

Better Buildings Residential Network Peer Exchange Call Series: *Making an Impact: Low-Income Energy Efficiency Programs* February 23, 2017 *Call Slides and Discussion Summary*



Agenda

- Agenda Review and Ground Rules
- Opening Polls
- Brief Residential Network Overview and Upcoming Call Schedule
- Featured Speakers
 - Lauren Ross, Senior Manager, Local Policy, American Council for an Energy-Efficient Economy (ACEEE) (Network Member)
 - Kimberly Loewen, Senior Manager of Technical Services, Elevate Energy (Network Member)
 - Jennifer Gremmert, Deputy Director, Energy Outreach Colorado
- Discussion
 - What are key challenges for energy efficiency programs serving lower income residents in single-family and multifamily housing?
 - What are effective ways to address those challenges?
 - What are best practices for maximizing energy and non-energy benefits of projects?
 - What strategies help ensure that programs are cost effective?
 - Other questions/issues related to low-income and affordable multifamily programs?
- Closing Poll





Better Buildings Residential Network

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, email <u>bbresidentialnetwork@ee.doe.gov</u>, or go to <u>energy.gov/eere/bbrn</u> and click Join





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:

- March 2: <u>It's a Beautiful Day in the Neighborhood: Scale Interventions</u>
- March 9: <u>Who's Got Game? Interactive Customer Engagement Strategies</u>
- March 16: <u>Sold! Engaging the Real Estate Industry in Home Performance</u>
- March 23: Effecting Behavior Change: Energy Report Data Usage

Send call topic ideas to <u>peerexchange@rossstrategic.com</u> See the Better Buildings Residential Network Program <u>website</u> to register





March Energy Madness: Join the Game!

Tournament Details:

- Residential energy-related marketing messages submitted by February 17, 2017.
- We will announce the **Sweet 16** entering the race on the March 2nd Peer Exchange call.
- Call Participants will make their picks to determine what messages are best in 8 head-to-head match ups.
- On each of the following Peer Exchange Calls in March, you'll find out who has made it on to the next round and vote on your favorites.
- The winning message will be selected on the March 23rd call!



U.S. Department of Energy See the <u>video</u>



Utilitywise More information

Better Buildings Residential Network members may be given priority consideration.





Best Practices: American Council for an Energy-Efficient Economy (ACEEE)



Best practices for implementing low-income and multifamily energy efficiency programs

Lauren Ross Senior Manager, Local Policy American Council for an Energy-Efficient Economy



The issue and challenges

- Energy affordability and access to energy efficiency services remain a problem for low- and moderate-income households
 - Higher energy costs
 - Lack of comprehensive low-income and multifamily programs
 - Older and less efficient appliances, equipment, and homes
 - Lack of discretionary capital to invest in energy efficiency measures
 - For renters, the "split incentive" problem and lack of authority to make property modifications



Low-income program funding breakdown





Data on ratepayer-funded bill assistance, ratepayer-funded energy efficiency, WAP, and LIHEAP assistance from 2013. LHEAP spending on efficiency is approximately based on 6% LIHEAP funds spent on efficiency in 2006. Data on state and local contributions and private donations are from 2010. *Source*: LIHEAP Clearninghouse 2016.

Multiple benefits of energy efficiency for low-income households

- Lower monthly bills (residents) more disposable income, reduced stress, more money spent in local economy
- Improved housing (residents) better health and safety, increased property value and housing satisfaction, lower maintenance costs
- Local economic development (community) more local jobs, improved quality of life, increased property values
- Less power used (utilities and community) reduced environmental pollutants, improved public health, avoided excess costs of increased generation, capacity, and transmission investments









Best practices for low-income and multifamily utility programs

- Offer a range of eligible measures
- Use a portfolio approach
- Coordinate with other state and local organizations and programs
- Coordinate efficiency and bill payment assistance
- Address health, safety, and building integrity issues



Best practices for low-income and multifamily utility programs

- Coordinate programs across electric, natural gas, and water utilities
- Incorporate high-efficiency products and equipment
- Incorporate customer energy efficiency education
- For multifamily, offer an one-stop-shop approach and incorporate low-cost financing



Conclusion

- Flexibility, coordination, and collaboration will make for better programs that serve low-income and multifamily households
- Examples of leading programs:



ACEEE research/resources

- Multifamily and Low-Income Utility Working Groups
- Published reports
 - More Savings for More Residents: Progress in Multifamily Housing Energy Efficiency, February 2017, <u>http://aceee.org/research-report/u1702</u>
 - Reaching More Residents: Opportunities for Increasing Participation in Multifamily Energy Efficiency Programs, May 2016, <u>aceee.org/research-report/u1603</u>
 - Best Practices in Developing Energy Efficiency Programs for Low-Income Communities and Considerations for Clean Power Plan Compliance, April 2016, <u>aceee.org/white-paper/cpp-low-income</u>
 - Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low-Income and Underserved Communities, April 2016, <u>aceee.org/research-report/u1602</u>
 - Building Better Energy Efficiency Programs for Low-Income Households, March 2016, <u>aceee.org/research-report/a1601</u>



Thank you!

Questions?

Lauren Ross Senior Manager, Local Policy American Council for an Energy-Efficient Economy



Program Experience: Elevate Energy



Making an Impact: Low-Income Energy Efficiency Programs Better Buildings Residential Peer Exchange – February 23, 2017 Kimberly Loewen



ELEVATE ENERGY Smarter energy use for all



Illinois Multifamily (2+ Units) Housing Stock





Elevate Energy Multifamily Upgrades from 2008 – Present n= 580

Multifamily 5+ Upgrades



©2017 Elevate Energy











The Service Delivery Model and Challenges









What Motivates Building Owners?







Building Overview

- 4-story, 23-units
- Year of construction: 1925
- Heating system: natural gas fired steam boiler

Annual Savings: 37% (\$9,600) Funding: 85,000 low-cost loan

©2017 Elevate Energy





"Dedicated to linking the energy and housing sectors together in order to tap the benefits of energy efficiency for millions of low-income families."

- Partnership
 - NRDC, National Housing Trust, Elevate Energy and Energy Foundation
 - Over 100 members in the network
- Elevate's Role
 - Help think through implementation as they advocate for larger MF programs
- Resources
 - Program Design Guide:
 - <u>http://energyefficiencyforall.org/program-design-guide</u>

Best Practices and Lessons Learned

- Program design should address the motivators and challenges building owners are facing
- Use trusted messengers to engage building owners
- Make it easy for the building owners to get the work done
- Focus on quality
- Gather feedback early and often
- Be there when something goes wrong!
- Voluntary strategies alone will not generate the scale of "demand" required
- Access to data is key to proving out programs and motivating key stakeholders
- Need to leverage the influence of key market players



Kimberly Loewen, Senior Manager of Technical Services

ElevateEnergy.org







in LinkedIn

Program Experience: Energy Outreach Colorado





Helping Coloradans afford home energy

Better Buildings Peer Exchange Making an Impact: Low-income EE Programs February 23, 2017





Energy Outreach Colorado Efficiency Programs

Multi-family Affordable Housing	Nonprofit Energy Efficiency Program	Single Family
Centrally heated and individually heated buildings – more than 5 units	Commercial buildings – shelters, food banks, transitional housing, administrative offices	Colorado Affordable Residential Energy Program (CARE) – up to 80% AMI Coordinate with State Weatherization Program
Statewide provider for State Weatherization Program <200% FPL	City and County of Denver	Crisis Intervention Program – LIHEAP - Furnace replacement and repair
Utility DSM - Xcel Energy, Atmos Energy, Black Hills Energy, Colorado Natural Gas - Custom Rebates - Up to 80% AMI	Utility DSM - Xcel Energy, Atmos Energy, Black Hills Energy, Colorado Natural Gas - Custom Rebates	Utility DSM - Xcel Energy, Atmos Energy, Black Hills Energy, Colorado Natural Gas - Prescriptive Rebate Levels
Also working with Rural Electric Cooperatives and Municipal Utilities	Large energy users that have not been targeted historically	Propane conversion program - Atmos Energy, Colorado Natural Gas - Rural communities – DSM funds
Ability to decrease customer bills; deal with split incentives	Used to "band aiding" systems	Creates unique access points to customers



Enrollment Success

Multi-family Weatherization

- One-stop shop EOC manages all aspects of the project
- Leveraging multiple funding sources, including owner contributions; projects rarely completed without multiple funding sources
- DSM Total Resource Cost (TRC) test can be lower than 1.0 for specific projects as long as overall portfolio is greater than 1.0; allows us to install "failed" measures
- 25% non energy benefit adder for all low-income programs
- Used Youth Corps to "blast" large buildings with low-cost measures and behavior change programs

Nonprofit Energy Efficiency Program

- Organizations serving low-income families homeless shelters, food banks, transitional housing
- Large energy users that did not have active utility account managers
- Needed to do a lot of education to encourage participation
- Large energy savings opportunities



Enrollment Success

Single-Family Weatherization

- Created Colorado Affordable Residential Energy Program (CARE) to serve previously weatherized or waitlisted "gap" utility customers, 60-80% AMI

- Focus on highly cost effective measures that align with utility rebate programs

- Address countless health and safety issues for clients

 Energy Saving Kits – created cost effective program with large savings





Key Factors for Growth and Success

- Subcontractor Model able to ramp up and down quickly
- Leveraging Funds public, utility and other private funds
- Understanding Funders' Goals
 - Utilities = Savings
 - State and DOE = Production
 - Cities/Corporations = Carbon Reduction
- Producing and Tracking Results and Good Reporting
 - Database tracking units, kW, kWh, Dths, carbon working to add water savings
 - Outcomes Measurement and Verification
 - Continuous Process Improvement
- Keeping the Clients needs first
 - Building Owners and Residents
 - Advocacy on their behalf no one else considered their needs
 - Key partner for affordable housing efforts

Garden Court Apartments, Denver

15 buildings with 300 units of affordable housing

• Annual total utility costs of \$263,765

Energy Efficiency Measures installed:

- Boiler replacements (\$895K)
- Insulation
- Lighting, common areas and in unit lighting,
- Refrigerators

Total Project cost – \$1,050,000

- Leveraged five (5) funding sources and financing (40%)
- Xcel Energy provided 20% of the cost through rebates

Predicted Annual Savings – \$69,120 – <u>26% Annual utility bill reduction</u>

• With leveraged grant funds, 6-year simple payback for owner

Savings can be spent on:

- Other capital improvements
- Additional staff for supportive services

ENERGY OUTREACH Colorado Helping Coloradans afford home energy





Denver Rescue Mission





Community Impact



Helping Coloradans afford home energy




Making an Impact

- Since 1989
 - 40,000 multi-family and single family units served (\$53 M)
 - 339 nonprofits served through NEEP (\$18 M)
 - 277 CARE families helped (\$775,000) NEW
 - \$10.6 M in lifetime electric and gas savings saved for families (Lifetime = 8 yr. electric; 16 yr. gas savings)
 - Approx. 20,000 Metric Tons of CO2 reduced



Jennifer Gremmert Deputy Director www.EnergyOutreach.org

More Information -

Case Study - EPA

Case Study - Regional Energy Efficiency Organizations



Discussion Highlights (1 of 5)

Best practices to increase interest in program participation and engage low-income communities:

- Tailor the value proposition to relate to their specific needs.
 - Messaging may vary from community to community. Consider partnering with a local trusted messenger to help reach communities.
 - Have an outreach team on the ground building relationships and participating in local events.
- Collaborate with portfolio owners managing low-income buildings; they can help promote your program through their channels.
- **Coordinate with other organizations** serving low-income households to reach your audience through innovative channels such as via food banks, community events, or religious centers.
- Meet them where they are: Energy Outreach Colorado has "navigators" working at low-income schools that can offer energy
- assistance and enroll people in programs.





Discussion Highlights (2 of 5)

- Create opportunities for customers to connect with you through informal and non-binding communication channels.
 - Energy Outreach Colorado implemented "speed dating" calls to educate prospective customers about available programs.
- Leverage bill assistance programs to boost participation in low-income energy efficiency programs. Strategies include:
 - Specific requirements: California, for example, requires bill assistance program participants to enroll in the local low-income energy efficiency program.
 - Targeted outreach: In some cases, utilities reach out to households receiving bill assistance to encourage them to enroll in low-income energy efficiency programs.
- Invest in other innovative ways that can boost residential energy efficiency and cover a larger scale of customers.
 - In the next few years, Energy Outreach Colorado will develop solar
 - gardens for low-income communities.





Discussion Highlights (3 of 5)

Considerations for programs engaging multifamily building owners:

- Understand their specific challenges: Building owners have very tight profit margins and often receive many other competitive offers.
- Address their motivations. Building owners are more likely to be motivated by:
 - Tenant retention, which is the number one reason why they conduct energy efficiency upgrades
 - Financial savings, which can be redirected to other small improvements, such as parking lots or outdoor lighting
 - Time savings, which can be provided by combining energy upgrades with proactive maintenance
- Be aware of split incentives: A decrease in energy usage is not what typically appeals to private building owners since tenants pay utility bills.
 - Make benefits of energy upgrades visible for both building owners and tenants. To do this, Elevate Energy offers both whole building and in-unit energy upgrades.





Discussion Highlights (4 of 5)

Lessons learned from implementing low-income energy efficiency programs:

- Going beyond basic installations and offering a range of measures can increase savings dramatically.
 - In some cases, energy upgrades are coupled with gas and water improvements.
 - Connecticut's Low-Income Multifamily Energy Program, for example, includes measures such as insulation, HVAC systems, lighting, water efficiency, and appliance upgrades.
- Providing funding opportunities for structural repairs that lowincome homes often need before any energy improvements can be made, helps increase program participation.
- A "one-stop shop" process for customers helps streamline and simplify the program application and implementation.





Discussion Highlights (5 of 5)

Education can have a great impact on savings:

- Energy Outreach Colorado has seen about 5% 7% energy savings before any energy efficiency measures were done, just by engaging customers on behavior change.
- Non-energy benefits appeal to customers, especially where certain market segments are not sensitive to economic arguments.
 - Colorado has low energy costs and hence, communicating the non-energy benefits, has a positive impact on program participation.





Related Resources in the Residential Program Solution Center

Explore resources related to low-income energy efficiency programs:

- See recommendations and strategies for increasing the savings and reach of energy efficiency programs for low-income households in this <u>ACEEE report</u>.
- Explore this <u>EPA webinar</u> linking and leveraging efficiency programs for low-income households and the need to coordinate with other assistance programs.
- Read Opower's four <u>key lessons</u> from real-world program experience on unlocking energy efficiency for low-income utility customers.



- Check out the latest <u>Proven Practices</u> post on <u>Recognizing Good Contractor</u> <u>Performance</u>.
- The Solution Center is continually updated to support residential energy efficiency programs—<u>member ideas are wanted</u>!





Additional Resources

- U.S. EPA, <u>Bringing the Benefits of Energy Efficiency and</u> <u>Renewable Energy to Low-Income Communities</u> (including <u>Case Studies and Program Profiles</u>)
- Low-Income Home Energy Assistance Program (LIHEAP) State programs clearinghouse: <u>https://liheapch.acf.hhs.gov/state</u>
- DSIRE, <u>Database of State Incentives for Renewables &</u> <u>Efficiency</u>





2017 Better Buildings Summit Registration is now open!



Be sure to register today for the 2017 Better Buildings Summit!

Spread the word:

#BBSummit17 registration is right around the corner. Get ready to learn about expert **#EnergyEfficiency** enhancements **http://bit.ly/2iZCMsB**





GET SOCIAL WITH US



Stay engaged and connected with the Better Buildings Residential Network and our partners from the residential and multifamily sectors!

Follow us to plug into the latest Better Buildings news and updates!

Share with us your top stories on how your organization is accelerating energy savings through efficiency upgrades, strategies, and investment!



Better Buildings LinkedIn

We can't wait to hear from you!





Addenda: Attendee Information and Poll Results



Call Attendee Locations







Call Attendees: Network Members (1 of 3)

- American Council for an Energy-Efficient Economy
- AppleBlossom Energy Inc.
- Arlington County (WA)
- Athens County (OH)
- Austin Energy
- Boulder County (CO)
- Build It Green
- CalCERTS, Inc.
- Center for Energy and Environment (CEE)
- Center for Sustainable
 Energy
- City of Bellevue (WA)
- City of Bloomfield (NJ)

- City of Fort Collins (CO)
- City of Plano (TX)
- Civic Works
- CLEAResult
- Cleveland Public power
- Connecticut Green Bank
- Delaware Sustainable Energy
 Utility
- Earth Advantage Institute
- Ecolighten Energy Solutions Ltd.
- Efficiency Maine
- Efficiency Vermont
- Elevate Energy
- Emerald Cities Seattle
- EnergySavvy





Call Attendees: Network Members (2 of 3)

- Enervee
- Enhabit
- Fresh Energy
- green|spaces (Chattanooga)
- Group14 Engineering Inc.
- High Country Conservation
 Center
- Historic Chicago Bungalow
 Association
- Honeywell
- Institute for Market
 Transformation
- International Center for Appropriate and Sustainable Technology (ICAST)

- Katsujinken Foundation
- La Plata Electric Association
- Michigan Saves
- Milepost Consulting
- Mitsubishi Electric Cooling & Heating
- National Grid
- National Housing Trust
- New York State Energy Research & Development Authority (NYSERDA)
- North Slope Borough Public Works
- Northeast Energy Efficiency Partnerships (NEEP)





Call Attendees: Network Members (3 of 3)

- Optimal Energy, Inc.
- Puget Sound Energy
- PUSH Buffalo
- Renovate America
- Richmond Region Energy Alliance (RREA)
- Rocky Mountain Institute
- San Luis Obispo County (CA)
- Southeast Energy Efficiency Alliance (SEEA)

- Southface
- The Insulation Man, LLC
- TRC Energy Services
- WattzOn
- Windham & Windsor Housing Trust
- Wisconsin Energy Conservation Corporation (WECC)
- Xcel Energy Colorado



Call Attendees: Non-Members (1 of 7)

- Acoma Mechanical Services
- Action for Boston Community
 Development
- Action Inc.
- Alliant Energy
- Alternative Energy Systems Consulting, Inc.
- Appalachian Voices
- Architectural Nexus
- Association for Energy Affordability
- BA Consult
- BAE Systems
- Ball State University
- Bank of Montreal
- Bay City Electric Light & Power

- BKi
- Bonneville Power Administration
- Boston Housing Authority
- Brand Cool
- Brookside Construction
- Building Energy Services LLC
- Building Envelope Materials
- C2E2 Strategies, LLC
- California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA)
- California Public Utilities
 Commission
- Cascade Natural Gas
- Centennial Contractors
 Enterprises, Inc.





Call Attendees: Non-Members (2 of 7)

- Center for Sustainable Building Research (CSBR)
- Chicago Energy Technology
- City of Atlanta (GA)
- City of Houston (TX)
- City of Milwaukee (WI)
- City of Orlando (FL)
- City of Pasadena (CA)
- City of Philadelphia (PA)
- CivicSpark
- Clallam County (WA)
- Codman Square Neighborhood
 Development Corporation
- ComEd
- Community Housing Partners

- Community Investment
 Corporation
- Community Office for Resource Efficiency (CORE)
- Conservation Connection
 Consulting
- Consortium for Energy Efficiency
- Cook County (IL)
- Couleecap
- County of San Diego (CA)
- Craft3
- Donna Arthur Landscaping
- Duke University
- ecoREHAB of Muncie, Inc
- EfficiencyOne
- El Paso Electric





Call Attendees: Non-Members (3 of 7)

- Emerson Electric Company
- Enbridge Gas Distribution Inc.
- Energetics, Inc.
- Energy Management Services (EMS)
- Energy Outreach Colorado
- Energy Smart Colorado
- Energy Solutions
- Energy Wise Alliance
- Energy Wise Solutions
- EnergyWorks
- Environmental and Energy Study Institute (EESI)
- Environmental Finance Center at the University of North Carolina

- Eric Kjelshus Energy Heating and Cooling
- Evaluation + Strategy
- Florida Department of Agriculture
 and Consumer Services
- FM Consultores
- Fox Energy Specialists
- Franklin Energy
- Frontier Energy
- Gas Technology Institute
- Georgia Watch
- GoodCents
- Gradbeni inštitut ZRMK
- Greater Minnesota Housing Fund
- Green Building Alliance
- Groundswell





Call Attendees: Non-Members (4 of 7)

- Holy Cross Energy
- Housing Authority of the County of San Bernardino
- ICF International
- Iowa Economic Development Authority
- Johnson City Power Board
- Johnson Home Performance
- Kansas Housing Resources Corporation
- Katerra Inc.
- King County (WA)
- LEENA Laboratories
- Legacy Real Estate Ventures, LLC

- Local 20/20
- Local Government Commission
- Local Initiatives Support
 Corporation
- Lockheed Martin
- LT Restoration LLC
- Madison Gas and Electric
- Massachusetts Department of Energy Resources
- MassHousing
- Mercy Housing Management Group
- Michigan Energy Options
- Michigan Environmental Council
- Mid-Carolina Electric Cooperative





Call Attendees: Non-Members (5 of 7)

- Minnesota Department of Commerce
- Minnesota Housing
- Minnesota Pollution Control Agency
- Montana Department of Environmental Quality
- Montana Department of Public Health & Human Services
- NANA Regional Corporation
- National Association for State Community Services Programs (NASCSP)
- National Consumer Law Center
- National Council of Structural Engineers Associations

- Natural Resources Defense Council
- Navigant Consulting
- New Bedford Housing Authority
- New Ecology, Inc.
- New York City (NY)
- New York City Housing
 Development Corporation
- New York State Homes and Community Renewal
- Nexant
- Oakland Housing Authority
- Off The Grid Renovations, LLC.
- Office of the People's Counsel
- Oklahoma Department of Commerce (OK)





Call Attendees: Non-Members (6 of 7)

- Ontario Ministry of Energy
- Oregon Institute of Technology
- Pacific Power
- Passive House Institute US (PHIUS)
- Pennsylvania Public Utility Commission
- Pennsylvania Utility Law Project
- PosiGen Solar
- PUSH Green
- PV Blue
- Rothschild Doyno Collaborative
- Sarasota County

- Seattle City Light
- Shoshone-Bannock Tribes
- SIM2
- Simonson Management Services (SMS)
- Smart Energy Design Assistance Center
- SmartSolar Ghana
- Snohomish County
- Southern Energy Management
- Sparhawk Group
- Springfield Utility Board
- State of Delaware (DE)
- State of Michigan (MI)
- State of New Mexico (NM)
- Stone Energy Associates





Call Attendees: Non-Members (7 of 7)

- Sullivan County (NY)
- Sustain Dane
- Sustainable South Bronx
- Tempo Partners
- Tennessee Valley Authority
- The Cynthia and George Mitchell Foundation
- The Electric Cooperatives of South Carolina
- The Energy Coalition
- The Energy Network
- The George Washington University

- Tohn Environmental Strategies
- University of Coimbra
- Urban Homesteading Assistance Board
- Ventura County Regional Energy Alliance (VCREA)
- Virgin Islands Housing
 Authority
- Virginia Housing Alliance
- Washington State Department
 of Commerce
- Washington State University





Opening Poll #1

- Which of the following best describes your organization's experience with low-income energy efficiency programs?
 - Very experienced/familiar 52%
 - Some experience/familiarity 31%
 - Limited experience/familiarity 15%
 - No experience/familiarity 1%
 - Not applicable 1%





Closing Poll

- After today's call, what will you do?
 - Seek out additional information on one or more of the ideas –
 80%
 - Consider implementing one or more of the ideas discussed –
 13%
 - Make no changes to your current approach 5%
 - Other (please explain) 2%



