboratory
Philip Fairey, Florida Solar Energy Center
Z. Todd Taylor, Pacific Northwest National Laboratory

Knowledge Level: Beginner

Title: (EC-15) Taking It to the Streets - Applying the Energy Rating Index Code Compliance Option at the State and Local Level

Abstract:
The 2015 IECC has an Energy Rating Index compliance option. But the option is not reality until it is adopted at the state and local level. RESNET has develop a set to tools aimed at raters, builders and code officials in considering applying the Energy Rating Index compliance option. These tools include:

- Overview of the Energy Rating Index compliance option
- HERS Index Scores with 2009 and 2012 versions of the IECC
- Implementation of the Energy Rating Index at the state and local level
- Cost effectiveness of the 2015 IECC Energy Rating Index option

- Case studies of code jurisdictions using a HERS Score Index Score option

This session will introduce these tools, explore the adoption of the option at the state and local level and present examples where the HERS Index Score compliance option has proven to be successful.

Suggested Presenter(s):
Eric Makela, Brett - Makela
Jim Petersen, Lennar
Clayton Traylor, Leading Builders of America

Knowledge Level: Beginner

Title: (EC-16) The Cost Effectiveness of the Energy Rating Index Compliance Option of the 2015 IECC

Abstract:
First the good news, the 2015 IECC includes an Energy Rating Index compliance option. This gives builders greater flexibillity and rater new business opportunities.

Now the bad news, the rating index scores are stringent - in the 50s in all climate regions.

This raises the question if the rating scores mandated in the 2015 IECC cost effective to achieve. To answer the question RESNET commissioned the Florida Energy Score to undertake an economic analysis of going from the 2012 IECC to the 2015 IECC Energy Rating Index option.

This session will feature the authors of the study - Philip Fairey of the Florida Solar Energy Center, Meg Waltner of the Natural Resources Defense Council and Eric Makela of Britt-Makela. They will present the findings of the study and lead a discussion on its implications for local code jurisdiction considering adopting the 2015 IECC.

Suggested Presenter(s):
Philip Fairey, Florida Solar Energy Center
Meg Waltner, Natural Resources Defense Council
Eric Makela, Britt - Makela

Knowledge Level: Advanced

Title: (EC-17) The Energy Rating Index Compliance Option of the 2015 IECC - A Primer

Abstract:
In 2013 the International Codes Council adopted an Energy Rating Index Option to the 2015 IECC. The option includes HERS Index Scores as well as mandatory measures contained in the 2009 IECC. This action offers greater flexibility to builders in complying with the code and a potential boost to the demand for home energy ratings. This seesion will explain the process on how the option was adopted and will walk participants throught the requirements of the 2015 IECC Energy Rating Index compliance option.

Suggested Presenter(s):
Eric Makela, Britt - Makela
Meg Waltner, Natural Resources Defense Council
Clayton Traylor, Leading Builders of America

Knowledge Level: Beginner

Title: (EC-18) What's Happening with Energy Codes? Are Raters Really Featured in the 2015 IECC?

Abstract:
Is this the Holy Grail opportunity for HERS Raters to own the lion's share of energy code compliance?

The 2009 IECC is currently the most common energy code in place, with only a handful of states implementing the newer, more stringent 2012 IECC. While the market is catching up, the 2015 IECC appears and basically mimics the 2012 but introduces the concept of an "energy index" (completely modeled on the HERS index!) as a means of demonstrating compliance.

The 2012/15 IECC are doable but tough – total duct leakage must be < 4%! Air sealing and insulation demands advanced framing such as insulated headers and corners, must be visually inspected and must be proven tight with a blower door test of < 3 ACH50 for the majority of the country! [Remember, the 2012/15 "minimum" prescriptive codes exceed ENERGY STAR in several aspects!] Also, intentional whole house ventilation is effectively required but doesn't completely synch up with ASHRAE 62.2; learn the details and distinctions of this oh so crucial set of new requirements.

This session focuses on the energy code essentials. Participants will learn the prescriptive code requirements (good windows and lots of R-value) and compare these to the more common 2009 IECC values. We'll discuss how older simple UA trade-off tools, such as REScheck, are limited and somewhat obsolete making way for simulated performance trade-offs such as those performed by HERS raters on a daily basis.

Finally, even though over thirty states have now adopted the 2009 IECC or better, the degree to which performance testing has been implemented varies widely. True high performance homes need to do more than pass code "on paper", they must be tested. We'll share lessons learned as Southface helped create a minimum testing certification for Duct and Envelope Tightness (DET) Verifiers. We'll also discuss how raters are still successfully able to perform the majority of this required testing and have picked up business due to the enforcement of the newest energy code.

Suggested Presenter(s):
Mike Barcik, Southface

Knowledge Level: Advanced

Title: (EC-19) Why HERS Phase I will never be effective in California

Abstract:
There is a belief that a person entering the HERS Rater industry in California will have an already established market in which to perform. There is also the misconception that because it is code, HERS Raters are in high demand and will never run out of work. These messages are not only incorrect, they are deceiving. Consider these points;
1. Less than 4% of all HVAC installs in California actually get HERS verified
2. There is no incentive for anyone to have HERS verifications on newly installed or replaced systems. The installing contractor sees it as a nuiciance, the homeowner doesn't want the additional expense added to the bill, and the most local jurisdictions don't even bother enforcing the rules.
3. HERS verifications (Phase I- Compliance Rating) does NOT ensure an efficient system or comfort to the occupants.
4. The only ones making money in HERS (Phase I or II) are the HERS Providers.

Suggested Presenter(s):
Kevin Beck, Building Performance Services

Knowledge Level: Beginner

Financing & Incentives

Title: (FI-1) CEO, Green Energy Money, Inc

Abstract:
This session examines how high-performance building valuations are being successfully quantified and standardized to recognize value; properties are being financed with improved incentives and paybacks; and how the high-performance economic story can be translated consistently and effectively across mulitple vertical markets. A review of new Green Initiative financing programs and improved valuations on case studies in new regions going beyond net energy will be covered (including minus HERS Index as low as -11 are being quantified).

New education and free economic tools along with milestones Green Energy Money has achieved with new finance policies and progress to continue to unlock the barriers to advance high-performance building to mainstream markets will be covered.

Suggested Presenter(s):
Teresa Lopez, Green Energy Money, Inc.

Knowledge Level: Beginner

Title: (FI-2) Crowdfunding for Energy Mortgages? Why Not!

Abstract:
When Ken & Sharla Riead founded their company, Hathmore Technologies, LLC, in 1979 Ken was already teaching about energy mortgages as an instructor for the Red Rocks College Solar Program. Ken helped Ron Hughes create the private sector funding organizational methodology that Ron used to start the Energy Rated Homes of Arkansas providership. If you know your history you know that Energy Rated Homes of Arkansas became Energy Rated Homes of America under the Clinton Presidency and then was subsequently purchased by a fellow named Steve Baden who changed the name to the Residential Services Network or RESNET. What you might not know is that this same methodology was incorporated into the framework of the first National Energy Policy Act of 1992 and signed into law by the elder President George H. W. Bush. Access to private sector financing for energy mortgages has been available nationally since Jan. 1, 1993 but getting banks, credit unions, savings & loans and other private lenders to understand & use them has never really ramped up. Crowdfunding offers opportunities for infusing private capital into energy mortgages by helping people define and decide what they want in their new or existing residence, especially when assisted by Design Charrettes. Ken & Sharla will explain how to obtain financing for all types & sizes of residential projects, from simple upgrades to zero-energy, Passivhaus/Passive House, living buildings and more.

Suggested Presenter(s):
Ken Riead, Energy Mortgage Network
Sharla Riead, Accurate Rater Network

Knowledge Level: Beginner

Title: (FI-3) Making Green Pay: How Builders, Raters, and Appraisers Can Maximizing Returns, Results, and Value

Abstract:
Every wonder why there is so much paperwork, communication, and information needed to get a high performance project built, verified and closed? How can the process be streamlined and create additional financial

rewards for raters, builders, appraisers, and the community? With new technologies and information we will show you how to elimnate costly mistakes in product selection, information flow, and accuracy will cutting the it takes to insure you get the most money, performance, and efficiency in every project.

Suggested Presenter(s):
David Carolan, Solid Green Companies
Todd Ebner, Solid Green Companies

Knowledge Level: Beginner

Title: (FI-4) The Appraisal Instute Green Addendum and the HERS Index Score

Abstract:
RESNET and the Appraisal Institute has entered into an agreement to allow RESNET certified Home Energy Raters to complete the Green Addendum. This session will explain how to complete the form and the market power of the addendum.

Suggested Presenter(s):
Bill Garber, Appraidal Institute
Sandra K. Adomatis, Adomatis Appraisal Service

Knowledge Level: Beginner

Title: (FI-5) Threading The Needle

Abstract:
The undervaluation of energy efficient homes is a multi-layered problem. Without changes in HUD guidelines, the underwriting process puts more weight on the price tag of a home than the lowered monthly utility bills. Even with a positive cash flow, many are challenged to obtain a mortgage. How can the industry help reconcile code compliance, appraisals and financing? Our panel of experts will investigate this.

Suggested Presenter(s):
Bill Fay, Energy Efficient Codes Coalition
Michael Hobbs, PahRoo Appraisal & Consultancy
Mike Collignon, Green Builder Coalition

Knowledge Level: Beginner

Title: (FI-6) Valuing the Future: Mortgage Lending for High-Performance Building

Abstract:
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 Greem Iniative FHA and Conventional expanded guidelines - including energy efficiency and renewable energy
- How lending institutions can play an environmental leadership role in lenfding for high-performance buildings
- New funding opportunities with private capital and incentivized green mortgages and monetized appraisals

- Overvire of the targeted regional High-Performance Pilot (HIPP) initiative for 20,000 single-family homes and multi-family project

Suggested Presenter(s):
Teresa Lopez, Green Energy

Knowledge Level: Beginner

Home Energy Ratings

Title: (HERS-1) Bringing Professional Practical Testing Into the 21st Century - The RESNET Simulation Based Rater Practical Test and the Rating Field Inspector Tablet Mentoring Tool

Abstract:
There are number of problems with field based practical tests, chiefly replicability and consistency among all students. To address these issues RESNET will be introducing a new set of technologies to test the practical knowledge of certified RESNET HERS Raters and Rating Field Inspectors.

The rater test will be a simulation based test jointly developed by Interplay Energy and RESNET. The platform will be similar to the RESNET CAZ simulation test. RESNET standards require that beginning on January 1, 2016 all new rater candidates must pass the simulation examination.

Currently RESNET tests Rating Field Inspector Candidates through a multiple choice online test. This has many sevre limitations including multiple tests are not really effective for testing practical knowledge of a candidate and many of Rating Field Inspector candidates have English as a second language.
This session will explore why RESNET has adopted this strategy and have the test developers demonstrate their tests.

Suggested Presenter(s):
Kathy Spigarelli, RESNET
Doug Donovon, Interplay Energy
Rob Moody, RESNET

Knowledge Level: Beginner

Title: (HERS-2) Cha…Cha…Cha…Changes…

Abstract:
If you're too young to remember David Bowie, this title doesn't mean much to you. So maybe this one is better: Proposed HERS Index Revision – and Its Impact on the Rating Community. Independent of your title choice, there is a movement afoot to expand the HERS Index to include a more comprehensive evaluation of the HVAC system (the single largest energy consuming appliance in a home). This session will address: What does the proposed change look like? What impact will it have on the HERS Index? What can you do now to prepare for the change?

Suggested Presenter(s):
Ron Bladen, ACCA
Wes Davis, ACCA

Knowledge Level: Beginner

Title: (HERS-3) Creating Consistency: Uncovering the REM Inputs that are Screwing Up Your Ratings

Abstract:
Through our work as a national RESNET QA Provider, EnergyLogic consistently runs into 1/10 QA files that fail their QA reviews due to huge HERS swings caused by seemingly trivial REMrate inputs. This session will uncover these Most Vauable Player REMrate inputs to help raters focus efforts on creating consistent, repeatable, and hghly accurate HERS ratings in the future. Incorporating these techniques into your rating workflow will not only help

you pass your annual QA more consistently, but will help guide the industry to more repeatable HERS scores throughout the country.

Suggested Presenter(s):
Glenn Pease, EnergyLogic, Inc.
Tom Flanagan, EnergyLogic, Inc.

Knowledge Level: Advanced

Title: (HERS-4) Energy Rating Data Sharing and Transparency

Abstract:
This session will explore how HERS Raters, Providers, and Energy Efficiency Program Sponsors can streamline the generation and delivery of HERS and other green building program data to key stakeholders in the real estate, mortgage, and energy efficiency industries. We'll explore how Raters and Providers can develop new revenue streams and differentiate themselves through data sharing, and how Energy Efficiency Program Sponsors can improve program efficacy, add value for program participants, and enable transparency by embracing data sharing policies and solutions. Topics such as data rights, data validation, QA/QC processes, and data distribution channels will be discussed along with an overview of existing solutions and general recommendations for enabling effective data sharing in the future.

Suggested Presenter(s):
Bob Burns, Pivotal Energy Solutions
Clinton Heyn, Pivotal Energy Solutions

Knowledge Level: Beginner

Title: (HERS-5) Eye in the Sky: Video QA as Above and Beyond the RESNET Minimums

Abstract:
Access to homes for low volume HERS Raters is an issue that impedes on meeting the intent of the RESNET QA Standards. Limited accessibility requires careful planning and often means there is less room for random selection and "credible discovery" in the QA process. Compounding the issue of accessibility is that low volume raters often don't have a provider in their area. In this case, the provider often times has to schedule QA with the rater weeks in advance in order to accommodate travel schedules and access to a home. While EnergyLogic still performs site QA to meet our RESNET obligation for every rater, we have piloted using video conferencing as a best practice in varying circumstances. This was done above and beyond the RESNET minimums and on-site QA was still performed, however we wanted to see for ourselves if random video conferencing of a rater on site would help strengthen our quality assurance program. Come see what we learned in the process.

Suggested Presenter(s):
Glenn Pease, EnergyLogic
Scott Doyle, EnergyLogic

Knowledge Level: Beginner

Title: (HERS-6) FutureProofing Existing Homes with the HERS Index

Abstract:
The Sustainable Housing Foundation developed the FutureProofing concept to help educate Canadians on the benefits of living in homes that are more sustainable. The Sustainable Housing Foundation is a Canadian Not-For-Profit with a mandate of significantly increasing the number of sustainable homes in Canada.

See more at:
http://projectfutureproof.com/about-us/#sthash.n9OPKbiW.dpuf.

SHF also created a Home Energy Savings Calculator for one of Canada's leading Financial Institutions (https://ecoliving.scotiabank.com/calculator/en/), (Scotiabank), and that tool allows homeowners to make a quick assessment of the potential upgrades. It breaks down costs for the upgrades, it shows the potential savings and it also has the ability to increase annual energy and water prices to show a true payback. This tool opens the door for HERS raters, as it's has easier sell for a homeowner when they have a baseline for potential savings. ProjectFuture Proof has a unique way of packaging this, which includes partnerships with raters, manufacturers, contractors and utilities, which enables a streamlined approach for a homeowner. PFP would like to share its successes which uses the HERS Index to help tell the story.

Suggested Presenter(s):
John Godden, Cresnet
John Bell, ProjectFuture Proof

Knowledge Level: Beginner

Title: (HERS-7) Great news! Builders can now lower their HERS score with Drain Water Heat Recovery

Abstract:
This session will review the various HERS points now available in the different US climate zones by water heater type. Typical and maximum point reduction will be presented. Installation of drain water heat recovery will also be reviewed in order to maximize HERS score reduction.

Suggested Presenter(s):
Rod Buchalter, Renewability Energy Inc.

Knowledge Level: Beginner

Title: (HERS-8) Harmonizing Home Energy Ratings Between California and RESNET

Abstract:
California has long had a seperate home energy rating system. Established by state law and governed by the California Energy Energy Commission the California HERS is based on the state's energy code, Title 24. Large production home builders are advertising their homes RESNET HERS Index Scores. This trend could create industry and public confusion with competing HERS scales. Over the past year the California Building Industry Association, California Energy Commission and RESNET have been in discussions on how to make the California HERS and RESNET HERS compatable. This session will explore the differences and options to resolve them.

Suggested Presenter(s):
Jacob Atalla, KB Home
Bill Pennington, California Energy Commission
Bill Raimer, California Building Industry Association

Knowledge Level: Beginner

Title: (HERS-9) Harmonizing Home Energy Ratings Between the Pacific Northwest and RESNET

Abstract:

Since the beginning of the program the Pacific Northwest has had it own ENERGY STAR verification process based upon a perscriptive standard. The Northwest ENERGY STAR program has gravitated to a performance based verification process using a modfified version of REM/Rate. RESNET is in negotiation with the region on how to incorporate the RESNET HERS Index into their program. This session will explain the history of performance verification in the Pacific Northwest, the current way the regional ENERGY STAR is operated and explore the possibility of harmonizing the regional program with RESNET.

Suggested Presenter(s):
Andy Gordon, Washington State University Energy Program
Brett Dillon, IBS Advisors
Dan Wildenhaus, ClearResult

Knowledge Level: Beginner

Title: (HERS-10) HERS Scores and Utility New Homes Programs

Abstract:
Across the nation from Gerogia to Arizona utilities are basing their new homes on the RESNET HERS Index. This session will showcase utilities that have adopted such a strategy and report on how well the the HERS Index Score is fitting within their priorities.

Suggested Presenter(s):
Tom Himes, APS
Tim Carter, Georgia Power
Mat Gates, Residential Science Resources

Knowledge Level: Beginner

Title: (HERS-11) Multi-Family Certifications: Learning The Hard Way

Abstract:
This session will highlight three examples of potential pitfalls, while providing insight into additional opportunities to integrate RESNET-based protocols and HERS rater services. Example projects will include Energy Star Multi-Family High-rise, LEED for Homes Mid-rise, and Enterprise Green Communities.
The panel will consist of a HERS rater/provider and a HERS rater/architect.

Suggested Presenter(s):
Laureen Blissard, Green Builder Coalition
Barb Yankie, Green Building Consulting/Homes+

Knowledge Level: Advanced

Title: (HERS-12) New Tools for Rater Quality Assurance Designees

Abstract:
In its effort to enhance the national consistency of HERS Index Scores RESNET has developed a set of new tools for Quality Assurance Designees. These tools includes:

- A standardized rating file review checklist
- A standardized rating field review checklist
- A quality assurance process handbook
- A series of videos on quaity assurance

This session will introduce the new tools and discuss how they can assist Quality Assurance Desginees do their jobs more consistently.

Suggested Presenter(s):
Laurel Elam, RESNET
Brett Dillon, IBS Advisors
Daran Wastchak, DR Wastchak

Knowledge Level: Advanced

Title: (HERS-13) Overview of the New Capabilities to Account for Hot Water Efficiency

Abstract:
Hot water use is generally among the top three energy uses in a home or apartment. Over the past several years there has been a concerted effort to enable HERS to account for reductions in hot water use in addition to its existing ability to account for water heater efficiency. The method can now provide credit for reductions in the structural waste due to improved hot water distribution layouts, the water savings due to water efficient dishwashers and washing machines and to reduced flow rate shower heads and faucets, the operational waste due to thermally activated shower shut off valves, the energy savings due to the use of drain water heat recovery, and the energy consequences of using circulation loops to reduce hot water wait times. Once the reductions (or increases) in water use have been accounted for, the energy implications of those decisions are then calculated and HERS points (or reductions) are assigned. This session will present an overview of the development of the new method, the underlying math and a discussion of how raters will be able to verify that each claimed measure has in fact been installed and is operating as intended.

Suggested Presenter(s):
Gary, Klein
Philip Fairey, FSEC
David Roberts, NREL

Knowledge Level: Beginner

Title: (HERS-14) Path to Enhanced National Consistency of HERS Index - Proposed Amendments to RESNET Quality Assurance Standards and Procedures

Abstract:
For the past year RESNET has undetaken a process to enhance the national consistency of HERS Index Scores. This effort included working groups to develop options to needed changes to RESNET's standards and procedures, input on the options by the rating industry, development of a set of recommendations to the RESNET Board, and the RESNET Board adopting the options. The board's policies are now drafted into a set of RESNET standard amendments that will be undergoing the RESNET standard amendment public review and comment process. This session will explain the most significant proposed changes and answer questions from the industry. This session will assist the rating industry in presenting its input to the proposed changes.

Suggested Presenter(s):
Jim Petersen, President, RESNET Board
Philip Fairey, Chairman of RESNET Software Fix Working Group
Daran Wastchak, Chairman of RESNET Quality Assurance Working Group

Knowledge Level: Beginner

Title: (HERS-15) Quality & Quantity: Maintaining a Quality Rating System When Your Business is Scaling Up

Abstract:
Quality Over Quantity: It's an age-old adage...however, they do not have to be competing forces if paired with proper planning. Landing larger clients can afford an owner/operator with the opportunity to make smart growth decisions. The alternative is to choose to do things the way they've always been done - which can be messy, especially when adding employees. This fun and informative session will provide attendees with tips on smart growth decisions - and will be especially helpful for owners who are looking to scale up or who are interested in learning about new ways to streamline the rating process. Topics to be discussed include: tips on quicker from-plans takeoffs, maximizing schedules, time-saving tips in REM Rate, best practices for streamlining the process of site inspections, tips on system integration, and balancing client management with customer service. Regardless of the size or growth of your company, we know you'll come away with some great tips.

Suggested Presenter(s):
Robby Schwarz, EnergyLogic
Steve Byers, EnergyLogic
Glenn Pease, EnergyLogic

Knowledge Level: Advanced

Title: (HERS-16) Rating Quality Assurance - The Good, The Bad and The Ugly

Abstract:
Each year RESNET conducts oversight monitoring of how its quality assurance provisions are being carried out by Rating Quality Assurance Providers. In this session Laurel Elam, RESNET Quality Assurance Manager will highlight the best practices that Providers have implemented and explore some of the less than stellar practices uncovered. The purpose of this session is to high light what RESNET sees as best practices and provide a learning moment in what to avoid.

Suggested Presenter(s):
Laurel Elam, RESNET
Abe Kruger, RESNET

Knowledge Level: Advanced

Title: (HERS-17) The Solar Industry and the HERS Index - A New Marriage

Abstract:
On-site solar production is accounted in the RESNET HERS Index. Solar must play a critical roll towards the net zero energy home. With the Energy Rating Index now a compliance option of the 2015 IECC the HERS Index can be a strategy for builders using solar as a compliance tool. This session will have the nation's largest solar companies explain what ratings fit into their industry and how raters can partner with the companies.

Suggested Presenter(s):
Walter Cuculic, Solar City
Matt Brost, Dow
Mark.C.Stancroff, Certainteed

Knowledge Level: Beginner

Title: (HERS-18) Turn Off the Lights! Energy Efficiency Opportunities Through the Integration of Daylighting Technology.

Abstract:
Neall Digert, Ph.D, MIES will discuss new advancements in National Fenestration Rating Council (N.F.R.C.) rating protocols that are being developed for new energy efficient Optically Complex Fenestration Products (O.C.F.P's). That is, how can optically engineered products (such as tubular daylighting devices), allow builders to reduce lighting loads and get credit for this energy efficient innovation. Moreover, how will advancements in the rating protocols allow energy raters to better quantify the contribution of daylighting technologies. Eric H. Miller LEED AP BD&C will add to the discussion by weaving in a conversation about how the integrated design process can be leveraged to reduce energy loads. In other words, how can we incorporate daylighting and other zero energy technologies into energy sipping homes.

Suggested Presenter(s):
Neall Digert Ph.D. MIES, Solatube International, Inc.
Eric H. Miller LEED AP BD&C, Solatube International, Inc.

Knowledge Level: Beginner

Title: (HERS-19) Turning "HERS Rating" into "HERS Designing"

Abstract:
The designation "HERS Rater" implies that the rater joins the party after all the design work is done, verifies that the home has been built as designed, and pins a HERS score on the project. If this were the way it always worked, builders would be left guessing at effective energy designs and crossing their fingers for good HERS scores. In reality, the HERS Rater usually plays a combination role of Rater and Energy Design Consultant. This session will suggest an improved "HERS Design" workflow where those familiar with the HERS Standards would help builders optimize their designs to achieve the desired HERS Scores and required code compliance. Specific workflow suggestions and data on their effectiveness will be presented based on the experience of builders, HERS Raters/Providers, and HERS Software Providers.

Suggested Presenter(s):
Cy Kilbourn, Ekotrope
Michael Browne, Advanced Building Analysis

Knowledge Level: Beginner

Title: (HERS-20) Valuing and Recognizing Energy Performance in Existing Homes Market

Abstract:
The news is out: Green labeled homes sell at higher prices and their market share is growing. Studies show that linking energy efficiency to home values is a powerful way to sell home performance. The U.S. Department of Energy is collaborating with program administrators and their contractors around the nation to implement use of certificates and labels to recognize performance in existing homes. DOE's Residential Buildings Initiative is turning to innovative approaches to scale efforts to advance home improvement projects and recognition of energy performance in the sales transaction. Program administrators and home performance contractors are seeing if results are driven by the use of certificates of efficiency improvement and/or certificates of performance which include use of ratings such a HERS Index, Home Energy Score, or other local rating program. During this session, DOE will provide an update on efforts to advance certificates and labels in the Home Performance with ENERGY STAR and Home Energy Score programs and how Raters, Providers and EnergySmart Contractors might leverage these national programs.

Suggested Presenter(s):

Ely Jacobsohn, US DOE
Caroline Hazard, SRA International

Knowledge Level: Beginner

Title: (HERS-21) What Are Builders Are Looking for in a HERS Rater?

Abstract:
The largest customer for HERS rating is homebuilders. What are builders actually looking for when they contract with a certified RESNET HERS Rater?. This session will feature but national and local buildersthat will explore the builder's perspective of services and experience a rater must have.

Suggested Presenter(s):
Kelly Stephens, SunRiver St. George
Jim Petersen, Lennar
Dean Potter, K. Hovnanian Homes

Knowledge Level: Beginner

Title: (HERS-22) What is the value of a HERS point?

Abstract:
Many builders target low HERS scores rather than building to code-minimums, but what are they getting in return? And how low can they go while still increasing profit? This session will analyze the true value of lower HERS scores using several metrics and data from real builders across the country. The metrics will include energy savings for homeowners, NPV to homeowners, added cost for builders, and profit change for builders. Attendees should leave with an improved understanding of how the HERS score can help increase the profitability of home building businesses.

Suggested Presenter(s):
Cy Kilbourn, Ekotrope

Knowledge Level: Beginner

Title: (HERS-23) Why an entry level energy rating program is ideal in today's new home market

Abstract:
The president of ecoSelect will discuss the importance of having an entry level energy rating program in the energy efficiency assessment industry. Although simplified, an effective entry level offering delivers the greatest value when comparing upfront building costs with long-term energy efficiency. Bob will elaborate on the premise and it's proven results in North Carolina where ecoSelect, an entry level program, has experienced rapid growth across a wide range of builders.

Suggested Presenter(s):
Bob Kingery, ecoSelect

Knowledge Level: Beginner

HVAC

Title: (HVAC-1) Air Flow Diagnostics and RESNET Standards

Abstract:
Air flow diagnostics are an inportant part of a rating but are also useful diagnostic tools for energy auditors. They are also increasingly required in building codes and standards as well as voluntary programs. Although air flow measurements have been around in the HVAC industry for many years, in recent times it has been found that many of the test methods do not work well in residential applications and this has led to the development of new test equipment and procedures. This session will illustrate some of the performance issues (both good and bad) for a range of air flow diagnostic equipment and procedures with laboratory and field data. It will also summarize the new RESNET 380 Standard on airlfow diagnostics and the new ASTM Standard for rating test equiment. Lastly, this session will provide recommentations for preferred test methods and equiment depedning on the application: house leakage, duct leakage, and heating, cooling and ventilation system air flows.

Suggested Presenter(s):
Iain Walker, LBNL
Chris Stratton, LBNL

Knowledge Level: Beginner

Title: (HVAC-2) HVAC Design 101 for Raters

Abstract:
As a rater, you don't need to know all of the ins-and-outs of designing HVAC systems. But, having a solid understanding of the HVAC design process will help you become a more valuable member of the building process and might be what differentiates you from your competition! This session will cover the HVAC design process as it relates to your role as a Rater. Special attention will be given to Manual-J, Manual-S, and Manual-D since many of these are now required by state building codes. Throughout the training, we'll reference the ENERGY STAR version 3 checklist, as well as the ESVI checklist. You'll leave the training with an understanding of what you should know, what you don't know, and what you need to focus on to round-out your understanding of HVAC system design.

Suggested Presenter(s):
Isaac Savage, Home Energy Partners

Knowledge Level: Beginner

Title: (HVAC-3) HVAC Verifier - What do you need to know?

Abstract:
Can you verify key performanc aspects of an HVAC system installation? Heating and cooling costs are the lion's share of evey homeowners energy expenses, but very little is done to evaluate the system installation. There is more toa system than testing duct leakage, equipment efficiency, and sizing. In this session you will learn about: 1) The impact of poorly installed systems on performance and energy use, 2) Non-invasive tests you can do, and, 3) steps you can take to ensure HVAC contractors are delivering what your customer paid for.

Suggested Presenter(s):
Wes Davis, ACCA
Ron Bladen, ACCA

Knowledge Level: Beginner

Title: (HVAC-4) Lessons Learned from AE's HQUITO program

Abstract:
Losing $300 or more on your new construction ENERGY STAR installs? What are common hurdles to completing the ENERGY STAR HVAC contractor checklist without hassle?

Suggested Presenter(s):
Chris Reynolds, Advanced Energy
Jonathan Coulter, Advanced Energy

Knowledge Level: Advanced

Title: (HVAC-5) Manual-T - The Missing HVAC Design Manual

Abstract:
If you do everything "right," but skip this important step, you very well may destroy any chance of creating and maintaining comfort within the home. It's so elusive that it doesn't even show up as a separate step in ACCA's HVAC design process chart found in Manual-D. This session will cover the core concepts of Manual-T and illustrate the process by which it is carried out during the design process. Examples will be given of common pitfalls and we'll also discuss how to use these newly understood concepts to improve the performance of HVAC systems found in existing homes.

Suggested Presenter(s):
Isaac Savage, Home Energy Partners

Knowledge Level: Advanced

Title: (HVAC-6) NATE Rater HVAC Verifer Certification - A New Opportunity for Raters

Abstract:
Increasing programs such as ACCA and ENERGY STAR are requiring verification of the sizing and installation of the HVAC system. They are looking to certified RESNET HERS Raters as logical candidates to complete this verification. The knowledge to conduct such verification activities are not covered in the basic rater training and testing. To address this issue NATE as adopted a new certification, the NATE Rater HVAC Verifier Professional. NATE has also developed a test that must the passed in order to receive the certification.
Because this expertise is not covered in the basic rater training HERS raters will need additional traiing to pass the NATE test. To meet this need RESNET is developing training curriculum and material that RESNET accredited Rater Training Providers can use to offer the needed training.
This session will descibe the new NATE certification and demonstrate the supporting training support material.

Suggested Presenter(s):
Kathy Spigarelli, RESNET
Denny Smith, NATE
Brett Dillon, IBS Advisors

Knowledge Level: Beginner

Title: (HVAC-7) Selecting HVAC Equipment Using the New Manual-S, 2nd Edition

Abstract:
After many years, ACCA has now updated their original Manual-S publication! This session will provide an overview of the core components to the 2nd Edition of Manual-S while highlighting the major changes between the old and new version of the standard. Topics include: the updated sizing limit methodology for air-conditioners and heat pumps, how to handle multi-staged condensers and ductless systems, adjusting for altitude, minimum sensible capacity limits versus minimum latent capacity limits, how to determine the entering air conditions, and more!

Suggested Presenter(s):
Isaac Savage, Home Energy Partners

Knowledge Level: Advanced

Title: (HVAC-8) The 5 Best Ways to Botch a Duct Design

Abstract:
In this session, we'll explore the 5 most common ways a great house ends up with horrible performance due to poorly designed ductwork. This course is not about software. It's about decisions that should be made, but often aren't. It's about fundamental design principles that are misinterpreted or misunderstood. It's about the false belief that high-end equipment makes good design unnecessary. It's about the oversimplification of the design process for the sake of making things "easier." Join us for a lively session about good people, with good intentions, making bad choices about their HVAC system's ductwork.

Suggested Presenter(s):
Isaac Savage, Home Energy Partners

Knowledge Level: Advanced

Policy & Programs

Title: (PP-1) "A Look behind the Curtain of Utility Programs" Modeling for kWh and How Savings are Calculated and Achieved

Abstract:
Have you ever wondered how HERS Ratings fit into the Utility Program savings equation and how programs actually claim energy savings? It might not be as simple as it appears. Join us for a look behind the curtain and what happens after you submit a home to a utility program and how rule making by utility commissions, energy code baselines and EM&V Contractors fit in to the savings equation. The development behind the New Homes Utility Programs and how HERS Raters can play a more meaningful role.

Suggested Presenter(s):
Maci McDaniel, ICF International
George Cornwell, ICF International

Knowledge Level: Beginner

Title: (PP-2) Aligning Utility Incentives with Savings for Cost-Effective Residential New Construction Programs

Abstract:
Many utility incentive programs use the HERS Index as the primary metric for determining incentive amounts. The value of a HERS rating in determining predicted energy savings is indispensable, but basing incentive levels on the HERS Index may not be the best way for utility programs to encourage deeper savings. This session will present the results of a study of over 2,000 homes that examines how well predicted (modeled) energy savings and actual savings align with the HERS Index. The study found that the correlation between HERS Index and kWh or therms saved is relatively weak, which suggests that many utilities have incentive structures that are misaligned with the desired outcome. Analysis is currently underway to compare actual kWh usage data with predicted usage and HERS Index values. As an alternative, performance-based incentives (e.g. $/kWh or $/therm), by their nature, correlate more closely with energy savings. Given the weak correlation between HERS Index and energy savings, performance-based incentives that specifically reward savings are likely to result in a more efficient use of program resources and a more cost-effective program.

Suggested Presenter(s):
Mike Turns, Performance Systems Development
Kathy Greely, Performance Systems Development

Knowledge Level: Advanced

Title: (PP-3) Bringing Transparency and Rationality to the Housing Market - Mainstreaming Energy Performance in Real Estate and Mortgage Financing

Abstract:
Currently the cost of energy is not considered as a housing cost hence is not taken in account when buying or financing a home. Unless the transparency of a home energy performance is show like a MPG sticker on home or the energy savings of a higher performance home in the mortgage loan the market for high performance homes will always be limited. This is particularly true of whole house retrofits of existing homes. This session will introduce the new RESNET policy initiative and discuss the potential effects of such a policy will have.

Suggested Presenter(s):
Steve Baden, RESNET
David Goldstein, Natural Resouces Defense Council

Knowledge Level: Beginner

Title: (PP-4) Education vs. Training - Let the debate begin

Abstract:
As RESNET evolves to meet the demands of changing markets, new and existing RESNET professionals must gain new knowledge, skills, and abilities (KSAs). Do they gain these KSAs through Education or Training, or both? Does Education and Training come from Certified Trainers or QADs?

This session will debate the differences between education and training, the pros and cons of each approach, and what RESNET's requirements should be for certification, Trainers, and QADs. Let the debate begin!

Suggested Presenter(s):
Darrel Tenter, Saturn Resource Mgmt.
Brett Dillon, IBS Advisors LLC.

Knowledge Level: Advanced

Title: (PP-5) Energy Savings in Multi-Family Common Space: The Next Frontier and Opportunity

Abstract:
More multifamily housing is being built than ever before, with amenities such as screening rooms, exercise studios, etc. in addition to the familiar function spaces, corridors, and laundry rooms. Although common space accounts for 20-30% of a multifamily project, it is frequently underserved by energy efficiency incentive programs and ignored by building developers, Raters, and even energy codes. This session will present a utility incentive program case study and address how it:

- Expanded opportunities for Raters.
- Provided an economic advantage for multifamily developers.
- Increased cost-effective energy savings for the utilities.
- Achieved more than 50% market penetration.
- Successfully coordinated savings and incentives for multiple fuel and meter types

Suggested Presenter(s):
Kristen Simmons, ICF International
Roshan Bhakti, NSTAR Electric & Gas Company
David Ruggiero, ICF International

Knowledge Level: Beginner

Title: (PP-6) Energy Star V3 from a Raters perspective

Abstract:
Still as fresh as it was in 2011, however, this time it will be approached by a panel of Raters from different markets reflecting on different issue. Revision 8 will have been released and there will be lots to talk about there. HVAC, HVAC, HVAC - How about the relationship between Energy Star and an uptick in HVAC comfort complaints. What more can or should the Rater be being asked to do…. Questions, answers, comments, and more.

Suggested Presenter(s):

Robby Schwarz, EnergyLogic

Knowledge Level: Beginner

Title: (PP-7) ENERGY STAR Verified Installation

Abstract:
Approximately 10 million heating and cooling systems were replaced last year, and most of them were installed wrong. It is estimated that 30% of the system's performance will be wasted, and the corresponding energy use will be tremendous. Additionally, consumers will have less comfort and a higher likelihood for poor indoor air quality. ENERGY STAR Verified Installation (ESVI) is a dynamic new program that verifies the installation of new HVAC systems in existing homes. In order for the HVAC system to earn this distinction, it must be installed by a qualified contractor, meet minimum installation requirements, and it must be verified by an accredited third party. RESNET Raters are uniquely positioned to take advantage of this market opportunity. This session will review the ES VI program, the qualifications required to participate, and how you can help your customers get what they paid for.

Suggested Presenter(s):
Chandler Von Schrader, EPA
Wes Davis, ACCA
Ron Bladen, ACCA

Knowledge Level: Beginner

Title: (PP-8) EPA's New Carbon Regulations on Existing Power Plants - The Implications for High Performance Homes

Abstract:
As part of the federal effort to combat climate change the Environmental Protection Agency (EPA) has recently adopted regulations governing carbon released by existing power plants. The proposed regulations give great flexibility to states in developing strategies to meet the states' quotas. One of the options is energy efficiency. This session will explain the new proposed regulations and explore how high energy performance homes verified by a HERS rating can fit into a state's carbon mitigation strategy.

Suggested Presenter(s):
David Goldstein, Natural Resources Defense Council
David Tiery, National Association of State Energy Officials

Knowledge Level: Beginner

Title: (PP-9) Growing your Rater business with ENERGY STAR MFHR services

Abstract:
The certification, which signifies that the building has met rigorous efficiency standards, positions builders/developers as environmentally conscious and is associated with energy savings by consumers. The widespread recognition and positive sentiment of the ENERGY STAR label makes building to ENERGY STAR standards not only an environmentally responsible decision, but also a logical business branding choice. The session will cover ENERGY STAR Multifamily High Rise building requirements, the process throughout building construction, and how Energy Raters are ideal project verifiers.

Suggested Presenter(s):
Carissa Sawyer, EnergyLogic, Inc.

Knowledge Level: Advanced

Title: (PP-10) Healthy Homes Matter: integrating third party certifications increase value of homes

Abstract:
There are an abundance of regional and national certifications that builders are using to differentiate themselves in the market. These third party certifications add a layer of accountability and integrity to the building and project team.. Certifications provide an opportunity to educate property and home -owners on best practices and document the added value. EPA IAP, Energy Star, GreenPoint Rated, HERS all support above code compliance and are complimentary. Understand how these programs relate to each other and how they were implemented on project to achieve goals of the builder. A case study of a project participating in EPA Indoor Air Plus Program and GreenPoint Rated, a green building certification program will be presented to demonstrate viability and benefits of certification.

Suggested Presenter(s):
Amy Dryden, Moderator, Build It Green
Leif Magnuson, PG&E
Project manager, Mutual Housing Community

Knowledge Level: Beginner

Title: (PP-11) Hole in the Bucket!

Abstract:
Currently in Massachusetts a vast array of energy efficiency programs are being offered to rate payers to help incentivize energy efficient residential building practices. Two of the major programs: the Massachusetts Residential New Construction Program (RNC) and the Home Energy Services (HES) Program, service new and existing buildings respectively. These two clearly defined programs start to develop holes in their buckets as 100% gut rehab projects participate in the RNC program while "drill and fills" are relegated to the HES Program. Additionally, independent and often times conflicting high-efficiency rebate programs plug as many holes as they open! As the Massachusetts residential construction industry bounces back an increasing number of new and rehab projects that do not fit either "bucket" are resulting in missed saving opportunities and limited access to incentive dollars. We explore program design options that address this Hole in the Bucket problem!

Suggested Presenter(s):
Ian A.Buba, ICF International
Mark Pignatelli, ICF International

Knowledge Level: Beginner

Title: (PP-12) How We Can All Get Along: Municipalities and Realtors Exploring Ratings in Upstate NY

Abstract:
PSD is working with NYSERDA and a team of Upstate New York municipalities, to explore using asset ratings, including HERS and HES, in real estate listings. The project will develop a Home Energy Rating and Disclosure Program, which may include as a key feature a local ordinance mandating a home energy rating at point-of-listing. This project is designed to increased energy literacy among homebuyers, sellers, and realtors, to generate an energy conscious housing market. This session will examine early results of this project, including input from stakeholder groups.

Suggested Presenter(s):
Emelie Cuppernell, PSD
Greg Thomas, PSD

Knowledge Level: Beginner

Title: (PP-13) Implementing LEED for Homes V4 - Raising the bar, but how far?

Abstract:
To get a glimpse of how the new LEED for Homes V4 rating system works in practice, we'll run a recently Platinum-certified home through the new program, discussing how new processes and point structures in the V4 rating sytem translate to necessary changes in implementing LEED for Homes in the field. The case study home is a Platinum-certified, single family, affordable housing project in downtown Denver, CO.

With the recent release of the new LEED V4 rating systems from USGBC, there have been some big changes both to the details of the rating system, and the certification process overall. There have been adjustments to the credit categories to better align with the other versions of LEED, while some credits have switched categories to more logically align with building work flows and subcontractor focus areas. Beyond these adjustments, there was a focus on reducing the (often-neglected) paperwork exercises that bogged the process in the past. USGBC's efforts have created a LEED for Homes rating system that is more logical, stringent, focused, and easier to implement.

Suggested Presenter(s):
Tom Flangan, EnergyLogic, Inc
Adam Jonash, EnergyLogic, Inc.

Knowledge Level: Advanced

Title: (PP-14) Implementing Sustainable Building in Affordable Housing

Abstract:
A lack of quality affordable housing remains one of the most critical problems facing metropolitan regions across the country. Over 6.5 million low-income families spend more than 50% of their incomes on housing and utility costs, according to the National Low Income Housing Coalition. Sustainable building plays an important role in providing safe, healthy, durable, accessible, energy efficient, and affordable homes to a segment of the population most in need. Join us for a discussion about how Habitat for Humanity International and its affiliates continue to push the envelope by building homes that achieve certifications such as ENERGY STAR, EPA Indoor airPLUS, LEED for Homes, and Passive House while maintaining affordability.

Suggested Presenter(s):
Rob Howard, Habitat for Humanity International
Mark Van Lue, Habitat for Humanity of Greater Los Angeles

Knowledge Level: Beginner

Title: (PP-15) Making the Federal Tax Credit for Energy Efficient Homes More Relevant to Today's Housing Market

Abstract:
The $2,000 federal tax credit to builders for building energy efficient homes expired in 2012. The previous version of the tax credit was based on the 2006 IECC and is dated. The 2015 IECC now has an Energy Rating Index compliance option. RESNET, the Leading Builders of America, the Natural Resources Defense Council and the America Council for an Energy Efficient Economy is working on legislation to make the tax credit revelant by tying

it to the 2015 IECC Energy Rating Index option. This session will explain the proposed legislation and what will needed to have it enacted.

Suggested Presenter(s):
Carl Chidlow, Winning Strategies Advocates
David Goldstein, Natural Resources Defense Council
Clayton Traylor, Leading Builders of America

Knowledge Level: Beginner

Title: (PP-16) Making the Grade: Developing a Contractor Ranking System for Energy Efficiency Programs

Abstract:
Our session will highlight the successes of the contractor ranking system in the Central Hudson energy efficiency program with over 300 participating trade allies, why a contractor ranking system should be utilized, how to implement this system in new and existing programs, and what challenges exist. Discussion also includes lessons learned from implementation efforts in a Massachusetts residential new construction program, as this up-and-coming program tool is used to increase participation of contractors looking to leverage incentives and remain competitive in the marketplace by providing additional value to customers. A well-designed ranking system allows program administrators to recognize and support contractors vested in the success of the program and guarantee higher levels of participant satisfaction.

Suggested Presenter(s):
Frank Nitti, ICF International
Thomas Wolf, ICF International

Knowledge Level: Beginner

Title: (PP-17) Making Zero Net Energy Scalable

Abstract:
With building codes moving to performance ratings and now states creating road maps for Zero Net Energy (ZNE), it is a critical time to hear the utility and builder perspective on how we can make Zero Net Energy homes scalable. The perception of zero energy homes is changing from being only for the “greenies” or ultra-rich, to easily accessible for the average consumer looking at new construction. As the price of energy continues to rise, the need for zero energy homes grows ever more important. Questions that will be addressed are, is ZNE cost effective? Are energy costs and economic status driving the interest in energy efficiency and ZNE? What value does a ZNE Homes state sponsored program bring to the community? Come hear how the Connecticut utilities, through the Energize CT initiative, have launched many creative ways of interfacing with Builders, HERS Raters, and potential homebuyers to show the value of ZNE home construction.

Suggested Presenter(s):
Jennifer Parsons, The United Illuminating Company
Enoch Lenge, Connecticut Light & Power

Knowledge Level: Beginner

Title: (PP-18) Market Transformation is People! It's People!

Abstract:

While programs' success are measured in market penetration and energy savings, the core of any market efficiency program is made up of the people who invest in energy rating and contracting businesses. Then they face the emotional and financial investments of homeowners and builders. Any of these people, and their private agendas, can act as a barrier to real savings and real change, but a well constructed efficiency program recognizes the human motivations and anxieties, and responds with effective training, effective marketing, and effective handholding. PSD will present many examples of the human element at work in transforming the landscape EE in Pennsylvania.

Suggested Presenter(s):
Ethan MacCormick, PSD
Kathy Greely, PSD

Knowledge Level: Beginner

Title: (PP-19) Mentor Early, Mentor Often

Abstract:
By emphasizing early mentoring and communication with participating Raters and Builders, savings are realized in downstream Quality Assurance. Mentoring is not just a tool for training technical skills and program compliance, but also establishes a valuable feedback loop in refining the program itself.
Over the past 7+ years, PSD has refined its dependency on mentoring as a way of increasing program quality and enhancing communication. Best practices for scheduling, shadowing, training, and scoring participant performance will be discussed. Real results and trends will be discussed.

Suggested Presenter(s):
Ethan MacCormick, PSD
Jim Phelps, PSD

Knowledge Level: Beginner

Title: (PP-20) Multifamily Predicted Energy Use vs Actual: Adventures in Tenant Data Collection

Abstract:
A two-phase study into how green-certified multifamily units are performing took a detour down the rocky path of tenant data collection. Most of the units were individually metered, which is great for energy efficiency and bad for data collection. The study implementers had to get creative and change strategies multiple times to get the needed data. REM/Rate models were then compared to actual utility data and evaluated in the context of tenant behavior. This session will cover the goal of the study, the structure and implementation, findings, and the challenges of and strategies for collecting unit level data, while not succumbing to the urge to tell all future projects to stick with master metering.

Suggested Presenter(s):
Sean Shanley, WegoWise
Philip Agee, EarthCraft Virginia

Knowledge Level: Beginner

Title: (PP-21) Paddle your Own Canoe-Market Transformation through Downstream and Upstream Engagement

Abstract:

The term "market transformation" first appeared in energy efficiency literature in the early 1990s and has emerged more as an abstraction than a concrete program strategy or model. By engaging key downstream partnerships, residential new Construction programs can move major upstream players to embrace energy efficient construction practices. A review of some implemented “grass roots” market transformation practices prove how they have transformed the building market and increased market share for new home programs. Attendees will learn battle tested market transformation strategies that will drive participation rates up while pushing to deeper energy savings.

Suggested Presenter(s):
Michael Berry, ICF International
Emily Powers, ICF International

Knowledge Level: Beginner

Title: (PP-22) Program Designs- Energy Saving Program (ESP)

Abstract:
As we look to ahead, high levels of energy efficiency are part of new building codes. Energy efficiency program administrators are looking for creative ways to position programs for this new environment. Program administrators will be looking for ways to both broaden participation, by reducing and removing barriers to participation, and by incentivizing more projects to reach high levels of energy efficiency. We will examine savings based program designs used in Oklahoma and Arkansas and look at results from a state wide energy savings pilot program in Massachusetts.

Suggested Presenter(s):
Michael Berry, ICF International
Steve Ellison, ICF International
Peter Hubbe, ICF International

Knowledge Level: Beginner

Title: (PP-23) Quality Assurance in Home Performance: Beyond Inspections

Abstract:
Quality Assurance (QA) is an essential component for a successful home performance business. Implementing a QA Plan is required by the Home Performance with ENERGY STAR Program Sponsors to ensure that minimum program requirements as well as homeowners’ expectations are met. With the release of the Home Performance with ENERGY STAR Sponsor Guide and Reference Manual v1.5 in March 2014, US DOE allows Sponsors to choose from two possible paths to fulfill the QA requirement: a Quality Control (QC) approach that relies primarily on checks and inspections performed by a third party external to the installing contractor to verify compliance; or a Quality Management System (QMS) option that uses a systems-based approach promoting the integration of quality principles throughout the entire program delivery infrastructure from the Sponsor to its entire staff, vendor, and contractor network. During this session, DOE will explore the Quality Management System (QMS) approach to home performance, as defined by the required elements of a QA program for HPwES Program Sponsors. We will also examine the components of a quality management system and suggest steps a HERS rater, Provider or EnergySmart Contractor may take to provide value to a Sponsor implementing a QMS.

Suggested Presenter(s):
Ely Jacobsohn, US DOE
Kevin Powell, SRA International

Knowledge Level: Beginner

Title: (PP-24) Residential Energy Guarantee - Eliminate the Small Print

Abstract:
Building energy efficient homes and marketing the benefits to homebuyers with the HERS index can help you sell more homes and sell those homes for more. But when the lawyers make you add the "small print" disclaimers that water down the benefits of your energy efficient homes you may be losing the full opportuntiy from your efforts. This session will introduce you to the revolutionary new Residential Energy Guarantee and show you how this program can enhance your hard work by eliminating the "small print".

Suggested Presenter(s):
Roger Lange, Bonded Builders Warranty Group

Knowledge Level: Beginner

Title: (PP-25) Rubber Meets the Road: RESNET's new field assessment app.

Abstract:
RESNET's new app is used in tandem with a mentorship program for Rating Field Inspectors (RFIs) and the residential workforce (currently for insulators, air sealing and weather resistant barrier installers). Come meet the successor to the RFI multiple choice exam, aimed at improving the job where it really counts: in the field. Mentors note feedback and capture images of RFIs and installers performing tasks. The secure responses live in the cloud and represent a record of quality assurance and a candidate's job proficiency. The app contains a text/photo/video library of best practices and is an agile way to distribute new practices and critical details to crews.

Suggested Presenter(s):
Rob Moody, Organic Think Inc
Steve Baden, RESNET

Knowledge Level: Beginner

Retrofits

Title: (RET-1) 10 Things Every Home Energy Rater Should Know About Drain Water Heat Recovery

Abstract:
Under the right circumstances, drain water heat recovery systems are an attractive home energy performance improvement with paybacks that can significantly exceed other popular energy saving / generation technologies such as solar panels. Getting at the energy cost effectively is a key issue, and since not all homes are built the same, some homes are better suited than others for a retrofit installation. We will go through case studies as well as the key points that a home energy rater should know to identify when this equipment is practical.

Suggested Presenter(s):
David Velan, Ecodrain Inc.

Knowledge Level: Beginner

Title: (RET-2) Oregon Existing Homes Retrofit program field results: 8 contractors (ETO)

Abstract:
Interested in free tools and equipment? Learn how dollarizing rework and the cost of non-compliance with program standards may lead to waste reductions and cost savings up to $140k in one year.

Suggested Presenter(s):
John Tooley, Advanced Energy

Knowledge Level: Advanced

Title: (RET-3) Saving Green or Going Green

Abstract:
Incorporating Infrared into Building Energy Audits to Help Your Clients

When someone decides they want to go green, what do they really mean? It is our intention with this presentation to help people understand the ROI of certain "Green" changes to their building and how infrared technology can be used to steer you the proper path to not only going green but SAVING GREEN.

Suggested Presenter(s):
Peter Hopkins, United Infrared, Inc.

Knowledge Level: Beginner

Title: (RET-4) Southeast Existing Homes Retrofit program Field Results: 11 Cities (SEEA)

Abstract:
Eleven cities and thousands of homes retrofit...oh my. Find out some lessons learned and critical details helpful in creating or participating in an efficient, effective and economical retrofit program. Without alignment between program standards, onboarding/training, assessments, work complete, invoices, QC, and QA, what do we end up with?

Suggested Presenter(s):
Jonathan Coulter, Maria Mauceri, Advanced Energy

Knowledge Level: Advanced

Title: (RET-5) The Cost of Poor Quality/Rework

Abstract:
Do you know how much it is costing you to go back to weather strip an attic access? Learn about tools and techniques to dollarize and save.

Suggested Presenter(s):
John Tooley, Advanced Energy
Jonathan Coulter, Advanced Energy

Knowledge Level: Advanced

Title: (RET-6) Thermal Optimization

Abstract:
"Thermal Optimization" is an insulating technique that merges the structural and thermal shells to optimize a home's thermal performance. With a properly placed layer of rigid insulation, thermal defects are eliminated, and a home's propensity to consume energy for space conditioning is minimized. Doing the best possible job has unmatched potential to unlock the power of performance. Due to utility industry trends, demand for thermal optimization could rise dramatically. In part, this is possible because home performance scoring can project future energy demand more accurately than the technique currently used to calculated "energy savings" from efficiency products, such as light bulbs, thermostats, fiberglass insulation, etc. I am writing a series of articles about this unique opportunity for a private sector initiative. Through "EnergyCentral.com", the 6th article ("Power Plant Rules") will publish on 8/20/14, and has links to the first 5 articles:
www.energycentral.com/generationstorage/environmentalemissionsandcarbonmanagement/articles/2973

Suggested Presenter(s):
Rick Barnett, Green Builder

Knowledge Level: Beginner

Title: (RET-7) Touchstone Energy Existing Homes Upgrade and Labeling Program Linked to HERS Index

Abstract:
There is a myth that the HERS' Index value is restricted to only new homes. Touchstone Energy Cooperatives did not fall for it. At the Midwest Regional Energy Conference in Lexington, Kentucky it was announced that the network of electrical cooperatives will be launching the "TogetherWeSave Energy Smart Home" label for existing homes whose energy performance has been approved to at least a HERS Index Score of 90.
The existing homes labeling feature is part of suite of the home performance program offered by Touchstone Energy's TogetherWeSave initiative. The electric cooperative program offers a progression of energy services including:

- An online do-it-yourself audit tool, "Home Energy Savings Tour". If the home is found to benefit from approvals, the homeowner is led to the next level;

- A clip board walk through energy audit conducted by a cooperative's energy advisor. If the audit finds the home a candidate for a whole house retrofit the homeowner is led to the next lever;
- Whole house comprehensive energy audit including performance testing;
- For homes that are retrofitted and are demonstrated to achieve at least a 90 HERS Index Score the home is labeled as a TogetherWeSave Energy Smart Home.

The program was developed through a partnership between Touchstone Energy and RESNET.

The program is a user friendly comprehensive retrofit program that results in the retrofitted home being rated and labeled. The program begins at a simple level and leads the consumer to a whole house energy improvement. The HERS Index Score label at the end of the process allows recognition in the mortgage process when the home is sold.

This session will introduce the program and explore how it boost the energy performance of existing homes.

Suggested Presenter(s):
Roy Honican, Blue Grass Energy
Alam Shedd, Touchstone Energy Cooperatives

Knowledge Level: Beginner

Technical

Title: (TEC-1) 2x6 Advanced Framing: Maximizing the Value & Efficiency of Wood Wall Systems

Abstract:
As builders seek to meet more stringent energy codes while maintaining the structural integrity of their homes, many are turning to Advanced Framing. This is the name given to a variety of techniques that increase whole wall R-values, while maintaining the strength and stiffness of the building. One of the most common techniques is the use of 2x6 studs placed 24" on center. Advanced Framing may also include techniques such as ladder junction intersections, energy efficient corners, insulated headers and single top plates, among other things. Whereas Advanced Framing was developed in the 1970s, today's strict energy codes are driving new interest by builders and designers in the area of wall construction methods. Advanced Framed 2x6 wall construction addresses not only energy efficiency, but also cost-effectiveness and, with the right components adds disaster resiliency to the structure. Advanced Framing also provides methods for meeting Energy Star and various green building programs. This program will provide attendees with information to thoroughly understand advanced framing and how to take credit for the efficiency savings in the HERS rating. Real-life case studies will be shared that demonstrate the cost-effectiveness of the system, as well as the increases in energy performance that can be attained. Builders, designers, and framers will appreciate the approach that any of the advanced strategies shown can be applied individually or together, making implementation easier.

Suggested Presenter(s):
Matthew Brown, APA

Knowledge Level: Beginner

Title: (TEC-2) ASNT NDT Level II Infrared Thermography for Building Diagnostics Certification Update

Abstract:
This is a follow up session to update all in regards to the ASNT NDT Level II Certification in Infrared Thermography for Building Diagnostics.

Suggested Presenter(s):
L. Terry Clausing, P.E., Drysdale & Associates Inc

Knowledge Level: Beginner

Title: (TEC-3) Commercial Energy Modeling & ASHRAE Standard 90.1 Basics for Raters

Abstract:
ANSI/ASHRAE/IES Standard 90.1 is a minimum energy efficiency standard for commercial and multi-family high rise buildings. Most green building and energy efficiency programs require compliance with this standard or even a designed performance better than this standard. This session will explain the energy modeling components and mandatory requirements shown as a comparison between home energy rating modeling and commercial energy modeling.

Suggested Presenter(s):
Carissa Sawyer, EnergyLogic, Inc.

Knowledge Level: Beginner

Title: (TEC-4) Finally, The Truth About Condensation

Abstract:
A lot of ink has been spilled in describing the movement, condensation, and evaporation of water vapor through a building envelope. Unfortunately, all too much of it has been incomplete or even downright wrong. In this presentation the physics of water vapor transport will described in detail. Robust envelope designs will also be described. This presentation will also look at the strengths and drawbacks of various calculation methods including the humble Dewpoint/Glaser method and the vaunted WUFI. Not for the faint of heart or slow of wit, be ready get re-acquainted with Dihydrogen Oxide on both the molecular and macroscopic scales.

Suggested Presenter(s):
Daniel Tempas, Dow Building Solutions

Knowledge Level: Beginner

Title: (TEC-5) Foam Insulation: Applications & Techniques

Abstract:
Spray foam insulation is the go to solution for improving energy efficiency in all new construction and retrofit work. For home builders, contractors, and architects, foam is a one stop solution for the lower air infiltration rates in the 2012 residential code and the continuous insulation requirements in the commercial code. For the remodeler or home performance contractor, spray foam can tighten an existing house or be part of total energy retrofit. Hear about typical problems and failures in foam installations, and not only how to remediate them but how to keep them from happening. In this session we will look at Open Cell and Closed Cell foam basics, interior and exterior applications and what product to use where and when. Delve into best practices for safety and proper installation. We'll also cover the new foams on the market, understanding ESR reports, and ignition and thermal barrier requirements.

Suggested Presenter(s):
Josh Collins, Prime Energy Group

Knowledge Level: Beginner

Title: (TEC-6) Going Beyond Regulated Loads and Getting to Net Zero

Abstract:
What is Net zero and how can you get there? There is a need for a tool to estimate whole building energy use that goes beyond the regulated loads while providing an opportunity to identify savings over a baseline. Build It Green has engaged national and international experts to develop an asset tool to that goes beyond modeled savings and supports measures for its green building certification program and state goals for net zero energy by 2020 and carbon neutral by 2050. In addition this tool compliments the GreenPoint Rated Climate calculator that quantified green house gas emissions for energy and non energy measures. The tool addresses the following end uses:

- Heating
- Cooling
- Domestic Hot Water Use and Distribution
- Cooking, Laundry
- Appliances
- Lighting
- Plug loads

This asset tool provides a baseline and offers opportunities to identify savings in each of these areas including occupant education. Learn about the tool and assumptions behind the calculations, how it is being used today, and how it compares to other tools. Hear how two projects - a single family and multifamily - used the tool to identify use, estimate bills, size renewable systems and achieve zero or low energy use

Suggested Presenter(s):
Amy Dryden, Build It Green
Sean Armstrong, Redwood Energy

Knowledge Level: Beginner

Title: (TEC-7) LEED for Homes Lessons Learned

Abstract:
This session will explore many LEED for Homes lessons learned from an Energy Rater, Green Rater and Provider perspective over 5 years of experience and 600+ homes certified. It will also go into detail on how all of these lessons can be applied to LEED for Homes v4.

Suggested Presenter(s):
Carissa Sawyer, EnergyLogic, Inc.

Knowledge Level: Advanced

Title: (TEC-8) Multifamily Blower Door Testing

Abstract:
This session will cover common testing standards used when testing multifamily buildings. In addition, the presenter will discuss the different testing methods and equipment options for testing individual units, multiple units at a time, or the whole building. There will also be a discussion of using the TECLOG3 software to control multiple blower door fans.

Suggested Presenter(s):
Paul Morin, The Energy Conservatory

Knowledge Level: Advanced

Title: (TEC-9) Smart Flashing Solutions for Exterior Insulation Sheathing

Abstract:
Exterior insulation sheathing benefits are well recognized in the prescriptive energy code compliance options; however, effective joint treatment has been an area of frequent discussion. An overview of current product offerings will be presented in addition to new developments. Both the material science and practical field application advantages and challenges will be discussed.

Suggested Presenter(s):
Linda Jeng, Dow Building Solutions

Knowledge Level: Beginner

Title: (TEC-10) Spray Foam Insulation - Choosing Wisely for Code Approved Applications

Abstract:
Spray foam insulation and air sealing products are finding their way into many building applications due to their ease of job site customization and range of product offerings. However, the wide variety of products and chemistries can lead to a confusing array of too many choices when it comes to ensuring the product used has the right code approval for the application. This presentation will focus on two component spray foam products, their similarities and differences in terms of code approvals and applications.

Suggested Presenter(s):
Linda Jeng, Dow Building Solutions

Knowledge Level: Beginner

Title: (TEC-11) Structural Engineering for the HERS rater: How to maximize energy while maintaining structural integrity

Abstract:
California homes must meet some of the most stringent codes to protect against earthquakes, wind, and wildfires. Now, the State of California has set a goal of Zero Net Energy (ZNE) residential buildings by 2020 and commercial buildings by 2030. ZNE construction is primarily codified by the California Energy Code and partially by the California Green Building Standards Code (CALGreen), parts 6 and 11 of Title 24, and has just two more cycles to meet the state goal for residential construction. Building owners and architects are seeking cost-effective options that maintain strength and durability of the structural system while meeting energy-efficiency and other sustainability goals. ZNE design and construction uses structural detailing that is energy-superior to current construction techniques and identifies the impacts of energy producing technologies on the structural system. This presentation summarizes the role of building designers and engineers in the development of ZNE construction, and discusses new technologies that will allow designers to take an active role in implementing and designing the new requirements, including a discussion of structural framing systems such as Advanced Framing, staggered stud and double-stud walls, structural insulated panels (SIPS), and hybrid systems, as well as residential case studies from around the country. After attending this session, HERS raters can capitalize on their energy expertise combined with the greater understanding of the designer's challenges to provide their projects with creative solutions yielding greater energy efficiency while protecting the structural integrity of the building.

Suggested Presenter(s):
Karyn Beebe, PE, LEED AP, APA

Knowledge Level: Beginner

Title: (TEC-12) The ANSI Consensus Standard on CAZ Testing - ANSI/ACCA 12 QH - 2011

Abstract:
In 2015 RESNET will withdraw its standard for CAZ testing and instead reference the American Consensus Standard - ANSI/ACCA 12 QH - 2014. This means that certified RESNET HERS Raters will need to comply with the ACCA ANSI standard. This session will explain why RESNET has made the change and what are the provisions of the standard.

Suggested Presenter(s):
Wes Davis, ACCA
Steve Byers, EnergyLogic

Knowledge Level: Advanced

Title: (TEC-13) The Builders Perspective on Solar Energy

Abstract:
The next frontier to builders on building performance is solar energy. In this session representatives of the nation's largest production builders will explain how their companies employe solar energy, consumer response to solar energy homes as part of their offerings and explore what the trends will be in the future.

Suggested Presenter(s):
Jim Petersen, Lennar
Jacob Atalla, KB Home
CR Herro, Meritage Homes

Knowledge Level: Beginner

Title: (TEC-14) Ventilation Testing and Verification Advanced Concepts: Achieving accurate results every time

Abstract:
Learn how to test ventilation like a pro by attending this hands-on demonstration of how to use all the tools of the trade for testing residential ventilation system air flows, run time and wattage, including hotwire, small vane and large vane anemometers, flow hoods, flow meter, pitot tube, electric clamp meters and related testing equipment.

Suggested Presenter(s):
Eurihea Speciale, Building Efficiency Resources (The BER)
Jenna Grygier, Southface Energy Institute

Knowledge Level: Advanced

Title: (TEC-15) Ventilation Testing and Verification Core Concepts: What you are doing wrong and how to get it right

Abstract:
Learn how to identify, verify and measure ventilation for more accurate compliance with ASHRAE, ENERGY STAR, Code and HERS Rating protocol. This interactive session will demonstrate how to get you on the right path towards correctly and accurately verifying and testing residential ventilation, including identification of ventilation types, ventilation equipment, how to choose what tests to perform and the right equipment to use.

Suggested Presenter(s):
Eurihea Speciale, Building Efficiency Resources (The BER)
Jenna Grygier, Southface Energy Institute

Knowledge Level: Beginner

Title: (TEC-16) Windows and Glazing: Understanding the Impacts on HERS Ratings by Climate Zone

Abstract:
With the HERS Index now an impending option for 2015 energy code compliance, more and more builders will be looking to their HERS providers for guidance on optimizing their packages to achieve target ratings. Simultaneously, a growing number of Utility DSM programs around the country are looking to recognize and incentivize ratings and packages that support their load management and DSM program objectives. HERS providers will be increasingly tasked with fully understanding the impacts of critical building choices. One of the most critical choices in all building energy and rating packages involves the role of windows. During this session

we will explore the impacts of critical window and glazing choices on HERS scores and code compliance for all climate zones. Attendees will learn about technology break points in various window performance attributes so that they may provide even greater value to their builder customers. Some of the topics that will be covered include the impact of window and glazing decisions on HERS index values, the impact of fenestration on home energy use, peak power demand and HVAC sizing, and others. By the end of this session raters will have the knowledge required to know how to better compare and assess window and glazing options to achieve their HERS goals.

Suggested Presenter(s):
Chris Mathis, Mathis Consulting Company
Bridget Herring, Mathis Consulting Company

Knowledge Level: Beginner

Other

Baseline Study

Title: (OTH-1) Case Study: Four Major Utilities™ Territories in Texas Baseline Study Findings and Impacts in New Residential Construction

Abstract:
Historically, the State of Texas has been the largest producer of energy efficient homes in the utility programs as well as the EPA's ENERGY STAR Program at a national level. Baseline Study findings will be presented along with factors that impact the baselines and the disparities between the major metro areas and the border cities and their economies. Learn how code enforcement or lack thereof impact the utility program baselines and why. What drives builders to follow stringent building codes and remain competitive in the market, adding value to customers? Are we missing savings opportunities? Are builders leveraging program incentives or too busy meeting demand and supply?
(According to the U.S. Census Bureau and the Real Estate Center at Texas A & M University in 2013, building permits in Texas were approximately 94,300)

Suggested Presenter(s):
Maci McDaniel, ICF International
George Cornwell, ICF International
Nancy A. Nuche, ICF International

Knowledge Level: Beginner

Building Science Education

Title: (OTH-2) Sim-Building: An Innovative Approach to Teaching and Learning About Building Science

Abstract:
Sim-Building is a National Science Foundation funded project to develop a game-based simulation to teach building science. Underlying the simulation is powerful software with the critical innovation of the use of advanced multi-scale building simulation methods to generate realistic hygrothermal data, to support the game mechanics, and to produce compelling visualizations (e.g., virtual infrared thermograms) and allow students to explore concepts in heat, moisture and air-flow in buildings in a game-environment. This session will introduce participants to the free software that is being developed and explain how to use it in classes. Amanda Hatherly is a Principle Investigator on the grant and runs the EnergySmart Academy at Santa Fe Community College.

Suggested Presenter(s):
Amanda Hatherly, Santa Fe Community College

Knowledge Level: Beginner

Building Science, Architecture, Home Energy Ratings, HVAC, Residential Building

Title: (OTH-3) Home Performance from a Polymath's Perspective

Abstract:
A polymath is defined as "a person whose expertise spans a significant number of different subject areas; such a person is known to draw on complex bodies of knowledge to solve specific problems." As a home energy rater, a

residential builder, a licensed architect, a building enclosure consultant, and a residential HVAC designer, how does my process effect the results? Does my net expertise actually close the gap between trades and solve the problems (I prefer "opportunities") we face in the home performance industry? Is integrating aesthetics with performance a breeze, or am I in a constant state of cognitive dissonance? In this session, we will look at at least two completed projects to examine how the process and results of designing and building a home as a "polymath" differs from the traditional process where these roles are separate.

Suggested Presenter(s):
Chris L Laumer Giddens, LG Squared, Inc.

Knowledge Level: Beginner

Customer Service

Title: (OTH-4) Customer service beyond energy savings: Delivering an enhanced customer experience through energy efficiency programs

Abstract:
Are your energy efficiency programs really connecting with your customers? This session explores leveraging a full suite of call center technologies to connect to your customers in a way that maintains and builds long term satisfaction with your programs and with your brand? We will discuss current tools including social media, on the spot surveys, marketing integration, and other customer engagement tactics that go beyond rebate payments to build customer satisfaction.

Suggested Presenter(s):
Becky Cambre, ICF International

Knowledge Level: Beginner

Education

Title: (OTH-5) Is The Bar Too High?

Abstract:
Have we gone a test too far? Brett looks at the evolution of professionalism in the industry and what the future may look like.

Suggested Presenter(s):
Brett Dillon, IBS Advisors, LLC

Knowledge Level: Beginner

Title: (OTH-6) Teaching How To Think

Abstract:
Why are critical thinking skills important- and so rare? Brett shares the challenges of teaching students how to think and how to help them improve essential critical thinking skills.

Suggested Presenter(s):
Brett Dillon, IBS Advisors, LLC

Knowledge Level: Beginner

Ethics

Title: (OTH-7) A Question of Scruples: Ethics in the Rating Game

Abstract:
Why is the rating industry plagued with reports of unscrupulous behavior? Are we really that bad? Brett shares with you why good people make bad decisions- and why our industry's current approach won't work.

Suggested Presenter(s):
Brett Dillon, IBS Advisors, LLC

Knowledge Level: Beginner

Title: (OTH-8) What is Right?

Abstract:
How do we know that our actions are right? Brett explores 4 values systems to help you discover what "the right thing to do" is.

Suggested Presenter(s):
Brett Dillon, IBS Advisors, LLC

Knowledge Level: Beginner

Healthy and Safe Housing Assessments

Title: (OTH-9) The Healthy Home Checkup -- Bringing Healthy and Safe Homes to American Homeowners

Abstract:
Heatlhy Housing Solutions, Inc. has created the Healthy Home Checkup™ asessment protocol and electronic tool to help millions of Americans identify and correct health and safety risks in their homes. The Healthy Home Checkup™ relies upon a science-based protocol, uses a visual assessment plus limited diagnostic testing, and provides cost-effective and practical recommendations that homeowners will value. This session will describe the Healthy Home Checkup™ program and how it can enable energy raters to better serve the needs of their clients and expand their existing businesses.

Suggested Presenter(s):
Jack Anderson (President/CEO), Healthy Housing Solutions, Inc.

Knowledge Level: Beginner

Hot Water Circulation

Title: (OTH-10) Comparison of the Energy Consequences of Different Hot Water Circulation Pump Control Strategies

Abstract:

Circulation systems for service water heating are installed in buildings where the distance from the water heater to the plumbing fixtures and appliances is large and there is a desire to reduce the waste of water and time waiting for the hot water to arrive. Most of these systems have a circulation pump to move the water around the loop. Assuming the same floor plan and location of the circulation loop relative to the plumbing fixtures and appliances, once the loop is full of heated water, the waste of water and time will be the same, regardless of the controls for the loop. The energy required to ensure that hot water is in the supply portion of the loop depends on how the controls change the run time of the circulation pump.

We will report the results of the differences in energy consumption based on changing the control strategies of a circulation loop for the service water heating system in a single-family home. The strategies that are being compared include no circulation, continuous circulation, timer controlled, temperature controlled, time and temperature controlled, demand initiated, and controls that are able to learn the hot water use patterns. The loop is being monitored with recording data loggers that monitor the flow rate and temperature drop through the loop. The electrical energy for the pump is also being monitored and will be reported. Results will be compared to each other and to first principle estimates for different hours of pump operation.

Suggested Presenter(s):
Gary Klein, Gary Klein and Associates

Knowledge Level: Beginner

Online Learning

Title: (OTH-11) Online Learning in Modern Times

Abstract:
When it comes to “online learning,” there are a plethora of options out there. The range is wide and varies tremendously depending on your goals. Are you looking to learn on your own? Are you trying to achieve a specific certification one small step at a time? Are you trying to organize online learning for your staff and track the results? Or, are you a trainer that is searching for a tool to use in distributing your own training content? We’ll cover specific examples, assess potential pros & cons, and talk about financial implications for all of these scenarios, and more! You’ll leave this session with a good grasp of what’s currently available to assist you in defining your next steps.

Suggested Presenter(s):
Isaac Savage, Home Energy Partners
Bill Spohn, TruTech Tools

Knowledge Level: Beginner