

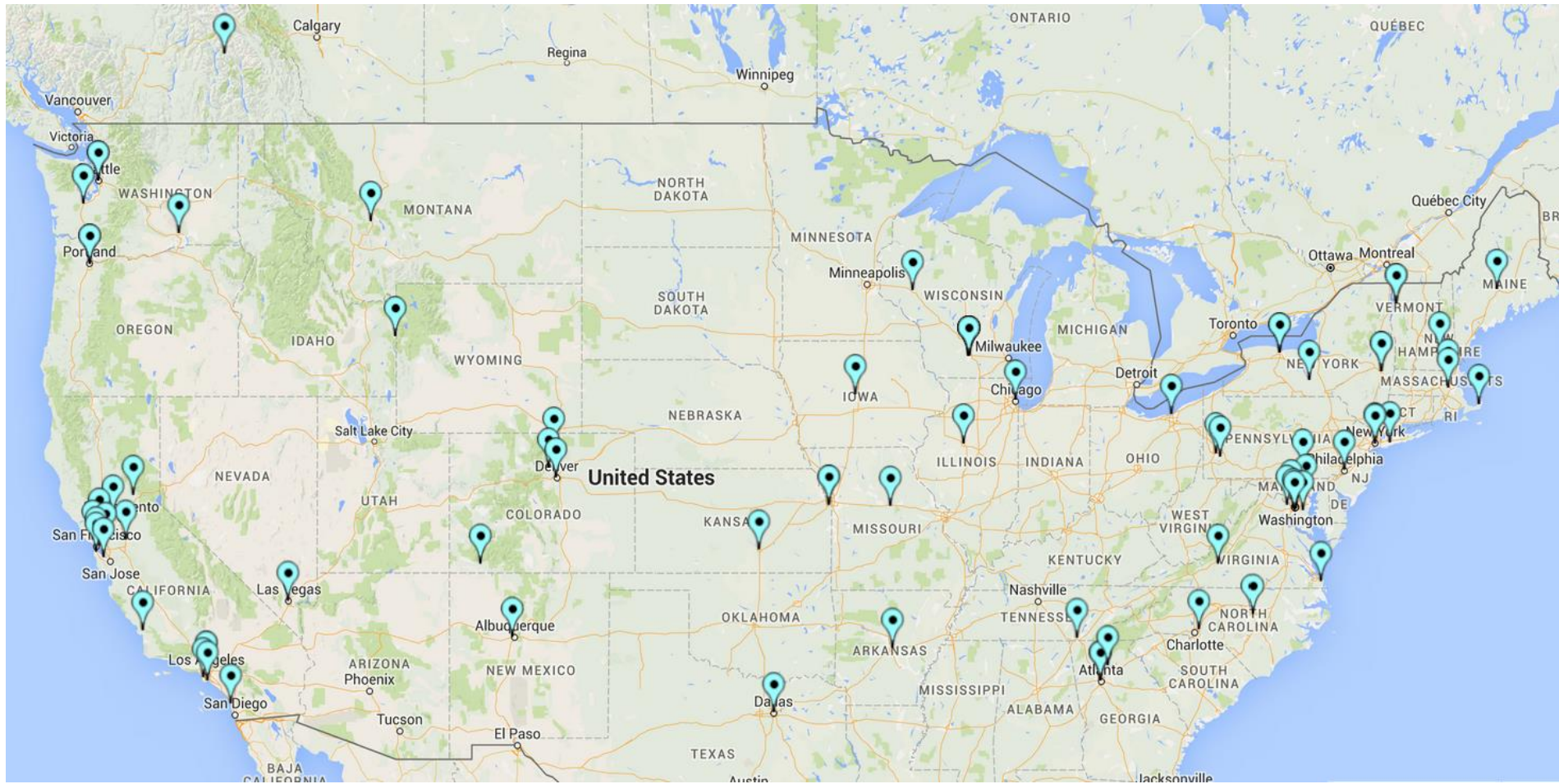


**Better Buildings Residential Network Peer
Exchange Call Series: *Keys to Successful
Quality Assurance and Quality Control
Programs (101)***

January 28, 2016

Call Slides and Discussion Summary

Call Attendee Locations



Call Participants – Network Members

- Advanced Energy
- Boulder County, Colorado
- Brooklyn Green Home Solutions, Inc.
- Build It Green
- Civic Works
- Clean Efficient Energy Company, LLC
- Columbia Water and Light
- Elevate Energy
- EnergySavvy
- Focus On Energy
- Honeywell International, Inc.
- Horizon Residential Energy Services NH, LLC
- Michigan Saves
- NYSERDA
- Pepco
- UIL Holdings
- Vermont Energy Investment Corporation
- Yolo County Housing
- Wisconsin Energy Conservation Corporation

Call Participants – Non-Members

- ACCA
- AEG
- AJO
- AppleBlossom Energy Inc.
- BKi
- BlueGreen Alliance
- Building Envelope Materials
- CCI
- Clark County, Nevada
- Clean Energy Works
- CLEAResult
- Clinton Climate Initiative
- County of San Luis Obispo
- DPU-Cleveland Public Power
- Ecolighten Energy Solutions Ltd.
- Enbridge Gas Distribution
- Energy & Environmental Consulting, LLC
- Energy Efficiency Specialists, LLC
- EPB
- EPRI
- Eversource Energy
- Harcourt Brown & Carey
- Home Innovation Research Labs
- HUD
- JR Construction Sol Solutions, Inc.
- JSI
- KBSI
- Leidos
- LINC Housing
- Mantell-Hecathorn Builders
- Montana Department of Public Health and Human Services

Call Participants – Non-Members, continued

- National Housing Trust
- New World Eco Center
- NIST
- OptiMiser, LLC
- PG&E Energy Training Center
- Philadelphia Gas Works
- Proctor Engineering Group, Ltd.
- PSD Consulting
- Resource Efficient Solutions LLC
- Rochester Institute of Technology
- Soneter
- South Bay Cities Council of Governments
- Southface Energy Institute
- Sustainability Institute at Molloy College
- The Energy Network
- The Home Performance Group
- TRC
- UAO
- Volunteers of America
- Washington State Department of Commerce
- Wausau Supply

Agenda

- Agenda Review and Ground Rules
- Opening Poll
- Brief Residential Network Overview
- Featured Speakers
 - **Evan Seretan**, Senior Program Administrator, UIL Holdings (*Network member*)
 - **Todd O’Grady**, Program Coordinator, Michigan Saves (*Network member*)
- Discussion
 - What approaches does your organization take to ensure quality of energy efficiency services? What have been most effective?
 - What are common QA/QC problems EE programs have, and how do you design your QA/QC program to catch those?
 - How do you meet your program’s needs for quality without breaking the bank?
 - What QA/QC approaches are most cost-effective for addressing quality problems?
 - How do you decide what percent of projects get independent QA/QC inspections?
 - Other questions/issues related to QA/QC for residential EE?
- Closing Poll and Upcoming Call Schedule

Opening Poll

- Which of the following best describes your organization's experience with QA/QC?
 - Some experience/familiarity – **44%**
 - Very experienced/familiar – **34%**
 - Limited experience/familiarity – **16%**
 - No experience/familiarity – **6%**
 - Not applicable – **0%**

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, see: <http://energy.gov/eere/better-buildings-residential-network/join>.

Program Experience:
Evan Seretan
Senior Program Administrator
UIL Holdings



Empowering you to make
smart energy choices

Home Energy Solutions: Quality Assurance/Control Process

January 28, 2016

Evan Seretan, UIL Holdings



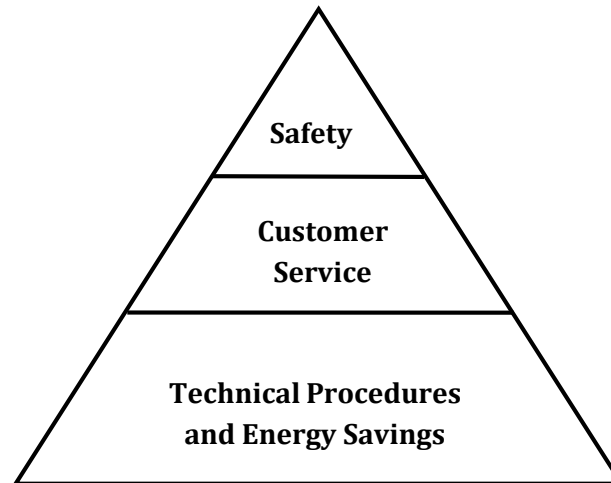
UIL HOLDINGS COMPANIES

Assuring An Excellent Customer Experience

- Qualifying Vendors' capabilities
- On-site Inspections
- Vendor mentorship
- Defined Procedures
 - Technical
 - Installation
 - Sales
 - Customer Service
- Scorecard & Vendor Feedback

Current HES Core Service QA/QC Process

In 2015, inspectors from both Eversource and UIL met with Program Administrators to align processes, improve vendor expectations and add clarity to the HES QA/QC Manual



Experience and Certifications

- **Lead Technicians**

- BPI Analyst Certification
- BPI Envelope Certification
- 4,000 hours of industry specific experience
- DOE HEScore Assessor



- **Quality Control Inspectors (Independent)**

- BPI Analyst Certification
- BPI Envelope Certification
- 5+ years experience in energy efficiency
- DOE HEScore Assessor/Mentors
- Independent (No Current relationship with Vendors)



Inspections

In Progress Inspections

- Performed on 5-10% of all projects (DOE requirement)
- Higher rate of inspection: Vendor performance, prior inspection results and **new vendors that enter in 2016**
- Certified and experienced third party QA/QC Inspectors assess technicians on-site, in customer homes

Post Inspections

- Ensure customer satisfaction and quality of Home Energy Solutions services
- Confirm and document that all installed measures are accurate

Monthly Vendor Score Card Metrics

Weighting	20%	60%	20%
Category	Inspection Scoring	Energy Savings Scoring	Compliance and Procedures Scoring
Results	Action Points Assigned	MMBTU/ Add-ons	Adherence to Program Guidelines

Vendors receive action points if services fail to be performed in accordance with BPI and program guidelines

Presentation Highlights: Energize CT

- **High-quality contractors** are key to quality work.
 - Ensure contractors meet qualifications to participate in the program
 - Offer mentorship to help contractors improve
 - Use feedback mechanisms, like a contractor scorecard, to ensure contractors continue to provide great work
- **Consistent enforcement** of quality standards is key. Communication between inspectors can help.
- **Cost-effective QA/QC** is important. Tiered inspection rates can help: inspect 5-10% of most upgrades; up to 100% for new or underperforming contractors.
- **Monthly contractor scorecards** inspire contractors to improve and perform at a very high level.

Presentation Highlights: Energize CT

- **Evaluation, Measurement, and Verification** is done by independent companies to compare actual vs. claimed energy savings.
- **Noncompliance** is addressed by requiring contractors to fix any errors, and assign negative “action points” for low-quality work. Action points can result in remediate action, including removal from the program.
- **Competition** among contractors could help improve QA/QC in the future. For now, scorecards are not shared with other contractors.

**Program Experience:
Todd O'Grady
Program Coordinator
Michigan Saves**



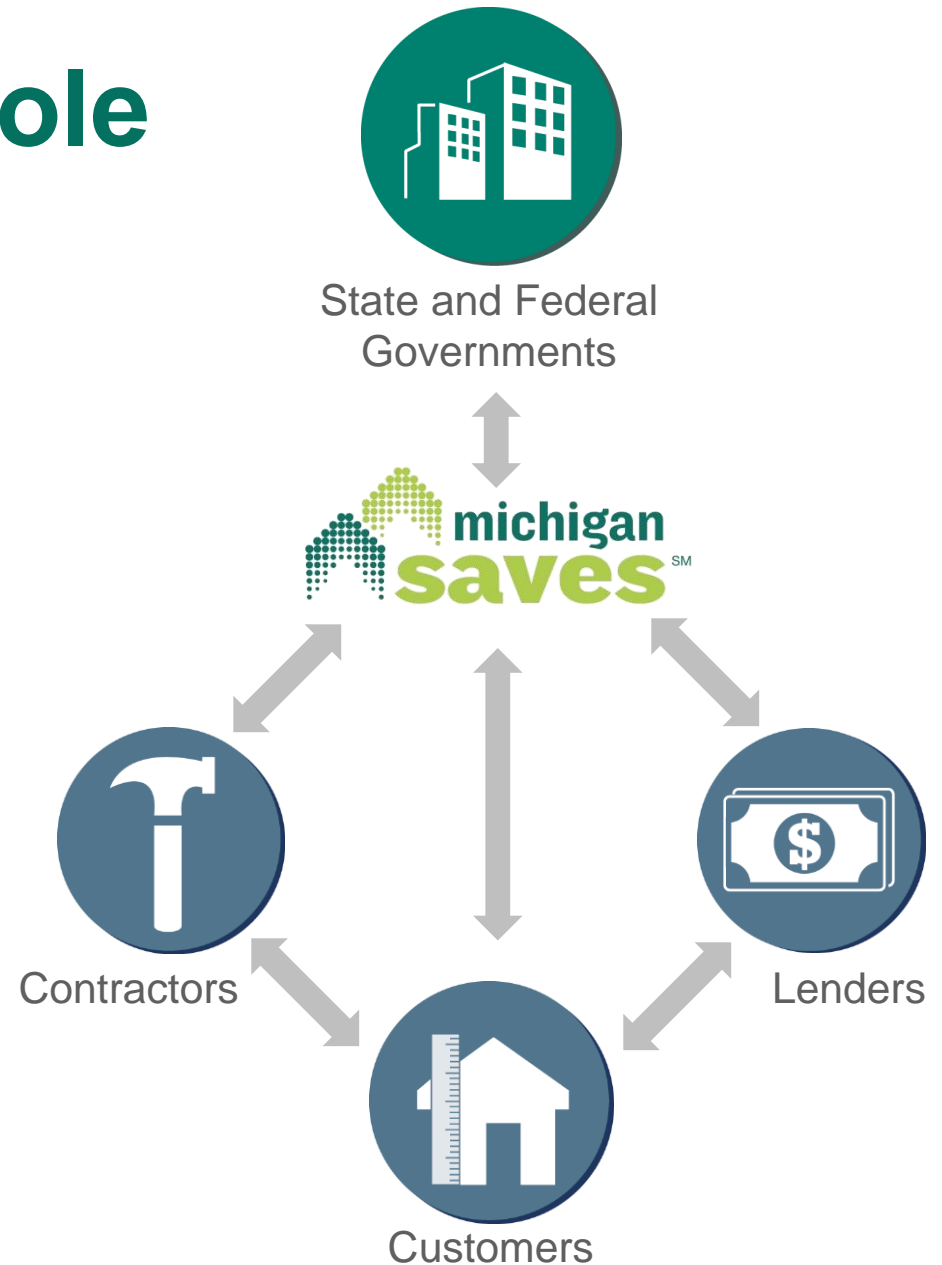
 michigan
savesSM

What is Michigan Saves?



Structure and Role

- Provide loss reserve for lenders
- Oversee authorized contractors
- Drive demand for energy efficiency through outreach and incentives
- Set program guidelines and provide quality control



Home Energy Loan Program (HELP)

Number of Loans

5,341

Value of Loans

\$49,922,756

As of December 31, 2015.

Energy efficiency, solar, and geothermal

Affordable, hassle-free loans

- Easier than home equity
- Loans from \$1,000 to \$30,000
- Affordable rates starting at 4.25%
- Terms up to ten years
- Easy, quick approval over the phone or online

Over 480 authorized contractors



“It just doesn’t make sense to keep letting our money and our energy go out the window.”

— Ruth Lumpkins



www.michigansaves.org



Quality without Breaking the Bank

- Maintain standards statewide
- Addressing customer satisfaction up to 580 miles away
- Hundreds of contractors
- Wide variety of measures

Catching Problems with QA

- Contractor knowledge
- Quality work
- Customer satisfaction

Cost-Effective Approaches

- Territory audits
- Phone audits
- Collaboration with utilities
- Code reds
- Contractor expectations

For More Information

www.michigansaves.org

Todd O'Grady



www.michigansaves.org



Presentation Highlights: Michigan Saves

- **Costs** of QA/QC can be high when customers are spread across the state. Mentorship, while valuable, is also expensive.
- **Administrative** QA/QC can cut costs significantly, through thorough checking of applications followed by customer satisfaction surveys, results of which are posted on the website.
- **On-site audits** occur when customers are dissatisfied (“code red”).
- **Utility energy audit** data provides a cross-check for QA.
- **Minor reminders** to contractors help keep their QA on track.

Related Resources in the Residential Program Solution Center

Explore resources on Quality Assurance and Quality Control (QA/QC):

- Tip: [Establish a clear system and process for ensuring quality work](#) (featured in a recent Proven Practices [post](#))
- [Quality Assurance Quick Link](#) provides 40+ curated resources.
- Creating your program's QA/QC plan: [Contractor Engagement & Workforce Development – Develop Implementation Plans](#) handbook.



While you're there, see the latest Proven Practices post on [Streamlined Loans](#).

The Solution Center is continually updated to support residential energy efficiency programs—
[member ideas are wanted!](#)

Residential Program Solution Center Navigational Example

Better Buildings Residential Program Solution Center

Enter your keywords

EERE » BTO » Better Buildings Neighborhood Program » Solution Center Home

Solution Center Home

About

Handbook Index

Quick Links

Proven Practices

Energy Data Facts

Glossary

BROWSE BY:

Program Components

Program Design Phases

Content Types

Proven Practices: Quality Assurance

Posted on August 11, 2015

As home energy upgrades are underway, energy efficiency programs want to avoid call-backs and enhance their reputation. Because the quality of work that affiliated contractors conduct in customers' homes reflects on the whole program, it's important to ensure quality work; however, verifying a consistent level of quality can be challenging. Better Buildings Neighborhood Program partners and Home Performance with ENERGY STAR Sponsors have found that [having a clear process for quality assurance](#) has been critical to their success. Most programs used a tiered approach, in which a program inspects the first several upgrades completed by a new participating contractor followed by a specified percentage of subsequent projects. Onsite quality control of individual upgrades is also a useful strategy for gathering feedback on a customer's experience and a training opportunity for contractors.

Set Standards and Verify Contractors

Most programs conduct a broad range of verifications, including checking contractors' certifications regularly to ensure they are up to date and verifying home performance professional safety skills. Successful programs also identify standards for ensuring quality technical work (i.e., standards for use of diagnostic tools and methods of installing equipment), as well as standards for professionalism and customer service. Setting expectations about the quality of work required under the program allows contractors to understand what is expected and enhances a program's reputation.

Conduct Random Inspections on a Pre-Defined Number of Upgrades

The RePower program on Bainbridge Island, Washington, created a standardized process for quality control inspections, which are documented in the RePower Weatherization Specifications Manual. Ten percent of energy upgrades completed under the RePower rebate program were randomly selected for quality control inspections and rated "Pass," "Needs Minor Corrective Action," or "Needs Major Corrective Action." Contractors were required to perform corrective actions at no additional cost to the customer. Repeated occurrences of a single problem or serious problems resulted in a performance improvement plan for the contractor or suspension from the RePower program.



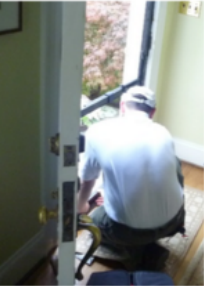

Use Feedback to Incentivize Contractors

Setting expectations with technical standards is the first step; getting contractors to follow them and improve overall practices is even more important. NeighborWorks of Western Vermont in Rutland County, Vermont, designed its quality assurance approach to gather feedback and incentivize improvement. The program produced monthly contractor performance reports that compared contractor conversion rates, and then provided incentives to top performers. This productivity driver encouraged contractors to make improvements to their business practices. For example, after the program set a deadline for contractors to submit assessment reports to homeowners, with penalties for late reports, wait times for homeowners to receive assessment reports dropped from four months to two weeks.

Use Energy Coaches to Conduct Quality Control Inspections

The Town of University Park, Maryland's STEP-UP program addressed quality control by employing an energy coach to provide intermittent inspections at customers' request. The energy coach also reviewed work proposals for scope and price; as a result, customers were assured that they were getting the work they needed at a reasonable market price and therefore were getting fair value. By playing these roles, the energy coach gave customers assurance that they were receiving high value work from contractors and encouraged contractors to conduct quality work.

Post includes: lessons learned, program examples, videos, and helpful tips.



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Better Buildings
U.S. DEPARTMENT OF ENERGY

Discussion Questions

- What approaches does your organization take to ensure quality of energy efficiency services?
 - What QA/QC approaches have been most effective?
- What are common QA/QC problems EE programs have, and how do you design your QA/QC program to catch those?
- How do you meet your program's needs for quality without breaking the bank?
 - What QA/QC approaches are most cost-effective for addressing quality problems?
 - How do you decide what percent of projects get independent QA/QC inspections (e.g., 5%, 10%, 100%)?
- Other questions/issues related to QA/QC for residential EE?

Discussion Summary

- **Photos** of the upgrade work, coupled with post-upgrade **checklists**, are ways that homeowners can provide QC information to the program. (Oregon)
 - Checklists should not be too long, or else homeowners will check off everything without providing detailed information
- **Selecting projects for inspection** can be done a few different ways:
 - Inspect the first few projects that a contractor completes, then a small percentage after that
 - Use a random number generator to select projects to assess
 - Randomize most quality inspections but inspect new contractors more frequently
 - “For cause” inspections when a customer is unhappy (called “code red” in Michigan)
 - For smaller programs, 100% inspection is possible

Closing Poll

- After today's call, what will you do?
 - Seek out additional information on one or more of the ideas – **71%**
 - Consider implementing one or more of the ideas discussed – **14%**
 - Make no changes to your current approach – **10%**
 - Other (please explain) – **5%**

Peer Exchange Call Series

***We hold one Peer Exchange call [almost] every
Thursday 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:

- February 25: Energy Efficiency on Display: Using Demonstration Projects to Showcase Home Performance Opportunities (201)
- March 3: The Intersection of Energy Efficiency and Health (301)
- March 10: Addressing Barriers to Upgrade Projects at Affordable Multifamily Properties (201)

Send call topic ideas to peerexchange@rossstrategic.com

LET'S ALL MEET IN MAY!

REGISTER TODAY for the BETTER BUILDINGS SUMMIT

Washington, DC · May 9-11, 2016

SAVE YOUR SPOT NOW:

**[https://ww2.eventrebels.com/er/Registration/StepRegInfo.jsp?ActivityID=14611
&StepNumber=1](https://ww2.eventrebels.com/er/Registration/StepRegInfo.jsp?ActivityID=14611&StepNumber=1)**

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!