2013 RESNET Building Performance Core Conference Sessions

BUSINESS DEVELOPMENT/MARKETING

(BDM-1) After the Exams
Most people wanting to start a business built around Building Performance, Weatherization, Green Building, HERs Rating, etc. start by getting applicable certifications. They attain multiple certifications with the intent to start a business when the time is right in their market or they have raised enough capital. Some are watching the outcome and consequences of the HOMES Act. These aspiring business owners can cut the required start-up capital substantially by knowing exactly what to do, when to do it, and how to correctly start that business entity, instead of using trial and error or blind effort. Many of the people starting new businesses will need information and guidance that would take them through the first year with eyes on planning for the future.

Topics that need to be addressed include:
- Basics of business
- Planning and different business models
- Banks, loans, government help, raising capital
- Legally forming the business entity (registering, taxes, insurance, local licenses, etc.)
- Guerrilla marketing building performance services
- Tools that will inevitability be needed
- In's and out's of bidding work
- Efficiency in the field (new technologies and software, tricks of the trade, applying Lean principals)
- Efficiency in the office (new technologies and software, accounting and billing, applying Lean principals)
- Driving policy locally to increase revenue
- Taking advantage of utility programs and policies
- Is purchasing a franchise an option?

Suggested Presenters: Bill Klotz

(BDM-2) Benefits of Building Healthier Homes with Indoor airPLUS
Homebuyers are increasingly concerned about the indoor air quality in their homes. Issues like mold, radon, carbon monoxide and toxic chemicals have received greater attention than ever, as poor indoor air quality has been linked to a host of health problems. Through the Indoor airPLUS labeling program, builders can use a variety of construction practices and technologies to reduce pollutants and improve the indoor air quality in new homes.

This session is designed for new and prospective Raters to help explain the Indoor airPLUS program and construction specifications. Participants will learn how to advance indoor air quality practices in residential construction. A panel of industry experts will share their experiences with Indoor airPLUS and reveal valuable tips on how to market the advantages of a healthier home to builders and consumers.

Suggested Presenters: Brandy Angell, Ross Britton

(BDM-3) Building Health into Your Value Proposition: How to Sell Indoor Air Quality in New and Existing Homes
Learn how to sell the value of healthier homes. Home energy retrofit activities may negatively affect indoor air quality if homes are not properly assessed and issues not addressed. Tightening the home's envelope during new construction adds significant energy efficiency, but it also reduces the air exchange through the building shell and can contribute to

moisture issues and pollutant buildup inside homes. Home upgrades and new residential construction present unique opportunities to improve indoor air quality and those benefits can be great discussion points to help close the deal at the kitchen table.

Attendees will learn how to effectively address indoor air quality in new and existing homes with the help of tools and resources provided by U.S. EPA. This interactive presentation will focus on the benefits and importance of the Healthy Indoor Environment Protocols for Home Energy Upgrades and Indoor airPLUS construction specifications and will provide attendees with resources and ready-to-implement tools. Participants will learn about comprehensive, practical specifications that protect and improve indoor air quality for occupants during home energy upgrades and new construction activities.

Suggested Presenters: Ellen Tohn, Mert Oktem, Bob Axelrad

(BDM-4) Buying an Infrared Camera: Features and Specifications Explained
There have been considerable breakthroughs in the market for infrared cameras during the last few years. Prices continue to drop while image quality continues to improve. It is no wonder that infrared thermography is one of the hottest tools for building diagnostics. This session will cover which camera features and specifications are important to consider when purchasing a thermal imager and which ones are not. Attendees will learn how to cut through the marketing and advertising clutter to find the right information to make a purchase decision. Advice on how to buy an infrared system including performing a needs analysis, handling the sales process and budgeting for the appropriate equipment and accessories will also be presented. The Snell Group is a vendor-neutral infrared training provider that does not manufacture or sell equipment. As such attendees of this session will receive an un-biased perspective on picking the right thermal imaging system for their needs.

Suggested Presenters: Matt Schwoegler

(BDM-5) Certification Exam Quality Control Update
In early 2012 BPI implemented a series of quality assurance procedures over the proctoring process, to ensure that our exams succeed in fairly and thoroughly evaluating the building science knowledge, skills and abilities of certification candidates. BPI's former system of oversight worked when the number of exams taken was small. In 2005 we processed 350 certifications. Last year we processed over 13,000 certifications and administered nearly 32,000 certification exams nationwide. During this presentation, audiences will learn why Quality Control of the proctoring process is essential to ensuring the integrity of certifications in the home performance marketplace. They will receive an overview of the new QC measures that have been implemented, including videotaping of all written and field exams and reviews of a randomized sample; use of proprietary software in all field exams and mandatory quarterly training webinars for all proctors. Finally, audiences will learn how the results of these QC measures are improving the quality and process of written and field exams for both proctors and candidates.

Suggested Presenters: Vikki Murphy

(BDM-6) Developing a Successful State-wide Green Building Initiative
In a short five years EarthCraftVirginia has established a statewide green building program with over 250 builder members, partnerships with Habitat for Humanity (who committed 100% of their statewide projects to EarthCraft certification) the Virginia Home Builders Assoc. and their 19 affiliates, Virginia housing and Development Authority, the state's housing authority, as well as other low income affordable housing groups. This has led to over 2000 single family houses and almost 10,000 affordable housing units being EarthCraft certified since 2006. The organization required to developed the infrastructure and (currently 12 full time staff member and 24 technical advisors scattered across the state) as well as the approaches used to developed the partnerships and infrastucture will be outlined and discussed in the hopes of other entities being able to duplicate all or part of such an effort.

Suggested Presenters: Charles B. Bowles**,** k.c. McGurren, Philip R. Agee

(BDM-7) Does your business model include the 2012 IECC?
Energy Code compliance and the HERS rating process are so closely aligned that is makes perfect sense to add energy code compliance to the quiver of services that you can offer the builder you work with. Come learn about the IECC how it works what is required and why you should be offering to take your builders down the simulated performance path.

Suggested Presenters: Robby Schwarz

(BDM-8) Early Returns on Blended Training: EnergyLogic Shares its Results After a Massive Shift in Training Methodology
EnergyLogic ventured into the world of e-learning. Join us as we discuss our new approach to training using a learning management system. We will explore what it took to get there and the lessons learned from the journey. This session will focus on our hybrid Rater training design and results.

Suggested Presenters: Matt Thornberry, Scott Doyle

(BDM-9) Forward Motion: Taking Your Career to the Next Level with New Home Energy Professional Certifications
The results of BPI's pilot test cycle for the new Home Energy Professional (HEP) certifications are in. Learn how the HEP certifications are helping home energy upgrade professionals take their career to the next level. Offered by BPI and funded by the U.S. Department of Energy (DOE) and its National Renewable Energy Laboratory (NREL), the four certifications focus on the most common job classifications in the home energy upgrade industry: energy auditor, retrofit installer, crew leader and quality control inspector. For experienced home performance professionals, the new certifications are not replacing BPI's existing certifications. Rather, they complement and build upon BPI's existing credentials in the home performance career ladder, where increased knowledge and skills lead to advancement.

By attending this session, RESNET members will:
• Learn how the new certifications can increase job security and set experienced professionals apart from their competition
• Explore how home performance companies can leverage these new certifications to help their businesses thrive
• Learn how the new certifications relate to existing BPI credentials
• View possible career paths for experienced industry professionals, using the new certifications to build both a stackable and lateral career lattice
• View the results of BPI's pilot test cycle for the new Home Energy Professional (HEP) certifications. The results of the test cycle were used to set passing scores for the national exams.
• Learn how these ANSI accredited ISO 17024 certifications will reduce energy efficiency program risk

Suggested Presenters: John Jones

(BDM-10) Geospatially Working Smarter, Not Harder
This presentation will examine the success of implementing a diversified stack of geospatial solutions for Consumers Energy's Home Performance with ENERGY STAR and Heating and Cooling Programs. ICF understands that a key contributor to effective program design, marketing, implementation and ongoing management of the Consumers Energy's Programs is the ability to make informed decisions based on typically disparate data sets. ICF often works with our utility partners to analyze their internal data (e.g., account and usage data) in combination with external data sets (e.g., U.S. census, Harris County Appraisal District, American Community Survey, etc.). For example, ICF is supporting Consumers Energy and other clients with geospatial tools to improve outreach and communication related to their HPwES and HVAC programs. Through the use of US Census demographic data and commercial marketing research, ICF has deployed a web mapping tool, GeoExplorer, to help identify the customers with a high likelihood of program participation. The added understanding from the marketing data helps to shape the outreach approach and message to enhance its effectiveness for specific audiences. In practice, this tool allows for the visualization of energy use statistics for identification of areas that have high or "excessive" usage. The analysis then turns to evaluation of the age of housing stock, income levels and population density to help prioritize marketing efforts and delivery. Finally, the analysis of the commercially available marketing data provides behavioral categorizations that can identify the best way to convey the message.

Suggested Presenters: Matt Ewalt, Kevin Wright

(BDM-11) Getting Builder's Sales Staff On-board with Energy Efficiency
As we know, home builders often have to put a lot of time, effort, and dollars to building high-performing homes. Unfortunately, many of them do not see the value of this investment during the sales process as sales staff are uncomfortable with talking about the features and benefits of high performing homes. Come to this session to learn how to gain traction with builder's sales staff and real estate agents including how to help them create an effective elevator speech and incorporate energy efficiency into each part of their sales process.

Suggested Presenters: Amber Stewart, Rick Gazica

(BDM-12) HERS Ratings and 2009 IECC Code compliance
Little Rock, North Little Rock, and Fayetteville, AR are on track to adopt the 2009 IECC and require energy ratings for code compliance. Little Rock and North Little Rock are gathering surrounding towns in three counties and encouraging all to go in together. Pulaski Technical the local college, is providing the training using ARRA -funded Green Job training programs and facilities. 100+ Realtors have already been trained and more sessions planned. Appraisers are next. How did this happen? It was not by accident, but it can it happen in your town or your state. The crux is looking at code adoption not as a stand-alone issue, but in the larger context of how it can positively impact the "housing industry as a system." If any sector fails to do their part, the system fails. Duct testing opens the door. An energy rating will, for the first time ever in Arkansas, allow utility costs and the HERS Index to show up in the multilist and give appraisers the comps to value efficiency. That is HUGE! Don't use ratings and all we gain is some HVAC education. Use ratings and we start changing the whole industry!

Suggested Presenters: Ron Hughes

(BDM-13) HERS Systems in other nations - Opportunities to Share and Grow
There are a number of nations with active HERS and other Green labeling initiatives. Whether by mandate as in the EU nations or by market adoption, there are chances for mutual exchange on systems, policies and practices. Possible business opportunities for US based raters will be explored as well.

Suggested Presenters: Steve Byers, Additional speakers to be determined

(BDM-14) Home Inspectors Driving Demand for Home Energy Upgrades
More than any other consumer, a recent homebuyer spends the most money on major home improvements. Nearly 10,000 times every day, a homebuyer hires a trusted home inspector to perform a point-of-sale inspection. Leveraging home inspectors to target homebuyers with consumer education can drive demand.
http://www.resnet.us/blog/resnet-enters-into-strategic-alliance-with-the-international-association-of-certified-home-inspectors/

Suggested Presenters: Benjamin Gromicko, Steve Baden

(BDM-15) How to Determine a Fair Price
How to Quote a Fair Price on the First Visit

In this session you will learn:
* How to determine a fair price quickly and accurately
* How and why to begin getting paid on the first call
* How to remove the bottleneck of estimating to get the order.
* What computer tools to use for unit cost estimating, creating specs and assessing performance
* Why sales, marketing and estimating are the three most important systems in your office for creating cash flow

Suggested Presenters: Mike Gorman

(BDM-16) Integrated Software Solutions for Streamlined HERS Rating

Raters' and Providers' jobs are becoming more challenging due to the increasing complexity of Energy Efficiency Programs and the demand for diagnostic code testing. The market for these services demands cost effectiveness as program funds are reduced and travel expenses increase. Successful companies will have to find ways to process more projects with less people more efficiently. Software solutions are an opportunity to streamline workflow. This session will introduce processes and solutions for field data collection, graphic modeling, energy modeling, and project management software. All these systems can be integrated through a cloud-based database. For Providers these solutions keep costs down by making Quality Assurance more cost effective by sharing, standardizing, and streamlining systems. Mike Browne and Steve Gardner of Advanced Building Analysis and Energy Raters of Massachusetts will share their experience with integrating these software solutions.

Suggested Presenters: Michael A. Browne, Steven D. Gardner

(BDM-17) Into the 'Cloud': Automate Your Client Interaction Process and Your Home Performance Business

Learn from the mistakes of a five year-old home performance company that's tried everything, and transitioned into the cloud for a better life. Get introduced to options in automating your client interaction process, from lead generation to the purchase stage, and then to upsells and referrals. Tour the features of Infusionsoft, Salesforce, Mailchimp, Formsite, and Hootsuite, and discover how a finely crafted and automatic client interaction system can take the weight off your shoulders and allow you to spend more time doing what you love doing.

Suggested Presenters: Corbett Lunsford

(BDM-18) Job Quality is in Your Control

Learn from leading local home performance contractors how success starts with quality work, and continues through quality control and quality assurance. Beyond training, quality control is part of a systemic process successful companies use to improve their delivery of services. Feedback begins internally through a quality control system, then moves externally when third-party quality assurance is added. The cost of quality assurance is offset by improving customer confidence, identifying opportunities for continuous improvement, and integrating quality management both in the office and in the field. This panel will examine popular QA provider models to reveal the best options and opportunities for ensuring quality on your jobs, first time, every time. Whether raters want to join BPI's established national network of qualified QA inspection providers who deliver services for BPI inspecting the work of accredited contracting companies or be part of a RESNET Energy Smart team rater/contractor team, this session will provide plenty of interactive discussion and you will take away active tips to get started.
Panel to be moderated by Larry Zarker or Tiger Adolf, with one BPI Accredited Contractor, one Energy Smart contractor, and their respective provider.

Suggested Presenters: David J Wagner, Tracy Walter, Vince DiFrancesco

(BDM-19) Market Based Financing of Home Energy Upgrades

Everyone wants to make their home more efficient, but paying for the upgrades is a different story. That's where financing comes in. Making it easy for a homeowner to pay for the upgrades they need can make all the difference in the world. Sheree Eddie, President of Jax Metro and David Reed, Efficiency Specialist with JEA, will discuss how the Jax Metro Home Energy Upgrade Financing program works, why it has been successful and how it involves energy auditors, contractors and customers to ensure the process has value to everyone.

Suggested Presenters: David Reed, Sheree Eddie

(BDM-20) Marketing High-Performance Homes to Buyers

It's one thing to build a high-performance home but how do you communicate its value to consumers? We will focus on critical marketing and communication tools, techniques and tactics. Aspirational and emotional reasons for buying a home will be addressed as well as the rational and technical reasons. We will also cover demographics of new home consumers. Effective marketing tools will be discussed including social media, websites, dynamic emails, and more.

Presented by Rick von Schnier, Creative Director of the builder focused design studio Cloud 9 Creative Labs and CEO of Green Building Authority. Rick is also a HERS Green Rater and LEED for Homes Green Rater and understands the entire process of building development from design phase to sale.

Suggested Presenters: Rick von Schnier

(BDM-21) Paving the Way to Net-Zero Ready New Homes: Unprecedented Access to Expert Knowledge for Net-Zero Ready Homes with the Building America Solution Center

Up to now, expert guidance on high-performance homes has been a one way linear process from preparation to publishing fixed content. That all changes with the new Department of Energy, Building America Solution Center. This new tool, accessible from mobile devices and traditional web browser, will provide access to world-class research recommendations for proven innovations and best practices at the touch of your fingers. Moreover, the new database engine and elegant interfaces ensure you can find the exact information you'll need on any building science topic within seconds so they can be effectively applied in construction documents, field applications, negotiations with key decision-makers, or training sessions. And maybe most importantly, this tool will create a community of users who can continually improve and augment the content. This includes dramatically improved access to ongoing results from DOE's Building America research program. This session will acquaint the audience with the strategic process behind the tool; how it works, and why the content will enhance the capabilities for any stakeholder involved in high-performance new and existing homes. This includes a demonstration of a beta-version of the soon-to-be-released tool. If you have any role in designing, engineering, rating, or constructing high-performance homes, welcome to a sneak preview of your new best friend.

Suggested Presenters: Sam Rashkin, Michael Baechler

(BDM-22) Paving the Way to Net-Zero Ready New Homes: Why are DOE Challenge Home Net-Zero Ready Homes Better Business for Builders and Raters?

Why should American homebuyers buy a new home in a subdivision far out of town with a longer commute and poor access to urban amenities? There are a lot of reasons… if it qualifies as a DOE Challenge Home. This is because future levels of affordability, comfort, health, safety, durability, and quality along with net-zero ready level performance are assured for buyers who make sure to look for the DOE Challenge Home label. Homebuyers want this level of excellence and assurance when they make the largest investment of a lifetime. They just don't know how to get it… yet. Attendees will learn what specifications create this major jump in home value and how leading edge builders and HERS raters can work with DOE Challenge Home to enhance their business metrics.

Suggested Presenters: Sam Rashkin, Jamie Lyons

(BDM-23) Paving the Way to Net-Zero Ready New Homes: What Business Metrics are Driving Today's Net-Zero Ready Home Builders?

There are a secret club of home builders across the country who realize that constructing net-zero ready homes with sustainable features is better business. They experience some combination of lower time-of-sale; minimal marketing expenses; higher-profit margins; no or minimal call-back expenses; and superior customer satisfaction. It's time to share their experiences with other housing industry stakeholders. Members of this secret club working with the DOE Challenge Home have been invited to share their story and experiences in a fast-paced moderated session that intends to dig deep into their inner construction practices and business outcomes.

Suggested Presenters: Chritine Barbour, Moderator

(BDM-24) Paving the Way to Net-Zero Ready New Homes: Why is the DOE Challenge Home Better Business for The "New Normal" Housing Market?

It's been five years since the housing industry began its current historic slow-down that continues to challenge builders across the country. As time marches on, it's becoming increasingly clear the recovery process is going to be extremely slow. Welcome to the new normal: less buyers, more competition from existing homes, and less assurance of

appreciation. This traumatic reality has left far too many home builders obsessed with a minimum cost business model at a time when they should be focused on maximum value. The DOE Challenge Home is a perfect solution for adding compelling value propositions that substantially differentiate builders from the fire-sale of existing homes. This session will explore the business case for new home builders to take new housing to an extraordinary level of exclusiveness, advanced technology, comfort, pollutant reduction, net-zero readiness, and quality. You and I want these type of homes, and so do American homebuyers. Home builders just don't realize it yet. Learn how DOE Challenge Home will help lead the way.

Suggested Presenters: Sam Rashkin

(BDM-25) SEO 101 - What It Really Means to RESNET Members
The Internet and social media have become the affordable way that small companies can market their services. But with the vast number of web sites it is hard for a company to have its web site found by potential customers. This is where Search Engine Optimization (SEO) comes in. SEO determines where a web site appears when a search is made on such sites as Google. There are many tricks of the trade to optimize a web site's SEO. This session will be led by the RESNET web site team, Fourth Dimension and provide an overview of SEO. It will also explore how RESNET rater members can build on RESNET's growing SEO authority by taking advantage of the resources already provided by RESNET

Suggested Presenters: Dru Vagale, Micky Singh

(BDM-26) So You Wanna Be A Rock Star: The Insider's Guide to Energy Stardom
So, you think you've got a voice? - then learn how to use it. You think you've got a story?- then learn how to tell it.

Kicking off with Dylan's "The Times They Are A-Changin'" we'll talk about the New Media; and our philosophy that "Smart is the new cool".

Through a series of interviews and real-life applications we'll divulge the techniques, tools and mindset of those who "rock" the energy efficiency world.

- How did they get their start?

- What Equipment/Tools do they use?

- How they found their "voice" and how you find yours

Our panel will include 2-4 bona fide "Rock Stars"

Suggested Presenters: Tommy Young

(BDM-27) The Business as a System
Lately it's become obvious that many contractors (and other businesses) are failing in the face of today's economy. You may have noticed that those who do succeed typically aren't the most gifted technicians or the fastest mechanics, but the best at grabbing the attention of prospects and turning them into clients.

The processes we create for putting ourselves in view of prospects (positioning), determining a fair price (pricing) and convincing prospects to become customers (proposing) are not unique to our business or our industry. These processes are often the first face to face interaction the prospect has with our businesses and prospects often ultimately choose to become customers (or not) largely depending on the how well these processes work.

These processes are complex activities that are so inter-dependent that if one fails the others falter. When this happens you might actually begin going out of business, regardless of how big you are or how long you have been in business. On the other hand, when the processes work well prospects are more inclined to make the right choice and profits follow.

Instead of looking for solutions to correct our obvious shortcomings in these areas, we will attend training on technical topics. We will spend thousands of dollars on tools, vehicles and equipment with hopes of speeding up the production side of the business. At the same time we shy away from spending a fraction of those dollars to create or enhance the other side of the business.

In order to have a sustainable business, a contractor should be able to manage these three basic processes (position, price, propose) as easily as he or she can drive a nail or run a blower door test. How could processes have such a great impact on your business (and mine too)? Processes save time, our major limiting asset. Processes allow us to;
1. do the impossible and do it more quickly.
2. have measurable expectations of what 'should be' in terms of results.
3. become more successful at delegating.

When I arrive on the job I have a process for installing a new window, insulating the attic or replacing the furnace (all complex activities). I may have no defined process for getting the phone to ring or screening the calls that do occur (positioning), determining a fair price quickly (pricing), or converting the prospect who calls into a client (proposing). These are all complex activities. Which of the above processes are most important in the long run?

Let's look at the business as a system, with processes underlying the system. These processes (position, price, propose) power the overall system much as an air compressor powers a variety of tools on the jobsite. Early in our business we need these processes to create cash flow—the lifeblood of the business.

Once we have managed to create cash flow, there may be more processes to master depending on the desired outcome. Contractors who are growing (by design) will find themselves continuously installing processes in their business to manage, diversify or enhance cash flow. Once the cash flow issue is stabilized there may be options available that weren't obvious before.
Do we want to get bigger or better? Do we want to diversify? Do we want to create a business that we could sell, pass on, franchise? Perhaps we'd rather stay small and be the best at what you do. We can choose once we have a sustainable system of processes in place.

Suggested Presenters: Mike Gorman

(BDM-28) The HERS Raters Roll in Supporting & Adopting Progressive Energy Codes
While the requirements of IECC 2012 provide new challenges to the building industry, the proliferation of stretch codes, above codes, beyond codes and green building codes offer substantial business opportunities to the HERS Rating community. Yet not all states or jurisdictions have adopted these progressive standards. In Massachusetts a successful partnership has been forged between utility companies, state regulators, municipal power brokers and HERS raters with very positive results – Massachusetts is now the nation's most energy efficient state. During this session a review of legislation, grass roots campaigns and the strategic planning that has successfully built a healthy HERS Rating infrastructure will be offer by two of the key individuals who are responsible for many of these successes.

Suggested Presenters: Mike Berry

(BDM-29) What does 3rd Party mean
Since I became and Energy Rater in 1995 I gravitated to the phrase, "3rd Party". What does third party mean and why does the phrase continue to resonate for me and why do I feel that it is important for my business? Does third party mean independent, nonbiased, no financial interest? We will explore all of this plus how this concept is being wrapped into energy code, HERS ratings, and this new class of 3rd party inspections. If I better understand what 3rd party means will my business mature?

Suggested Presenters: Robby Schwarz, Steve Byers

(BDM-30) Which works best for you? The consultant model or the contractor model?

Raters traditionally adopt the consultant model as advisors to clients in defining a scope of work based on the findings of the diagnostic testing. The consultant assists the customer in securing the services of a qualified contractor, verifies that the work is conducted to the agreed upon scope, and conducts necessary testing out services. The contractor model, on the other hand, brings the diagnostic testing capability on staff as part of an integrated sales and home performance delivery process for the customer. The "testing in" and "testing out" is the responsiblity of the contractor who is performing the work for the customer. Some states endorse the consultant model, while other states started out with a consultant model and have moved to more of a hybrid model. Other states, like New York, embrace the contractor model. Learn from the experience of others which approach could work best for you.

Suggested Presenters: Keith Williams, Dave Abrey, Corbett Lunsford

(BDM-31) Why can't we crack the nut?
Aesthetics and location are still the drivers when it comes to selling a house. We have tried to educate sales people. We have tried silent sales tools and deconstructed homes. We have tried incentives and websites. Yet people are making the largest purchase of their lives with the least amount of information and knowledge about the product they are buying. How can we crack this nut? Join this panel discussion that will set the stage and offer some thought on how we can be the nut cracker.

Suggested Presenters: Robby Schwarz, Steve Byers

ENERGY STAR HOMES

(ESH-1) Building on ENERGY STAR: Stepping up to EPA's Indoor Air Plus label
Building ENERGY STAR Certified Homes is a good start to building homes with better indoor air quality. EPA’s Indoor airPLUS label provides a comprehensive approach to ensuring healthy indoor air. Learn how you can build on your ENERGY STAR partnership to earn the Indoor airPLUS label.

Suggested Presenters: ENERGY STAR Certified Homes team

(ESH-2) Capitalizing on the new ENERGY STAR Value Proposition (Builder Panel)
By building homes to the ENERGY STAR Version 3 requirements, builders have a more compelling message to share with consumers than ever before. Through this panel presentation, learn how builders have successfully integrating these messages into their own marketing and sales techniques to capture potential homebuyers.

Suggested Presenters: ENERGY STAR Certified Homes team

(ESH-3) Designing and Installing HVAC Systems in ENERGY STAR Certified Homes: A Primer for Raters and Contractors
This session will cover the activities that must be performed by the HVAC contractor and Rater to comply with Sections one through five of the HVAC System QI Contractor Checklist and Section one of the HVAC System QI Rater Checklist. It will also explain where these requirements come from, how they help to ensure a properly functioning system, what documentation must be provided by the contractor, and how to avoid common pitfalls to success.

Suggested Presenters: ENERGY STAR Certified Homes team

(ESH-4) ENERGY STAR v3 from a Raters perspective
No more transitions, no more learning - Now three years into it where do we stand. Stumbles, fumbles, and rumbles but we are making progress and yes we are still learning. Come hear one Raters perspective on how ESv3 is going, what builders are thinking, and where we may want to go from here.

Suggested Presenters: Robby Schwarz

(ESH-5) Getting the details right on the ENERGY STAR Thermal Enclosure Checklist
Learn the importance of the Thermal Enclosure System Rater Checklist, including best practices and strategies used to meet its requirements. Although this session is geared towards Home Energy Raters, builders are welcome to attend to learn more about this checklist required under Version 3.

Suggested Presenters: ENERGY STAR Certified Homes team

(ESH-6) Getting the details right on the ENERGY STAR Water Management Checklist
ENERGY STAR Version 3 has introduced the Water Management Builder System Checklist to certify homes as ENERGY STAR. This session highlights areas of the checklist which are most complex based on feedback we've received from builders and Raters from the past year.

Suggested Presenters: ENERGY STAR Certified Homes team

(ESH-7) How to Verify Key Components of the ENERGY STAR HVAC System QI Rater checklist
This session will walk through how to verify key components of the HVAC System QI Rater Checklist, including best practices and strategies used to meet its requirements. Although this is geared towards Home Energy Raters, HVAC contractors and builders are welcome to attend to learn more about this checklist required under Version 3.

Suggested Presenters: ENERGY STAR Certified Homes team

(ESH-8) HRV or ERV for residential ventilation
HRV and ERV are products utilized for residential ventilation. The session is 90 minutes and will cover the following:
- Why Ventilation
    - o What's an HRV?
    - o What's an ERV?
    - o What do they do?
- Efficiencies
- Defrost operation HRV
- Winter Humidity reduction cold climates tight homes
- How much ventilation is required?
- Equipment selection
- Controls

Duct Systems
- Simplified System
- Partially Ducted System
- Full Ducted System
- Designing the System

Suggested Presenters: Tim Begoske

(ESH-9) HVAC Business Case Studies: Building Success with ENERGY STAR Certified Homes (HVAC Contractor Panel)
This is a panel presentation, facilitated by EPA, in which HVAC contractors from across the country will discuss how working with ENERGY STAR certified homes has helped them build their businesses. Presenters will discuss their rational for becoming credentialed and how they successfully transitioned to the new requirements.

Suggested Presenters: ENERGY STAR Certified Homes team

(ESH-10) "Next Step" for efficient homes: moving beyond ENERGY STAR
As the EPA has been in the process of refining and rolling out Version 3 ENERGY STAR specs, other organizations have been simultaneously developing standards and certifications for homes that take the next step in energy efficiency. The Northwest Energy Efficiency Alliance has developed a new tier of performance homes, based on targets for building heat

loss, high efficiency equipment and distribution systems, tight construction and superior levels of ventilation efficiency. Come learn about the steps this project is undertaking, from spec development and modeling of proposed homes to builder recruitment and consultation – and finally to metering and evaluation. This presentation will look at successes and challenges related to builder engagement, project tracking, and alignment with additional certification programs.

Suggested Presenters: David Hales, Charlie Stephens, Dan Wildenhaus

(ESH-11) Ventilation Standards: ENERGY STAR, Raters, and ASHRAE 62.2
Every ENERGY STAR home certified under Version 3 must meet the requirements of ASHRAE 62.2-2010 – the industry standard for ventilation and acceptable indoor air quality in low-rise homes. This session will explain the value and the requirements of the three key components of the standard – review ventilation, exhaust, and filtration; discuss strategies for meeting these components; and clarify how these requirements relate to the RESNET standard.

Suggested Presenters: ENERGY STAR Certified Homes team

PROGRAMS AND INCENTIVES

(PI-1) Advancing the Industry Teamwork in Supporting the Market for Home Performance with ENERGY STAR
DOE's Home Performance with ENERGY STAR (HPwES) Team proposes to host a 90 minute session on the national program's efforts to advance the HPwES Program in an effort to offers scalabe approach for establishing homeowner confidence in solutions that improve the performance of the whole home. In 2012, DOE proposed changes and sought industry input on ideas to evolve the HPwES Program (aka HPwES v2). At RESNET's 2013 Conference, DOE would like to present an update on these efforts to advance the program. In this session, we will discuss how the national program is seeking to engage greater participation among industry stakeholders and our results in providing the HPwES whole-house approach. Working with industry, DOE will explore the business opportunity for raters to work in the home performance marketplace – what works? What doesn't? What are the tricks of the trade? How could RESNET's EnergySmart contractor designation fit in? What's different from the new homes market?

Suggested Presenters: Ely Jacobsohn

(PI-2) DOE Programs Paving the Way to Zero Net-Energy Ready New Homes:
What DOE Challenge Home Specifications Define Truly Zero Net-Energy Ready Performance?
It's time to establish a clear definition for zero net-energy ready homes as this concept increasingly resonates with home builders and home buyers in the U.S. and abroad. The DOE Challenge Home provides one important solution with a strategy that optimizes energy efficiency along with related home performance functions as a precursor to installing renewable energy systems. This session will address the detailed specifications that achieve this strategy. The primary focus will be mandatory DOE Challenge Home requirements and checklists for comprehensive building science, advanced innovations and best practices for thermal enclosures and HVAC systems, energy efficiency components, indoor air quality, and solar readiness. Additionally, this session will address specifications that are encouraged but not required including checklists for comprehensive water conservation, disaster resistance, and quality management. Constructing zero net-energy ready homes is relatively easy. Constructing them so they are affordable, comfortable, healthy, safe, durable and quality-built is the goal of the DOE Challenge Home specifications.

Suggested Presenters: Sam Rashkin, Jamie Lyons

(PI-3) DOE Programs Paving the Way to High Performance Home Improvements:
What Top Innovations from Building America are Paving a Path to High Performance Home Improvements?
Most industries invest nearly 4 percent of annual revenue into research and development. The housing and remodeling industries only invest a tiny fraction of one percent. And when innovations do finally appear, the National Association of Home Builders reports it takes almost 25 years for them to be adopted by the housing industry. Recognizing that housing in the U.S. accounts for 20 percent of total energy consumption, The U.S. Department of Energy's Building

America Program addresses this critical innovation gap and opportunity to save energy by delivering high-performance home solutions for new and retrofit construction and accelerating the market transformation process. The results of these efforts have had profound impacts increasing energy efficiency while ensuring greater affordability, comfort, air quality, and durability in U.S. housing. In recent years, Building America has shifted focus toward the same challenges facing the home performance retrofit market. What are the major innovations expected to impact home retrofits? Building America has created a 'Hall of Fame' for the most transformative past innovations and will make a major announcement each year promoting the latest innovations for both new housing and existing home retrofits. This presentation will highlight the top innovations in home retrofit technologies contributed by past research along with strategies being employed to accelerate their adoption in the home performance market place. World class research makes a significant difference and that story needs to be effectively told.

Suggested Presenters: Sam Rashkin, Eric Werling

(PI-4) DOE Programs Paving the Way to High Performance Home Improvements:
Unprecedented Access to Expert Knowledge for Home Performance Improvements with the Building America Solution Center

Up to now, expert guidance on high-performance home improvements has been a one way linear process from research, to preparation of findings, to publishing fixed content. That all changes with the Department of Energy's Building America Solution Center. This new tool, accessible from mobile devices and traditional web browser, provides improved access at the touch of your fingers to proven innovations and best practice recommendations from DOE's world-class research program, Building America. Employing a new database engine and elegant interfaces, users can find the exact information they need on any building science topic within seconds so it can be effectively applied in work scopes, field applications, negotiations with key decision-makers, or training sessions. And maybe most importantly, this tool creates a community of users who can continually improve and augment the content. This session will acquaint the audience with the strategic process behind the tool; how it works, and why the content enhances the capabilities for any stakeholder involved in high-performance new and existing homes. This includes a demonstration of the recently released tool, and an opportunity for you to help DOE address the most important technical content for your home performance business. If you have any role in high-performance home improvements, welcome to a sneak preview of your new best friend.

Suggested Presenters: Michael Baechler, Eric Werling

(PI-5) Energy Efficiency in the Wake of Natural Disasters

Within recent memory the US has suffered several devastating natural disasters in every region and climate zone of the nation. The destruction from hurricanes and tornadoes has taken thousands of live as well as countless homes and businesses that to this day haven't been rebuilt. In the wake of Hurricane Katrina and the 2011 Western Massachusetts tornados, Louisiana and Massachusetts responded by implementing recovery programs on behalf of local utilities and government organizations. The hallmark of these successful programs was tying energy efficiency to the rebuilding efforts. Program planners, government officials and HERS raters can be prepared and learn how best to mobilize federal, state and local governments, lending institutions, contractors, recovery groups, and local businesses when emergency efforts become unfortunate realities.

Suggested Presenters: Ian Buba, Ben Hayes, Michael Berry

(PI-6) ENERGY STAR V3.0: Program Survival Strategies in Year One

Builders and raters have made it through the first year of ENERGY STAR V3.0. Efficient new homes programs have faced many challenges in maintaining participation rates. This panel will highlight program designs and incentive adjustments adopted to ease the transition, discuss key challenges to V3.0 adoption, and present strategies for supporting raters, builders, and associated trades.
If accepted, I will organize a session with panelists representing efficient new home programs from multiple markets across the country, including PSD's own experience operating RNC programs in PA and OH.

Suggested Presenters: Kathy Greely

(PI-7) Home Energy Score: An Opportunity to Reach a Broader Market
RESNET is proud to applaud our community's accomplishments in rating more than 1 million homes! And, while we grow HERS, our community also has an opportunity to reach out to a larger number of existing homeowners and homebuyers by offering the Home Energy Score, launched last year by DOE. Come hear from current Home Energy Score providers about how the score works, who can provide it and how it might offer a growth opportunity for your business.

Suggested Presenters: Joan Glickman

(PI-8) How to Be an Effective Whole Home Program Implementer, According to Better Buildings
DOE's Better Buildings Neighborhood Program has been operating a multi-year, in-field experiment of dozens of different approaches to engaging homeowners in energy efficiency retrofits across the country. The Better Buildings legacy is a searchable, interactive, online resource and 'how to' guide for designing, implementing, evaluating, and improving market-rate residential energy efficiency programs. Come see the decision tool and supporting resources that are being developed to help communities, utilities, and program implementers deliver residential energy efficiency programs as effectively as possible. If you have an even better way now's the time to share it! DOE will be soliciting additional materials, guidance, and resources to add to the Better Buildings decision tool.

Suggested Presenters: Danielle Byrnett

(PI-9) How utility programs can make Rater's job easier
This presentation will examine the success of the Maryland ENERGY STAR for New Homes Programs as a case study of the significant opportunities for raters that can arise from energy efficiency regulations and utility residential new construction programs. Similar to what is being seen in many other areas, the EmPOWER Maryland State legislation requires regulated utilities to achieve 15% energy demand reduction by 2015. As a result, a consistently designed and implemented ENERGY STAR for New Homes program has been launched by all regulated utilities in the state. Raters have played a key role in the achievements of these programs, which have completed over 4,650 certified homes since 2009 – transforming the market from having 5% ENERGY STAR penetration in 2008 to well over 40% in 2011. This presentation will focus on the ways in which the programs have intentionally supported the rating industry and the ways raters have successfully increased their business opportunities by partnering with these programs. The programs have: required builders to identify a RESNET accredited rater that they are working with in order to be accepted; enrolled both raters and builders as formal partners; dedicated rater account managers; a user friendly online data management and document storage system; a robust incentive structure; and frequent strategic training opportunities. As program partners, raters have: taken the initiative to recruit builders into the utility incentive programs; collaborated closely with program staff; participated in training opportunities to help raters, builders, and HVAC contractors transition to ENERGY STAR Version 3; and been allies in the field quality assurance inspection process. As an outcome of this presentation, raters should have good ideas for how to work effectively with utility residential new construction DSM programs in their markets, encourage any such programs to employ supportive and effective design and implementation concepts, and support the creation of successful programs if they don't yet exist.

Suggested Presenters: Rick Gazica, Thom Davis,

(PI-10) HVAC, Ventilation and ENERGY STAR v3: What All Raters Need to Know
ENERGY STAR v3 really ramps up the knowledge and practical expertise needed by Raters to accomplish project goals and insure client satisfaction. Are you involved with ENERGY STAR v3 projects now? If not, do you want to learn more about this popular certification? Raters have many questions concerning the program, including: How can Raters be more involved and earn more money on each project? Can Raters do things traditionally reserved for HVAC trades? What are the pros and cons of each method to measure air flow? What ventilation standards are used and what are the best ways to test system performance?

These and many more questions will be answered by Mike Barcik and Ray Ivy during this entertaining presentation. They have helped hundreds of industry professionals understand more about the new ENERGY STAR standards and how to

meet them in a cost-effective and time-efficient manner. If you are involved with ENERGY STAR (or plan to be) this is a great way to learn more about what do to and how to do it right.

Suggested Presenters: Mike Barcik, Ray Ivy

(PI-11) Innovative Approaches to Drive EE Initiatives in the South

JEA has sought to drive EE initiatives via its Outreach, DSM & BBNP programs in Jacksonville FL. Starting by promoting audits and EE financing as part of an integrated program JEA sought to address supplier/customer/stakeholders needs and relationships by becoming a trusted partner and energy advisor. Seeking to fully integrate multiple initiatives JEA has sought to incorporate a variety of innovative approaches to reach its target markets, engage its customers and change behaviors. JEA has utilized BBNP funds to drive energy audits, EE lending and introduce home performance contracting to its market [from a single measure only market]. In addition JEA has introduced the following innovations to support its initiatives and drive sustainable marketplace changes. The first innovation was the introduction of EE lending to the local market. This started as an interest rate buy down and successfully generated over x loans totaling over $y dollar. The next phase is in development it involves tight integration with the HP contractor community and utilizes both LLR & straight EE lending. The second innovation revolves around the development of a network of efficiency professionals we call the E [efficiency] Council. The E Council is set up within the existing infrastructure of a regional builders association of over 900 contractors. Starting with the emerging market leading auditors and contractors JEA is fostering training for contractors and facilitating marketing of the emerging home performance industry in northeast Florida. JEA is coordinating, providing technical support & underweighting expense with JEA & BBNP funds. The third innovation is part of JEA's top down/bottom up marketing efforts. Using bill inserts, bill messages, a weekly radio talk show are part of the top down efforts. Two bottom up initiatives are also in place. One is the Home Energy Makeover party modeled after a Tupperware party, offered in target-ripe neighborhoods. The other is the Home Energy Evaluation [HEE] backpack offered through the public library system. The backpack is intended for those who want to do their own energy evaluation and develop and implement changes to improve their homes energy performance.

Suggested Presenters: Brian Pippin, Bruce Doueck, David Reed

(PI-12) Motivating Contractor Participation: A 12-Step Roadmap to Network Development

Programs that promote home energy-related improvements need reputable contractors who adapt their sales and operations to meet the program's goals. However, too many program managers spend too much time nurturing unproductive, slow to adapt or low performing contractors. This session will present a 12-Step Roadmap to Contractor Network Development and Management that program administrators may follow to establish and enhance a qualified contractor network whose work will be consistent with national guidelines. The Roadmap will provide utility and government staff with details they need to know and do during the design period, pre-launch, launch, and positioning for a long-term sustainable program. It is the result of observations and evaluation of numerous programs such as Energy Upgrade California and New York Home Performance with ENERGY STAR. Join us to discover the replicable model for contractor and homeowner engagement which includes action steps, opportunities to adjust, and ways to ensure momentum is created and sustained. Learn how to leverage program incentives dollars to ensure the free-market will continue to drive results should funding end.

Suggested Presenters: Tiger Adolf, Ed Thomas

(PI-13) Multi-Family Above-Code Certifications: Real World Things You Need to Know to do Them Right

Multi-family construction has been one of the few bright spots in the construction world over the last few years. Financial incentives are available to projects that build to an above-code standard and many developers are taking advantage of this great way to lower costs. How are these projects different than single-family homes for Raters who want to get in on the action? What are steps Raters can take to minimize time and maximize efficiency on these projects? What are some common mistakes that can easily be avoided?

Get answers to these questions and many more as Ray Ivy and Matt Monroe share their experiences involving a multitude of EarthCraft Multi-Family projects and thousands of tests and inspections. Learn about the best ways to

handle all aspects of the process, including design guidance for builders and developers, ventilation issues, trade training, sampling procedures and field inspections. You don't have to learn the hard way or reinvent the wheel! Matt and Ray share do's and don'ts that will save new and experienced Raters much frustration involving this high-volume growth area.

Suggested Presenters: Matt Monroe, Ray Ivy

(PI-14) Multifamily Energy Efficiency Programs, Why and Why now?
We will show how a multifamily-existing program can improve MWh results for an energy efficiency program. Multifamily-existing will be a viable product for years to come. Why? This decade will experience more 23 year olds in the US than at any time in our history. This combined with our current economic situation which has creating a risk adverse generation has resulted in an explosion in the multifamily arena. Our discussion will explore program design considerations such as benchmarking, modeling, and sampling methodology. We will describe custom and prescriptive program design and implementation. Pros including commercial-like kWh numbers and minimal need for marketing will be reviewed. Cons including contractor education and oversight, quality assurance complications, and project tracking/ reporting will be reviewed.

Suggested Presenters: Frank Wickstead, Amy Freeland, David Brimanson

(PI-15) National Green Building Programs Case Study Comparison
With the many national green building programs out there, it's difficult to compare them to each other unless all programs are done on a single project. This presentation will answer all your questions about the differences between the programs by going through 2 homes with the National Green Building Standard, LEED for Homes v2008, LEED for Homes v4 and Enterprise Green Communities. The presenter will take a look at an affordable home and a highly efficient custom home. The differences between the programs will be discussed in technical detail.

Suggested Presenters: Carissa Sawyer

(PI-16) The Builder Said "No" to 3.0
With the introduction of Energy Star 3.0, some builders large and small have decided to opt out. Others tried to do it but were unable to implement the necessary regulations and decided to drop the certification. This has cut into the revenue of many building performance companies with new home rating services. Replacing the lost revenue is crucial. Showing the value of Energy Star 3.0 to builders has never been so important.

Topics that need to be addressed include:
- Winning back builders who have dropped Energy Star by helping with implementation
- Marketing to and closing new builders
- Starting and selling your own program rooted in energy efficiency and building science
- Standalone HERs Ratings and their value to builders and homeowners
- Alternative utility programs
- Expanding into green verifications
- Alternative verifications, like standalone duct testing, blower door testing, and IR scanning
- Expanding to existing homes, if not there already

Suggested Presenters: Bill Klotz

(PI-17) The Cross-Border Challenge "Are Canadian Builders Better Than US Builders?"
With the HERS industry growing rapidly in Canada, CRESNET (Canadian RESNET) is challenging US home builders to see who can build more homes with a HERS Index of 50 or below. CRESNET president John Godden presented the idea to RESNET executive director Steve Baden at USGBC's GreenBuild in Toronto in September 2011. Basing the idea on the US DOE's Builders Challenge and adding a friendly competition between US and Canadian home builders, the CRESNET/RESNET sponsored event will culminate with awards given at the 2014 RESNET conference in Atlanta. The Challenge will run from June 2012 through the end of 2013, with awards for best Canadian builder, best American

builder, and best international builder, based on the percentage of houses with a HERS Index below 50. The session also will discuss the emerging need for a North American rating system as well as the opportunities that exist for all North American builders.

Suggested Presenters: John Godden, Steve Baden

(PI-18) The Role of Electric Cooperatives in Improving Building Performance
Across the nation electric cooperatives are leading the effort to promote improved building performance. This session will highlight two efforts. The promotion of the HERS Index Score to builders by Blue Grass Energy and the advocacy of RESPA by the National Rural Electric Cooperative Association. RESPA would provide long term, low interest loans to cooperative members to improve the efficiency of their homes and repay the loans through on-bill financing.

Suggested Presenters: Roy Honican, Brian Cavey

(PI-19) The SAVE Act - Mainstreaming Energy Efficiency Into the Mortgage Loan and Appraisal Process
The SAVE Act is generating bipartisan support in Congress. It enjoys a wide range of support including environmental groups, homebuilders, the U.S. Chamber of Commerce and the National Manufacturers Association. This session will introduce the SAVE Act and its provisions, the effect that it will have on building performance and explore its chances of passage into law. The session will be led by Ken Gear of the Leading Builders of America.

Suggested Presenters: Ken Gear

(PI-20) Tools for Success: Update on the DOE Guidelines for Home Energy Professionals
This session will provide an overview and update on the Standard Work Specifications (SWS) for Single-Family Homes as well as the new DOE-supported Home Energy Professional Certifications. What are SWS? How are the new certifications different then what's currently available? What do these tools offer to the broader home performance industry? Come hear answers to all these questions, and more!

Suggested Presenters: Julie Hughes, Benjamin Goldstein

(PI-21) Updates in Water Efficiency: WaterSense for Multi-Family and More Energy Savings You Could be Missing
Since EPA released the WaterSense homes program in late 2009, it has become even more apparent that making the most out of our limited water resources will be one the key challenges facing the building industry in the coming years. Increasing drought frequency and intensity, water and sewer rates that continue to rise at a disproportionate rate, and communities' inability to expand and update their water infrastructure quickly enough are all adding to the need to use water more efficiently. Building professionals, providers, and raters that are quick to add water-efficiency to their offerings will be well positioned to capitalize on this latest trend in green building.

In this session, professionals will learn the details of how EPA is now opening the WaterSense program to homes in multi-family buildings. Allowing this growing segment of the building market to earn the first national label for water-efficiency will provide new prospective clients for building science professionals. The session will also detail strategies for energy efficiency that many in the RESNET community may be missing; efficient distribution and use of hot water. Heating water is one of the two largest uses of energy in almost all homes and represents a disproportionally larger percentage in most homes with higher energy ratings. A revised approach for estimating the energy used for heating water has been proposed by factoring distribution and end-use efficiency in HERS in addition to efficient generation. Raters, providers, and builders who understand all three phases of hot water use (generation, distribution, and end-use) will be equipped to take advantage of on this opportunity.

Suggested Presenters: Jonah Schein

(PI-22) University of Missouri's and Spirit Foundations' Home Energy Score Qualified Assessor - Home Energy Survey Certifications

Jim Mikel could speak about the University of Missouri's and Spirit Foundations' Home Energy Score Qualified Assessor - Home Energy Survey certifications, and the four year process that went into developing and implementing the program. The program will be nationally recognized at community colleges, beginning in the fall of 2012, and by the time the conference is held in Orlando in 2013, will be recognized across the United States.

In May, 2012 the pilot program will be conducted with the Department of Energy, University of Missouri, Jefferson College, RESNET and Spirit Foundations. Steve Baden will assist with the program.

Spirit Foundations is a non-profit, based in St. Louis Missouri that is administering the Home Energy Score Program using the HESP certification. Jim Mikel is on the board of directors of the non-profit that supports the national child abuse hotline, domestic abuse hotline and drug abuse hotline. The foundation also works with impoverished areas to create jobs, food, and sustainability.

Suggested Presenters: Jim Mikel

(PI-23) What Can Your Program Do With The Right Data?
JEA and the University of Florida (UF) teamed up to perform some EM&V on a home energy upgrade program in Jacksonville. UF's analysis tools cross correlate consumption data with property information to enable a program look at multiple factors to help improve program effectiveness and output, provide case studies and information on participant effectiveness. Along with analysis, the tools can also be used to target specific customers and neighborhoods for targeted marketing and communications to get the biggest bang for the program buck!

Suggested Presenters: David Reed, Nicholas Taylor, Pierce Jones

(PI-24) What Did We Get for Those ARRA Dollars?
The DOE Better Buildings Neighborhood Program represents a 3-year, $500 million ARRA investment in testing new combinations of approaches to marketing, sales, efficiency services, incentive and loan offerings, and customer interactions. After two and a half years, grant recipients have completed tens of thousands of retrofits and learned a lot about what to do - and what not to do - to move consumers from interested to upgraded. DOE will share its Better Buildings 'top 10' lists around driving demand, financing and incentives, workforce and contractor relationships, and data and evaluation.

Suggested Presenters: Danielle Byrnett

(PI-25) "What's Going On" - Developments in Congress
There are currently a number of bills introduced in Congress to provide incentives for builders to build energy efficient homes and homeowners to improve their existing homes' energy efficient homes. This session will explore the status of such legislation, their chances of being passed and how the building performance industry can make its voice heard in Washington. The session will provide an example of how an Ohio Energy Rating Provider was able to reach out to a key leader of the House Ways and Means Committee and bring home performance into a local perspective.

Suggested Presenters: Carl Chidlow, John Johnson

(PI-26) What's the Score on Home Energy Score
U.S. DOE tested the Home Energy Score with pilot partners nationwide in 2011. Based on research findings during that pilot phase, the Department made improvements to the scoring tool and program. Now, more than 20 partners and 100s of qualified assessors are scoring homes around the country. Find out what DOE learned from an impressive range of analysis performed to date…and, what's in store to further strengthen the program.

Suggested Presenters: Joan Glickman

RATINGS AND AUDITS

(RA-1) A Rater's guide to a SIP envelope inspection
This course will provide a baseline understanding of structural insulated panels (SIPs) and SIP structures. Attendees will review the standard detailing, connection methods, and sealing methodology used in the SIP industry. Raters will be shown where and how certain joints may fail in terms of initial air-tightness as well as long-term durability. The course will also explore the relationships between a SIP building envelope and other systems, followed by a discussion of best practices and industry standards as they relate to the proper installation and performance of a SIP structure.

Lastly, the course will review and discuss case studies that highlight both good and bad SIP detailing and how that detailing affects the rater. Attendees will gain insight into how a builder can achieve extremely low air infiltration rates as well as how to locate leaks when the numbers do not meet expectations.

Suggested Presenters: Al Cobb, Don Jhanke

(RA-2) Cost Effective Ways to Help Builders Achieve Their Home's Desired HERS Index Score
During SkyeTec's presentation, builders will learn simple to more complex methods for lowering their home's HERS index score. These methods will involve performance, as well as specification recommendations. The methods discussed in this session will also be beneficial to builders and HERS raters using RESNET approved software to achieve Florida Energy code compliance.

Suggested Presenters: Ryan McCracken, Frank Ferrentino

(RA-3) Creating Reports Your Clients Will Love
Your home performance report is a critical part of both sales before the job and client satisfaction and referrals after it's done. But the beautiful reports your hand your client can be time-consuming, expensive, and fraught with unintended errors. See behind the scenes of a successful performance diagnostics company's customized report building, including Infrared Thermal Imaging Reports, Energy Modeling and Investment Analysis, Utility History Analysis, Recommendations for Improvement, and a full tour of a reporting software created using the power of Excel spreadsheets, which uses a lot of (not-so-simple) formulas and "if-then" statements to enable you to automate over 50% of your reporting process.

Suggested Presenters: Corbett Lunsford

(RA-4) Deep Energy Retrofits with Retrofit Insulated Panels
Retrofit insulated panels are emerging as a popular option for adding whole-house insulation and air sealing on deep energy retrofit projects. The composite panel consisting of rigid insulating foam and a solid OSB nailing surface can be easily applied over existing wall and roof sheathing. This training session covers how to incorporate retrofit insulated panels into an energy reduction strategy for existing homes and the building science issues involved with significantly reducing the air infiltration, moisture intrusion, and energy loss of older homes.

Suggested Presenters: Ted Clifton, Don Jhanke

(RA-5) Energy Audit and Retrofit Contract Legalities and Pitfalls
While this presentation will cover some of the legal issues related to liability for energy auditors and retrofit contractors, one of its main emphases will be to discuss the special legal and ethical issues peculiar to pre-purchase, or otherwise known as "time of sale" audits and retrofits. Coverage will also include level of quality of service expected, adhesion contracts, helping reduce liability through the use of specific types of contract provisions, RESPA liability, local vs. national standards, limitations of liability, antitrust law, general liability, and legislating professional regulation.

Suggested Presenters: Stan Harbuck

(RA-6) HERS Raters in Canada- The Industry Expands Internationally

With a still vibrant housing industry in Canada and strict energy codes, interest in HERS ratings is growing rapidly in that country. In 2007, CRESNET (Canadian RESNET) was the first international organization to sign an MOU with RESNET to adapt the HERS Standards to another country's needs. With the Ontario building code now recognizing HERS ratings as one of 4 paths to show compliance with energy code, momentum is growing in Canada to train new HERS raters and move the industry forward. HERS rater training is happening in Canada now, with the first class taught in Sep. 2011 and several more in 2012, aided by the new Canadianized version of the HERS rater test. John Godden, president of CRESNET, and Allison Bailes, a HERS trainer from the US, will discuss the challenges and opportunities north of the border.

Suggested Presenters: Allison A Bailes III, John Godden

(RA-7) HERS ratings & Deep Retrofit Homes
This session will discuss HERS ratings performed on 10 deep retrofit homes that were designed to save more than 75% of their pre-retrofit energy use. The homes have been intensively monitored for total and individual end-use energy consumption over a year of operation for comparison to predicted energy use. This session will discuss the HERS ratings for these homes, occupant effects on energy use in low energy homes and details of alternative metrics that can be used to define low energy home performance. The end-use data will be used to indicate where there may be potential for improving home energy ratings for low energy homes and illustrate issues over which auditors need to take greater care when evaluating these homes.

Suggested Presenters: Iain Walker, Brennan Less

(RA-8) HERS Ratings in the Retrofit Market
Between 2005 and 2010 US housing starts declined from 1.6 million to 330,000 units, a decrease of more than 80% that is only now slowly showing signs of improvement. As the new construction and real estate markets struggle to regain their health an increase in renovations and retrofits have helped homeowners meet their increased housing and energy efficient needs. Yet planning for and measuring the energy benefits of these projects pose unique challenges to both HERS raters and energy efficiency program administrators. Presenting the lessons learned from a variety of Massachusetts utility sponsored programs dealing with single family, duplex, and triple decker retrofit work will be the focus of this presentation. Raters will learn how to properly address retrofit project, from modeling challenges to leveraging incentive programs. They will gain a thorough understanding of the many challenges that existing housing stocks present.

Suggested Presenters: Mike Berry, Greg Krantz

(RA-9) IECC 2012 and the Performance Testing Requirements
IECC 2012 requires blower door testing of every home and duct tightness testing for all duct systems located outside the thermal envelope. How are code officials going to enforce these requirements? Where should they turn to find qualified testers? What certifications and qualifications should they look for? Many jurisdictions are starting to ask these questions and some are starting to plan for this next generation of the energy code. This session will present an overview of national activities in support of these performance testing requirements and highlight some case studies where things are happening (e.g. Georgia, the Northeast). We will also look at the multitude of issues that have arisen around these requirements and suggest some approaches that will provide comfort to local jurisdictions when they question how they can possibly impose these testing requirements on every new home.
With the large percentage of new homes that are energy rated and issued a HERS Index Score it just makes plain sense to consider creating a HERS Index Score as a compliance option to the IECC. The Natural Resources Defense Council (NRDC) is working with a coalition of energy advocacy and homebuilders to create a HERS Index option into the IECC. This session will explain the rationale for such an effort and provide an update on what a proposal would look like and explore the implications for homebuilders and energy raters.

Suggested Presenters: Richard Faesy, Mike DeWein

(RA-10) Implementation of Affordable Audits and Retrofit Products
Home data collection and expensive scopes of work are two of the biggest issues that existing home retrofit programs face. Walk away from this session with tips on how raters can get the job done faster and collect the important data that allows weatherization programs to focus on implementing measures that matter and reducing the job cost. Learn tricks for labor reduction, low cost products and materials.

Suggested Presenters: Rob Moody, Ryan Boswell, Seth Baldy

(RA-11) Incorporating the HERS Index Into the International Energy Conservation Code (IECC) - A Time That Has Come?
With the large percentage of new homes that are energy rated and issued a HERS Index Score it just makes plain sense to consider creating a HERS Index Score as a compliance option to the IECC. The Natural Resources Defense Council (NRDC) is working with a coalition of energy advocacy and homebuilders to create a HERS Index option into the IECC. This session will explain the rationale for such an effort and provide an update on what a proposal would look like and explore the implications for homebuilders and energy raters.

Suggested Presenters: David Goldstein, Jim Petersen, Dean Potter

(RA-12) Manipulating Temperatures in Homes for Effective Infrared Imaging
With the development of better infrared cameras recently, the temperature differential between inside and outside of a home can be much smaller than it has with older cameras. At the same time, if there is any doubt about the adequacy of this temperature differential being large enough to use infrared to evaluate the home, manipulation of the temperature inside the house using the heating or air conditioning systems to create a greater temperature differential is an option. A presentation is provided that explains how such an infrared evaluation is conducted along with the limitations of such an infrared survey.

Suggested Presenters: Stan Harbuck

(RA-13) Multifamily Energy and Water Market Research Survey
If you want to know more about the 2012 Multifamily Energy and Water Market Research Survey then this session is for you. Join Chrissa Pagitsas and Donna Varner as they discuss the need to collect and understand whole building energy and water costs and consumption data for existing multifamily buildings. Chrissa and Donna will talk about how this data helps in the creation of financing products for energy efficient property improvements. During this session, they will also explore the rationale behind creating the survey, how Fannie Mae selected the properties from their portfolio for participation in the survey, the various strategies to support the survey data collection, how the analysis was performed and the lessons learned. Learn how the results from this survey will facilitate the development of a Multifamily Energy Star® 1 to 100 performance and certification.

Suggested Presenters: Chrissa Pagitsas, Donna Varner

(RA-14) Paving the Way to Net-Zero Ready New Homes: How to Execute HERS Plan Evaluation and Field Verification for DOE Challenge Homes
It's time to put a new tool in your HERS tool belt. Raters can augment their services offered to home builder clients with specialized skills needed for DOE Challenge Home certification. This label helps leading edge builders achieve extraordinary differentiation from their primary competition, existing resale homes. This session will demonstrate how HERS raters can perform plan DOE Challenge Home plan evaluations and field verification with actual home examples. The housing market is on a collision course with net-zero ready performance; learn how you can help be part of this movement.

Suggested Presenters: Jamie Lyons,

(RA-15) Performing Multifamily HERS Ratings

Congratulations, you've landed a big multifamily project! Now the only thing you have to do is figure out the HERS Rating. Even for experienced HERS Raters the first multifamily Rating can be an intimidating endeavor. This session will cover the ins and outs of multifamily building level and unit level HERS Ratings. During the session we will rate a sample project from plans as a group and go through the process of selecting the "worse case" units. We'll cover how to address common areas, elevator shafts, commercial spaces, adjacent structures, party walls, duct leakage testing, and numerous others. This session is conducted to by two HERS Raters/Quality Assurance Designees (QADs) with nearly 15 years combined Rating experience.

Suggested Presenters: Abe Kruger, Glenn Pease

(RA-16) PROFITING from the Power of Performance Testing
You went to training, got certified, and bought the diagnostic equipment. But if you're not using all of that on EVERY job, you're tragically missing out! Diagnostic testing is much more than a bunch of math and science: it is nothing less than your chance to PROVE that you kick the competition's butts! If you don't prove it, someone else will try to prove the opposite.
Don't just stop at the required testing, either- go the extra mile, and when you stop and look around, you'll be heads and shoulders above the competition.
Get introduced to 5 simple ways you can make more money doing better work for happier clients, using performance testing. Learn how to pinpoint exactly what's going wrong in a home, how to illustrate it to for client, and how to verify that you did a terrific job.

Suggested Presenters: Corbett Lunsford, Brett Dillon

(RA-17) Rater / Contractor Relations
As Energy Smart Teams become more prevalent, and the HERS Index includes more HVAC related testing, and the ENERGY STAR HVAC QI Program is more widely adopted it will be very important for Raters and Verifiers to learn to interact with HVAC contractors. This session provides lessons learned from years of interacting with the good, the bad, and the ugly…and how to survive.

Suggested Presenters: Brett Dillon

(RA-18) Status of Incorporating RESNET Technical Standards as ANSI Standard
RESNET is in the process of incorporating its technical and performance testing standards into ANSI standards. This sessions will provide an overview of what the RESNET ANSI standards will cover, provide an update of the status of the standard development and explore the implications of having RESNET technical standards as ANSI standards.

Suggested Presenters: Philip Fairey, Rick Dixon

(RA-19) Streamlining the Process for the RESNET National Rating Database: Panel Discussion
Uploading files to the RESNET National Rating Database added an additional required step between the time that a rater completes final testing and his/her client actually receiving the reports. HERS Providers that allow the new requirements to significantly slow the turnaround time on reports put their raters at a distinct disadvantage in the marketplace and adversely affect the industry by reducing overall customer satisfaction. Conversely, Rating Providers that innovate and find solutions hold a distinct market advantage (and so will their raters). In this session, a panel of HERS Provider representatives will discuss best practices for streamlining the submission of completed ratings and subsequent upload of rating files to the National Rating Database.

Suggested Presenters: Scott Doyle, Additional Panel members TBD

(RA-20) Swimming Pool Rater Certification - Energy Savings for homes with pools
For the 10 million homes in the US with a swimming pool, their biggest energy hog is in the backyard. The average 1.5 horse power pool pump draws 2kW, is scheduled during peak load times, and consumes a whopping 4000 kWh per year. This accounts for the total capacity of 25 medium sized power plants nationally or 9 to 14 billion kWh per year.

Advanced new ECM variable speed motor technology can cut this demand by up to 90%, with the commonly overlooked savings exceeding savings by all the home's other appliances, combined. The session will illustrate the savings potential, help attendees decide when the pool pump warrants attention, and explain replacement considerations. Successful completion of this course provides the new RESNET/APSP Swimming pool rater certification.

Suggested Presenters: Jeff Farlow, Steve Easley, Steve Barnes

(RA-21) The Independent Rater- "Challenges and Opportunities"
Training, testing, providers, certification, equipment, professional development credits, standards, software, and then finding business! 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 ratings business beyond ENERGY STAR as well as offer tips for maintaining credentialing and finding a provider that works well for your business.

Suggested Presenters: Emelie Cuppernell,

(RA-22) The Role of a Homebuilders Association in Fostering High Performance Homes
The Home Builders Association of Lexington has taken a leadership position in promoting the HERS Index. The builder association has entered into an agreement with RESNET in which it commits to have all of its builders to have all their homes energy rated and market their HERS Index Score. The association also works closely with its allied utility programs. The Home Builders Association of Lexington is also partnering with RESNET to host a regional residential energy efficiency conference. This session will demonstrate the leadership role that a homebuilder association can play.

Suggested Presenters: Sandy Beck, Roy Honican, Bill Cooper

(RA-23) The Science and Process behind modifying REM/Rate, a case study.
Join Dan Wildenhaus from Northwest ENERGY STAR Homes as he leads a discussion of how the Northwest ENERGY STAR Homes team brought potential building science and modeling challenges to the table that led to a modification of REM/Rate to meet program-specific goals. The team brought issues with ventilation, ground contact, new technologies (such as ductless heat pumps and heat pump water heaters) and customized libraries and lockouts to a group of key stakeholders. This led to a partnership with software developer Architectural Energy Corporation, which was contracted to modify REM/Rate. The session will focus on the process and results of this experience and partnership.

Suggested Presenters: Rob Salcido, Andrew Gordon, Dan Wildenhaus

(RA-24) Using HERS in a Green Renovation Project in Canada
In 2009, John Bell was the host of World's Greenest Homes (HGTV Canada/Dailey Planet Green USA). During a four month worldwide tour, Bell received his introduction to sustainable building practices and saw first-hand how people were trying to live better and healthier lives while reducing their carbon footprint. The show led to his personal Green Revelation, which inspired Bell and his family to sell their 100 year old 4500 sq. ft energy inefficient home and downsize to something almost half the size, and completely rebuild it as an energy efficient home. The home reached a HERS Index of 47 was a1970's energy hog that had R-12 Attic, R-9 exterior walls, uninsulated basement, single pane windows, an 80% AFUE gas furnace, 0.57 EF DHW and 7.22 ACH. It now features R41 Attic, R22 and R26 exterior, Full height basement + R10 under slab, 95% Condensing Furnace, .99 DHW (Drain Water Heat Recovery included), 74% efficient HRV, Double Low-e Argon and 1.6 ACH.

One of the most important steps that helped benchmark and measure the energy savings was Bell's decision to retain the services of a home energy rater. The ability to quantify the before and after and being able to model the home's performance was a huge asset. Knowing the original home's consumption levels and being able to model the new consumption rates was an empowering tool. The house is nearly 800 square feet larger than the original, yet its natural gas consumption is 60% less than before, resulting in annual savings of $2000.

Suggested Presenters: John Bell, John Godden

(RA-25) Zero Energy Homes and the Energy Auditor's Role
This session focuses on the auditor's role and responsibilities when conducting energy audits (we look at both the RESNET and Builders Challenge audits). This will detail our work with a local builder and the initial requirements of determining energy calculations as they relate to and individual home, it's size, characteristics, location, orientation and the resulting Energy Gauge calculations which provide guidance to the homebuilder on determining size of a system. This will also focus on the different types and sizes of PV modules (standard vs. integrated tiles) and the standard inverters vs. new "micro-inverters". We will discuss the challenges that face the auditor in calculating PV sizes, verification of system certification, and the lessons learned from conducting previous audits.

Suggested Presenters: Kevin Schleith,

(RA-26) Zone Pressure Diagnostics Testing: Purposes, Techniques, and Limitations
ZPD testing serves as a method of establishing the where the air barrier exists in homes. Three levels of ZPD testing have been developed that generally increase in the degree and accuracy of information provided by the test. Various types of ZPD tests in each of these three levels are described along with the benefits and limitations of each. Examples of procedures for using Basic ZPD testing, Open-a-Door, Open-a-Hatch ZPD testing, and ZPD tests that involve software are provided.

Suggested Presenters: Stan Harbuck

TECHNICAL

(TEC-1) Advanced Studies in Unvented Attics
Three Savannah Georgia custom home builders are turning 250 attics every year into very energy efficient unvented assemblies by using spray foam insulation. The hospitable environment that is created in the attic results in a haven for the air distribution system. Learn why these builders have bought into this approach and find out what airtightness and HVAC equipment savings they are achieving and the application details they have been using. Also, see the results of monitoring data on the temperature and humidity conditions experienced in one unvented attic and compare them to levels in adjacent living spaces. This session will arm you with plenty of practical knowledge on unvented attics and aid you in your quest to get your builders to the next level in energy efficient construction.

Suggested Presenters: John Broniek

(TEC-2) Automated Utility Bill Calibration Methods for Retrofit Savings Analysis
Software users often "true-up" or "calibrate" simulation models for existing homes to historical billing data with the goal of increasing the accuracy of retrofit savings predictions. This is typically achieved by adjusting input parameters within their ranges of uncertainty until a desired level of agreement is seen between pre-retrofit predicted energy use and historical energy use. Calibration methods can range in complexity and repeatability from manual calibration, where the user decides which inputs to adjust and how to adjust them, to automated calibration, where mathematical and statistical procedures are built into the software program. While manual calibration methods provide flexibility for the user, they lack repeatability (two different users may produce two different calibrated models for the same home) and their benefit could depend on the user's level of experience. This presentation will cover initial results from the National Renewable Energy Laboratory's effort to develop automated calibration methods that can be adopted to improve the accuracy and consistency of residential retrofit analysis. Various automated methods were implemented in the software program BEopt and tested using the general framework described in BESTEST-EX. Methods will be contrasted according accuracy, speed, ease-of-implementation, and repeatability for scenarios involving calibrations to monthly utility data and for exploratory scenarios involving calibrations to higher-frequency utility data.

Suggested Presenters: Ben Polly

(TEC-3) Build a Better House at Lower cost by Controlling Infiltration
By using products and systems that provide effective control of air infiltration, builders can build homes that are more energy-efficient, meeting more stringent energy codes, but cost less. When builders use the prescriptive option to meet energy codes, the prescriptive list determines their cost. The prescriptive option is rarely, if ever, the most cost effective way to achieve the required energy performance. Increases in insulation levels required in the recent, more stringent energy codes, especially the 2009 and 2012 IECC, are often very poor economic choices. They provide little value in return for the required investment. Rather than investing construction resources in poor value items, builders should focus their resources on those areas providing the most value. Controlling air infiltration is shown to provide the highest value for funds invested to gain additional energy efficiency and meet the more stringent codes. Builders using the design and testing services provided by HERS raters can take advantage of the performance path to meet energy codes at the lowest cost by receiving the proper credit for the enhanced energy performance provided by a reduction in air infiltration. Specific examples are provided that show homes that cost less to construct but offer the same or better energy performance, along with specific ways to control air infiltration.

Suggested Presenters: Dr. James Wells PhD

(TEC-4) Building Air-Tightness Testing - Beyond the Basics
A session that gets a little deeper into building air-tightness testing could be worthwhile. One area that could be discussed is the "environmental info" information entered into the software used by blower door manufacturers such as Energy Conservatory's Tectite program:
What is Energy Climate Factor and how does it affect blower door test results?
What is Vent Weather Factor and how doed it affect blower door test results?
Design Winter Wind Speed - how to get it & how does it affect blower door test results?
Design Summer Wind Speed - how to get it & how does it affect blower door test results?
How do HDDs and CDDs affect blower door test results, if at all?

Suggested Presenters: Energy Conservatory

(TEC-5) Building Inspections using Thermography
Taking advantage of the advanced cameras available to inspect buildings involves inherent knowledge of building systems and the heat transfer physics particular to building construction techniques. this session will explore the application of ASTM standards and RESNET standards to fulfill an inspection of structures or particular problems within these buildings.

Suggested Presenters: Jay Bowen

(TEC-6) Building Triage: What to Fix First
With so many properties in need of energy efficiency upgrades, it's often difficult to determine where to start. Auditors encounter this when working with owners of multiple properties. They often are unwilling to pay for audits for all of their properties, opting to not take action because there is no clear starting point. Energy efficiency program administrators frequently lack good metrics to decide which projects make sense to fund and simply award funding on a first-come, first-served basis. Energy intensity scores (benchmarks) provide a concise, clear-cut way to evaluate a number of buildings quickly and easily and pinpoint buildings in need of immediate attention. Program administrators can set cutoff thresholds to ensure that the least efficient buildings are the ones receiving funding. Auditors can identify the worst performers to target for audits first, providing overwhelmed owners a clear path forward. Studies have shown higher pre-retrofit energy intensity strongly correlates with post-retrofit savings, making this the logical first pass in identifying the buildings most in need of help and removing guesswork.

Suggested Presenters: Sean Shanley

(TEC-7) Designing and Building our Net-Zero Home - Knowledge Gained and Lessons Learned
Housing both the personal residence and professional offices for our home energy rating and architectural design companies, the goal of our Energy Star-certified, LEED Platinum, Net-Zero home was to be able to have the conversation

with clients about the logistics of creating a home that makes as much energy as it uses. Through careful design and system integration, along with carefully navigating the various local, state, and Federal incentives available for energy efficiency, the home was built for the same cost or less than a typical built-to code home. Through extensive photos, construction details, and energy monitoring data, we will discuss what we learned - both the successes and the mistakes - from the entire process.

Suggested Presenters: Matthew Vande, Amy Musser

(TEC-8) Do building codes really incorporate building science?
Is building science really part of the building codes? The I-codes have all the makings of building a highly efficient house with best building science practices (2012 IECC is a 30% more efficient code). From new requirements of duct and blower door testing, to insulated headers, less framing, moisture flow, and conditioned attics. Learn if the code helps or hinders building science.
Learning Objectives
1. Understand the building science basics in the I-codes
2. What's still missing and needs a building science expert (you) to explain to code officials and builders
3. Understand where the code matches up to best building practices
4. Incorporate building code education into your current organization

Suggested Presenters: Jim Meyers, Robby Schwarz

(TEC-9) Durable Energy Efficient Wall Systems
The industry is increasing the energy efficiency of buildings, but a building cannot be truly efficient unless it is durable. This presentation will focus on the need to develop details for water and air management to increase the durability of building walls. A significant amount of research has been conducted on traditional wall systems, leading to window installation and flashing recommendations in building codes and standards. We need to understand how these established recommendations relate to highly insulated walls. The appropriate test protocols to determine the durability of details will also be discussed.

Learning Objectives:
- Understand the durability challenges presented by highly insulated walls
- Understand key interfaces in building assemblies and water / air management details
- Understand assembly testing and durability assessment.

Suggested Presenters: Theresa A. Weston, PhD

(TEC-10) Extreme Home Makeover: Going from HERS 364 to 0 Using the Passive House EnerPHit Standard
Deep energy retrofits are a growing market in the U.S. due to the age and quantity of existing housing stock. These projects offer different challenges than new construction: How to determine appropriate project goals? What are the cost impacts and benefits? Can (and should) certain measures be undertaken in existing buildings? We will examine a 1902 timber-frame house that was retrofit to the Passive House EnerPHit Standard, reviewing why that standard was selected as the goal (and how it compares to the ENERGY STAR and LEED for Homes standards); energy modeling using both the Passive House Planning Package and REM/Rate software; modeling's influence on design; and finally construction and execution of critical details to get to the desired measured performance.

Suggested Presenters: Kristen Simmons, David Ruggiero

(TEC-11) FAS Ventilation
FAS is currently being installed into Energy Star Homes. These systems must be installed correctly. Individuals that attend the session will learn the following: How to size and select the FAS. Intake air hood locations, Connections at the return air duct make a difference. Determining a systems equivalent feet. How equivalent feet and static pressure can affects delivered CFM ventilation. Your instructor has 40 plus years HVAC experience and a licensed residential builder.

He is BPI certified as a Building Analyst and Envelope Professional. He has conducted over 500 subject matter presentations.

Suggested Presenters: Tim Begoske

(TEC-12) Finally, the Truth about Condensation
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. Some sacred cows will be slain and fundamental concepts regarding more robust envelope designs will be described. Also a 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 Presenters: Daniel Tempas,

(TEC-13) Healthy Home System
Learn how to keep a home Fresh, Clean and Pure!

Control, ventilation, filtration and UVC purification will be covered. The topics will be discussed in such a way that everyone can understand. The individual will leave having a better understanding on how the HVAC equipment interfaces with a home in providing IAQ. Typically, in most homes indoor air quality is only addressed half the year. You will learn how to deliver indoor air quality all year long 24/7 even when not heating or cooling. The presentation is 90 minutes in length.

Suggested Presenters: Tim Begoske

(TEC-14) How a Guinness world record can bring large building testing into the mainstream
What does it take to earn the Guinness World Record for the largest building ever blower door tested? 16 blower door fans, and tried and true techniques. Learn from this record breaking test, why large building testing is so beneficial and how blower doors can be used to test buildings of any size.

In this session you'll discover:
- How you can use the same equipment to test high rise buildings one day, and a house the next
- How to troubleshoot common air leakage testing issues, in buildings of any size
- The variety of procedures available for testing all large buildings
- Large building testing success stories from across the USA

Suggested Presenters: Colin Genge, Ron MacGregor

(TEC-15) HVAC Performance: How to Find and Interpret Hidden Design Data Used (Hopefully) by Your System Designer
VRF, ASHP, GSHP, HSPF, SEER, EER, COP… HUH? The evolving world of HVAC equipment efficiency has created a plethora of different system types and efficiency standards. How can Raters, builders and other industry professionals know if project systems are designed to give proper field performance? This session will delve deep into original equipment manufacturer (OEM) expanded performance data in order to tease out the important limiting factors not listed on glossy cut sheets. Once these factors are identified, how do we use them to insure field performance meets design intent and gives our customers the comfort they pay for?

Come learn how to achieve rated performance in field applications through design, selection, and testing using real world applications. Oliver Curtis and Ray Ivy have been involved in HVAC system design and testing for many years with EarthCraft and other above-code certification programs. If you want to be sure you are giving your clients the optimum solutions for their HVAC needs, this is a presentation you don't want to miss.

Suggested Presenters: Oliver Curtis, Ray Ivy

(TEC-16) Incorporation of Hot Water Demand Reduction into HERS software
A discussion of the data behind and approach to the RESNET Technical Committee and HERS software providers in adding calculations to incorporate energy efficiency improvements for Hot Water Demand Reductions achieved through use of WaterSense for Homes water conservation faucet and showerhead flow rates, structured plumbing supply system designs and demand controlled hot water recirculation pumps. The presentation will include calculations, installation methods and rater verification, including the story of how we brought this issue to the attention of the Technical Committee.

Suggested Presenters: Gary Klein,

(TEC-17) Increased Energy Savings with Advanced Lighting and Controls
Across the nation energy codes requiring substantial percentages of high efficacy lighting have greatly impacted the energy saving opportunities and the cost effectiveness of performance based residential energy –efficiency programs. In short, counting CFLs is no longer an effective HERS rating strategy. To deal with these challenges several Massachusetts programs have over the past two years collected case study data on: the positive impact of lighting controls, the methodologies for calculating incremental savings and the use of a lighting power density matrix for calculating energy savings. In this session the managers of these programs will demonstrate the tools and methodologies that have been developed, and the lessons learned from addressing this critical and time sensitive issue.

Suggested Presenters: David Ruggiero, Ian Buba

(TEC-18) Integrating Indoor air Quality Protections with Energy Efficient Construction: A Technical Review of the Indoor airPLUS Specifications
Tightening the home's envelope adds significant energy efficiency, but it also reduces the air exchange through the building shell. This can contribute to pollutant buildup inside homes, as well as mold and moisture problems. These issues can trigger health problems, such as allergies and asthma, and create dissatisfied customers. EPA has developed Indoor air PLUS to address the issues that commonly affect the indoor air quality of homes. This session will address the construction methods, equipment, and materials that support the Indoor airPLUS Construction Specifications, including moisture and mold, combustion gases, pests, radon and other airborne pollutants in homes.

Participants will gain an in-depth understanding on how to address indoor air quality in new home construction, using the Indoor airPLUS construction specifications. This session will equip builders with the knowledge to implement the construction specifications and walk away ready to build Indoor airPLUS homes. Raters will learn how to evaluate the construction of a home and its performance characteristics to meet Indoor airPLUS requirements.

Suggested Presenters: Bob Axelrad, Terry Brennan

(TEC-19) Is Virtual Simulation Ready for Certification Testing?
This panel will discuss traditional vs. Virtual Simulation certification testing for verifying an individuals' proficiency in subject matter areas such as energy auditing and combustion safety. The panel will describe current verification protocols available, cost and reliability, and whether Virtual Simulation is ready for abilities verification or does there need to be additional validation. Audience input and discussion is encouraged.

Attendees will gain knowledge of; Pros and Cons of traditional and Virtual Simulation testing, Costs associated with traditional vs. Virtual Simulation testing, What Virtual Simulation testing and provided a live demonstration and introduction, and How Virtual Simulation is being used for abilities verification in other industries.

Suggested Presenters: John Jones, Doug Donovan

(TEC-20) Keep it Simple: The Case for Simplified HVAC Sizing and Design
The HVAC industry has evolved from using a rule of thumb approach for HVAC sizing and design to time-intensive, complex calculation requirements. While the latter may provide excellent accuracy, it also adds time, technical and cost

barriers. This session will make the case for a quicker, simplified method that finds the middle ground, providing results consistent with the full calculations approach in less time. The discussion will include the relative importance of design and controls, and useful tools for this simplified approach to maintain the comfort and energy efficiency benefits of the complex requirements.

Suggested Presenters: Dan Wildenhaus, Bruce Manclark, Benjamin Hannas

(TEC-21) Makeup air for high capacity dryers
How do we account for homes with active families that do 25 to 30 loads of laundry a week using high capacity(500 cfm+) dryers?
How does this affect the air balance in the home and what can we do about it.

Suggested Presenters: John Ring, Vince DiFrancesco, Joe Bowling

(TEC-22) MultiFamily Case Study- 14 months. 6000+ Units; What We Learned and What We Missed
California received $33 Billion dollars of ARRA funding of which $5 Billion was sent to Sacramento. Rebates started at $2300/unit for Multi Family owners to do energy efficiency upgrades; those were the good old days! Now that the dust has settled, come see the results and the tale of the tape. Learn about how we stayed on track, got lost a few times and had to find our way back and the sleepless nights we faced trying to assess and model 2000 units in the final 2 weeks of the program. We'll talk about the efficiency numbers we came to and the tools and strategies we used.

Suggested Presenters: Tommy Young, Kristin Dockter

(TEC-23) Observed Variability in Indoor Space temperature in a Set of 60 Homes
The home energy rating system utilizes standardized assumptions regarding occupancy and operation of the home, including heating and cooling set point temperatures. Assumptions regarding indoor air temperature have a significant impact on energy use predictions generated by HERS software, particularly in poorly insulated homes. Understanding how occupant operation affects indoor air temperature can help improve the overall accuracy of energy analysis. In this session, the observed variability in indoor space temperature in a set of 60 homes located in Florida, New York, Oregon, and Washington will be presented. Temperature data collected for an entire year, including living room, master bedroom, and outdoor air temperature were examined to establish the average indoor space temperature for the set of homes for the heating and cooling seasons, and the variability of indoor space temperature both across the set of homes and within individual homes. Results are compared to RESNET and other commonly used standard assumptions for thermostat operation.

Suggested Presenters: Dave Roberts

(TEC-24) Paving the Way to Net-Zero Ready New Homes: What Top Innovations from Building America are Paving a Path to Net-Zero Homes?
Most industries invest nearly 4 percent of annual revenue into research and development. The housing and remodeling industries only invest a tiny fraction of one percent. And when innovations do finally appear, the National Association of Home Builders reports it takes almost 25 years for them to be adopted by the housing industry. Recognizing that housing in the U.S. accounts for 20 percent of total energy consumption, The U.S. Department of Energy's Building America Program addresses this critical innovation gap and opportunity to save energy by delivering high-performance home solutions for new and retrofit construction and accelerating the market transformation process. The results of these efforts have had profound impacts increasing energy efficiency while ensuring greater affordability, comfort, air quality, and durability in U.S. housing. This includes knowledge how to build homes that are 50% more efficient than minimum code and to perform deep energy retrofits that can reduce energy consumption by 50 percent or more. So what are these major innovations? Unfortunately they have been substantially hidden within hundreds of detailed research reports and studies. It's time to no longer keep this a secret. Building America has created a 'Hall of Fame' for past innovations and will make a major announcement each year promoting the latest innovations. This paper will highlight the top innovations contributed by the research over the past decade and highlight new strategies being

employed to accelerate their adoption in the market place. World class research makes a significant difference and that story needs to be effectively told.

Suggested Presenters: Sam Rashkin, Eric Werling

(TEC-25) QA/QC- What's the freakin' difference?
QA/QC- What's the freakin' difference? John Tooley and Dan Lutz
During this session John Tooley and Dan Lutz will finally clarify the difference between Quality Assurance and Quality control. They will explain the role that each one of them plays in your projects, and in your business, and how having a clearly defined QA and QC plan will improve your efficiency and allow you to see better results. They will also show some highlights from a standard QA and QC planning tool that Advanced Energy uses on a regular basis.

Suggested Presenters: John Tooley, Dan Lutz

(TEC-26) REM/Rate Q & A
This session is for any rater or provider that has general or specific questions about the REM/Rate software. Bring in your questions, comments, concerns, needs, desires and hopes to this session. It will be an open question period to hopefully address any issues you may be having with the software.

Suggested Presenters: Rob Salcido, Brian Christensen

(TEC-27) Residential Air Sealing: The Importance of Air Barriers and Evolving Code Requirements
The primary focus of this presentation is to describe the sources, mechanisms, and consequences of air and moisture transport through the building enclosure, and strategies for preventing air infiltration and moisture problems. The presentation will include a discussion of how codes are evolving to recognize the value of residential air sealing. Air, Water and Vapor Barriers are critical building envelope components:
• Air Barriers retard airflow, which is the result of air pressure differences. The use of air barriers is important in all climates. Air leakage can impact a building's energy efficiency as well as indoor air quality and thermal comfort; air leakage could also lead to moisture problems and premature building materials deterioration.
• Water-resistive barriers protect against bulk water intrusion, the main moisture source in buildings.

The use of weather barriers is important in all climates.
• Vapor Barriers retard water vapor diffusion, which is the result of water vapor concentration differences

The use of vapor barriers is important in certain climates and the placement within the wall structure is critical to prevent unwanted moisture condensation.

Most often a single membrane performs two or all three of these functions. This presentation will discus all three membranes (air, water and vapor barriers), with emphasis on their role and requirements for air leakage control and moisture management.

Learning Objectives:
• Understand the physics of air and moisture movement through the building envelope and the role of air, water and vapor barriers
• Describe the air barrier functions, benefits, and performance requirements for effective air leakage control in residential structures.
• Understand how to manage the balance between wetting and drying (prevent wetting/promote drying) for effective moisture management
• Explain recent trends in air barrier codes

Suggested Presenters: Theresa A. Weston, PhD

(TEC-28) Revitalize: Energy Upgrades for Existing Homes

Over the past half-decade, there has been a significant shift in the perception behind the term ‘retrofit’. Rarely does the word conjure up images of do-it-yourselfers tackling weekend projects, but rather many view retrofit as something requiring a dedicated process, product, and crew before seeing any kind of reasonable return. In fact both options remain entirely plausible from both an installation and benefits standpoint. This presentation will take a closer examination at common retrofit improvements occurring in basements, above-grade walls, and attics that are viable to a wide variety of homes across the country. The focus will not only be on the economic impact of these improvements, but will also reference commonly overlooked benefits such as moisture control, pest mitigation, and human comfort. All of these points will be supported through an in-depth case study of a real ‘rags to riches’ home retrofit.

Suggested Presenters: Devin Marino

(TEC-29) Rock the CAZ-Bah!
Ever confused by CAZ testing and worst case depressurization? Clear the fog and learn more about RESNET’s protocol for CAZ testing from Chapter 8 of the standards why it is the easiest to use. Also pick up some teaching and assessment strategies for combustion safety.

Suggested Presenters: Rob Moody, Brett Dillon

(TEC-30) Role of hygrothermal simulations in proper design and retrofitting of building envelope components
The design of walls, roofs, and foundations assumes proper management of heat, air, and moisture across building envelope components which is constantly affected by the outdoor climate and interior ambient conditions. Numerical tools may provide substantial help to architects, design engineers, and builders in selecting the optimal design solutions that provide risk free, energy efficient and environmentally friendly performance of building envelopes. WUFI software, the current state of the art in hygrothermal performance modeling of wall and roof assemblies, is becoming widely used among engineers and architects to effectively evaluate different design concepts. The intent of this presentation is to demonstrate the capabilities of the software, its proper use, and inherent limitations. Selected examples and case studies should educate the audience, provide a better understanding of the physical processes occurring in the building envelope components, and encourage proper usage of more advanced tools in design and retrofitting.

Suggested Presenters: Danko Davidovic, Allen Sealock

(TEC-31) Talking to Everybody: HPXML is the Universal Translator
Just a few years ago, software programs, RESNET providers and program implementers all struggled to exchange information on building performance and ratings. Now, everything from field data collection to building models and QA oversight and even software accuracy testing has a common language it can use: HPXML. The emerging standard enables innovation in the field, with tablets and mobile data collection, and in program administration. This session will summarize the challenges HPXML helps overcome, and provides some perspective on current and future uses of the standard.

Suggested Presenters: Ethan MacCormick, David Roberts

(TEC-32) The After Lunch Show; The Wild and Wonderful World of Energy Efficiency
This "show" is actually a series of short presentations designed to keep you up & thinking at that first session after lunch break. It'll be chock full of factoids and philosophical ponderings about energy efficiency in the universe. Topics may include, but not be limited to:
- Submarines; Our First Multi-Family Passive Housing?
- Energy Savings & Comfort Issues in Space; Death Star Case Study
- Tools We'd Like To see (audience participation) w/ mock-ups
- Our Favorite Energy Scams Throughout the Ages
- How To Fail In Business Without Really Trying
- Failure To Launch; "Quit Your Learnin' & Get To Earnin"
- Surprise Guests!

Fast paced and guaranteed to keep you awake.

Suggested Presenters: Tommy Young

(TEC-33) The evolution of large building standards. The good, the bad, and the ugly.
The large building air leakage testing market is booming, as the abundance of quickly built, poorly sealed condos worldwide bring the incredible energy and structural repair costs to bear – a single residential tower could cost up to $10million to fix. Falling glass caused by leaky windows seals has injured citizens below, around the world. The good news is: techniques for testing large buildings with blower doors have been used for years - meaning you can test a residential home one day and a commercial depot the next.

New York, Seattle and Fort Collins are leading the way with mandatory commercial air leakage standards. Learn about the different standards used, from ASTM E-779 to USACE, how they differ and why it matters.

At this session you'll discover:
- Case studies from cities on the costs and problems with poor air sealing
- Large building energy codes from around the world, and their success in reducing costs and energy consumption
- Blower door testing techniques for any large building
- Common blower door troubleshooting for buildings of any size

Suggested Presenters: Colin Genge, Ron MacGregor

(TEC-34) The Latest and Greatest on Energy Codes "What's in the 2012 IECC that's not in the old code and Who's doing what with this code?"
The 2009 IECC is currently the most common energy code. It requires duct testing (although passing the leakage criteria is pretty easy) and offers the option of blower door testing the envelope to prove modest tightness (<7 ACH50). However, even though over thirty states have now adopted the 2009 IECC, the degree to which performance testing has been implemented varies widely.

The 2012 IECC tightens things up significantly – total duct leakage is now the only acceptable test and the criteria is < 4%! The thermal envelope must be visually inspected, requires insulated headers and corners, and must be proven tight with a blower door test (< 3 ACH50 for most of the country, <5 for CZ 1&2). This in turn triggers the need for intentional ventilation so we'll touch on those requirements too. In short, the 2012 "minimum" code sets the bar pretty darn high and even exceeds ENERGY STAR in some aspects!

Come to this session to learn these essentials. We'll provide you with the basic envelope requirements (guess what, R-values have gone up!). And we'll make sure you leave with some great tools to help you implement and navigate your way through the next few years as more and more states begin to mandate testing and adopt this code.
We'll also share some valuable lessons learned as Georgia was the first state to mandate both blower door and duct testing under the 2009 code. We saw the need to create a minimum testing certification for Duct and Envelope Tightness (DET) Verifiers and to clarify how and when to apply the code to existing home upgrades.
With literally thousands of trainings between them, Mike and Ray promise to keep you entertained and help you stay informed!

Suggested Presenters: Mike Barcik, Ray Ivy

(TEC-35) The Pros and Cons of Foam vs. Batt for Basements
The 2009 and 2012 versions of the International Energy Conservation Code (IECC) call for significant levels of basement insulation for northern climate zones. Two basic materials for insulating these areas include fibrous batts or continuous foam plastic insulation. There are two possible methods for using these materials, the interior of the structural wall or the exterior. Basement insulation is an important contributor towards a better HERS index so the level of this contribution in various scenarios will be reviewed. This presentation will also discuss the pros and cons of each method

from both heat flow and moisture management perspectives to assist raters in recommending the right system in the right place.

Suggested Presenters: Daniel Tempas,

(TEC-36) Understanding Moisture Dynamics in Residential Construction
Moisture and energy control are two critically important aspects in residential construction. Energy efficiency is required to achieve acceptable comfort and operating costs for homeowners. Moisture control is required both for occupant health and comfort as well as the integrity and durability of the structure. Understanding the dynamics of moisture movement is essential to minimize moisture issues through proper design and to properly diagnose any issues that may occur. Moisture moves predictably according to natural laws; just as unsupported objects fall according to the law of gravity, moisture moves according to the laws governing its behavior. How moisture is transported, why and how much, under what conditions is covered in this presentation. Helpful tools and techniques are presented as well. Moisture and energy performance are so inter-related, developing a good understanding of moisture performance is essential to all energy professionals.

Suggested Presenters: Dr. James Wells PhD,

(TEC-37) Ventilation and Energy
As homes have become tighter in the pursuit of comfort and energy savings, mechanical ventilation has received increasing attention. Barring few exceptions, mechanical ventilation is now required by the 2012 IRC, 2012 IECC, EnergyStar V3, and of course, ASHRAE 62.2. To date, very little guidance has been provided in codes, standards, and "code plus" programs on options for reducing the energy impact of mechanical ventilation systems. This session will review code and standard requirements for ventilation in new and existing homes, identify common systems that can be used to satisfy these requirements, and discuss the space conditioning and fan energy impacts associated with system selection - which may surprise you.

Suggested Presenters: Mike Moore,

(TEC-38) Verifying CAZ Safety (CO, Depress, Fuel Leaks)
Combustion appliances are wonderful when they're properly installed. This session reviews procedures to verify that these appliances meet the safety measures outlined in the ACCA 12 QH Standard and the actions to take if problems are identified.

Suggested Presenters: Abe Kruger

(TEC-39) Verifying HVAC Equipment Selection
Designing an HVAC system can be a complicated process. But evaluating that the selected equipment is the "correct" size, is a properly matched system, and is what was installed in the home is pretty easy. This session will review the Manual J procedure outputs (heating and cooling loads), the AHRI Certificate/database, OEM performance data (and free ACCA Manual S tool), and installed equipment in the field.

Suggested Presenters: Tim Hanes

(TEC-40) Verifying HVAC Load Calculations
Complete comprehension of the HVAC system design process is a good thing, but it is not needed to verify that a load calculation is correct. This session will illustrate the elements of a buildings construction, how those elements are represented/modeled using the Manual J procedure, and how to verify those elements in a home.

Suggested Presenters: Curtis O'Neal

(TEC-41) Verifying HVAC System Performance

Installing an HVAC system takes experience, specialized tools, mechanical ability, and the intelligence of a nuclear physicist (or at least we think so). However, measuring equipment capacity is not that tough. This session reviews the procedures, tools, and general installation practices that allow you to measure the approximate capacity of a newly installed HVAC system.

Suggested Presenters: Dennis Stroer

(TEC-42) What is the TRC and why you really ought to know and care about it
The TRC or Total Resource Cost Test is the means by which cost-effectiveness for a portfolio of energy efficiency measures is assessed. It is the dominant means by which utility programs design and assess their programs. For that reason it's the driver on what gets done and conversely, what doesn't get done. It's also according to most experts; deeply broken. Raters and other home energy professionals need to be aware of what TRC is and work to influence policy makers in how they deal with it in their programs.

Suggested Presenters: Steve Byers

(TEC-43) What's New With Chapter 2?
Over the last two years the RENSET Training and Education Committee has been rewriting Chapter 2 of the RESNET standards. Now updated, the recently adopted standard has some major changes that are intended to help RESNET certified individuals stay competitive in today's changing market. In this session Darrel Tenter will outline these changes, describe the committee's intents, and show how they benefit RESNET certified individuals.

Suggested Presenters: Darrel Tenter

(TEC-44) Wood framed walls – Design, assembly and performance considerations
Wood framed walls are the predominant wall assembly in North American one and two-family dwellings. This session will explore the purpose of the components used to assemble a wall, as well as the design guidance provided by Building Codes, Energy Codes and Green Certification programs. A particular focus will be on how structural engineering and energy efficient design must coexist in the efficient design, assembly and performance of wood framed structures.

Suggested Presenters: Kurt Koch, Brent Flotkoetter

OTHER

(OTH-1) Air Infiltration- Products Demonstration
Air infiltration is widely regarded as one of the largest sources of energy loss in residential constructions. The 2012 International Energy Conservation Code (IECC) requires much reduced air infiltration rate compared to previous versions. How to choose a wall or building assembly with minimum air infiltration plays a vital role for a particular home to meet IECC, achieve ENERGY STAR Version 3 program requirements, or other energy efficiency programs.

This presentation will review the commonly used products to achieve reduced air sealing performance – Rigid foam insulation, one-component and two-component polyurethane foams for gaps, cracks, penetrations and hard-to-reach areas. Most of the session will be spent for hands-on demonstrations. The participants will have a chance themselves to feel, touch and apply the products so they can feel comfortable using these products in their future projects.

After this presentation, participants should be able to understand the product choices in the market to reduce air infiltration. The participants will also gain hands-on experience to apply different potential products to achieve the best air infiltration performance.

Suggested Presenters: Devin Marino, Chunlin Cao

(OTH-2) BPI, ASHRAE, & LEED Standards: An Idiots' Guide to Partial Understanding
Are you confused by the proliferation of competing standards about energy efficiency in buildings? The presenters hopes to give his audience the Readers Digest version of the thousands of pages of standards created in the past 10 years as well as a window into the standards process. Is there a lesson, a unifying philosophy, or a source of inspiration lurking in this mountain of content? Learn the plain English explanations of a number of ASHRAE, BPI, and LEED standards.

Suggested Presenters: John Krigger

(OTH-3) Case study: Taking a 20 century house into the 21st
What can you do with a brick home built in the early 1900's? How can you make it energy efficient, aesthetically beautiful, and something that is fit for a modern 21st century family? Retro fit it of course and then add an addition, and ensure that the larger house uses less energy that the original structure. Come see how two houses built in the 1900's in Denver have gone through an energy and aesthetic upgrade that maries applied building science, systems thinking, and everything that the wife wanted.

Suggested Presenters: Robby Schwarz, Charlie Stevens

(OTH-4) Contrasting classroom with synchronous online training- pros and cons
Certification based training has historically been delivered only in person. Classrooms, labs, and field locations have been the norm. But we're seeing an increasing amount of training being offered online, or even hybrid classroom/online sessions. Both training environments have advantages and disadvantages for the students and they also require different skill sets of the trainers. In this session the presenters will show how both models have a place in the future of RESNET certification training.

Suggested Presenters: Darrel Tenter, Brett Dillon

(OTH-5) How do we know training works?
Effective training, and then determining its effectiveness, requires a feedback loop from student to instructor. This is variously, testing, observation of subsequent performance, and measuring downstream support needs. PSD is fortunate in having developed long term relationships with former students, through its Providerships and through its implemented efficiency programs. PSD's trainings have benefitted by those ongoing relationships, which have included technical and business support as well as follow-up trainings and mentoring.

I suggest co-presenters we have worked with: Bob Kahabka of Northern Comfort Diagnostics, and/or David Keefe of VEIC.

Suggested Presenters: Ethan MacCormick

(OTH-6) RESNET After Dark: Gotham Nights -Ventilation
Part 1 of the series. Join professional trainers Alex Glenn and Dan Wildenhaus in an evening sessions as they use the story of Batman to showcase the beneficial and not so successful methods of delivering presentations to an audience such as RESNET. Each year, Batman will face a new foe in presentation competition over one of the industries hot topics. This year, Batman will challenge the Riddler in the merits of ASHRAE 62.2 2010 and whether or not to take the infiltration credit. Who's presentation will hold sway? Will Robin show up? Commissioner Gordon (special guest) will judge the winner of presentation effectiveness, but it's up to the attendees to vote on the topic! Each year will bring a new foe for Bats and a new topic to present to. Only attendees of the previous year may join the cast of Gotham Nights.

Suggested Presenters: Alex Glenn, Dan Wildenhaus, Special Guest

(OTH-7) Stakeholder Engagement- Can we all play in the same sandbox?
Stakeholder Engagement – Tools to get all parties working together to booster residential energy efficient construction - Kristi Matthews and Victoria Bloise

Getting all parties in residential construction to work together can be very challenging! Hear about a model used in NC and GA successfully brought builders, raters, realtors, appraisers and lenders together to work through issues in each stakeholder group, and among the groups to bolster the new construction efficiency market. Learn how to get the groups together, how to get them to work together, and how to move them to action towards a unified goal.

Suggested Presenters: Victoria Bloise, Kristi Matthews

(OTH-8) TEETH- Twelve Energy Efficient Test Homes

In 2011, Twelve Energy Efficient Test Homes (TEETH) were built in Midland MI. These test homes were built for 4 different energy packages. For a specific energy package, three homes with different floor plans were built. The energy packages include 2006 International Energy Conservation Code (IECC), 2012 IECC minimum cost, 2012 IECC premier packages, and high performance building enclosure exceeding 2012 IECC requirements.

The presentation will include the details of the building enclosure construction. Energy analysis results about HERS score for all twelve case study homes will be presented and differences in HERS score will be explained. Costs to build these homes and the predicted performance of these homes will be discussed.

Suggested Presenters: Gary Parsons, Chunlin Cao

(OTH-9) The RESNET Workforce QA Protocol and Pre-Apprentice Credential. Tracking workforce and job quality with your iPad!

The best design or scope of work means very little without proper follow through. What if there was an iPad app that could keep a visual library of workforce performance, track job quality, record program effectiveness and earn workers a Pre-Apprentice RESNET credential? Now there is and it's part of RESNET's quality assurance methodology for installers, crew chiefs, contractors, raters and programs. Get an update on the implementation of the RESNET Workforce QA protocol, corresponding Chapter 7 updates and new installer level credential. The credential incorporates On-The-Job training and continuing education so employers don't have to choose between enriching their workforce or completing the job.

Suggested Presenters: Rob Moody, Brett Dillon

(OTH-10) Water Heating Energy Factor for Different Climate Zones and its Impact

Water Heating in homes is a big energy load and often equal to space heating. The current energy factor rating system for water heating is based upon an average climate and an average hot water load. Average Ef is not satisfactory because it can result in reasonably large bias errors; it is like using average climate data and house size to estimate space heating load for a particular house. This presentation details a new method for calculating site specific energy factor which eliminates bias errors. Furthermore, case studies will be presented with the equation applied across the 8 primary climates of the United Sates, including cost/benefit scenarios.

Suggested Presenters: Rod Buchalter