

Better Buildings Residential Network Workforce/ Business Partners Peer Exchange Call Series: Home Performance Training & Mentoring: Lessons and Resources

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





3

Better Buildings Residential Network

- <u>Better Buildings Residential Network</u>: Connects energy efficiency programs and partners to share best practices to increase the number of American homes that are energy efficient.
 - <u>Membership</u>: 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:
 - Peer Exchange Calls
 - Tools, templates, & resources
 - Newsletter updates on trends
- Recognition: Media, materials
- Optional benchmarking
- Residential Solution Center

For more information & to join, email <u>bbresidentialnetwork@ee.doe.gov</u>.

- 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





5



Peer Exchange Call Series

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 <u>peerexchange@rossstrategic.com</u>





6

Home Performance Training & Mentoring Lessons Learned:

Mark Jackson, Vice President Community Housing Partners Christiansburg, VA





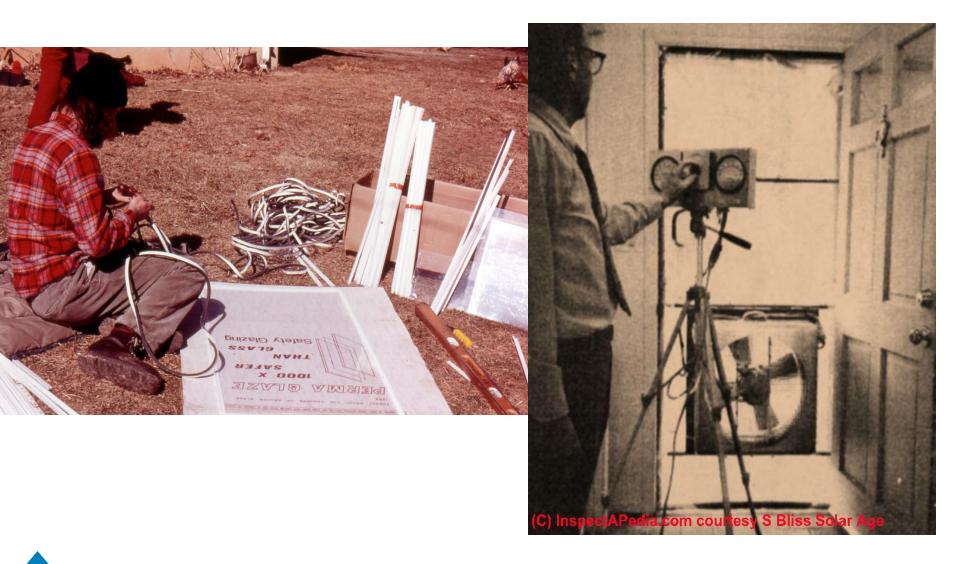
Home Energy Professionals (HEP) Project : Gateway to the Home Performance Industry







Where the industry started.



Where we are now!

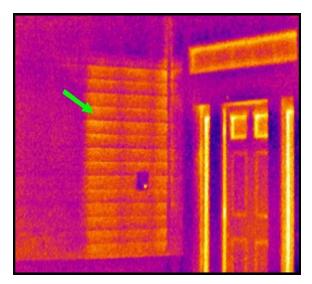












DOE Weatherization setting the BAR!

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

Standard Work Specifications (SWS)

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:

-<u>Retrofit Installer Technician</u> -<u>Crew Leader</u> -<u>Energy Auditor</u> -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.



TEST CENTER

Home Energy Professional Career Ladder

Quality Control Inspector ->

Energy Auditor ->

Crew Leader ->

Retrofit Installer Tech ->

Training Center Accreditation

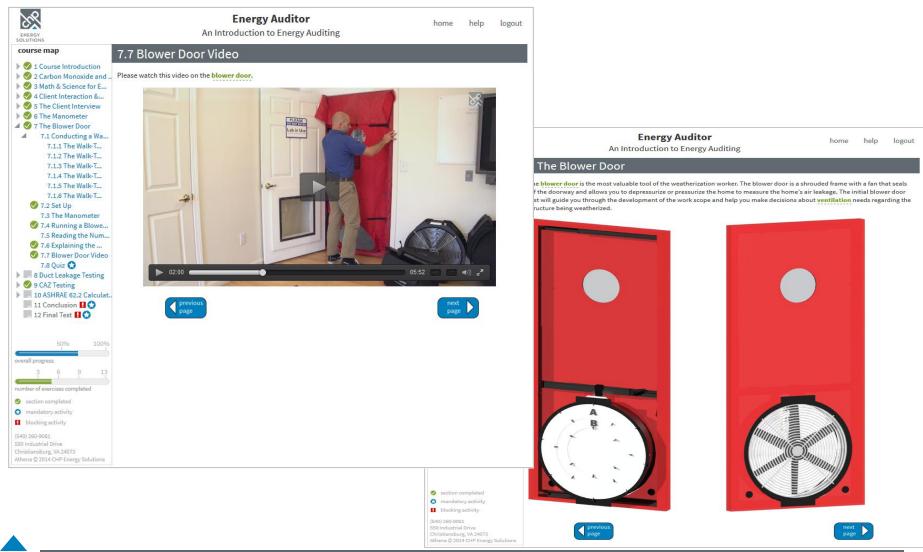
National Accreditation of Training Centers



 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 *



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:

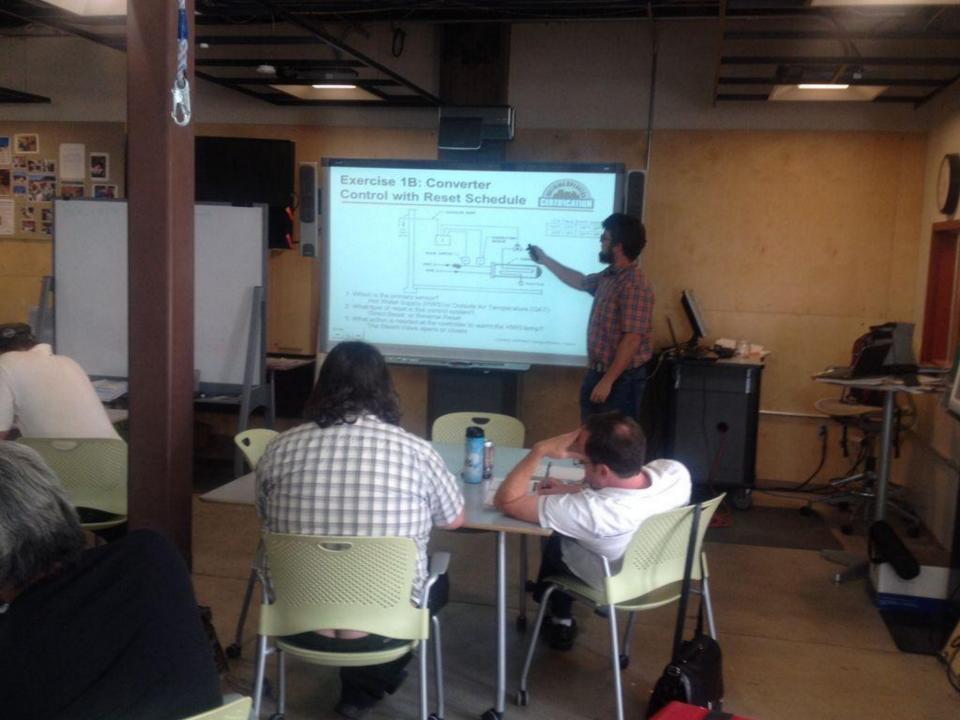
Amanda Hatherly, Director New Mexico Energy\$mart Academy Santa Fe Community College



SANTA FE COMMUNITY COLLEGE Amanda Hatherly









BUILDING SCIENCE BASICS

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.

-Jamb Replacement Method Jouble Hung Window)

NERAL CONSTRUCTION AND CARPENTRY

- 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

U.S. DEPARTMENT OF

Energy Efficien

Renewable Er

- 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 tigh installation.
- Reinstall existing interior trim and seal with caulk.
- Always employ lead-safe work practices when lead-based pa will be disturbed.

FLIPPED CLASSROOM

RESOURCES





Southfaceenergy - 65 videos



Energy Saving Measure Economics

Index	Recommended Measure	Components	San yr	Measure Cost (S)	Measure SIR	Cumulative Cost (S)	Cumulative SIR
1	Attic Incidental Repai	15 6.	La De	150	0.0	150	0.0
2	Infiltration Redctn	- ASA	- mp	70	1.1	220	1.0
3	Low Flow Showerhea	da	LI A	35	20.3	255	3.1
4	DWH Pipe Insulation	Energy-	1 4	15	8.6	270	3.4
5	Lighting Retrofits	Saving	1 11 2	50	7.6	320	4.1
6	Air Seal Attic Floor		5	100	1,8	420	3.5
7	R-50 Attic Insulation	Measures	- 3	1200	1.5	1620	2.0
8	CO Monitor is Neede	d	O'THANK THE	80	0.0	1700	0.0
9	Replace unvented space heater with direct-vent unit			1200	0.0	2900	0.0
10	Smoke Detector is Needed (2)		1.	50	0.0	2960	0.0
11	Ventiliation fan Requi (1)	ired		200	0.0	3150	0.0
Mat	erials						

Models

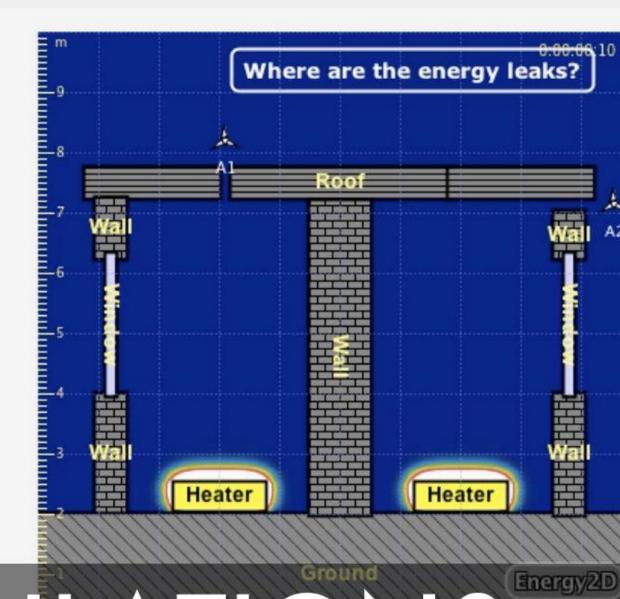
to use Energy2D applets

you do not see a square simulation ndow to the right, make sure <u>Java is</u> stalled and is enabled in your owser.

there are thermometers present in a simulation, their results can be own on a graph. When the graph ows up, use the arrow buttons on it rescale it if necessary. To tell which inve corresponds to which ermometer, click on the ermometers. To clear the current ita in the graph, press DELETE. To ad the data in the graph, move the puse cursor along a curve.

or more actions, right-click on an npty spot in the simulation window ad select items from a pop-up menu change the properties of the model ad the view.

ojects can be dragged, resized, or leted. Right-click them and select roperties" from a poly more to aw and change the soler is.



Grid Velocity vectors Isotherm Heat flux Streamlines

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 exc. oted or a t o ay 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





DISCUSSIONS



SELFIES





HANDS-ON











Discussion: Energy\$mart Academy, Santa Fe Community College

- 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



Home Energy Magazine, homeenergy.org



program in Los Angeles, is a Grid Alternatives outreach manager and works with low-income families to install enlar





Home Energy Training Guide



Welcome to the Home Energy Guide to Training Programs for Home Performance Professionals

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

Not yet a subscriber? Have a look around the main <u>Home Energy site</u>, enjoy our free content, and consider a <u>subscription</u> 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)

Students





a Training Program Suitable for YOU!







List Your Program

ACI (Affordable Comfort, Inc.) Events www.affordablecomfort.org



Overview

2014 Regional Conferences

- 2014 NEW ENGLAND REGIONAL HOME PERFORMANCE CONFERENCE
- 2015 NORTHWEST

Overview

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







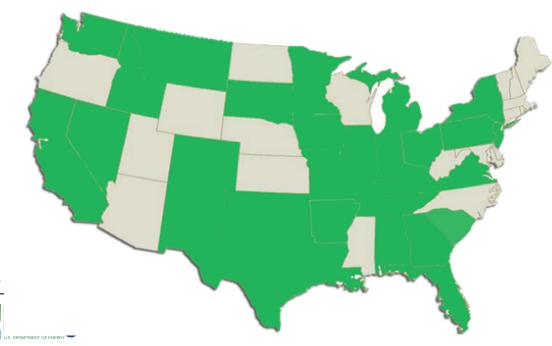
HVAC Excellence Accreditation

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Home	Accreditation	Certifications	Credentialing	Shop	News	Conference	
Site Map > Accreditation							

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.





Important Links Accredited Programs Accreditation Application Accreditation Manual Accreditation Annual Report Accreditation PowerPoint Overview

Accreditation Team Leaders

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Regulatory Reform Credentialing Stan	dards Development Workforce Education Publicatio	ons News and Events About IREC		

Home > Clean Energy Training Directory

49

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

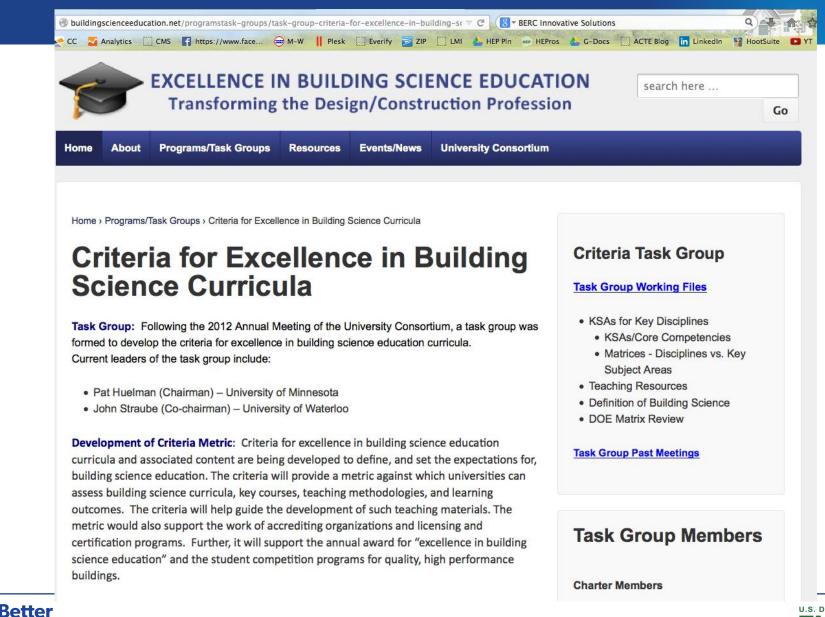
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Excellence in Building Science Education



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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 <u>HomeEnergyPros.lbl.gov</u>





51

Discussion: Home Performance Training & Mentoring

- What experience does your organization have with training and/or mentoring energy assessors & contractors (directly or with partners)?
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52

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 highquality 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.
- <u>Apprenticeships</u> 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.



