

# EEDAL'06

INTERNATIONAL ENERGY EFFICIENCY IN  
DOMESTIC APPLIANCES & LIGHTING CONFERENCE '06

Multiple solutions to a complex problem: Effective strategies for increasing energy efficiency in the multi-family sector

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Multiple Solutions to a Complex Problem: Effective Strategies for  
Increasing Energy Efficiency in the Multi-Family Sector

Dave Lenton  
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# Background

- KEMA is one of the leading organizations in planning, evaluation, and delivery of energy efficiency and renewable energy programs worldwide.
  - KEMA has conducted hundreds of program market assessment and evaluation studies for most of the nation's leading investor-owned utilities and public power organisations.
  - These studies have addressed all sectors and virtually every type of technology.
- This paper presents the results of three separate evaluations completed for multi-family energy efficiency programs in California.

# Overview of Presentation

- Barriers to energy efficiency in multi-family housing in the United States
- Overview of successful programs targeting the multi-family housing sector
- Program challenges and successes
- Lessons learned and recommendations

# Barriers to Improving Energy Efficiency

- Historically, it has been difficult for the multi-family housing market in the United States to participate in residential-sector energy efficiency improvement efforts.
- Reasons for this include:
  - The “split-incentive barrier” (i.e., those purchasing the energy-using equipment are often different than those who are paying for its use)
  - Complex regulations govern the rents achievable in multi-family public housing
  - Long budget cycles, more complicated decision making processes
  - Other (more traditional) barriers: lack of capital, lack of time to identify opportunities, and lack of knowledge to maintain/install measures.

# Program Descriptions

- Three programs have had success targeting multi-family housing properties in California:
  - Energy Action
  - Designed for Comfort: Efficient Affordable Housing
  - Multi-family Energy Efficiency Rebate Program

# Program Comparison

	Energy Action Program	Designed for Comfort Program	Multi-family Rebate Program
<b>Program Targets &amp; Goals</b>			
Affordable housing/public housing	●	●	
Energy Savings Objectives	●	●	●
Equity Considerations	●		
Policy Objectives		●	
Infrastructure Development	●		
<b>Program Delivery Channels</b>			
Non-profit Organizations	●	●	
Public Housing Agencies		●	
Private Developers		●	
For-profit Lighting Contractors	●	●	●
<b>Program Design Elements</b>			
Policy Solutions		●	
Low/No-cost financial incentives			●
Training	●	●	
Project Facilitation	●	●	
Energy Audits	●	●	

# Program Challenges and Successes

- **Energy Action**

- **Challenges**

- Long budgetary process difficult to overcome
    - Training programs require time commitment from staff with little extra time, also staff turnover requires ongoing training programs

- **Successes**

- Effective in reaching large, multi-family property management firms through unbiased third-party
    - Spent time guiding property owners/ managers through complex process of identifying opportunities, applying for rebates, getting measures installed, etc.

# Program Challenges and Successes

- **Designed for Comfort**

- **Challenges**

- Lack of policy endorsement from HUD
    - Federal funding cuts
    - Benefits not targeted to constituents
    - Specialized market and outreach required

- **Successes**

- Obtained HUD endorsement in early 2006
    - Achieved energy savings goals, as well as goals for number of agencies to adopt policy option
    - Use of energy consultants and inspectors, along with financial incentives, helped facilitate energy efficiency upgrades

# Program Challenges and Successes

- **Multi-family Energy Efficiency Rebate**

- Challenges

- Energy efficiency opportunities limited to lighting and programmable thermostats
    - Difficult to penetrate large, multi-family property management firms
    - Smaller multi-family housing properties also missed

- Successes

- Extremely cost-effective acquisition of energy savings
      - Low administrative burden
      - Little/no additional marketing cost
      - Attractive financial incentives
      - Efficient program delivery

# Lessons Learned & Recommendations

- Financial Incentives

- Full subsidisation of measure costs quickest and easiest ways to acquire energy savings, however this can limit measure diversity and quality.
  - Addresses “split incentive” barrier, eliminates out-of-pocket spending and other barriers related to lack of capital, avoids bureaucratic approval barriers for even smallest expenditures, and helps to attract private contractors for efficient program delivery.
  - However, can only be provided for measures with relatively straightforward installation criteria and costs and can lead to “quick and dirty” (rushed, poor quality) installations.

# Lessons Learned & Recommendations

- Financial Incentives (continued)
  - “Bonus incentives” can be used to encourage measure comprehensiveness (e.g., if multiple types of measures are installed, the participant or the contractor can receive an additional incentive).
  - Steps that can be taken to improve quality include:
    - Frequent inspections
    - Customer satisfaction surveys and complaint resolution protocols
    - Guidelines for selecting contractors
    - Requiring contractor contact information and warranty information.

# Lessons Learned & Recommendations

- **Training Programs**

- Lack of existing knowledge and frequent staff turnover makes training expensive to administer.
- Private-sector energy efficiency consultants can complement (if not substitute for) traditional training programs.
  - Subsidizing the cost of these services (at least initially) can encourage wider use.
  - Using the private market to deliver these services has longer term benefits.
- However, multi-family property owners, managers and developers need to know these resources are available, what services they provide, and what the actual cost of these services is (so they can value them).

# Lessons Learned & Recommendations

- **Policy Considerations**

- Policy options, such as energy efficiency utility allowances, have great theoretical promise, but require creativity, persistence and patience to implement.
  - Each public housing agency is different, has different agenda
  - May need to wait for a more favorable political climate to affect change
- Despite localised efforts to encourage adoption, policy options are usually only successful if endorsed on a larger (regional) scale.

# Lessons Learned & Recommendations

- **Project Facilitation**
  - Multi-family property owners and developers face complex institutional barriers as well as conventional barriers
    - Regulations, long budget cycles, multiple layers of decision-making
    - Split incentives, lack of knowledge, lack of time
  - Usually requires intensive involvement in project development and guidance throughout decision-making and approval processes.
- **Partnering**
  - Non-profit, advocacy organizations are more trustworthy than private contractors, and endorsement from unbiased organizations adds credibility.
- **Program Duration**
  - Longer life times needed to account for long budgetary cycles, frequent staff turnover, and intense financial pressures on short-term capital.

# Lessons Learned & Recommendations

- **Program Goals**

- Balancing market transformation, equity and cost-effectiveness goals needs to be explicitly addressed when designing programs targeting the multi-family housing sector.
  - Cost-effective energy savings are achievable in the short-term for well-established measures (e.g., CFLs and programmable thermostats).
  - More complex measures (e.g., boiler system controls) may require alternate program designs that focus on market development.
  - Multiple delivery approaches are required to reach large-scale property management firms, mid-sized property managers, and smaller multi-family property owners.