

# Multifamily Technical Assistance Report

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## Arizona Public Service Multifamily Energy Efficiency Program

November 2014

Elevate Energy

American Council for an Energy-Efficient Economy



# Executive Summary

The American Council for an Energy-Efficient Economy (ACEEE) and Elevate Energy are pleased to provide this technical assistance report, prepared in response to Arizona Public Service's (APS) application to the ACEEE Multifamily Technical Assistance program of the Multifamily Energy Savings Project.<sup>1</sup> APS requested an analysis of industry best practices on several program design elements, with specific recommendations for increasing market penetration of its multifamily efficiency retrofit program.

The following activities were conducted for this report:

- Interviewed APS staff regarding its multifamily program's design elements.
- Developed criteria for best-in-class multifamily efficiency programs.
- Researched multifamily efficiency programs nationally, to identify best-in-class programs.
- Conducted interviews with program managers of best-in-class programs.
- Analyzed research findings and prepared specific recommendations for program design improvements for the APS Multifamily Energy Efficiency Program (MEEP).

## Findings

The programs researched for this report have diverse regulatory environments, program designs, and housing markets. Interviews with program managers revealed some common themes among successful, mature multifamily energy efficiency programs and a number of specific recommendations.

### Program Delivery Mechanism

"One size does not fit all," as shown by the variety of delivery mechanisms in the programs. While APS' program design for existing buildings differs significantly from the interviewed programs, our analysis does not indicate that it poses a barrier to program growth, itself. In addition, APS' program design for new construction was very similar to the NYSEDA and PSE&G programs, albeit at an earlier stage in its growth.

### Trade Ally Selection and Development

Developing a trade ally network takes time, but as programs grow in size and become more well-known, less outreach is needed to attract new participants. Similarly, while training opportunities are important early on to build a high-quality contractor pool, less training is needed for more mature programs because contractors gain experience.

### Deep Engagement with the Multifamily Industry

The programs studied use a number of tactics to recruit multiple buildings into a program at once. This boosts program enrollment and reduces the need for outreach by selectively targeting the most suitable participants.

### Direct Install of New Technologies

Selecting new technologies for direct install programs involves many stakeholders, such as engineers, program managers, product specialists and manufacturers. Many programs rely on existing regional databases of pre-approved measures.

## Recommendations

The APS multifamily program design currently includes a number of best-in-class program design elements. The recommendations presented here are additional opportunities for outreach and contractor development that will help APS meet its ambitious goals for the multifamily program.

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<sup>1</sup> <http://aceee.org/multifamily-project>

- APS should retain the existing program delivery mechanism. As the new construction program matures, consider whether it is appropriate to outsource engineering and modeling work to qualified consultants.
- To identify contractors with multifamily experience, cultivate relationships with equipment supply houses, ask property managers to recommend trusted contractors, and attend association and trade events.
- To encourage trade allies to bring projects into the program, consider making incentive payment arrangements which reduce the risk of late payment to the contractor.
- Contractor quality can be improved by issuing clear and detailed requests for proposals and specifications, followed by a pre-construction meeting and quality control inspections during construction. Pre-qualifying eligible contractors, regular contractor training sessions, and contractor awards events can also improve quality.
- Continue to build relationships with multifamily property owners through active involvement in local apartment associations and outreach to real estate brokers and property management companies. Because building owner needs vary across markets, carefully focus outreach on issues that the local multifamily industry identifies as a priority, including non-energy program benefits.
- Perform outreach through community based organizations, such as universities, non-profits, and local business associations. Many of the programs that were researched employed dedicated staff to develop and maintain relationships with potential program participants.
- Target buildings and property owners at the time they are most able to invest in deep retrofits, or perform a similar retrofit such as lighting across an entire portfolio of buildings. Leverage existing relationships by translating a single building retrofit into retrofits across an entire real estate portfolio.
- Consider partnering with housing finance agencies who can identify suitable buildings and perform outreach to building owners.
- To identify new efficiency technologies, consider adopting measures that have been pre-approved by other utilities or regional efficiency stakeholder forums with a similar climate and building stock. In the long-term, Arizona may wish to consider creating its own a regional technical forum to address this issue.
- Consider adopting solar screens as an efficiency measure. Leverage water efficiency measures to encourage more extensive retrofits.

# Program Design Elements

APS staff identified three program design elements as potential opportunities to improve the Multifamily Energy Efficiency Program's market penetration.

## Trade Ally Selection and Development Programs

Trade allies are an important component of any efficiency program, as contractors both sell and deliver the program to utility customers. Best-in-class programs typically have a cohort of trade allies that provide superior customer service because they are well versed in the program offerings and are committed to delivering high quality workmanship, thereby ensuring that the installed measures deliver the expected savings. APS is interested in developing a trade ally group that is focused on multifamily buildings, trained specifically in multifamily needs, and drives program participation.

## Program Delivery Mechanism and Industry Engagement

Several successful multifamily programs provide customers with a one-stop-shop experience that promotes concierge-style service to lead customers through every element of the audit and retrofit process. This approach increases the number of customers that complete the retrofit process and receive incentives. APS' program currently uses a one-stop shop delivery mechanism. APS has expressed interest in a hybrid mechanism that makes use of a more robust trade-ally network to generate demand for its program by engaging the multifamily industry at numerous points of contact.

## Integrating New Technologies into Direct Install

Direct install programs have successfully deployed energy savings devices and technologies to both building common areas and tenant spaces. New technologies that have the potential to achieve deeper energy savings exist and are being installed in certain market sectors, particularly the single family and large commercial sectors. Deploying newer technologies in tenant spaces of multifamily buildings has the potential for greater building-wide energy reduction and customer savings. APS would like to integrate new technologies into the direct install portion of its program.

# Best-In-Class Program Research

## Methodology

### Development of Best-In-Class Criteria

To identify best-in-class programs, ACEEE and Elevate Energy developed criteria for program design elements which are commonly found within successful multifamily energy efficiency programs. The criteria were based on existing research and reports developed by the multifamily sector.<sup>2</sup> The following criteria were used to screen utility programs nationally and generate a list of candidate programs for further research. APS' Multifamily Energy Efficiency Program currently incorporates many of these program design elements (**Table 1**).

**Table 1. Program Design Elements Within APS MEEP**

| Program Element   | Included in APS Multifamily Program? |
|---|--------------------------------------|
| Use Market Segmentation to Tailor Programs <sup>3</sup>       | No                                   |
| Avoid or Overcome Split Incentive <sup>4</sup>                | Avoids                               |
| Coordinate Gas and Electric Measures <sup>5</sup>             | No <sup>6</sup>                      |
| Choose an Appropriate Program Delivery Mechanism <sup>7</sup> | Yes                                  |
| Coordinate Comprehensive and Direct Install Measures          | Yes                                  |
| Make Rebates Accessible and Easy                              | Yes                                  |
| Partner with Financing Institutions                           | Yes                                  |
| Provide Quality Control and Follow-up                         | Yes                                  |
| Provide Aggregated Energy Use Data <sup>8</sup>               | No                                   |
| Deep Engagement with Multifamily Industry <sup>9</sup>        | No                                   |

### Identification of Best-In-Class Programs

Using the list of best-in-class candidate programs, additional research was conducted using publicly available information included in databases, regulatory dockets, and research reports. Nine best-in-class programs were identified that exemplify the program design elements of interest to APS:

- Partnership with a robust trade ally network
- Use of a hybrid program delivery mechanism that combines the customer service of a one-stop-shop with the lead-generation of a robust trade-ally network
- Deep engagement with the multifamily building industry, particularly existing buildings

<sup>2</sup> See Anne McKibbin, *Engaging as Partners in Energy Efficiency: Introducing Utilities to the Energy Efficiency Needs of Multifamily Buildings and Their Owners* (ACEEE) Report No. E 137 (Washington, DC: ACEEE, 2013); Johnson and Mackres, *Scaling up Multifamily Energy Efficiency Programs: A Metropolitan Area Assessment* (ACEE) Report No. E 135 (Washington, DC: ACEEE, 2013).

<sup>3</sup> Market segmentation enables program administrators to target the most promising building types and tailor strategies to address unique barriers to program participation.

<sup>4</sup> Programs must provide sufficient incentives to make building owners prefer efficient equipment at the time equipment must be replaced, or support early replacement of equipment.

<sup>5</sup> Coordinating administration across utilities by providing similar forms, timelines and eligibility requirements, and providing one point of contact, simplifies the process for building owners.

<sup>6</sup> Hot water measures only where central electric water heating.

<sup>7</sup> The characteristics of the local multifamily industry determine whether a program is best delivered by a broad trade ally network, a one-stop shop model that centralizes program administration and provides a single point of contact for the building owner, or a combination of the two.

<sup>8</sup> Aggregated, whole-building energy data can be integrated into programs to generate interest in additional improvements or verify that expected energy savings are actually achieved.

<sup>9</sup> Engagement may take the form of formal partnerships, or informal discussion and coordination with the multifamily industry.

- Successful integration of new technologies into the direct install program

### Interviews of Best-In-Class Program Managers

Elevate Energy interviewed program managers of the selected best-in-class programs for more detailed program data and information that may not be available from publicly available literature. Interview questions included topics such as trade ally network development, program costs, incentive structure, industry engagement techniques, and implementation successes and barriers.

Interviews were conducted with the following organizations and individuals:

- Association for Energy Affordability (AEA)<sup>10</sup>
  - David Hepinstall, Executive Director
  - Kay Stewart, Director, Communications and Planning
  - Juana Marte, Senior Energy Advisor
- Austin Energy
  - Jaime Gomez, Conservation Program Coordinator
- Buffalo Energy
  - Fred Fellendorf, Co-Owner
- DC Sustainable Energy Utility (DC SEU)
  - Jogchum Poedt, Account Manager
- Ecova, Inc.
  - Janice Boman, Utility Client Manager
  - Michael Niall, Senior Multifamily Manager
- New York State Energy Research and Development Authority (NYSERDA)
  - Dean Zias, Project Manager
- Pacific Gas & Electric Company (PG&E)
  - Karen Contreras, Program Manager
- Public Service Electric and Gas Company (PSE&G)
  - Rachael P. Fredericks, Multifamily Energy Efficiency Program Manager, Energy Efficiency Programs
- Steven Winter Associates, Inc.
  - Erica Brabon, Senior Consultant, Multifamily Housing

### Matrix of Best-In-Class Interviews

Interview questions were tailored to address one or more of the program design elements of interest to APS (**Table 2**). Each utility or program administrator, except Austin Energy, was only interviewed for a subset of the program design elements, although they may have expertise in additional areas.

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<sup>10</sup> AEA, Buffalo Energy and Steven Winter Associates are Partners within NYSERDA's Multifamily Performance Program. The interview with AEA also covered their administration of Con Edison of New York's Multifamily Energy Efficiency Program.

**Table 2. Interviews Conducted for Each Program Design Element**

| Program Element   | Austin Energy | DC SEU | Ecova | NYSERDA (AEA Buffalo Energy Steven Winter) | Con Edison (AEA) | PG&E | PSE&G |
|---|---------------|--------|-------|--|------------------|------|-------|
| Partnership with Robust Trade Ally Network                | •             |        |       | •  | •                |      | •     |
| Hybrid Program Delivery Mechanism                         | •             |        |       | •  | •                |      | •     |
| Deep Engagement with Multifamily Industry                 | •             | •      |       | •  | •                |      |       |
| Integration of New Technologies into Multifamily Programs | •             |        | •     |  |                  | •    |       |

## Findings and Recommendations

Interviews with program managers found that mature programs had some common experiences for each of the program design elements that were investigated. This section discusses these themes and raises longer-term recommendations that APS may wish to consider as its program expands. In addition, this section provides specific, shorter-term recommendations for each program design element.

### Program Delivery Mechanism

Program managers noted in a number of circumstances that “one size does not fit all” and the program designs surveyed prove that out. Each of the programs that were interviewed had a different program design, placing primary responsibility for various program functions in different parties’ hands, as shown in **Table 3** and described in more detail below.

**Table 3. Primary Functional Responsibility in Various Programs**

| Program Design Element            | Austin Energy           | NYSERDA                      | Con Edison  | PSE&G                            | APS  |
|-----------------------------------|-------------------------|------------------------------|---|----------------------------------|--|
| Outreach to Building Owners       | Utility and Contractors | NYSERDA and Program Partners | Implementation Contractor & Participating Contractors | Utility                          | Utility and Program Vendor   |
| Energy Assessments and Modelling  | Contractors             | Program Partners             | Implementation Contractor (surveys)                   | Consulting Engineers             | Existing Buildings: Program Vendor<br>New Construction: Program Vendor (prescriptive path), HERS Raters (performance path) |
| Contractor Oversight and Training | Utility                 | Program Partners             | Implementation Contractor                             | Utility and Consulting Engineers | Utility  |
| QA/QC                             | Utility                 | NYSERDA and Program Partners | Utility and Implementation Contractor                 | Utility and Consulting Engineers | Utility and Program Vendor   |

| Program Design Element | Austin Energy | NYSERDA | Con Edison  | PSE&G   | APS     |
|------------------------|---------------|---------|---|---------|---------|
| Incentive Payments     | Utility       | NYSERDA | Implementation Contractor with oversight by Utility | Utility | Utility |

APS' program uses utility employees and a program administration vendor to implement its MEEP program. In the existing buildings program, program representatives target geographic areas for outreach to building owners and managers. APS coordinates complementary marketing in housing industry publications. The program vendor delivers the direct install measures, trains building staff on their installation, and performs a common area assessment. If the building owner goes forward with a common area upgrade, the program vendor works with APS to provide a seamless link between APS' residential and commercial programs, which deliver a trade ally quote to the building owner. The program vendor helps the building owner obtain their incentive payments, and APS' commercial program engineers perform quality checks.

In APS' new construction program, an APS engineer provides technical assistance throughout the project's construction. The program also offers an energy modelling incentive to the developer and design team. Incentives are provided via either a performance or prescriptive path. As the project moves into construction, an APS engineer provides continuous oversight and quality control.

The programs that were interviewed for this report fall into two categories. Austin Energy's rebate program is structured most closely to APS' existing buildings program, which combines direct install measures and a more extensive common area upgrade. The NYSERDA and PSE&G programs have structures that are more closely analogous to the new construction portion of APS' multifamily program.

Austin Energy's program starts with a simple online application<sup>11</sup> with basic building information. The utility then contacts the building owner or manager to discuss the program. The building owner or manager chooses a participating installation contractor, who assesses the site and explains the rebates. Rebates are based on points that are assigned to various measures. The building must obtain a minimum number of points to qualify, and the rebate amount is determined by the total points earned for installed measures. Austin Energy reviews estimated rebates before work starts and inspects the property before approving the rebate and making payment. Points are currently available for 12 different measures which range from duct sealing, LEDs and water saving devices to more comprehensive improvements such as attic insulation and Energy Star heat pump upgrades.

In contrast, NYSERDA and PSE&G's programs are much more similar to APS' new construction program, except that they are targeted at comprehensive existing building efficiency upgrades. NYSERDA and PSE&G's programs rely on 'program partners' and 'consulting engineers', respectively, to perform building assessments and the energy use modelling on which the programs' incentives and financing are based. The program partners and engineers then engage in extensive on-site oversight and training of installation contractors to assure that the project achieves the savings that were modelled, so that it can receive the incentive.

### Recommendation to Retain Existing Program Delivery Mechanism

The interviews we conducted did not indicate that APS' current program design for existing buildings, which uses a direct install component as a gateway to a more comprehensive one-stop-shop for common area and building envelope upgrades, should pose a barrier to program growth. Some studies do show that direct install programs, by themselves, may confuse

<sup>11</sup> Available at <https://www.formstack.com/forms/?1682468-IGuaTZCDgR>



building owners into believing that they have exhausted their efficiency potential.<sup>12</sup> The program, however, should be able to overcome this barrier, to the extent that its marketing and messaging makes it clear to building owners that the direct install portion of the program is a gateway to a more comprehensive retrofit.

APS' new construction program includes the type of in-depth energy savings modelling that is used in the NYSEERDA and PSE&G programs. With time, and as the program grows, it may be appropriate for APS to move the new construction portion of the program to a model that more closely resembles those programs, by outsourcing the engineering and modelling work to qualified consultants. At the current time, however, it appears that APS is simply performing the same functions in-house.

## Trade Ally Selection and Development

### **Program Scale and Duration Help Build Contractor Pools That Can Recruit Program Participants**

Program managers credited their programs' scale and duration with helping to build momentum and reduce the outreach needed to attract participants over time. For perspective, Austin Energy's multifamily program has been running since 1989, and PSE&G has over 10,000 units in its program's pipeline.

AEA, who also administers Con Edison of New York's Multi-family Energy Efficiency program, explicitly trains contractors on program rules, paperwork requirements, use of tools to calculate measure eligibility, and how to sell that program to potential customers. AEA noted that, at the program's beginning, contractors only brought in approximately 5% of new participants, but now bring in over 60% of the program's customers. NYSEERDA program partners and PSE&G noted that, as their programs have matured, building owners have become more aware of the programs and their contractors have begun to share program information with potential clients, reducing the need for outreach efforts to gain participants.

Success with lead generation by contractors may be specific to some markets or contractor pools, however. One NYSEERDA program partner noted that installation contractors typically only perform one kind of work on a building and may be ill-suited to upsell a building owner to a fully comprehensive program that requires multiple trades. Another noted that they have had more success by generating leads in-house than through contractors.

### **Building a High Quality Contractor Pool Requires Early Investment in Training, but Training Needs Diminish Over Time**

Program tenure was also noted as a main factor in the improvements in quality seen in programs run by Austin Energy, NYSEERDA, and PSE&G. As contractors gain program experience and participate in associated training and quality assurance and quality control (QA/QC) efforts, and as poor performing contractors are removed from the contractor pool, performance tends to improve. Austin Energy noted that it offers less program-related training now than it did a decade ago. After running their multifamily program for 9 years, they still provide discounts on BPI and NCI certification, but otherwise find that they only need to offer occasional contractor training to prevent drift away from best practices. Since PSE&G's program began 5 years ago, some installation contractors have become repeat bidders and have gained a positive reputation, making consulting engineers more comfortable with recommending them to customers.

NYSEERDA offers discounts on the cost of certification and modeling training. In addition, program partners like Steven Winter and Assoc. and AEA also offer significant in-depth training to installation contractors during on-site inspections. These inspections provide the 'teachable moments' their staff uses to provide specific training and support. Steven Winter Associates also noted that contractor education is particularly useful for new construction projects where the building owner is undergoing an especially complicated project, such as when seeking multiple certifications like LEED or the Enterprise Green Communities standard in addition to seeking incentives from the utility.

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<sup>12</sup> Research Into Action, Process Evaluation – Energy Trust of Oregon Existing Multifamily Program, March 6, 2013, at Pg. 41, available at [http://energytrust.org/library/reports/2012\\_Multifamily\\_Report.pdf](http://energytrust.org/library/reports/2012_Multifamily_Report.pdf)

### Recommendations for Finding Multifamily-Specific Contractors

Interviews with Austin Energy, PSE&G, and NYSERDA program partners confirm APS' desire for a contractor base that works primarily, or only, on multifamily properties. Austin Energy's program manager, in particular, noted that working with companies or groups within companies that specialize in the multifamily market was essential to the success of the program. Specifically, they noted that contractors experienced in multifamily better understood how to provide good tenant relations, avoiding complaint calls and effectively lowering the cost of the retrofit to the property owner and manager.

The housing stock serviced by PSE&G and NYSERDA program partners and by the DC SEU are so dominated by multifamily buildings that they had no trouble recruiting contractors who specialize in multifamily. Austin Energy, however, serves a more varied housing stock, and provided recommendations that may be helpful to APS.

Austin Energy has cultivated relationships with equipment supply houses as a means of identifying contractors who work primarily in the multifamily sector. In their market, they've identified HD Supply as the main source that contractors and property managers use to buy multifamily appliances, HVAC equipment, and fixtures. Grainger Supply was also mentioned as a potential source of contacts, and has three locations in the Phoenix area. These companies may be able to share their customer list or provide program information directly to suppliers. Austin Energy has also found a number of multifamily contractors by asking property managers who they use for renovations and to prepare apartments for new tenants. They note that property managers tend to be loyal to contractors who provide quality work with little need for oversight. Recruiting these contractors into the program can increase its ability to attract property managers who are familiar with them. Austin Energy also maintains a visible presence at their local apartment association's events, and has gained information on the contractor community and recruited program customers there. PSE&G also reported that attending apartment industry trade events can be a good way to identify major players in the industry.

In addition, AEA has found that payment arrangements that reduce the risk of late payment to the contractor increase the contractors' interest in bringing projects into their programs.

### Recommendations for Improving Contractor Quality

To improve quality, PSE&G's program, which requires substantial building shell and HVAC retrofits, holds a kickoff meeting with contractors and consulting engineers before every job. This meeting clarifies expectations of each participant and ensures that installation contractors understand the programs' requirements and helps avoid mid-project changes that reduce the efficiency of the final design.

AEA conducts monthly contractor training sessions monthly for Con Edison's program. These sessions cover the program's rules, documentation needed to complete a successful project, and how to sell the program. Contractors in the Con Edison program must also complete a contractor qualification statement before joining the program. The statement is targeted to eliminate contractors with the particular quality problems that AEA has found to be most common in the local contractor pool. Con Edison and AEA also host an annual award breakfast recognizing the top performing contractors in the program, and have found that the awards motivate contractors to increase their participation and improve quality, as contractors compete for the awards, which lend additional credibility to winners in selling future projects to customers.

Austin Energy noted that the standard work specifications provided by the US Department of Energy's National Renewable Energy Laboratory (NREL) provide guidance on every aspect of a multifamily program, including how to conduct oneself when entering tenant's homes to install in-unit retrofits. These specifications may be useful in helping contractors who have not previously worked extensively in the multifamily environment.

## Deep Engagement with the Multifamily Industry

Several program managers identified opportunities to leverage relationships within the multifamily industry to recruit multiple buildings into a program at once. Some noted that creating momentum in this way has led to full enrollment in their programs without significant additional outreach in recent years. Opinions varied, however, on the benefits of energy efficiency that were most important to multifamily property owners and managers, indicating that local markets differ and programs must understand local needs to sell their services effectively.

### **Recommendations for Outreach to the Multifamily Property Industry**

Austin Energy's experience provides a number of recommendations for reaching out to multifamily property owners both directly and through other sectors of the multifamily property industry. Austin Energy is a member of the Austin Apartment Association, and makes a point of being visible at their events. Austin Energy works with the apartment association to spread news of small changes in its programs and proactively seeks their advice and feedback when considering more significant program changes. This relationship has helped them generate leads for their program.

In addition, Austin Energy has found that multifamily property owners and managers are more open to their program at particular times during the property ownership cycle. Austin Energy's program manager has found that some multifamily property owners 'flip' properties, buying them, making simple improvements, and reselling property quickly. These owners were using Austin Energy's rebate programs for multifamily retrofits at the time of acquisition to leverage their capital improvement budgets. The program has had success with reaching out to real estate brokers that specialize in multifamily properties and note that, in their market, 90% of these transactions are handled by a handful of brokers. They found that these brokers do not need a financial incentive from the utility to sell the utility's program to the buyers they work with, as the possibility of rebate funding for efficiency improvements helped close their sales.

Austin Energy also found that property owners in their market regularly change management companies. As a result, Austin Energy re-approaches properties that have previously declined to take part in the program when they change management. And, as management companies have good experiences with the program, they approach the utility about enrolling their other properties and new acquisitions into the program. Property owners and managers in Austin Energy's territory are also particularly concerned with make-ready costs incurred when a vacated unit is renovated for a new tenant. By providing a more comfortable living environment, energy efficiency programs improve tenant retention, thus reducing make-ready costs for building owners. Austin energy has found this to be an important selling point during outreach to property owners and managers.

PSE&G has had good success with converting single building retrofits into retrofits across building owners' or property managers' entire portfolio. In their market, property managers often have portfolios of buildings that reach across several cities. AEA's work with Con Edison also uses a portfolio approach, and encourages building owners to undergo similar retrofits across their building portfolio at one time. This allows, for example, a lighting contractor to submit a lower price for the job because of the projects' scale.

### **Consider Partnering with Housing Finance Agencies**

PSE&G began their program by focusing on low-income multifamily buildings in partnership with the New Jersey Housing and Mortgage Finance Agency. The Agency identified buildings that would be a good fit for the program, and communicated information about the program to those buildings' owners. Building owners who are financed by the Agency found this communication to be persuasive and the program helped the Agency reduce the risk in its loan portfolio by reducing buildings' expenses. The PSE&G program has since been opened to all types of multifamily buildings, but the momentum created by those first buildings persists.

### **Work with Community Organizations**

In addition to relying on program partners to find buildings to participate in the program, NYSEDA has outreach staffers who serve as liaisons to the community for all of their programs. As a result, the community learns about the program through community based organizations, local non-profits, and universities. Similarly, DC SEU uses an Account Manager model to recruit building owners into its multifamily program. Account Managers are responsible for building relationships with developers and building owners. The specific type of recruitment depends on the judgment of the Account Manager and the targeted industry segment. For example, Account Managers may provide free training sessions, accept speaking engagements, or maintain memberships with local business and non-profit organizations. DC SEU also tables at community events, and publishes a monthly newsletter.

## Direct Install of New Technologies

### Choosing New Technologies Is Often an Multi-Stakeholder Process

Program managers expressed that choosing new technologies for direct install programs was a complicated process that involved many stakeholders. PG&E, for example, noted that all new measures are screened by three entities before being incorporated into their programs: product specialists, who find new measures in the marketplace; internal engineers, who evaluate cost effectiveness and savings under varying conditions; and program managers, who determine if and how measures fit into their programs. For measures that have already been evaluated in California, PG&E uses the DEER database of deemed savings estimates ([www.energy.ca.gov/deer/](http://www.energy.ca.gov/deer/)), created by the California Energy Commission and California Public Utilities Commission, to shorten the process.

Similarly, Ecova, a program administrator working in the Pacific Northwest, told us that the Northwest Power and Conservation Council's Regional Technical Forum is the source for deemed savings estimates for utilities within its region. This system prevents utilities from having to do independent research and evaluation work on new technologies. Pacific Northwest utilities are allowed to choose measures outside the Regional Technical Forum framework, but doing so usually involves performing cost-effectiveness tests, followed by pilot programs and performance evaluation. Ecova noted that most new measures are brought to the Regional Technical Forum by the manufacturers themselves, relieving utilities of the burden of finding new technologies at trade shows or other venues.

### A Long-Term Recommendation to Streamline the Measure Approval Process

Arizona does not appear to have a regional technical reference analogous to the DEER database or the Regional Technical Forum, which would relieve program managers of the burden of evaluating new technologies. It may be possible for APS to identify and adopt measures that have already been screened by other utilities or regional forums in similar climates and for similar building stock. Southern California Edison, for example, may be a good model. In addition, APS may be interested in following the work of California's Emerging Technology Coordinating Council, which hosts a conference on integrating emerging technologies and implementation approaches into efficiency programs every two years.<sup>13</sup> In the long term, however, Arizona efficiency stakeholders may wish to consider creating a regional forum that can evaluate measures for use across the desert Southwest.

### Recommendations for Specific Measures to Consider

Austin Energy, located in a climate zone that is more similar to APS' than other interviewed utilities, has had considerable success with solar screens. Austin Energy's program manager noted that the screens cut solar heat gain significantly, reducing air conditioning load. Solar screens also avoid the split incentive problem by being popular with property owners for aesthetic reasons. In Austin, many property owners find that the screens provide a "crisp and uniform" appearance to the outside of their buildings by making it difficult to see inside the units, where tenants may have put up their own window treatments and have personal items displayed in the windowsills.

Austin Energy's program manager also noted that property owners usually pay for tenant's water use. Consequently, installing water saving measures can circumvent the split incentive barrier. Austin Energy has found that this is the single most attractive type of measure for multifamily property owners in their market, and has adjusted their program to require property owners to take on more extensive measures before receiving the water saving measures.

## Conclusion

The program managers surveyed for this report work with a variety of regulatory environments, program designs, and housing markets. Despite this diversity, there was considerable overlap in the approaches that they have taken to the issues identified by APS. Overall, the interviews did not suggest that there was any inherent flaw in APS' program design.

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<sup>13</sup> See <http://www.etcc-ca.com/event/et-summit>

Instead, they suggested additional opportunities for outreach and contractor development and that, if early investments are made in these areas, APS' multifamily program may become self-sustaining as it grows and matures.