

Better Buildings Residential Network Data & Evaluation Peer Exchange Call Series: *Cost-Effective, Customer-Focused and Contractor-Focused Data Tracking Systems* July 24, 2014

Call Slides and Discussion Summary



Agenda

- Welcome
- Call Logistics and Introductions
- Residential Network and Peer Exchange Call Overview
- Featured Speakers:
 - Jenna Zelenetz, Empower Efficiency
 - Kathryn Eggers, Elevate Energy
- Discussion:
 - What data tracking systems have you tried?
 - What are some attributes of a good data tracking system? What are some potential shortcomings?
 - What advantages do tracking systems bring?
 - What challenges have you encountered with data tracking systems? How did you overcome them?
 - Other questions/issues related to data tracking systems?
- Poll: Future Call Topics





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Participating Programs and Organizations

- Austin Energy
- Building Performance Center
- Center for Sustainable Energy (San Diego, CA)
- City of Providence, RI
- City of Savannah, GA
- City of Seattle, WA
- Clinton Foundation
- Efficiency Maine Trust

- Elevate Energy (Energy Impact Illinois)
- Empower Efficiency
- Energy Coalition (Irvine, CA)
- Snohomish County Public Utility District (Everett, WA)
- Vermont Energy Investment Corporation (Efficiency Vermont, DC Sustainable Energy Utility)









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





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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:
 - July 24: Financing Effective Loan Program Design and Integration with Contractors
 - August 14: Program Sustainability Mastermind
 - August 14: Workforce Home Performance Training & Mentoring: Lessons and Resources
- Send call topic ideas or requests to be added to additional call series distribution lists to <u>peerexchange@rossstrategic.com</u>





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Designing a Cost-Effective Database: Lessons Learned from the Connecticut Neighbor to Neighbor Pilot Jenna Zelenetz, Empower Efficiency (Connecticut Neighbor to Neighbor)





Designing a Cost-Effective Database:

Lessons Learned from the Connecticut Neighbor to Neighbor Pilot

Jenna Zelenetz, Data Manager Salesforce.com Certified Developer July 24, 2014





CT Neighbor to Neighbor Energy Challenge

- Prove that community-based strategies are a cost-effective way to drive demand for residential upgrades
- Prove that investing in state-of-theart data tracking systems improve community-based program results



CT. Gov. Malloy announces N2N



Test, Learn, Adapt

- Integrated Technology Platform
- Program Dashboards and Weekly Report Reviews
- Cost Effectiveness Modeling
- Behavioral Research and Solid Program Evaluation



Robust, Flexible Tracking Database

- Customizable architecture, fields, and workflow automation
- Integration with web forms, surveys, and contractor portals
- Report and dashboard-building capabilities with real-time data



Neighbor to Neighbor ENERGY CHALLENGS Smit Change BM ASSATS	Events App	((1)	Options
Sum au Questions			
Survey Questions			
Sign me up for: A \$75 home energy assessment	nent valued at \$750?		
Yes			۲
No			
l did it!			
Are you interested in learning more about:			
Insulation			
Efficient Appliances			
Boiler/Furnace			
Water Heaters			
Solar Hot Water			
Calar DV			
Back			Next



Q,	Find	a	dash	board	
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Edit

Unconverted Leads

Full Name	Interest	Lead Age	Record Count
Total			0

Converted Web Leads Summary



This & Last Month



Open Projects by Type

359
228
225
6
4
14
210
1K



Open HES Assessments by Owner

Project Owner	Record Count
A dimin CDI	6

Completed HES Improvement Projects



This Calendar Year

Projects Completed by Type



Average Age of Completed HES Assessments



Monthly Contractor Scorecard

			Pr	oject (Owner				Grand Total OR
HES Savings Data (9/1/11 to 11/30/12)	1	2	3	6	7	9	10	11	Program Average
# Visits w/ Savings Data	60	53	45	207	93	333	108	173	1221
Avg % Savings from HES	8.3%	7.2%	8.1%	7.5%	11.7%	9.3%	8.4%	9.3%	8.9%
Savings >15% (% of visits)	7%	8%	0%	7%	25%	11%	9%	13%	11%
Bids and Upgrades									
Bids Delivered	14	26	28	94	38	92	22	24	368
Bid Rate	12%	36%	44%	31%	24%	20%	13%	12%	21%
Upgrades from HES Leads	7	1	4	16	17	50	7	11	120
Total Completed Upgrades	11	1	3	19	18	62	8	11	146
Upgrade % (of bid)	50%	4%	14%	17%	45%	54%	32%	46%	33%
Upgrade % (of HES)	6%	1%	6%	5%	11%	11%	4%	6%	7%





Home Take Action Towns

Resource Center Blog & News Events About Us Contact

Towns in The Energy Challenge



Leaderboard

Towns

Community Groups

🝟 Westport

#	Town	Points
1.	Westport	558,000
2.	Ridgefield	111,500
3.	Wilton	101,100
4.	Lebanon	69,800
5.	Wethersfield	69,800
6.	Glastonbury	60,800
7.	East Hampton	47,200
8.	Cheshire	46,300
9.	Mansfield	33,700
10.	Portland	33,100
11.	Windham	31,900
12.	Weston	30,000
13.	East Haddam	22,900
14.	Bethany	15,500

Challenge Stats 1231600_{ots}

Dorticipation Towns

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Evaluating Cost Effectiveness

- Created program cost-effectiveness modeling tool for more robust performance metrics
- Used participant data and pulled in program administration and staff costs
- Calculates staff hours and cost for program action or energy savings by outreach activity
- Allows scenario modeling for future programs



Cost Effectiveness by Strategy (\$/HES visit)						(1999)							
				2011 A	CTU	UALS					2012		
		Q1	L.	Q2		Q3	Q4	ł	Q1		Q2	ĺ.	Q3
Festival	High	\$ 257.21	\$	116.92	\$	110.23	\$ 128.61	\$	330.70	\$	214.35	\$	190.79
Business organization	Medium		\$	108.82	\$	-		\$	136.03	\$	12.09		
Coalition partner meetings	Medium	\$ 466.38	\$	151.14	\$	187.96	\$ 151.14	\$	197.49	\$	116.59	\$	81.62
Web sign-ups	Passive	\$ 3.46	\$	0.40	\$	0.25	\$ 0.20	\$	0.11	\$	0.22	\$	0.49
Workshops	High	\$ 362.74	\$	122.77	\$	72.55	\$ 68.01	\$	101.57	\$	31.09	\$	79.64
Other	Medium		\$	•	100			\$	59.36			\$	*
Election	High	\$ -	\$	161.11	Γ		\$ 84.39	\$	12.74	\$	38.89	\$	55.12
Call-in sign ups	Passive	\$ 17.81	\$	5.94	\$	1.27	\$ 0.89	\$	1.98	\$	1.37	\$	2.97
Call nights	Medium				1			2		\$	34.63		
Tabling	High	\$ 395.71	\$	257.55	\$	286.31	\$ 121.61	\$	113.55	\$	209.82	\$	104.64
Mail-In	Passive		\$	2.47	\$	4.95	\$ 1.24	\$	2.47	\$	4.95		
Presentation to Other Non-Coalition Partner	Medium						\$ 326.46	\$	399.01	\$	204.04	\$	108.82
Distro	High		8		\$	128.61	\$ 192.91	\$	51.44	\$	64.30		
Canvassing	High		\$	267.11	\$	296.79		\$	890.36	\$	254.97	\$	133.55
Mailing/Flyer	Passive				\$	42.54		\$	5.80	\$	6.00	\$	•
General Coalition Outreach	Medium	\$ 22.39	\$	6.81	\$	9.72	\$ 15.41	\$	14.35	\$	24.62	\$	88.27
Participant Referral	Passive	\$ 1.98	\$	0.15	\$	0.25	\$ 0.40	\$	0.09	\$	0.14	\$	0.66
Permanent Display	Passive				\$	29.68	\$ 13.19	\$	49.46	\$	24.73	\$	19.79
Home	Passive	\$ 217.64	\$	108.82	\$	435.29	\$ 435.29	\$	957.63	\$	48.37	\$	•
Task Force meeting	Medium		\$	408.08	\$	489.70	\$ 1,741.15	\$	1,958.79				
Contractor generated	Passive	\$ 0.68	\$	0.62	\$	0.91	\$ 0.40	\$	0.34	\$	0.38	\$	1.15
Hours per Upgrade Complete Sign Up by Strate	gy (Pull through)												
				2011 A	CTU	UALS			150.000		2012		
		Q1		Q2		Q3	Q4	ł	Q1		Q2		Q3
Festival	High		8			30.87	30.87	ł	92.60	8			
Coalition partner meetings	Medium	65.29		217.64			54.41				65.29		
Web sign-ups	Passive		2	0.28	6	0.18	0.09	5	0.08		0.11		0.55
Workshops	High	43.53		191.53	2	34.82	21.76		30.47	38	8.71		21.24
Election	High			90.22				1	30.07	Ĵ.	11.28		15.43
Call-in sign ups	Passive						0.24		0.47		0.24		
Tabling	High	142.46		607.82			49.86		208.94		120.30		108.82
								-					F1 4

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Cost per Customer Cost per Lead





Cost per MMBtu Average MMBtu per Customer (Annual)



When developing a data management platform, important to be:

- Thorough
- Anticipatory
- Flexible
- Realistic
- Rigorous

Connecticut Neighbor to Neighbor Program Data Tracking System Lessons

- Thoroughly outline what data you need upfront, and then invest in the right tool to track it over time
 - Some metrics weren't built into Connecticut's tracking system at the beginning; this resulted in rework
- Don't paint yourself into a corner with complicated analysis—use data fields and validation rules to avoid errors
- Monitor and clean up your data regularly to make sure you're getting what you want out of the system
- Design your data tracking and evaluation system with the scientific method in mind (i.e., with a clear strategy for testing and learning from different experiences)
 - Connecticut's cost-effectiveness model allowed the program to create "best case scenarios" and identify the most cost-effective approaches across the 14 participating communities





Data Tracking Systems Lessons Learned: Kathryn Eggers, Elevate Energy



BBRN Peer Exchange

Data & Evaluation: Cost-Effective, Customer-Focused and Contractor-Focused Data Tracking Systems

July 2014



ELEVATE ENERGY Smarter energy use for all

ElevateEnergy.org



We promote smarter energy use for all.



We give people the resources they need to make informed energy choices.



We design and implement efficiency programs that lower costs, and protect the environment.



We ensure the benefits of energy efficiency reach those who need them most.



ENERGY IMPACT ILLINOIS

- Mitigating barriers to energy efficiency retrofitting activities for residential, multifamily, and commercial building sectors
 - Access to information
 - Access to finance
 - Access to a trained workforce
- Launched with funding from US Department of Energy Better Buildings Neighborhood Program
- Early challenges with single family contractors
 - Inconsistent assessment reports across companies
 - Modeling savings to meet Illinois Home Performance with ENERGY STAR and DOE reporting requirements



START

HERE

Hello Kathryn Eggeral My Account LOG OUT

How much energy does your single-family home *really* use?

Choose improvements that are right for you

There are many home improvements that can help you reduce the energy usage of your home. Let us help you choose ones that work for you.



example: 123 Main St. Riverside, IL

Save money and live more comfortably by lowering your energy usage

Enter Your Address.

Understanding your actual energy usage is the first step in making your home more comfortable, efficient, and valuable. We'll recommend home improvements that have both immediate and long lasting impact and then we'll help you with the details of making the change. That's why we're here.

MyHomeEQ is only available for single family homes in Northern Illinois. For more information saving energy in a condo or apartment, review the Ways to Save at Energy Impact Illinois.

How This Works

- 1. Find Your Home Energy Usage
- 2. Select Home Improvements that are Right For You

Search Q

3. Choose a Contractor and Let Us Contact Them for You





To assist contractors we added a contractor tool

to MyHomeEQ





Sections are nearly all drop down options, making form easier and faster to complete

		Home Energy Ass	sessment for Energy Impact Illinois Rebates		
Home Energy Asses	sment for Energy Impact Illin	Registration Home Data Property & Equipment Blower Door Test Combustion Test	Existing Property & Equipment Conditions Building Components Air Sealing (attic or roof cavity) Description/Type	Current Conditions	R-Value
• Registration	Iome Characteristics	Basic Package Rebate Worksheet Package Cost Optional Package	Insulation (attic or roof cavity) Wall Insulation Crawl Space/Basement	Average Good New N/A	•
Home Data	Home Type *	Download PDF Save and Close	Insulation Windows		
 Property & Equipment 	Description		Other:	•	J
 Blower Door Test 	Bungalow		Air Conditioning	\$	1
Combustion Test			Water Heater(s)	÷	1
Basic Package	Bungalow		Boiler/Furnace(s)	÷	
Rebate Worksheet	One and a half stories,		Save and Go to Previous Section	Save Nex	and Go to At Section
 Home Energy Ass Registration Home Data Property & Equipment Blower Door Test Combustion Test Basic Package Rebate Worksheet Package Cost Optional Package Download PDF Save and Close 	Blower Door Test Results A blower door test measures how much air moves much air movement in/out of a home is the most issues. CFM Building Volume (CuFt) Rating Major Savings Potent Average Good N/A	s in and out of your common cause of h Primary	home, in "cubic feet per minute", or CFM. To high energy costs, drafts and air quality areas for improvement Save and Go to Next Section	20	
©201					



Basic Option is meant to cover measures required for Illinois Home Performance with ENERGY STAR

\$2795

Save

\$403

Save and Go to

Next Section

Home Energy Assessment for Energy Impact Illinois Rebates

TOTAL

Save and Go to

Previous Section





Optional Package allows addition of further home improvement suggestions for the project

Home Energy Assessment for Energy Impact Illinois Rebates

- Registration
- Home Data
- Property & Equipment
- Blower Door Test
- Combustion Test
- Basic Package
- Rebate Worksheet
- Package Cost
- Optional Package
- Download PDF

Save and Close

Optional Package: Additional Opportunities

If you are interested in aiming for even more energy savings, here are some additional opportunities to consider along with the above Basic Recommended Improvement





Automatically calculates rebate amounts using total cost & square footage

Automatically

Home Energy Assessment for Energy Impact Illinois Rebates





ENERGY IMPACT ILLINOIS

Home Energy Assessment for Energy Impact Illinois Rebates

Home Owner	Home Address, City	Date of Assessment 07/31/2012
Company Name	Energy Analyst	Analyst Phone
CNT Energy	Jacqueline Wiese	(773) 269-2216

Path to Energy Efficiency

- Step 1: Energy Assessment Complete
- Step 2: Choose energy improvements and schedule work with contractor
- Step 3: Contractor completes work and applies for rebates
- Step 4: Enjoy lower bills and a more comfortable, valuable home

Step 2: Choose Improvements and schedule work

This report summarizes what the contractor learned about your home, shows recommended improvements, their costs and benefits, as well as any rebates you may be eligible for. Act guickly; there is a limited guantity of rebates. If your out-of-pocket expenses exceed \$2,500, you may also be eligible for special 0% financing from a participating lender.

Your recommended package of improvements will help you save up to \$ 173 each year in energy costs.

If you make these improvements, your home will also be eligible for an Illinois Home Performance with ENERGY STAR® certificate. This can be included with your real estate listing when you sell the home, helping buyers know your home is more comfortable and will have lower monthly bills.

If you have any questions about this report, the rebates or financing you may be eligible for, contact the energy analyst listed above, or call Energy Impact Illinois at 1-855-9-IMPACT.

Existing Property & Equipment Conditions

Building Components	Description/Type	Current Conditions	R-Value
Air Sealing (attic or roof cavity)	none		
Insulation (attic or roof cavity)		Poor	None
Wall Insulation	none		
Crawl Space/Basement Insulation			
Windows			
Other:			
Air Conditioning	15 years old	Poor	
Water Heater(s)			
Boller/Furnace(s)	20 years old	Poor	

Additional Home Characteristics For Energy Savings Model

Blower Door Test Results

A blower door test measures how much air moves in and out of your home, in "cubic feet per minute", or CFM. Too much air movement in/out of a home is the most common cause of high energy costs, drafts and air quality issues.

CFM	3092
Building Volume (CuFt)	76050
Rating	Major Savings Potential

Primary areas for improvement

Combustion Safety Test Results

We tested your appliances to ensure they're venting correctly.

Combustion Appliances	Safety Test
Heating System Furnace	Pass/Sate
Domestic hot water heater	Pass/Sate
Other	

Becommendation

Your combustion appliances are venting correctly. Maintain this status by having them cleaned and tuned annually by a professional.

Basic Option: Recommended Improvement Package

This option is meant to include the most cost-effective energy saving improvements for your home while also making the project eligible for available rebates and IHP Silver Certification.

improvement	Estimated Cost	Estimated Annual Savings*
Air Seal and Insulate Your Attic	\$	\$61
Air-Seal around Windows, Doors, and other penetrations	\$	\$112
TOTAL		\$173

TOTAL Basic Recommended Package Cost with Rebates

Total project cost before rebates	\$2600	TOTAL recommended
Utility Insulation Rebate	\$101	761 kWh
Energy Impact Illinois Air Sealing Rebate	\$1649	863 therms
Other rebate amount	\$	Total current energy us
Total cost to homeowner	\$850	Total energy saved
		Estimates were calculate

TOTAL	recommended	basic improvement	s will save
	761 kWh	7.03% on electric	ity and
	863 therms	27.60 % on natural	gas annually
Total	current energy u	so 349.61 MMBt	
Total	energy saved	88.90 MMBt	25.43%

d using the Modeled Savings method using the MyHomeEQ + HESPro model.

Additional Information

Optional Package: Additional Opportunities

If you are interested in aiming for even more energy savings, here are some additional opportunities to consider along with the above Basic Recommended Improvement

Improvement	Estimated Cost Estimated Annual Savings'
1.	\$\$
2.	\$ \$
3.	\$ \$
4.	\$ \$

Please call 855-9-IMPACT at any time with questions and concerns. Thank you for your interest in energy efficiency.

Illinois Contractor Reporting and Tracking System Experiences

- Contractors working with Energy Impact Illinois produced widely varied assessment reports, ranging from ½-page invoices to much more comprehensive energy assessment reports
- The program wanted to develop an easy-to-use process by which contractors could produce consistent, high-quality assessment reports that met the program's needs
- Strategies the program used included:
 - Developing an on-line interface for contractors to enter data for assessments
 - Coordinating with the utility to access utility bill data (homeowners must also sign a permission form)
 - Drawing in basic info from the tax assessor records (e.g., square footage)
 - Developing a basic package of pre-selected energy upgrade measures the program recommended contractors use, with options for contractors to tailor it
 - Including estimated energy use savings and estimated rebates in the interface, as well as a report that could be provided to homeowners
- Contractors provide other forms to the program in addition to the report





Discussion Questions

- What data tracking systems have you tried?
- What are some attributes of a good data tracking system? What are some potential shortcomings?
- What advantages do tracking systems bring?
- What challenges have you encountered with data tracking systems? How did you overcome them?
- Other questions/issues related to data tracking systems?





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Discussion: Data Tracking Approaches and Lessons

- Several programs are using customer relationship management (CRM) systems (SugarCRM, Salesforce, etc.) for data tracking and customer and/or contractor management
 - Customizing off-the-shelf CRM systems for energy efficiency requires a significant amount of staff time and effort, but many programs have found the investment to be worth it
- The Clinton Foundation has a proprietary tablet app that allows employees at companies to schedule energy assessments and produces a 1-pager for the auditor with basic info about the home
- Low-tech strategies are also helpful:
 - The Center for Sustainable Energy (CSE) in California focuses on building face-to-face connections through workshops, where homeowners can set up appointments with contractors directly
- Regardless of the system, a commonly cited best practice is make
- it as simple as possible for contractors (or customers)



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Discussion: Data Tracking Approaches and Lessons (continued)

- HPXML (Home Performance XML, a data transfer standard for the home performance industry) could make it possible to reduce the time different participants spend recollecting the same data
- HPXML is being mapped to DOE's Building for Environmental and Economic Sustainability (BEES) software, so there will be a common language
- Currently programs and their partners spend a lot of time collecting data, and there isn't a lot of repurposing/sharing of data





Future Call Topics Poll

- Which of the following topics are of interest for future data and evaluation peer exchange calls?
 - Low income program data and evaluation practices: 57%
 - Developing a benchmarking plan: templates, tools, and data: 57%
 - Program management and audit software: 29%
 - Evaluating whether there are increases in real estate values from EE: 14%

If you would like to share your experiences on a call or have other ideas for a call topic, contact <u>peerexchange@rossstrategic.com</u>.





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