

The Collaborative Program Design and Delivery Strategies Behind the Development, Regulatory Approval, and Successful Implementation of PSE&G's Residential Multifamily Housing Program



Elaine Bryant

January 18, 2011

The Collaborative

Roundtable discussion between the NJ Governor's Staff, Regulators, NJHMFA, & PSE&G to address the unique needs of multifamily affordable housing projects.

- Design a program tailored to a customer segment that often has: deteriorated facilities, limited cash flow, limited capital.
- Relieve upward pressure on rental rates - reduce operating costs associated with housing projects – ensure energy efficiency opportunities do not increase owner debt.
- Pay for energy efficiency improvements with energy savings.
- NJHMFA maintains an active role for all NJHMFA financed projects throughout the program process.



Multifamily Program Overview

PSE&G and the NJHMFA partnered to develop a program designed to increase energy efficiency and reduce carbon emissions of existing multifamily project developments.

- Funded at \$19 million for 2010 - NJHMFA Party to the filing proceeding and Stipulation of Settlement Agreement with the NJBPU.
- Address existing multifamily project developments with 5 or more units - free energy audits, upgrade recommendations, incentives for energy efficiency measure installation, on-bill financing.
- PSE&G and NJHMFA identify and screen potential program participants.



Assessing the Marketplace

PSE&G's service territory includes many of New Jersey's urban areas and has a high proportion of multifamily housing units.

- These buildings typically face thin operating margins and constrained ability to increase rents that leads to deferred maintenance, poor building conditions, ongoing deterioration, energy inefficiency.
- Approximately 29% of all dwelling units in PSE&G's urban areas are multifamily housing with greater than 4 units per building.
- Market sector consistently overlooked and underserved by existing energy efficiency programs.



Market Barriers

Program addresses market barriers which prevent or impede affordable multifamily housing from taking advantage of energy efficiency programs.

- Relatively high energy usage;
- Aging mechanical equipment;
- Lack of capital for infrastructure improvements;
- Need to preserve the affordability of these buildings and the housing they provide;
- Lack of knowledge regarding energy efficiency.



The partnership with NJHMFA allows the program to easily identify and target eligible often hard-to-reach multifamily facilities.

Program Offerings



- Free on-site energy efficiency audit and audit report;
 - Estimates simple payback and screens for cost effectiveness;
 - Engineering and bid-ready document support;
-
- Contractor selection review;
 - On-site inspections to ensure compliance with program requirements;
 - Incentives to off-set the cost of energy efficiency upgrades;
 - PSE&G utility on-bill financing, interest free, repaid over 10 years.

Program Incentives

- Eligible measures must have a simple payback of < 15 years and are subject to PSE&G approval.
- Measures include lighting, HVAC, humidification, ventilation, windows, doors, motors, and other energy consuming equipment.
- Program incentive will buy down project cost by 7 yrs, but not to less than 2 years.
- Projects must meet cost-effectiveness screening.
- Program finances project costs; Customer repays share of costs at 0% interest on customers' utility bill over a period of 10 years.



Customer Solicitation



Program open to all multifamily housing in PSE&G's service territory; targeted initially to NJHMFA affordable housing developments.

- NJHMFA screened potential projects/performed underwriting.
- 1st waive of recruitment – 36 master metered NJHMFA projects.
- 2nd waive of recruitment – 92 individually metered NJHMFA projects.
- Marketing costs low due to pre-screened NJHMFA marketing lists.
- Program quickly subscribed due to value of program offering and key on-bill repayment feature.

Current Program Participation

As of mid-November 2010, approximately 60 project applications had been received.

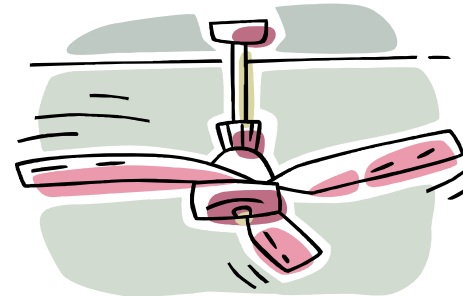
- 24 Investment Grade Audits performed – includes 158 buildings and 5,026 rental units.
- 3 projects had begun contractor bid solicitation.
- 1 project began installation.
- Program budget maxed-out.
- An additional 5 NJHMFA projects: 1,128 dwelling units, on hold pending funding availability.
- 24 non-HMFA financed project applications: 2,061 units, on the program waiting list.

Project Measures

Majority of projects master metered - mid and high-rise and some garden apartments/townhouses with shared common heating systems.

- Low-rise projects benefit from improvements to the thermal envelope; more insulation, better air sealing of exterior walls, floors and ceilings.
- Mid/high-rise buildings - smaller proportion of exterior “skin” to attack - improvements to insulation packages are difficult/impossible to achieve; improvements focused on mechanical systems.

Ventilation is key.



- Replacement boilers/chillers not always cost-effective; program considers HVAC improvements to existing equipment - especially variable frequency drives for motors and pumps.

Energy Conservation Measures

ECM's fall into 3 categories:

● Quick payback periods of 1-5 years

- ▶ CFLs for apartment lighting,
- ▶ Low-flow showerheads/aerators,
- ▶ Domestic hot water (DHW) recirculation controls and/or mixing valves,
- ▶ Energy/heat recovery ventilation systems,
- ▶ Variable frequency drives (VFDs) for pumps.



● Moderate payback periods of 6-10 years

- ▶ LED lighting in hallways and stair towers,
- ▶ Fan coil upgrades in apartments,
- ▶ Thermostat and control valve upgrades, air sealing,
- ▶ Insulation upgrades.

● Marginal payback periods” of 11+ years - new boilers and chillers

● Variable payback periods of -5 to +15 years - ventilation

Lessons Learned

- Cost per unit averages \$4,237, \approx 26% higher than original estimate.
- Not all Investment Grade Audit recommended ECMs will be approved for financing.
- Partnership with NJHMFA key to program approval by State regulators and customer acceptance.
- Two bureaucracies involved at nearly every stage of the program significantly slows project approvals.
- Involvement with State agency can mean unanticipated reviews by other State entities and revisions of customer contracts.



Conclusion

- Program provides easy access to energy efficiency information and services for multifamily building owners.
- Marketing simplified by partnership with NJHMFA and the penetration of multifamily properties in PSE&G service territory.
- Incentives and on-bill repayment over 10 years, interest-free, make energy efficiency upgrades affordable to multifamily housing market.
- Energy efficiency improvements contribute to tenant comfort as well as reduced energy use for the building owner.



PSE&G/NJHMFA collaboration to develop/deliver a successful program to a customer segment often financially unable to undertake energy efficiency improvements is both unique and compelling and has proven to be an innovative, effective approach to reaching this customer segment.

Save the Date



22nd National Conference & Expo

February 6-10, 2012
Hilton San Diego Bay Front

