



**Better Buildings Residential Network Data
& Evaluations Peer Exchange Call Series:
*Making Evaluations Work For Your
Program: Tips For Success***

October 9, 2014

Call Slides and Discussion Summary

Agenda

- Call Logistics and Introductions
- Opening Poll
- Residential Network and Peer Exchange Call Overview
- Featured Speakers
 - Dana Fischer, *Efficiency Maine*
 - Bill Fischer, *Vermont Energy Investment Corporation*
- Discussion
 - What inspired your program to do an evaluation?
 - Has your program taken advantage of more than one evaluation resource (e.g. third-party, internal, etc.)? What were the advantages and disadvantages?
 - How has your program improved since incorporating the lessons learned from evaluations?
 - What challenges have you encountered in having your program evaluated? In incorporating lessons from those evaluations? How did you overcome those challenges?
 - Other questions/issues related to making evaluations work for your program?
- Future Call Topics Poll

Participating Programs and Organizations

- Austin Energy
- Boulder County
 - Environmental Health
- Build It Green
- City of Greensboro
- Civic Works
- Clean Energy Works
- CLEAResult
- Community Office for Resource Efficiency
- Efficiency Maine Trust
- Hands On Nashville
- ICAST
- Kaysinger Basin RPC
- Midwest Energy Efficiency Alliance
- MPower Oregon
- P2RIC/Univ. of Nebraska
- Teton County
- United States EPA
- Vermont Energy Investment Corporation
- Energy Efficiency Specialists

General Announcements

October is Energy Action Month!

<http://energy.gov/eere/femp/energy-action-month>

<http://www.whitehouse.gov/issues/national-energy-awareness-month>

Is your organization doing anything to observe Energy Action/Awareness Month?

Opening Poll Results

- What experience does your organization have with evaluations?
 - Extensive experience with evaluations **38%**
 - A little or moderate amount of experience with evaluations **38%**
 - No experience with evaluations **15%**
 - Other? **8%**

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:
 - 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



Better Buildings Residential Network

Created by Better Buildings Support

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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/bbm>

Latest Activity: 8 hours ago

Join the conversation in the discussion forum below. You can use the "Follow" link at the bottom of the 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.

Helpful Links

- Table of Contents
- Better Buildings Residential Network
- Better Buildings Neighborhood Program Website
- Home Performance with ENERGY STAR
- Home Energy Score



Table of Contents



+New Discussion



Peer Exchange Call Archive



Better Buildings Network View



Tools



Related Events

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.

[Continue](#)

Tags: Peer Exchange Calls

Started by Better Buildings Support 8 hours ago.



Register for Upcoming DOE Webinar About On-Bill 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, read

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- Peer Exchange Call Schedule and Archive
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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?](#)

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Tucker Henne commented on David Byrne's blog post Does Aereoseal work? An auditors review

"I would like to begin with a disclaimer that I am an Aereoseal contractor. One of the reasons I..."

16 minutes ago

TJ Alexander posted a blog post

So many homes have fiberglass insulation that is poorly installed in New Hampshire and elsewhere

Doing testing of existing homes it is typical to see mottled patterns of surface temperatures with...

See More

1 hour ago

[0](#)

CleanEdison updated an event



Entry Level Solar Photovoltaic at Cotuit, MA

September 30, 2012 to

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:
 - Oct 9, 3:00 ET: Data & Evaluation: Making Evaluations Work for Your Program: Tips for Success
 - Oct 23, 12:30 ET: Financing & Revenue: Crowdfunding: Enabling Small Investors to Help Fund Business Loans for E3 Upgrades
 - Oct 23, 3:00 ET: Voluntary Initiative on Partnerships: Toolkit Training Webinar
 - Nov 13, 12:30 ET: Program Sustainability: Combining Solar and Home Performance Services
 - Nov 13, 3:00 ET: Marketing & Outreach: Leveraging Service Calls and Emergency Repairs for Energy Efficiency Marketing
- Send call topic ideas or requests to be added to additional call series distribution lists to peerexchange@rossstrategic.com.

Lessons Learned: Efficiency Maine

Dana Fischer

Efficiency Maine

Paralleling evaluation to fine tune program design

Home Energy Savings Program
Financing and Incentives

October 10th, 2014



Staged evaluation can aid program design

- Launched Residential PACE loan program in April 2011
- Launched PowerSaver offering in April 2012
- Launched Air Sealing Promotion (RDI) in April 2012

- Started Evaluation of loan products and promotional activities in July 2012.

- 5 part evaluation spread over a year while programs still in process of ramp up.

- Issues identified by evaluation team during process discussed, and modifications to program design made to improve outcomes.

- Transitioned from RDI to new HESP rebate program September 2013



Program Evaluations

Efficiency Maine's Research and Evaluation strategy provides data-driven research and analysis to inform program delivery, verify program results and ensure ongoing program and organizational improvement.

Residential Evaluations:

[Appliance Rebate Program — Final Evaluation Report](#) (2014)

[Residential Direct Install — Final Evaluation Report](#) (2013)

[PACE Loan Program — Final Evaluation Report](#) (2013)

[PACE Loan Program — Interim Impact Report](#) (2013)

[Residential Lighting Program Evaluation](#) (2012)

[PACE Loan Program — Interim Process Report](#) (2012)

[PACE Loan Program — Review of Successful Practices](#) (2012)

[Home Energy Savings Program](#) (2011)

[Low Income Appliance Replacement Program](#) (2007)

[Residential Lighting Program](#) (2007)



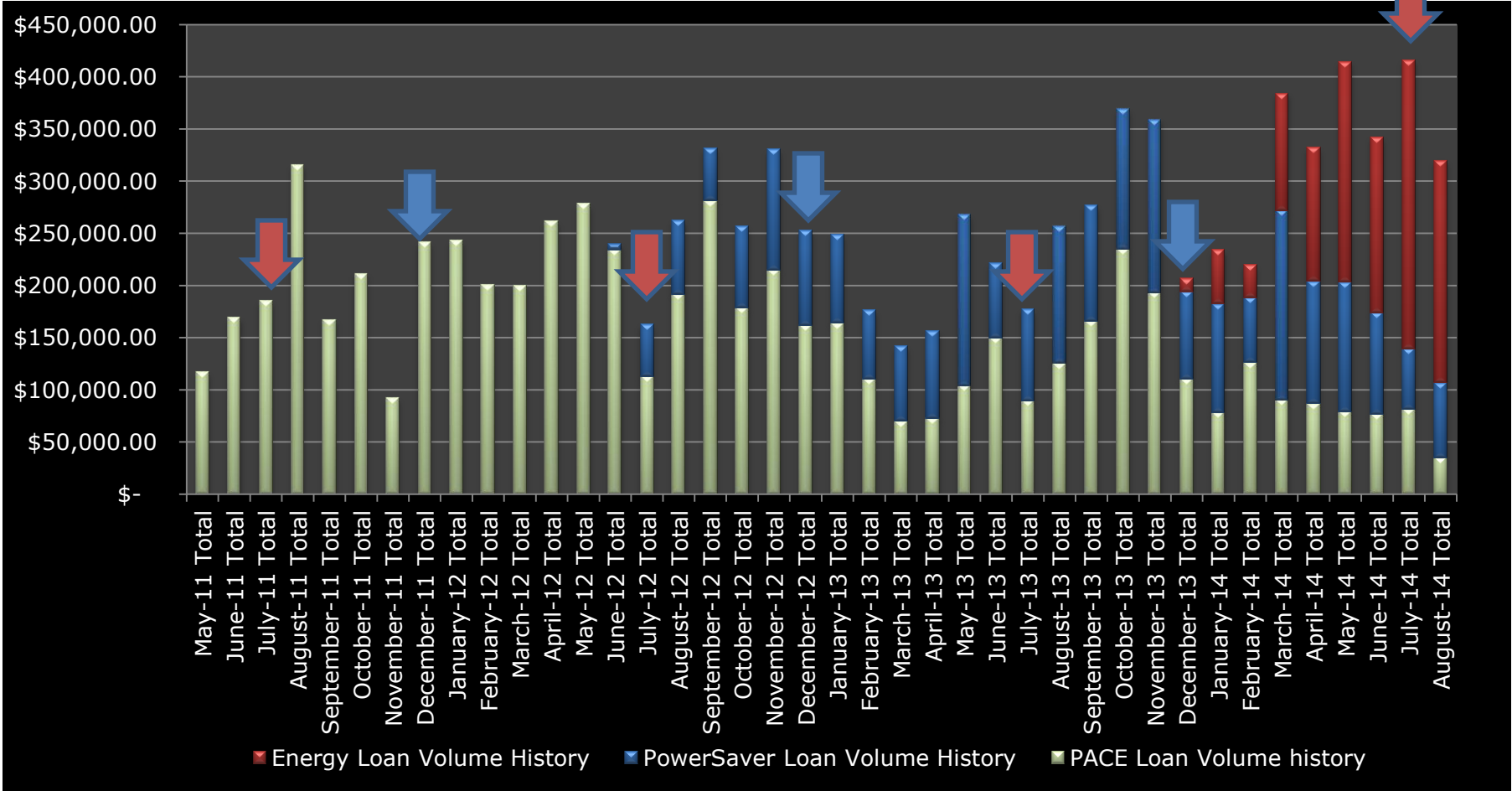
Efficiency Maine Loan Volume History By Month



December



July



\$10.3 M loans issued to date.



Home Energy Savings Program

Rebate Summary

Rebate Type	HESP past 12 months	
	# Rebates	Rebate \$
Air Sealing	1829	\$ 731,600
Attic Insulation	765	\$ 382,500
Wall Insulation	143	\$ 71,500
Basement Insulation	583	\$ 291,500
Ductless Heat Pump	5017	\$ 2,508,500
Furnace	69	\$ 34,500
Boiler	413	\$ 206,500
Path 3 Pellet Boilers	311	\$ 1,547,300
Path 3 Geothermal	49	\$ 244,500
Total All incentives including some not listed	10,551	\$ 6,361,300

Staged evaluation can aid program design

Results:

- Better understanding of program by evaluation team, providing for more useful end product.
- Improvements made “on the fly” based in part on issues communicated to an outside independent third party.
- Program lessons learned continue to inform ongoing program development.

Keep it simple for homeowners and contractors alike.

Home Energy Savings Program Link:

<http://www.energymaine.com/at-home/home-energy-savings-program/>

For more info visit:

Efficiencymaine.com

Or call

866-376-2463

(866-ES-MAINE)

Dana Fischer

Residential Program Manager



**Lessons Learned: Vermont Energy
Investment Corporation (VEIC)**
Bill Fischer



Vermont
Energy Investment
Corporation

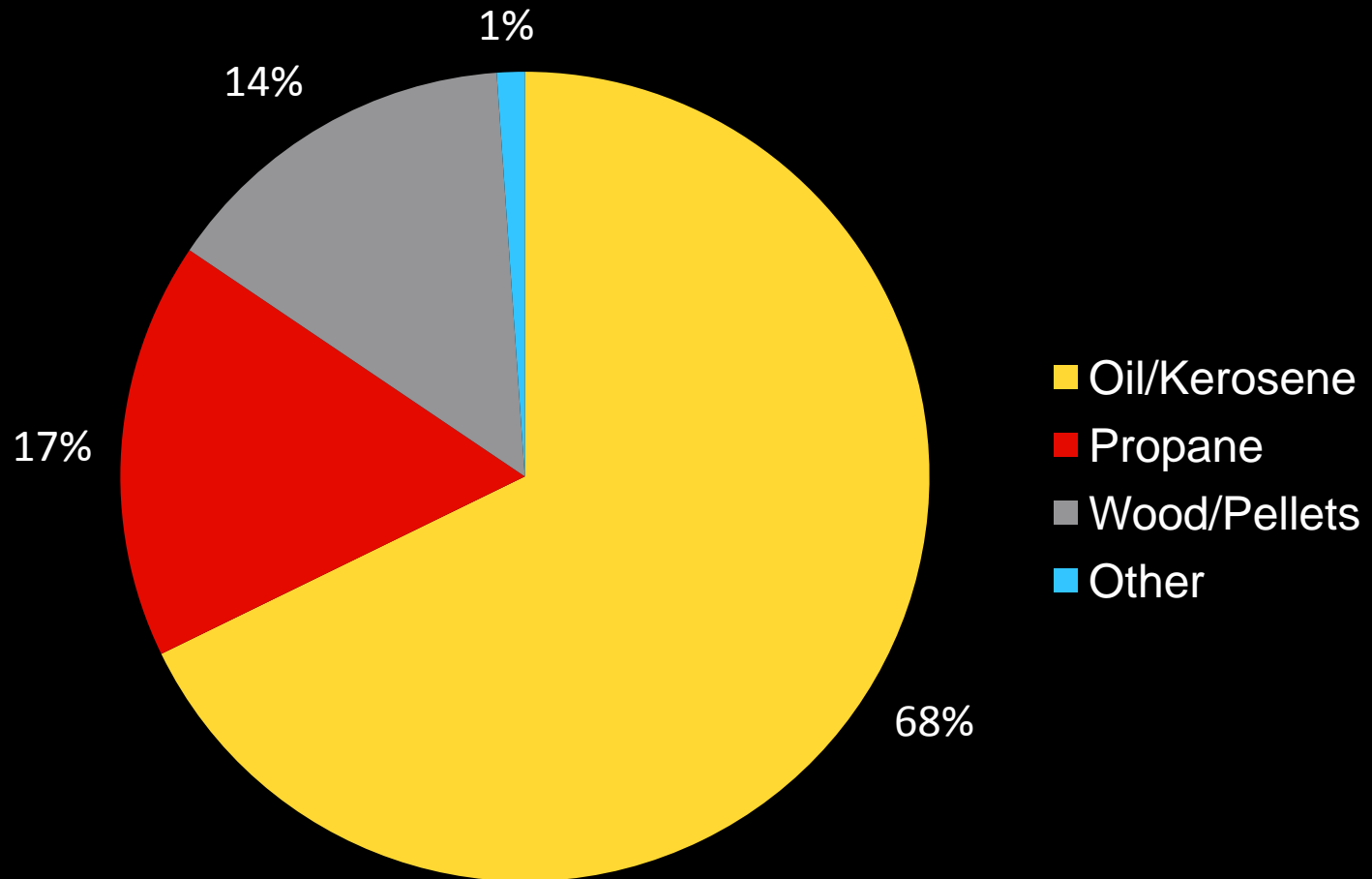
Challenges in Home Energy Retrofit Evaluations

EVT Home Performance with ENERGY STAR® Program (HPwES)

Certified home performance contractors identify and implement improvements



HPwES Program Participant Primary Fuel Source



Evaluation Challenges

- **Participants use unregulated fuel sources**
 - Obtaining fuel records can be problematic
 - Irregular delivery schedules complicate weather normalization
- **Potential use of secondary fuels**
 - Wood stoves, propane or electric heaters
 - How does retrofit affect secondary heating? More wood stove usage or less?
 - In other words, does the participant take their savings in reduced wood usage or reduced fossil fuel usage?
- **How to account for change of use?**
 - Improved comfort in basement could lead to more usage
 - Changed behavior, i.e., not checking thermostat as often

Lessons Learned from 2013 HPwES Evaluation

- **Define scope of evaluation upfront**
 - Do we attempt to quantify secondary fuel savings?
 - Do we ask about change of usage patterns?
- **Data quality is important**
 - How do we determine if a data point should be discarded?
 - Apparent missing records in pre- or post-install period
 - Obvious change of use, such as new tenant
 - Questions about whether tank was completely filled or routine delivery
- **Were all retrofits performed during the same billing period?**
 - Sometimes the install dates of different measures were staggered
- **Self-selection**
 - Consent was required to obtain utility bills
 - Does that bias sample?

Takeaways from 2013 Evaluation

- **Clearly define objectives**
- **Work with evaluators to define process**
 - Once an evaluation is complete, you have the data you have.
 - Time and budget constraints prevent re-work.
- **Make sure all comparisons are apples-to-apples**
 - Some programs target or select high-users
 - Some are open to all, or target subgroups (low-income, for instance)
 - Don't judge cost-effectiveness without comparing program design

Prepare for next evaluation

- Collect pre-install billing data in advance
- Ask the survey questions in advance
 - Secondary heating
 - Other changes to the building, such as usage of basement
- Use information from audit to inform decision-making
 - There is great variation in energy intensity among residences
 - Homes ranged from 35 to 80 kBtu/ft² pre-retrofit
 - Potential energy savings are higher in less efficient homes, but work may be more expensive.
 - Better estimates will lead to better decisions

Discussion Questions

- What inspired your program to do an evaluation?
- Has your program taken advantage of more than one evaluation resource (e.g. third-party, internal, etc.)? What were the advantages and disadvantages?
- How has your program improved since incorporating the lessons learned from evaluations?
- What challenges have you encountered in having your program evaluated? In incorporating lessons from those evaluations? How did you overcome those challenges?
- Other questions/issues related to making evaluations work for your program?

Discussion Highlights:

The Importance of Engaging with the Evaluator

- It's important to work closely with the evaluation team to define/hone the purpose and scope; otherwise, a third-party evaluator may pursue tangents that do not provide useful information and that are not effective for improving your organization.
- By maintaining engagement, especially early in the process, an organization can use the evaluation to help answer internal questions.
- An evaluation feedback loop allows for frequent updates and minor program adjustments.
- While collaborating with the evaluator is important, it is also critical for the evaluator to maintain independence in order to produce an impartial, credible report.

Discussion Highlights: What to Do with the Data?

- Use the evaluation results to adjust program design.
 - E.g. In response to the evaluation Vermont switched to surveying homeowners prior to program participation to collect baseline/pre-retrofit data.
- It's okay to open yourself to criticism by posting reports – the public appreciates the transparency and it allows other programs to learn from your mistakes.
 - Efficiency Maine posts links to 3rd party evaluations on the web, allowing the public to access information freely.
- Present data in a visually pleasing manner to engage the community.
 - Consider utilizing visually engaging info-graphs
 - Recommended reference - Edward Tufte's "The Visual Display of Quantitative Information."

Future Call Topics Poll Results

- Which of the following topics, if any, are of interest for future Data & Evaluation calls?
 - Evaluating whether there are real estate value increases from energy efficiency **67%**
 - Low income program data and evaluation practices **58%**
 - Program management and audit software **25%**
 - Normalizing weather data for energy efficiency communication **50%**