
Call Slides and Discussion Summary

August 14, 2014
Agenda

- Call Logistics and Introductions
- Residential Network and Peer Exchange Call Overview
- Featured Speakers
  - Mark Jackson, Community Housing Partners, Christiansburg, VA
  - Amanda Hatherly, New Mexico Energy$mart Academy, Santa Fe Community College
  - Tom White, Home Energy Magazine
- Discussion
  - What experience does your organization have with training and/or mentoring energy assessors & contractors (directly or with partners)?
    - What challenges or barriers arise (e.g., funding, recruitment, applicability of content, etc.)? How can those be addressed?
    - What approaches are most effective? Any lessons or tips for selecting or structuring training & mentoring programs?
  - How can programs best focus limited training resources to have the greatest impact (content, training partners, type of training, etc.)?
  - Other questions/issues related to training and mentoring?
- Future Call Topics Poll
Call Participants

- AC Home Performance Inc.
- Building Performance Center, Inc.
- Building Performance Institute
- California Center for Sustainable Energy
- City of Kansas City, Missouri
- City of Providence, Rhode Island
- Community Housing Partners (Christiansburg, Virginia)
- County of Ventura, California
- Ecolibrium3 (Duluth, Minnesota)
- Elevate Energy (Chicago, Illinois)
- Energy Center of Wisconsin
- The Energy Conservatory
- Greater Cincinnati Energy Alliance
- Home Energy Magazine
- Midwest Energy Efficiency Alliance
- Metropolitan Washington Council of Governments
- New Mexico Energy $mart Academy
- Snohomish County Public Utilities District
- Vermont Energy Investment Corporation
Better Buildings Residential Network

- **Better Buildings Residential Network**: Connects energy efficiency programs and partners to share best practices to increase the number of American homes that are energy efficient.
  - **Membership**: Open to organizations committed to accelerating the pace of existing residential upgrades. Commit to providing DOE with annual number of residential upgrades, and information about benefits associated with them.
  - **Benefits**: For more information & to join, email bbresidentialnetwork@ee.doe.gov.
    - Peer Exchange Calls
    - Tools, templates, & resources
    - Newsletter updates on trends
    - Recognition: Media, materials
    - Optional benchmarking
    - Residential Solution Center

For more information & to join, email bbresidentialnetwork@ee.doe.gov.

- **Better Buildings Residential Network Group on Home Energy Pros**
  
  Join to access:
  - Peer exchange call summaries and calendar
  - Discussion threads with energy efficiency programs and partners
  - Resources and documents for energy efficiency programs and partners

  http://homeenergypros.lbl.gov/group/better-buildings-residential-network
Better Buildings Residential Network
Group on Home Energy Pros Website

Information

The Better Buildings Residential Network connects energy efficiency programs and partners to share best practices and learn from one another to increase the number of American homes that are energy efficient.

Website: http://betterbuildings.energy.gov/bbrn

Latest Activity: 8 hours ago

Join the conversation in the discussion forum below. You can use the ‘Follow’ link at the bottom of this forum to receive an email whenever a new discussion is posted.

Open the table of contents below and follow the links to access topical materials and resources.

Discussion Forum

- Attend Today's Peer Exchange Calls on Program Sustainability and on Workforce
  - Don't miss today's calls. "Collaborating with Utilities on Residential Energy Efficiency" begins at 12:30 p.m. Eastern and "Engaging Efficiency First Chapters and Other Trade Associations in Energy Efficiency Programs" begins at 3:00 p.m. Eastern.
  - Confirm Tags: Peer Exchange Calls
  - Started by Better Buildings 3 hours ago.

- Register for Upcoming DOE Webinar About On-Site Financing
  - Sign up to attend the DOE State and Local Energy Efficiency Action Network (SEE Action) webinar, “Case Studies: Financing Energy Improvements on Utility Bills,” taking place June 11, 2014, from 2:00 to 3:30 p.m. Eastern. To learn more on this topic, visit...

Home Energy Pros

Home Energy Pros was founded by the developers of Home Energy Saver Pro (sponsored by the U.S. Department of Energy) and brought to you in partnership with Home Energy magazine.

Latest Activity

- What brings you here?
  - [Image]
  - Taskbar is completely non-responsive is my mother tiring you? Does it work?
  - An auditions review
  - "I would like to begin with a disclaimer that I am an aerosol contractor. One of the members,..."
  - 16 minutes ago

- T. Alexander posted a blog post
  - So many homes have fiberglass insulation that is poorly installed in New Hampshire and elsewhere. Using testing of existing homes it is typical to see mental patterns of surface temperatures with...
  - Saw More
  - 1 hour ago

Tools

- Better Buildings Network View
- Peer Exchange Call Schedule and Archival
- Peer Exchange Archive
- Marketing and Outreach
- Peer Exchange Archive...
There are currently 6 Peer Exchange call series:

- Data & Evaluation
- Financing & Revenue
- Marketing & Outreach
- Multifamily/Low-Income Housing
- Program Sustainability
- Workforce/Business Partners

Calls are held the 2nd and 4th Thursday of every month at 12:30 and 3:00 ET

Upcoming calls:

- August 28: No Calls (Summer Break)
- Sept 11, 12:30 ET: Program Sustainability: Coordinating Energy Efficiency with Water Conservation Services
- Sept 11, 3:00 ET: Better Buildings Residential Network Orientation
- Sept 25, 12:30 ET: Marketing & Outreach: Outreach to Faith-Based Organizations
- Sept 25, 3:00 ET: Multifamily/Low-Income Housing: Energy-Efficient, Cost-Effective Affordable Housing

Send call topic ideas or requests to be added to additional call series distribution lists to peerexchange@rossstrategic.com
Home Performance Training & Mentoring Lessons Learned:

Mark Jackson, Vice President
Community Housing Partners
Christiansburg, VA
Home Energy Professionals (HEP) Project:
Gateway to the Home Performance Industry
Where the industry started.
Where we are now!
DOE Weatherization helped set the standard for the residential energy efficiency retrofit and home performance industry by developing:

Guidelines for Home Energy Professionals Project (HEP)
Home Energy Professionals Project

- Standard Work Specifications
- Job Task Analysis
- Worker Certification
- Training Center Accreditation
Defining the Work

- The Standard Work Specifications (SWS) define the minimum acceptable outcomes for any weatherization or home performance task to be effective, durable, and safe.
Job Task Analysis (JTA’s)

Validate the Training

- The JTAs for the four major energy upgrade job classifications define what a worker needs to know and do also known as the Knowledge – Skills – Abilities (KSA’s).

The four job classifications are:

- Retrofit Installer Technician
- Crew Leader
- Energy Auditor
- Quality Control Inspector
Training and Certification

Certify the Worker

-The Certification Blueprints synthesize the content of the SWS and the JTAs to lay out a road map for robust worker certifications.

-Nationally Recognized Industry Credentials that are Portable and Transferable Between the Public and Private Sectors.
Home Energy Professional Career Ladder

Retrofit Installer Tech ->

Crew Leader ->

Energy Auditor ->

Quality Control Inspector ->

Retrofit Installer Tech ->
Training Center Accreditation

National Accreditation of Training Centers

- Drive consistency across the country

- Raise the bar nationally for quality training and retrofits
How to get the Best Bang for the Buck!

* DYNAMIC ONLINE COURSES *

Energy Auditor
An Introduction to Energy Auditing

7.7 Blower Door Video
Please watch this video on the blower door.

The Blower Door
An Introduction to Energy Auditing

A blower door is the most valuable tool of the weatherization worker. The blower door is a shrouded frame with a fan that seals the doorway and allows you to depressurize or pressurize the home to measure the home’s air leakage. The initial blower door test will guide you through the development of the work scope and help you make decisions about ventilation needs regarding the home being weatherized.
How to get the Best Bang for the Buck!

* HANDS-ON FIELD TRAINING / MENTORING*
Discussion: Community Housing Partners

- There have been roughly 2,500-3,000 graduates per year from the training programs.
- Courses are 50% hands-on practice in labs and 50% classroom instruction; there is no field time requirement or component, though it is recommended.
- Free online introductory training helps bring all students to the same level of understanding of building science prior to classroom instruction.
- Some subsidies are available depending on the market and the student, and available grants. Group discounts are available.
Home Performance Training & Mentoring
Lessons Learned:
Amanda Hatherly, Director
New Mexico Energy$mart Academy
Santa Fe Community College
Exercise 1B: Converter Control with Reset Schedule

1. Which is the primary sensor?
2. What is the reset period for this control system?
3. What is the maximum/minimum OAT for the control system?
Driving Forces of Air Leakage

Temperature and pressure differences—usually between inside and outside the house.

The bigger the temperature or pressure difference, the greater the air and heat flow.
• Remove existing frame, sash pulley weights, etc.

**TIP:** Score all painted joints with a sharp utility knife prior to removal of window trim. Use a thin-bladed pry bar to prevent marring the trim.

• Install a complete vinyl unit that fits inside the existing frame against the exterior window stops.
• Seal perimeter with low expanding foam to ensure an air tight installation.
• Reinstall existing interior trim and seal with caulk.
• Always employ lead-safe work practices when lead-based paint will be disturbed.
## Energy Saving Measure Economics

<table>
<thead>
<tr>
<th>Index</th>
<th>Recommended Measure</th>
<th>Components</th>
<th>Measure Savings (yr)</th>
<th>Measure Cost ($)</th>
<th>Measure SIR</th>
<th>Cumulative Cost ($)</th>
<th>Cumulative SIR</th>
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<td>Replace unvented space heater with direct-vent unit</td>
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<td>1200</td>
<td>1200</td>
<td>1.5</td>
<td>1620</td>
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<td>Smoke Detector is Needed (2)</td>
<td></td>
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<td>50</td>
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<td>11</td>
<td>Ventilation fan Required (1)</td>
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<td>0.0</td>
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### Materials

- Energy-Saving Measures

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**Animated Videos**
to use Energy2D applets

If you do not see a square simulation window to the right, make sure Java is installed and is enabled in your web browser.

If there are thermometers present in the simulation, their results can be shown on a graph. When the graph pops up, use the arrow buttons on it to rescale it if necessary. To tell which curve corresponds to which thermometer, click on the thermometers. To clear the current data in the graph, press DELETE. To read the data in the graph, move the mouse cursor along a curve.

For more actions, right-click on an empty spot in the simulation window and select items from a pop-up menu to change the properties of the model and the view.

Objects can be dragged, resized, or deleted. Right-click them and select "Properties" from a menu to view and change their properties.
The Perfect Wall, Roof, and Slab — Building Science Podcast

Dr. Joe Lstiburek talks about enclosure design principles for energy-efficient houses. Insulation, air conditioning, heating, and forced-air delivery systems have all changed the physics of how houses work. Houses didn’t used to rot, but too many of them do now.

POSTED ON MAY 6 2009 BY JOE LSTIBUREK, GBA ADVISOR

Download .mp3

This podcast series is excerpted from a two-day class called Building Science Fundamentals with Drs. Joe Lstiburek and John Straube of Building Science Corporation. For information on attending a live class, go to BuildingScienceseminars.com

This week Dr. Joe talks about enclosure design principles of energy efficient buildings
The Academy is able to track student engagement online through their participation in online discussions, and sharing in weekly webinars.

Free access to open-source resources is an emphasis at Energy$mart Academy, including online videos that are available for others to take.

Instructors conduct quality assurance on ride-along visits to identify anything that is not going well.

Some graduates go on to pass the national credential exam, which provides a positive reflection on the quality of the training.
Home Performance Training & Mentoring Lessons and Resources:

Tom White, Publisher
*Home Energy* Magazine
Training in the 21st Century: From Sage on the Stage to Guide on the Side
Author: Amanda Hathaway  PREMIUM CONTENT  07/01/2014
Imagine you have just walked into the classroom. Right now the teacher is standing at the front, explaining some of the finer details of the second law of thermodynamics. The students are sitting at tables, ... [continue reading]

Beyond Building: Training for the Green-Collar Economy
Author: Chris Cato  PREMIUM CONTENT  07/01/2013
Ely Flores, a 2005 graduate of a YouthBuild program in Los Angeles, is a Grid Alternatives outreach manager and works with low-income families to install solar panels to reduce their home energy costs. At Greenbuild 2012 in ...
Welcome to the Home Energy Guide to Training Programs for Home Performance Professionals

Advance your career as a home performance professional, or list your training program and updates here.

Not yet a subscriber? Have a look around the main Home Energy site, enjoy our free content, and consider a subscription to the magazine —available both online and in print bimonthly!

Home Energy magazine is the place people in the home performance profession come to talk. Come join in the conversation!

SAMPLE TRAINER LISTING (See larger version)
ACI (Affordable Comfort, Inc.) Events
www.affordablecomfort.org

ACI (Affordable Comfort, Inc.) is the leading educational resource for the home performance industry.

Overview

2014 Regional Conferences

- 2014 NEW ENGLAND REGIONAL HOME PERFORMANCE CONFERENCE
- 2015 NORTHEAST

ACI offers the industry's leading educational events and trade shows in partnership with the nation's leading experts in home performance and weatherization. Our events combine our unparalleled education component with the ideal networking environment for all sectors of the industry to exchange ideas and best practices.
Programmatic Accreditation

In 1999 HVAC Excellence was the first organization to create programmatic accreditation for HVACR programs in the United States. Since that time, HVAC Excellence has grown to the industry’s largest and oldest provider of HVACR programmatic accreditation.

As of January 2014 there are now accredited programs in 32 states have chosen to validate the quality and integrity of their programs with HVAC Excellence.
Clean Energy Training Directory

Looking for training providers that offer workshops and hands-on training for renewable energy and energy efficiency courses? Interested in four-year universities that offer undergraduate and graduate level courses in renewable energy and energy efficiency?

Whether you're in high school or college, you're changing careers or are a returning veteran, the new IREC Clean Energy Training Directory is the ideal tool to help you find the right clean energy program for you. Click here for a list of IREC Accredited Training Providers.

Search Training Directory

Country
United States

State
All States
Criteria for Excellence in Building Science Curricula

Task Group: Following the 2012 Annual Meeting of the University Consortium, a task group was formed to develop the criteria for excellence in building science education curricula. Current leaders of the task group include:

- Pat Huelman (Chairman) – University of Minnesota
- John Straube (Co-chairman) – University of Waterloo

Development of Criteria Metric: Criteria for excellence in building science education curricula and associated content are being developed to define, and set the expectations for, building science education. The criteria will provide a metric against which universities can assess building science curricula, key courses, teaching methodologies, and learning outcomes. The criteria will help guide the development of such teaching materials. The metric would also support the work of accrediting organizations and licensing and certification programs. Further, it will support the annual award for “excellence in building science education” and the student competition programs for quality, high performance buildings.
Lessons and Tips – Home Performance Training and Mentoring

- Agree on the Standard Work Specs
- Define Your Training Competency Goals
- Use Job Task Analyses and Knowledge/Skills/Abilities for Defined Classifications
- Share best practices on the Trainers and Mentors Group on HomeEnergyPros.lbl.gov
Discussion: Home Performance Training & Mentoring

- What experience does your organization have with training and/or mentoring energy assessors & contractors (directly or with partners)?
  - What challenges or barriers arise (e.g., funding, recruitment, applicability of content, etc.)? How can those be addressed?
  - What approaches are most effective? Any lessons or tips for selecting or structuring training & mentoring programs?
- How can programs best focus limited training resources to have the greatest impact (content, training partners, type of training, etc.)?
- Other questions/issues related to training and mentoring?
Discussion and Lessons Learned

- Hands-on training is essential, both through lab experience and in-field mentoring.
  - If someone is teaching you to parachute, wouldn’t you like them to tandem jump with you the first time?
- There are many training resources available for free, such as online videos. Using these can free up in-person time for practical experience instead of basic lectures.
- Training should be engaging and stimulating for students, and encourage active participation through a variety of opportunities (e.g., online forums, webinars, simulations, lab experience, mentoring).
- Look for accredited training programs to ensure high-quality instruction and consistency with national standards.
Discussion and Lessons Learned

- **BPI** is encouraging partners to diversify training options, including open source online options, to help people learn building science principles.

- **Apprenticeships** are valuable to complement training:
  - Community Housing Partners helped students apprentice with weatherization professionals, and many were offered jobs.
  - Other students participated in a Realistic Job Preview (RJP) where they worked on-site with crews for a day, and contractors decided whether to hire them.

- Guided peer-to-peer learning, such as online discussion forums and having students take video “selfies” of them explaining concepts, can make a big difference as a component of training.