Breaking through Barriers to Residential Energy Efficiency

Moderator: Dale Hoffmeyer, US Department of Energy

Speakers: Jordan Doria, North American Insulation Manufacturers Association

Courtney Welch, ESource

This session will look at innovative ways that both utilities and industry are working to break through barriers to energy efficiency in the residential sector. Speakers in this session will present on retrofit program models that have had success in the market, new features of whole home retrofit programs, and key utility and industry trends. The session will also look at barriers that do not get enough attention including simple consumer financing, consumer information gaps and transaction costs, and tactics to address them.

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Dale Hoffmeyer
Building Technologies Office

Potential Opportunities for Residential Building Energy Efficiency

If the energy performance of today's existing residential buildings was improved by 25%, the estimated savings would be:

- *5 quads of total annual energy or about 5% of all energy consumed in the US each year*
- *$63 billion in consumer costs*
- *284 million metric tons of carbon dioxide emissions, equivalent to the annual emissions from 75 coalfired power plants, assuming current mix of generating power stations.*

Sources: U.S. EIA. *Annual Energy Outlook 2015 with projections to 2040.*

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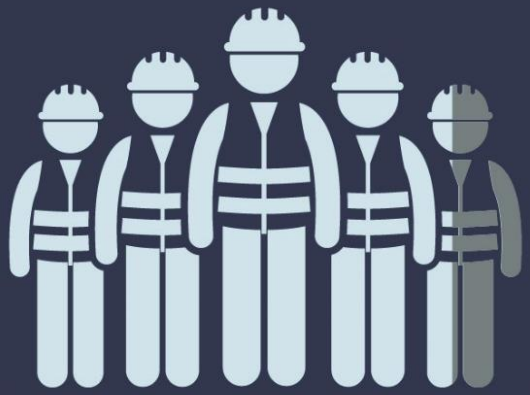
THE ENERGY UPGRADES MARKET

CHALLENGING

DISAGGREGATED SUPPLIERS



93% of construction firms employ under 20 people.

1 in 8 of all small businesses in the U.S. are construction companies.

PROMISING

STRONG INTEREST

63% of Americans want a more efficient home

71% of Americans think an efficient home with low energy bills is important, but only...

35% are satisfied with their current home's efficiency.

ROCKY MOUNTAIN INSTITUTE

CARBON WAR ROOM

Barriers to Growth in Residential Retrofit Market

- High first cost
- Contractor delivery system
- Insufficiently compelling value proposition
- Quantification of energy savings difficult and expensive
- Non-alignment between utility incentives and energy efficiency
- Cost-effectiveness test systematically undervalue energy efficiency

SEE Action
STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK

Source: SEE Action Policymaker's Guide to Scaling Home Energy Upgrades

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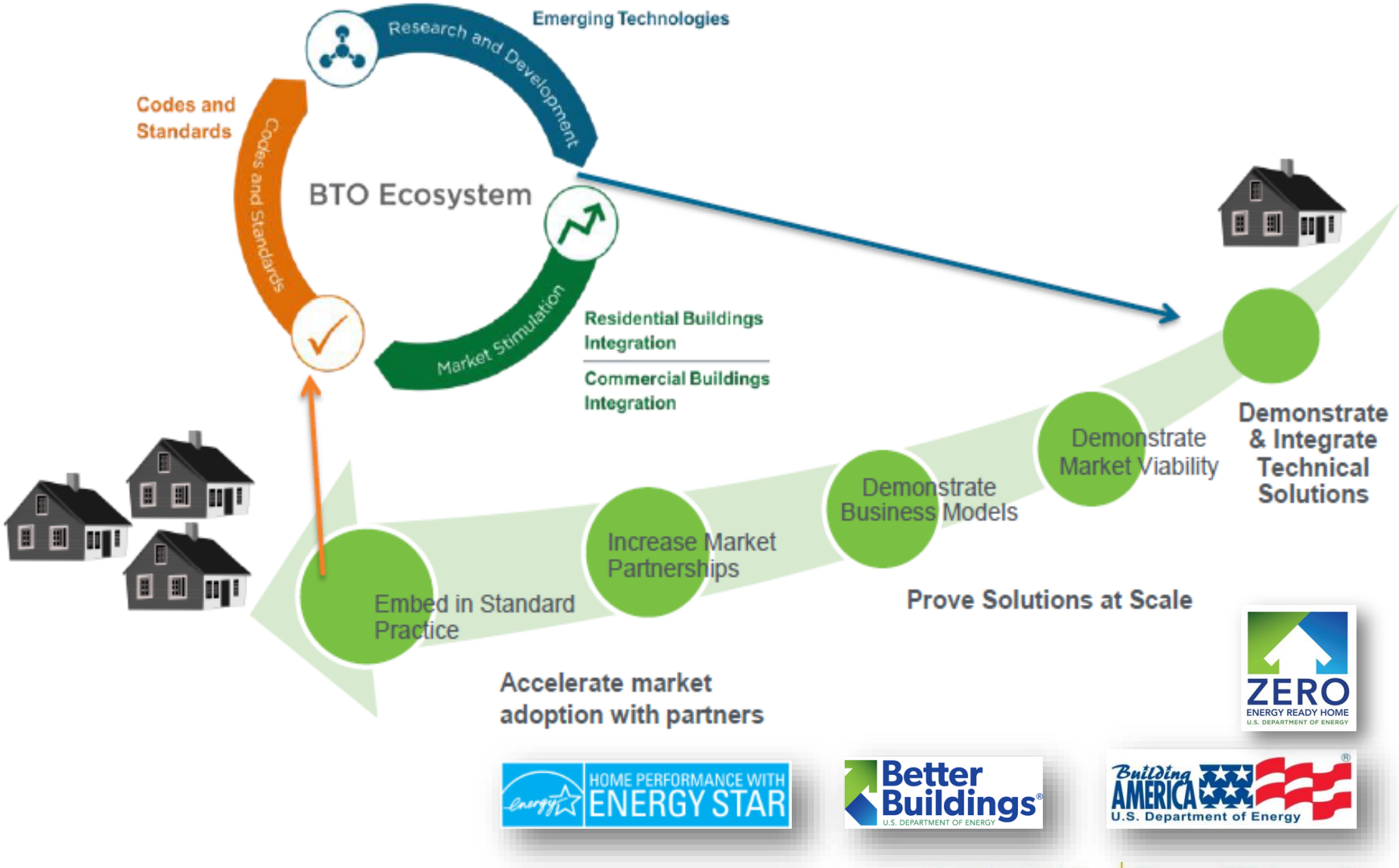
Building Technologies Office Market Stimulation Approach



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Facilitate Knowledge Sharing

Better Buildings Residential Network

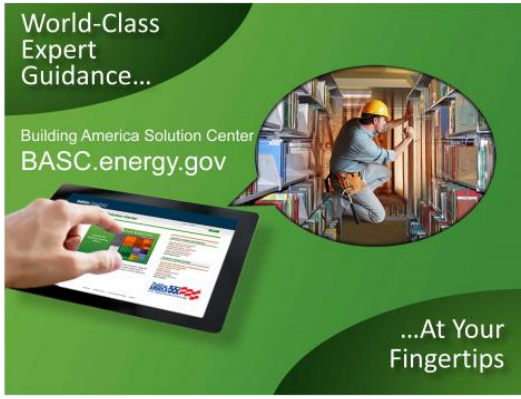
Connect energy efficiency programs & partners to share best practices & learn from one another to increase the number of energy efficient homes

Residential Program Solution Center

Enables energy efficiency programs to better implement, manage and evaluate their efforts to run residential energy efficiency upgrade programs.

Building America Solution Center

provides access to expert information on hundreds of high-performance construction topics, including air sealing and insulation, HVAC components, windows, indoor air quality, and much more.



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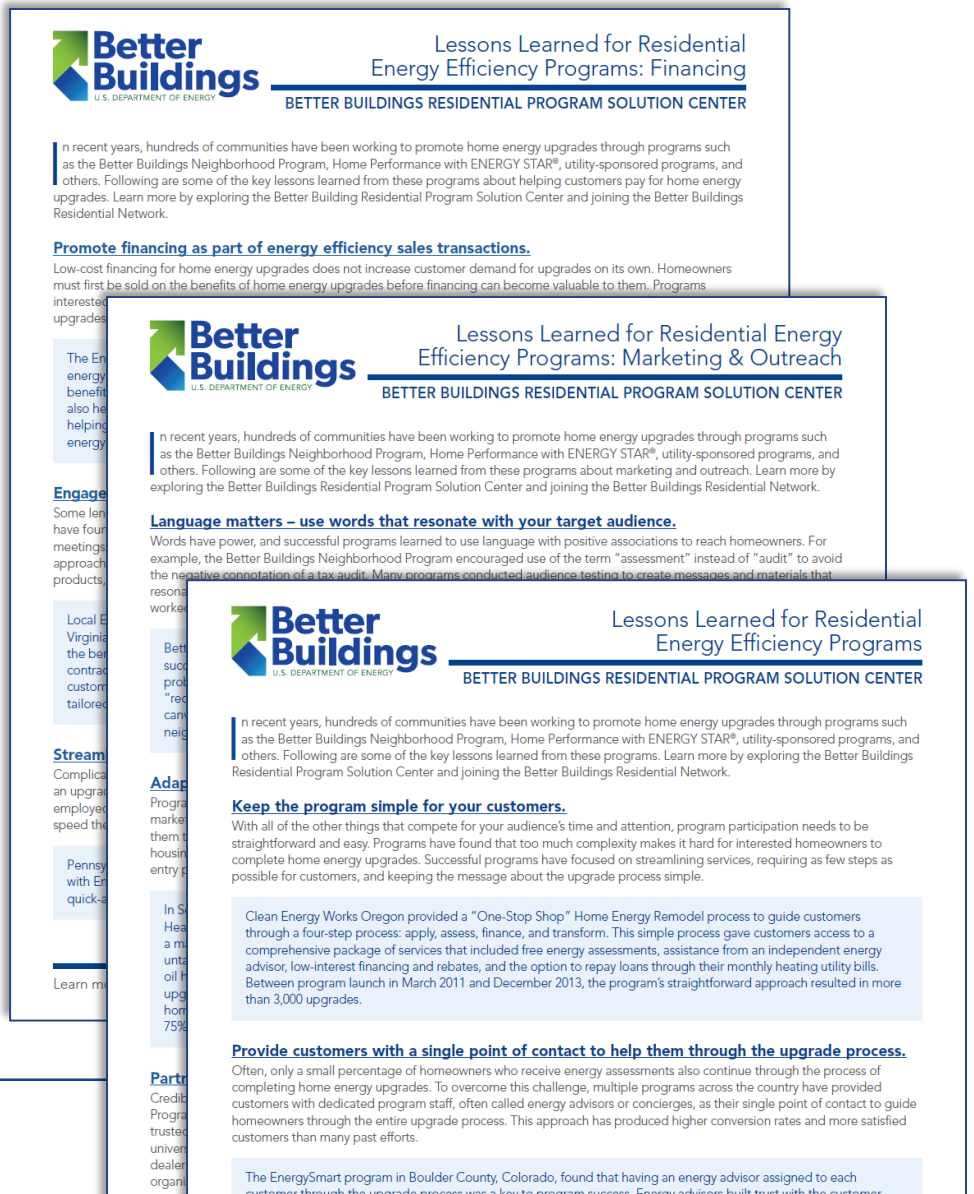
Explore the Better Buildings Residential Program Solution Center

Draw from program experiences across the country to enhance your program:

- Step-by-step guidance
- Tips from programs across the country
- Case studies
- Example program materials
- Tools & templates



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Lessons Learned for Residential Energy Efficiency Programs: Financing

BETTER BUILDINGS RESIDENTIAL PROGRAM SOLUTION CENTER

In recent years, hundreds of communities have been working to promote home energy upgrades through programs such as the Better Buildings Neighborhood Program, Home Performance with ENERGY STAR®, utility-sponsored programs, and others. Following are some of the key lessons learned from these programs about helping customers pay for home energy upgrades. Learn more by exploring the Better Building Residential Program Solution Center and joining the Better Buildings Residential Network.

Promote financing as part of energy efficiency sales transactions.

Low-cost financing for home energy upgrades does not increase customer demand for upgrades on its own. Homeowners must first be sold on the benefits of home energy upgrades before financing can become valuable to them. Programs

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Lessons Learned for Residential Energy Efficiency Programs: Marketing & Outreach

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In recent years, hundreds of communities have been working to promote home energy upgrades through programs such as the Better Buildings Neighborhood Program, Home Performance with ENERGY STAR®, utility-sponsored programs, and others. Following are some of the key lessons learned from these programs about marketing and outreach. Learn more by exploring the Better Buildings Residential Program Solution Center and joining the Better Buildings Residential Network.

Language matters – use words that resonate with your target audience.

Words have power, and successful programs learned to use language with positive associations to reach homeowners. For example, the Better Buildings Neighborhood Program encouraged use of the term "assessment" instead of "audit" to avoid

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Lessons Learned for Residential Energy Efficiency Programs

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Keep the program simple for your customers.

With all of the other things that compete for your audience's time and attention, program participation needs to be straightforward and easy. Programs have found that too much complexity makes it hard for interested homeowners to complete home energy upgrades. Successful programs have focused on streamlining services, requiring as few steps as possible for customers, and keeping the message about the upgrade process simple.

Clean Energy Works Oregon provided a "One-Stop Shop" Home Energy Remodel process to guide customers through a four-step process: apply, assess, finance, and transform. This simple process gave customers access to a comprehensive package of services that included free energy assessments, assistance from an independent energy advisor, low-interest financing and rebates, and the option to repay loans through their monthly heating utility bills. Between program launch in March 2011 and December 2013, the program's straightforward approach resulted in more than 3,000 upgrades.

Provide customers with a single point of contact to help them through the upgrade process.

Often, only a small percentage of homeowners who receive energy assessments also continue through the process of completing home energy upgrades. To overcome this challenge, multiple programs across the country have provided customers with dedicated program staff, often called energy advisors or concierges, as their single point of contact to guide homeowners through the entire upgrade process. This approach has produced higher conversion rates and more satisfied customers than many past efforts.

The EnergySmart program in Boulder County, Colorado, found that having an energy advisor assigned to each

Access the Solution Center: energy.gov/rpsc

Suggestions? BBRPSolutionCenter@ee.doe.gov

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Jordan Doria is the VP of Marketing and Communications for the North American Insulation Manufacturers Association

Prior to joining NAIMA, Mr. Doria spent four years as Manager of Stakeholder Engagement for Ingersoll Rand's Center for Energy Efficiency and Sustainability, working to support public policy on issues related to building codes, energy efficiency and standards. He is also the former Government Relations Manager of the Air-Conditioning, Heating and Refrigeration Institute.

Courtney Welch is a Senior Analyst at E Source

Courtney provides research, analysis, and consultation to E Source members on energy efficiency, renewable energy, and DSM policy and program issues, with a specific focus on the residential sector.

Before joining E Source, Courtney was a lead policy analyst for the Deployment and Market Transformation group at the National Renewable Energy Laboratory where she provided technical assistance and advice to policy makers on energy efficiency and renewable energy policy and program design and implementation.

Prior to that, she was a policy advisor at the National Conference of State Legislatures (NCSL) and holds a Masters Degree from the University of Denver's Sturm College of Law in Energy Law and Policy; and a BA from Bowdoin College in Environmental Studies and International Relations.

Jordan

- Besides those examples you mentioned, are there other programs or policies that do a good job of addressing any of the top 3 barriers you mentioned?
- Are new public policies needed to address the 3 barriers? If so, what would they look like?
- If you had to pick only one barrier to focus on, which would it be and why?
- How could new or emerging technologies help address these barriers?
- Is it primarily the role of the public sector to break through these barriers or is it the private sector? Does it need to be a combination of both?

Courtney

- If your budget only allows for you to focus on one of these strategies - which one would you pick?
- What are the trade-offs in balancing these strategies to improve participation with those to improve deep energy savings and cost-effectiveness?