
April 14, 2016

*Call Slides and Discussion Summary*
Call Attendee Locations
Call Participants – Network Members

- Alaska Housing Finance Corporation
- Center for Sustainable Energy
- CLEAResult
- Connecticut Green Bank
- Energy Efficiency Specialists
- Housing Authority of the City of San Buenaventura
- Midwest Energy Efficiency Alliance (MEEA)
- United Way of Long Island
- Vermont Energy Investment Corporation (VEIC)
Call Participants – Non-Members

- AAA Energy Audits
- AppleBlossom Energy
- City of Orlando
- Cleveland Public Power
- Conservation Connection Consulting
- DAP
- Energy Design Update
- Energy Smart Colorado
- Eversource
- Flathead Electric Cooperative
- Franklin Energy Services
- Fruitfull Energy
- Holy Cross Energy
- JOHNSON A/C
- National Grid (New York)

- NW Energy Coalition
- Okaloosa gas
- Ontario Ministry of Energy
- PA - PUC
- Parker Interests Unlimited
- SEEC LLC
- Snohomish PUD
- Solar Habitats, LLC.
- SPEER
- Tenderloin Neighborhood Development Corp.
- TRC Energy Services
- USGBC
- V3
- Ventura County Regional Energy Alliance
Agenda

- Agenda Review and Ground Rules
- Opening Polls
- Brief Residential Network Overview
- Residential Network Training Toolkit Overview
- Featured Speakers
  - Dan Wildenhaus, Building Science Manager, CLEAResult *(Network Member)*
  - Jeffrey Granger, New Mexico Energy $mart Academy, Santa Fe Community College
- Discussion
  - What experience do you have with contractor training?
  - What training approaches are most effective for improving work quality?
  - What training is most useful for generating more energy upgrades?
- Closing Polls and Upcoming Call Schedule
Opening Poll #1

Which of the following best describes your organization’s experience with training for energy efficiency professionals?

- Very experienced/familiar – 46%
- Some experience/familiarity – 29%
- Limited experience/familiarity – 20%
- Not applicable – 5%
- No experience/familiarity – 0%
Which of the following best describes your organization?

- Program administrator or implementer – **52%**
- Contractor/trade ally – **15%**
- Training provider – **15%**
- Other (please specify) – **17%**
Better Buildings Residential Network: Connects energy efficiency programs and partners to share best practices and learn from one another to increase the number of homes that are energy efficient.

Membership: Open to organizations committed to accelerating the pace of home energy upgrades.

Benefits:
- Peer Exchange Calls 4x/month
- Tools, templates, & resources
- Recognition in media, materials
- Speaking opportunities
- Updates on latest trends
- Voluntary member initiatives
- Residential Program Solution Center guided tours

Commitment: Provide DOE with annual number of residential upgrades, and information about associated benefits.

For more information or to join, energy.gov/eere/better-buildings-residential-network/join
Better Buildings Residential Network Members join together to identify and address common challenges and market opportunities.

- Training
- Social Media
- Designing Incentives
- Partnerships

**Self-Assessment Template**

<table>
<thead>
<tr>
<th>Program Design</th>
<th>Characteristics</th>
<th>Exist Y/N</th>
<th>Rate If Y, rate on scale of 0-4</th>
</tr>
</thead>
</table>

![Diagram showing social media platforms and their interactions](Image)
Toolkit – Training

Table of Contents:

- Getting Started With Good Partners
- Types of Training
  - Technical Training
  - Outreach Training
  - Professional Training
- Additional Resources
Contractors:

- Strong building science knowledge necessary
- Need to be able to convey benefits to customers
- Stakeholder engagement informs planning
- Main point of contact
Sales training for contractors:

- Comprehensive evaluation of more than 140 programs in $500M grant
- Successful programs increased contractors’ sales effectiveness
- A top success factor
Toolkit – Professional Training

Sustainable residential energy efficiency markets:

- Have successful contractors that stay in business
- Provide general business assistance and training
- Regular engagement btw programs & contractors

Next Step Living, Out of Cash, Shutting Doors
-- March 17, 2016

2013 HPwES Contractor, Housing Innovation Awards
What types of contractor training has your program offered or used?

- Technical: building science, EE technologies and techniques – 41%
- Outreach: sales training & promotion of program offerings – 29%
- Professional: business development and management skills - 19%
- None or Not Applicable – 8%
- Other (please explain) – 0%
Training Toolkit

The Better Buildings Residential Network Training Toolkit can be used by residential energy efficiency programs interested in realizing the value of providing training opportunities for contractors, staff, and volunteers. For example, according to a comprehensive evaluation of more than 140 energy efficiency programs across the country that participated in a $500 million grant program, contractor training activities have achieved positive results, including more comprehensive upgrades, a higher assessment-to-upgrade conversion rate, improved program processes, improved quality control, and increased revenues, among other benefits.

This Training Toolkit is for program managers to identify training resources and opportunities to help staff, volunteers, and contractors enhance their understanding of building science; sales and marketing; residential energy efficiency program offerings; and business development. Better Buildings Residential Network members provided input and review for toolkit content.

Successful residential energy efficiency training approaches start with partner organizations that can help deliver training. Three types of training for contractors, staff, energy advisors, and volunteers follow below:

1. Technical training: building science, energy assessments, technologies, and techniques
2. Outreach training: promotion of program offerings, sales training, and customer engagement
3. Professional training: business development and management for participating contractors

Additional resources follow at the end of the toolkit, including more details on the Better Buildings Residential Program Solution Center, which is an online collection of resources and lessons learned concerning training and many other topics from years of hard-won experience by residential energy efficiency programs.

Getting Started With Good Partners

When it comes to training, there's no need to reinvent the wheel. Collaborate with organizations such as colleges, trade groups, and local job or skills development organizations to access and enhance existing training programs and resources. For example, community colleges can be great partners; they have been willing to add home performance studies to their curricula, and in return, can use your program for training with home energy upgrade projects in the field.

Trade organizations and job placement programs for underserved communities also make good training partners, and have access to funding that can subsidize technical training as a way to build the local workforce and economy. Following are just a few programs and examples that have found local partners to enhance training program success:

- Southeast Energy Efficiency Alliance programs partnered with veterans’ groups and job training programs to reach and teach new sources of home performance contractors. Nexus Energy Center, the program implementer in Huntsville, Alabama, used a U.S. Department

Learn more at betterbuildings.energy/bbmn

http://energy.gov/eere/better-buildings-residential-network/resources#trainingtoolkit
Use with contractors, staff, energy advisors, and volunteers:

- **Technical Training:**
  - *Avoid jargon.* Explain building science simply to customers.

- **Outreach Training:**
  - *Contractor sales training* increases business & program success.

- **Professional Training:**
  - *Successful contractors* need business & building science skills.
Lessons Learned:
Dan Wildenhaus
Building Science Manager
CLEAResult
WHAT MAKES TRAINING WORK?

Dan Wildenhaus
Building Science Manager/Trainer
CLEAResult

Supporting Community Power Works for Home, Energy Trust of Oregon Existing Homes, NEEA Efficient Homes Initiative, and others
How do we know what we are looking for?

Standard program designs depend on standard metrics for measuring success.

How do we measure the impact of quality, well trained contractors and auditors?

Does counting qualified projects really tell us if we have successful training?
Whose goals does the training serve?

- Trainees
- Training Goals
- Funders
- Trainers
Idea Number One

Ask if the training goal is aligned with a program goal.

Program goals are often required to be quantifiable (gaining certifications, lead directly to improved QA, increase conversion rates).

Does a general training on duct sealing lead to specific quantifiable goals?

How about ….
Root Analysis of core problems

Ask “why” questions three to five times for at least one of our stories
Idea Number
Two

Props rule!

In person is likely best, but not always feasible.

Activities help concepts to sink in.

Repetition, repetition, repetition.
Hands on, even when not in the same room.
Use resources that provide consistency and are not proprietary
FINAL THOUGHT

Use trainers that used to be contractors

OR

Invite your program contractors to participate in designing your training program
Presentation Highlights: CLEAResult

- **Goals**: Set specific training goals that meet program goals.

- **Pain Points**: Reduce contractor “pain” points by hosting trainings on difficult or new industry standards:
  - CLEAResult developed a training with contractors that interpreted 15-year old specs for current equipment more effectively.

- **Market Successfully**: Market trainings using a multipronged effort:
  - Don’t flood your contractors with emails; think about the best day and time to reach your audience.
  - Partner with groups like Efficiency First chapters. Use shared training calendars and existing meetings to engage your audience.
Lessons Learned:
Jeffrey Granger
New Mexico Energy $mart Academy
Santa Fe Community College
WHAT WORKS?
(WHAT DIDN’T)

Jeffrey Granger, Trainer
New Mexico Energy$mart Academy
Santa Fe Community College

IREC Accredited Programs / BPI Certifications
How do we know what we are looking for?

Metrics?

Job Task Analysis (JTA)

Standard Work Specifications (SWS)

State Standards

Training vs. Performance

Training

Audits / Assessments

Installations

Findings / Feedback

Inspections
<table>
<thead>
<tr>
<th>How do we know what we are looking for?</th>
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</thead>
<tbody>
<tr>
<td>Metrics?</td>
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<tr>
<td>Job Task Analysis (JTA)</td>
</tr>
<tr>
<td>Standard Work Specifications (SWS)</td>
</tr>
<tr>
<td>State Standards</td>
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</table>

**Training vs. Performance**

*How do you know that your training programs are working?*

*How do you get feedback?*
How do we know what we are looking for?

SWS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
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<tbody>
<tr>
<td>2.02</td>
<td><strong>Combustion Safety</strong></td>
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<td>2.0201</td>
<td>Combustion Safety Testing-General</td>
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<tr>
<td>2.0201.1</td>
<td>Combustion Appliance Zone (CAZ) Testing</td>
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<td>2.0201.1a</td>
<td>Assessment</td>
<td>35</td>
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<tr>
<td>2.0201.1b</td>
<td>Fuel leak detection</td>
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<td>2.0201.1c</td>
<td>Venting</td>
<td>39</td>
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<tr>
<td>2.0201.1d</td>
<td>Base pressure test</td>
<td>41</td>
</tr>
<tr>
<td>2.0201.1e</td>
<td>Depressurization test</td>
<td>42</td>
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<tr>
<td>2.0201.1f</td>
<td>Spillage test</td>
<td>44</td>
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<td>2.0201.1g</td>
<td>Carbon monoxide (CO) test in appliance vent</td>
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<tr>
<td>2.0201.1i</td>
<td>Combustion safety testing at completion of retrofitting home</td>
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<tr>
<td>2.0201.2</td>
<td><strong>Combustion Safety</strong></td>
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<tr>
<td>2.0201.2a</td>
<td>Outside combustion make-up air</td>
<td>49</td>
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<tr>
<td>2.0201.2b</td>
<td>New appliances</td>
<td>51</td>
</tr>
</tbody>
</table>

Weatherization
New Mexico Mortgage Finance Authority
2 of 479
March 04, 2015
How do we know what we are looking for?

Standard Work Specifications

2.0201.1c

Desired Outcome:
Accurate information about appliance safe operation is gathered

Specification(s):
Combustion venting systems will be inspected for damage, leaks, disconnections, inadequate slope, and other safety hazards

Objective(s):
Determine if a draft regulator is present and working and if vent system is in good condition and installed properly

Unsafe
If ventilation system puts occupants at risk, it needs immediate attention

Safe
Properly vented appliances make a house healthier and more efficient
How do we know what we are looking for?

Standard Work Specifications

How are you using the SWS tool?

https://sws.nrel.gov/
How do we know if “they’re” listening?

Quizzes

Student Demos

Student Practice

Student Teaching

Photos | Forms | Diagrams

### CAZ Depressurization Test

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
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<tr>
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<tr>
<td>Open</td>
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<table>
<thead>
<tr>
<th>Furnace Fan: OFF</th>
<th>Furnace Fan: ON</th>
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<tr>
<td>Pa Pa</td>
<td>Pa Pa</td>
</tr>
<tr>
<td>Pa Pa</td>
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</tbody>
</table>

**Categories**

- **Category 1**
  - Flue negative pressure
  - Flue gas is over 140°F

- **Category 2**
  - Flue negative pressure
  - Flue gas is under 140°F
  - Some condensing of flue gases

- **Category 3**
  - Flue positive pressure
  - Flue gas over 140°F
  - Sealed combustion

- **Category 4**
  - Flue positive pressure
  - Flue gas under 140°F
  - Condensing of flue gas
  - Sealed combustion

**Vent Pipe**

- Vent Pipe Negative
- Vent Pipe Positive
- Above 140°
- Below 140°
I agree…
Props Rule!

Teach Process

PPE Requirements

Case Studies

Multiple Vendors
(red & gold / black & white)
Distance Learning Prerequisite

Retrofit Installer Technician
Energy Auditor
Crew Leader
QCI Multi-family
Quality Control Inspector
Distance Learning Prerequisite

Retrofit Installer Technician
Energy Auditor
Crew Leader
QCI Multi-family
Quality Control Inspector

Welcome to the Virtual Academy

We at the New Mexico Energy$mart Academy would like to welcome you to this online training course for Crew Leaders. You are probably like us, and don't have much time in your normal day for training. Don't Panic. You can access your course from anywhere in the world as long as you can get an internet connection...even on your smartphone!

A syllabus for this course is available at this link: Crew Leader Online Syllabus

To navigate through this course start by clicking on the MODULES tab on the left side of this page. You can identify the purpose of a Module, just by looking at its icon. Our courses generally have 4 types of Modules - Discussions, Pages, Assignments, and Quizzes.
In-person Classes

Retrofit Installer Technician
Energy Auditor
Crew Leader
QCI Multi-family
Quality Control Inspector

Reinforce Online Content
Add to the list....

Presentations
Videos
Props
Equipment
Forms
Checklists
Role Playing
Games
Textbooks
Distance Learning

What are you using to train employees or contractors that wasn’t mentioned?
Feedback: Use auditors to ensure trainings have positive impacts

State Focus: Help contractors navigate local standards and specs.

Changes: Train contractors to sell the value of change to consumers:
- Communicate the value of automatic controls in new equipment
- Training can help contractors explain the value of automatic controls in new equipment to clients.

Repetition, repetition, repetition:
- Before: Outline goals and skills to be addressed in training.
- During: Use props and interactive materials to engage trainees.
- After: Give tools, like templates, that can be used in the field.
Training resources to help you support your contractors:

- **Contractor Engagement & Workforce Development – Develop Resources** like procedures, forms, & materials.
- **How successful programs offered multiple training opportunities to contractors.**
- **Provide materials and training to ensure data quality, consistency, and accuracy.**

While you’re there, see the latest [Proven Practices](#) post on [Helping Contractors Sell Home Upgrades](#).

The Solution Center is continually updated to support residential energy efficiency programs—**member ideas are wanted!**
Contractor Engagement & Workforce Development – Develop Resources

Where Am I?

Description | Step-by-Step | Tips for Success | Examples | Toolbox | Topical Resources

Step-by-Step

Having defined your contractor audience and paced your engagement plan, and created evaluation plans on the training they need, and support quality installations of all of your installations, you will have designed your training resources.

Develop training resources for participating contractors

At this point, you have assessed the market to determine skill gaps and training needs, identified partners to help with training, and made design decisions about training and workforce development. These efforts should have helped you to identify any gaps in training at the intersection of program requirements, contractor skills, and training providers. To fill these gaps, you will likely need to develop resources to support technical and business skills training, and to establish mentoring processes to help home performance professionals develop and retain their skills. In this step, you’ll learn about developing training resources by working with your training partners and the types of training to provide.

Develop a comprehensive list of training needs, and on whether you’ve aligned program requirements with industry standards and certifications, you may have fewer resource-development needs in this arena. To the extent that you’ve identified gaps in the available resources or that local training partners cannot meet your technical needs, though, you need to strategically invest in developing training resources. In any event, you’ll want to work with your partners, so that they understand program requirements and can be prepared to meet.

Home Energy Guide to Training Programs

The Home Energy magazine maintains a database of national, regional, and local training organizations. This helps you find partners to work with directly. Alternatively, some of your local partners may be able to team up with other training organizations to speed the development of technical training designed to meet the needs of contractors in your program.
How have you used the Solution Center slide information after Peer Exchange calls?

- N/A (this is my first Peer Exchange call) – 44%
- It caused me to explore the Solution Center – 31%
- I have explored one of the resources in depth – 13%
- I have not done anything based on the slide – 13%
- I have clicked on 1+ resource URLs on the slide – 0%
Discussion Highlights

- **Use multiple learning methods** to create engaging training:
  - **Props**: mobile props can provide hands-on learning in the field.
  - **Virtual learning**: Create online learning opportunities.
  - **Public resources**: Use online databases; Don’t reinvent the wheel.
  - **Custom materials**: Give trainees templates to fill in & customize.
  - **Role play**: Practice working with equipment & customers.
Closing Poll

- After today's call, what will you do?
  - Seek out additional information on one or more of the ideas – 54%
  - Consider implementing one or more of the ideas discussed – 31%
  - Make no changes to your current approach – 8%
  - Other (please explain) – 8%
Peer Exchange Call Series

*We hold one Peer Exchange call the first four Thursdays of each month from 1:00-2:30 pm ET*

Calls cover a range of topics, including financing & revenue, data & evaluation, business partners, multifamily housing, and marketing & outreach for all stages of program development and implementation.

**Upcoming calls:**
- April 21: Advances in Integrating Energy Efficiency into the Real Estate Market (301)
- April 28: Driving Change in Residential Energy Efficiency: Electric Vehicles (301)
- May 5 – No call
- May 12: Bullseye: Top Strategies for Targeted Marketing (101)
- May 19: Walking the Talk: Employer Assisted Programs (301)

*Send call topic ideas to peerexchange@rossstrategic.com*

See the Better Buildings Residential Network Program [website](#) to register
**Let’s all meet in May!**

**REGISTER TODAY for the BETTER BUILDINGS SUMMIT**
Washington, DC · May 9-11, 2016

This Summit will bring together Better Buildings partners and stakeholders to exchange best practices and discuss future opportunities for greater energy efficiency in America’s homes and buildings.

*There will be time set aside for a specific Residential Network discussion and meet-up! See the draft agenda [here](#).*
We are eager to hear about and recognize your accomplishments from 2015!

- Share your number of upgrades, and any related benefits
- New template makes it easier