

**EVALUATION OF THE
PARTNERSHIP FOR ENERGY
AFFORDABILITY IN
MULTI-FAMILY HOUSING**

Final Report

Prepared for

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This document presents the draft report for the evaluation of ICF’s Partnership for Energy Affordability in Multi-Family Housing (program or Energy Action).

This executive summary provides an overview of the program, discusses the evaluation objectives and approach, and presents study conclusions and recommendations.

1.1 OVERVIEW OF PROGRAM

The program, sponsored by Pacific Gas and Electric Company (PG&E) and implemented by ICF and several nonprofit subcontractors (the Partnership), was designed to provide technical assistance and services to owners and managers of affordable multi-family housing¹ in the San Francisco Bay Area. Table 1-1 provides a description of the partner organizations involved in implementing the program.

**Table 1-1
Overview of the Partnership**

Organization	Organization Description	Role of Organization
Non-Profit Housing Association of Northern California (NPH)	Trade association representing affordable housing providers in Northern California	Outreach, website development, policy and planning support
Bay Area Local Initiatives Support Corporation (LISC)	Nonprofit organization that supports nonprofit community developers by providing skills, information, and financial support	Outreach, marketing, program referrals, coordination of program services
Center for Energy and Environment (CEE)	Nonprofit organization that implements, designs, and researches energy conservation programs	Technical assistance, facility audits, diagnostics
Strategic Energy Innovations (SEI)	Nonprofit organization that helps underserved markets implement energy efficiency programs	Outreach, peer forum planning, program newsletter
ICF Consulting, LLC	Private management and analytical consulting firm specializing in energy, environment, housing, communities, economic development, transportation, and emergency management	Program administrator, energy management tool, finance guide, regulatory reporting, program design and planning
PG&E	Electric and gas utility in whose territory the program operates	Contract management
		Manager of complementary MF Rebate Program

¹ Publicly supported multi-family (5 or more units) housing in PG&E’s service territory with master-metered tenant units and/or common areas are eligible to participate in the program.

The program was intended to address the severe impact that rising energy costs have had on the capacity of multi-family affordable housing owners and managers by building an infrastructure that could sustain long-term energy-efficiency investments. The program was designed to accomplish its objectives by providing a comprehensive portfolio of technical services and, where appropriate, channeling housing providers into existing financial programs. The portfolio of services included facility energy audits, training for the organizations owning and managing affordable housing, peer-to-peer forums, a contractor referral service, a financial clearinghouse, energy performance contracting support, tenant education and training, and diagnostics and measurement and verification support.

Specifically, the Program’s objectives and approach to meeting its objectives were to:

1. **Reduce energy consumption and peak demand in multi-family affordable housing to reduce energy costs** – through energy efficiency investments made as a result of energy audits and rebate program referrals and improved building operations resulting from trainings.²
2. **Enhance the overall equity of the California Public Utilities Commission (CPUC) program portfolio by ensuring that the multi-family affordable housing market segment has efficient access to resources** – by providing technical assistance and services to the affordable housing sector.
3. **Build the foundation for sustainable energy savings by strengthening the affordable housing technical assistance infrastructure** – through providing training and technical assistance to help affordable housing providers build an infrastructure that can continue to offer energy efficiency support after the program ends.

1.2 EVALUATION OBJECTIVES

This evaluation was designed to satisfy the following objectives, which are a subset³ of the CPUC evaluation, measurement and verification (EM&V) requirements for information-only programs:

- Provide feedback and guidance to program managers
- Measure indicators of effectiveness and testing of the program theory and approach
- Assess the overall levels of performance and success
- Help assess the need for the program.

² The program is an information-only program, and as such according to the CPUC evaluation, measurement and verification requirements, its success is not determined based on measurement of energy savings.

³ One of the CPUC’s evaluation objectives, “Providing up-front market assessment and baseline analysis,” has been eliminated from the scope of the evaluation per discussions with ICF, the CPUC, and the master evaluation contractor.

1.3 EVALUATION APPROACH

The approach to conducting the evaluation of the program included a combination of qualitative telephone interviews with participants, satisfaction surveys with training and peer forum attendees and process interviews with key program staff. Table 1-2 provides an overview of the evaluation approach, organized by CPUC EM&V requirement.

**Table 1-2
Overview of Evaluation Approach**

CPUC EM&V Requirement	Evaluation Component	Research Activities
Providing ongoing feedback and corrective and constructive guidance regarding implementation of programs	Process Evaluation	1. Conduct training pre- and post-assessment surveys
Measuring indicators of the effectiveness of specific programs, including testing of the assumptions that underlie the program theory and approach	Program Effectiveness Assessment	2. Provide leave-behind surveys at the Peer-to-Peer forums
Assessing the overall levels and performance and success of programs	Program Performance Assessment	3. Conduct qualitative interviews with a sample of Program participants
Helping to assess whether there is a continuing need for the program	Study Conclusions	4. Conduct qualitative interviews with key Program staff

Note that this evaluation focused on the 2002-2003 program. However, the program has been approved for 2004-2005 and has been expanded to include rebates and financing services. While we focused our research on the 2002-2003 program, we discussed the 2004-2005 program design during the program staff interviews with regard to any improvements in program processes being incorporated into the new program and how the new program design may impact the effectiveness of the program going forward.

1.4 CONCLUSIONS

Multi-family affordable housing properties are an under-served market that existing energy efficiency programs are not well designed to serve. Our results suggest that the target market addressed by the program has not had previous access to energy efficiency technical assistance. Moreover, the specific barriers faced by affordable housing providers are not addressed by the existing statewide rebate programs. These findings suggest there is a need for a program that addresses the unique barriers faced by this segment.

The program was effectively designed to identify and recruit many of the major affordable housing organizations in the San Francisco Bay Area. The program successfully engaged the network of organizations serving Bay Area affordable housing providers and recruited more than half of the organizations to participate in the program. The 2004-2005 program will continue to

rely on its partnership approach to expand its reach to smaller organizations and properties located outside the Bay Area. Our results suggest that the program's approach to engaging affordable housing providers was successful in 2002 and 2003. Going forward, the program may face increasing marketing costs to increase its impact on a more representative segment of the target market. However, it is imperative that the program reaches beyond the large San Francisco Bay Area organizations with which it experienced initial success in order to meet its goals with respect to increasing equity and creating sustainable effects on the marketplace.

The program experienced mixed success in leading to energy efficiency investments and influencing changes in building operations. Its services were well received by participants, but led to only a limited amount of energy efficiency investments and changes in building operations. However, its design was dependent on referring participants to statewide rebate programs, which were not designed to address the specific barriers faced by affordable housing providers. Going forward, the 2004-2005 program includes new features that may address at least some of the barriers to increased investment and improved building operations faced by affordable housing providers. The research suggests, however, that there are some barriers such as lack of time and authority that may be difficult for the program to overcome.

In conclusion, our evaluation results indicate that there is a need for a program that is designed to address the unique barriers faced by the affordable multi-family housing community. The 2002-2003 Energy Action program was effectively designed to identify and recruit participants, however it experienced mixed results with respect to achieving energy savings. The new features of the 2004-2005 program are expected to result in significant energy efficiency investments among the target market.

This document presents the draft report for the evaluation of ICF’s Partnership for Energy Affordability in Multi-Family Housing (program or Energy Action).

2.1 OVERVIEW OF PROGRAM

The program, sponsored by Pacific Gas and Electric Company (PG&E) and implemented by ICF and several nonprofit subcontractors (the Partnership), was designed to provide technical assistance and services to owners and managers of affordable multi-family housing¹ in the San Francisco Bay Area. Moreover, it sought to address the severe impact that rising energy costs have had on the capacity of these owners and managers by building an infrastructure that could sustain long-term energy-efficiency investments. The program was designed to accomplish its objectives by providing a comprehensive portfolio of technical services and, where appropriate, channeling housing providers into existing financial programs. The portfolio of services included facility energy audits, training for the organizations owning and managing affordable housing, peer-to-peer forums, a contractor referral service, a financial clearinghouse, energy performance contracting support, tenant education and training, and diagnostics and measurement and verification support.

The Program’s primary objectives were to:

- Reduce energy consumption and peak demand in multi-family affordable housing to reduce energy costs²
- Enhance the overall equity of the California Public Utilities Commission (CPUC) program portfolio by ensuring that the multi-family affordable housing market segment has efficient access to resources
- Build the foundation for sustainable energy savings by strengthening the affordable housing technical assistance infrastructure.

2.2 EVALUATION OBJECTIVES

This evaluation was designed to satisfy the following objectives, which are a subset³ of the CPUC evaluation, measurement and verification (EM&V) requirements for information-only programs:

¹ Publicly supported multi-family (5 or more units) housing in PG&E’s service territory with master-metered tenant units and/or common areas is eligible to participate in the program.

² The program is an information-only program, and as such according to the CPUC evaluation, measurement and verification requirements, its success is not determined based on measurement of energy savings.

³ One of the CPUC’s evaluation objectives, “Providing up-front market assessment and baseline analysis,” has been eliminated from the scope of the analysis per discussions with ICF, the CPUC, and the master evaluation contractor.

- Provide feedback and guidance to program managers
- Measure indicators of effectiveness and testing of the program theory and approach
- Assess the overall levels of performance and success
- Help assess the need for the program.

2.3 EVALUATION APPROACH

The approach to conducting the evaluation of the Program included a combination of qualitative telephone interviews with participants, satisfaction surveys with training and peer forum attendees and process interviews with key program staff. Table 2-1 provides an overview of the evaluation approach, organized by CPUC EM&V requirement.

**Table 2-1
Overview of Evaluation Approach**

CPUC EM&V Requirement	Evaluation Component	Research Activities
Providing ongoing feedback and corrective and constructive guidance regarding implementation of programs	Process Evaluation	1. Conduct training pre- and post-assessment surveys 2. Provide leave-behind surveys at the Peer-to-Peer forums
Measuring indicators of the effectiveness of specific programs, including testing of the assumptions that underlie the program theory and approach	Program Effectiveness Assessment	3. Conduct qualitative interviews with a sample of Program participants
Assessing the overall levels and performance and success of programs	Program Performance Assessment	4. Conduct qualitative interviews with key Program staff
Helping to assess whether there is a continuing need for the program	Study Conclusions	

2.4 ORGANIZATION

The remaining sections of this report are as follows:

- Section 3: Methodology
- Section 4: Results
- Section 5: Conclusions
- Appendix A: Program Staff Interview Guide
- Appendix B: Participant Interview Guide
- Appendix C: Peer Forum Survey
- Appendix D: Training Assessment Survey

This section describes the methods used to conduct the research activities associated with the evaluation. There were four primary research activities associated with this effort, each providing data to meet one or more of the CPUC EM&V requirements:

1. Training assessment surveys
2. Leave-behind surveys for peer-to-peer forum participants
3. Qualitative interviews with a sample of Program participants
4. Qualitative interviews with key Program/Partner staff.

The methods used to conduct each of these activities are described below.

3.1 TRAINING ASSESSMENT SURVEYS

The program offered a total of 23 trainings to both property and asset managers and operations and maintenance (O&M) staff. The O&M trainings were conducted by the Center for Energy and Environment and the property manager trainings were conducted by LISC, both of which are the Program's partnering organizations. A total of 375 affordable housing staff ultimately attended the trainings, which were held throughout the San Francisco Bay Area from March 2003 through October 2004. The attendees collectively manage almost 40,000 individual tenant units. Tables 3-1 and 3-2 provide a chronology of training events, including the location, number of attendees, and total number of tenant units represented by the attendees.

Table 3-1
Operations and Maintenance Staff Training

Date	Location	# Attendees	# Units
March 9, 2004	Vallejo	10	731
March 10, 2004	San Francisco	19	3,321
March 17, 2004	San Francisco	16	4,000
March 21, 2003	San Francisco	8	1,104
April 25, 2003	San Francisco	22	1,262
April 29, 2003	Oakland	24	648
October 21, 2003	Oakland	9	1,594
October 22, 2003	San Francisco	7	1,009
Total		115	13,669

**Table 3-2
Property and Asset Manager Training**

Date	Location	# Attendees	# Units
April 10, 2003	San Jose	4	2,897
April 17, 2003	San Francisco	62	0
April 28, 2003	Sacramento	9	2,681
May 6, 2003	Monterey	5	1,727
May 13, 2003	Emeryville	12	719
May 15, 2003	San Francisco	20	1,914
June 5, 2003	San Francisco	32	1,979
June 18, 2003	Mountain View	35	9,452
July 10, 2003	San Francisco	1	145
March 30, 2004	Visalia	18	717
April 14, 2004	Carmichael	10	597
April 28, 2004	Davis	23	2,056
August 13, 2003	San Francisco	7	157
August 14, 2003	Mill Valley	11	368
October 30, 2003	Berkeley	11	434
Total		260	25,843

A survey was developed and administered to trainees to evaluate the effectiveness of the training and to assess participant satisfaction. At the beginning of each training event, participants were asked to fill out a pre-training survey intended to collect data on their property, including whether they had participated in financial assistance programs sponsored by the utilities, the Department of Housing and Urban Development, etc.; to determine whether they had received technical training previously; and to gather basic information on how energy use is tracked at their facility.

At the end of each training event, participants were asked to fill out a post-training survey, which was intended to evaluate the effectiveness of the training. The survey included questions concerning:

- Whether the respondent will now take action to reduce energy in their facility/ies
- What barriers exist that might prevent the respondent from taking action
- The usefulness of the training components
- Whether the respondent was interested in utilizing the Program's other technical services.

KEMA obtained hard and electronic copies of both the pre- and post-training surveys. We created master databases for property manager and O&M trainings. The property manager database included a total of 112 post-surveys and 97 pre-surveys and the O&M database contained 93 post-surveys and 89 pre-surveys. The discrepancy between the total number of

training attendees and the total number of surveys is a result of two factors. First, across all training events, there was a subset of participants that chose not to fill out either the pre- or post-training survey. Second, there were 6 training events where no surveys were handed out due to a miscommunication between ICF and one of their partner organizations.

We created a basic cleaning routine that identified and remedied the following issues with respect to the training survey data:

- Consistency across responses (e.g., “y” v. “yes”, or use of a numeric 1-4 scale v. use of the words “good, very good”, etc.)
- Erroneous or inconsistent responses (i.e., setting to “missing” question responses that did not make sense or were out of range)
- Post-coding or classification of open-ended responses
- Categorization of continuous variables
- Determination of “no” v. “missing” responses within the tabular questions that did not allow for a “no” response based on responses to the entire battery
- Removal of blank surveys (6 O&M post-surveys and 7 property manager post-surveys were blank).

We then analyzed the survey data to create tables and figures for the report. We did not create or apply weights to the data so each respondent is equally represented.

3.2 PEER-TO-PEER FORUM SURVEYS

The program offered a total of 7 peer-to-peer forums to both property and asset managers and O&M staff. The forums were coordinated by Strategic Energy Innovations, one of the Program’s partnering organizations, and were held throughout the San Francisco Bay Area from November 2002 to March 2004. A total of 85 affordable housing providers attended the forums. Table 3-3 provides a chronology of training events and the number of attendees.

Table 3-3
Peer Forums

Date	Number of Attendees
November 12, 2002	7
December 6, 2002	9
March 24, 2003	7
April 10, 2003	10
June 26, 2003	16
September 25, 2003	8
March 12, 2004	28
Total	85

SEI (one of the Program's partnering organizations) developed a survey that was administered to forum attendees to evaluate the effectiveness of the forum and to assess customer satisfaction. The survey included questions concerning:

- The effectiveness of the forum with regard to content, materials, structure, and length
- The effectiveness of the program with regard to services offered
- What participants expected to learn from the program
- Suggestions participants had for future forums
- Suggestions for improving the program

KEMA obtained electronic summaries from ICF containing results from approximately 57 forum surveys. Quantitative results were tabulated and the qualitative results were summarized.

3.3 PROGRAM PARTICIPANT QUALITATIVE INTERVIEWS

The evaluation process included a survey with a sample of program participants to determine whether/how the program led to energy reductions among the target audience and to assess customer satisfaction and identify areas for program improvement.

3.3.1 Sample Development

Several steps were taken to design the sample of participants. First, we obtained the participant tracking database from ICF, which contained the following information on each individual contact that received one or more program services:

- Parent organization name and address
- Facility name and address
- Contact name, email address and phone number
- Number of estimated (and final, where possible) units associated with the facility
- Whether the contact received various program services

Next, we created a sample frame, including all contacts in the database that had participated in at least one of the program's services. We aggregated the database to the facility level and noted whether any of the contacts associated with that facility had received an audit. The next step was to characterize each facility as either small or large based on the number of tenant units (less than or greater than 100) associated with the property. Table 3-4 displays the participant sample frame. We stratified by size and whether the facility received an audit so that we could ensure a minimum number of survey completes with large facilities and those that received a facility audit. A total of 133 facilities were included in the frame, associated with 28 parent organizations and about 15,000 tenant units. There were 263 contacts associated with the 133 facilities. We randomly selected one contact per facility to be included in the frame.

**Table 3-4
Participant Sample Frame**

Whether the Facility received an Audit	Size	Number of Participating Facilities	Percent of Participating Facilities	Number of Units	Percent of Units
Yes	Large	33	25%	6,217	41%
Yes	Small	36	27%	2,203	14%
No	Large	23	17%	4,894	32%
No	Small	41	31%	1,977	13%
Total		133	100%	15,291	100%

After creating the frame, we assigned our 10 target completes based on a modified proportional allocation. First we calculated the number of surveys per strata based on proportional allocation. Then we increased the allocation to the audit-large stratum and reduced sample allocated to the no audit-small stratum. Table 3-5 shows the allocation of target completes, with the proportional allocation shown in the fourth column, and modified proportional allocation shown in the fifth column.

**Table 3-5
Participant Survey Target Completes**

Whether the Facility received an Audit	Size	Percent of Participating Facilities	Proportional Allocation	Modified Proportional Allocation
Yes	Large	25%	2	4
Yes	Small	27%	3	3
No	Large	17%	2	2
No	Small	31%	3	1
Total		100%	10	10

The final step was to draw a sample from which to conduct the 10 surveys. We determined that a 3 to 1 sample to complete ratio was sufficient and randomly selected three times the number of target completes per strata. Table 3-6 shows the participant sample by strata.

**Table 3-6
Participant Sample**

Whether the Facility Received an Audit	Size	Modified Proportional Allocation	Number of Sample Points
Yes	Large	4	12
Yes	Small	3	9
No	Large	2	6
No	Small	1	3
Total		10	30

3.3.2 Survey Design and Implementation

We developed a qualitative survey instrument that was administered by a KEMA analyst to 10 program participants. The survey was designed to obtain participant feedback on the following broad issues:

- Effectiveness of program administration, coordination, and communication
- Effectiveness of program marketing and outreach activities
- Knowledge of technical program staff
- Responsiveness of program staff
- Usefulness and value of information and/or services provided
- Actions taken as a result of receiving program services
- Barriers to taking action
- How the program might be improved going forward
- Customer satisfaction.

We completed the target number of surveys (10) and obtained qualitative data from each of the respondents. We used the results of the survey to assess the program's effectiveness in achieving its objectives and to provide feedback to the implementers on program processes, including identification of areas for improvement.

3.4 PROGRAM STAFF QUALITATIVE INTERVIEWS

In order to inform the other research tasks and to obtain data on the effectiveness of program processes, we conducted in-depth interviews with all key program staff. The results of the interviews also helped to identify areas for program improvement.

ICF provided KEMA with a list of key program staff, including staff representing each organization in the Partnership. The exception was the Association of Housing Management Agents (AHMA), which ultimately was not actively involved in implementing the program. The KEMA project manager conducted an in-depth qualitative interview with each of the contacts provided by ICF. Table 3-7 provides a description of the key staff involved in implementing the program, including a description of their organization and their title.

**Table 3-7
Key Program Staff**

Organization	Organization Description	Role of Organization	Main Contact	Contact Title
Non-Profit Housing Association of Northern California (NPH)	Trade association representing affordable housing providers in Northern California	Outreach, website development, policy and planning support	Doug Shoemaker	Policy and Program Director
Bay Area Local Initiatives Support Corporation (LISC)	Nonprofit organization that supports nonprofit community developers by providing skills, information, and financial support	Outreach, marketing, program referrals, coordination of program services	Clare Bressani Tanko	Energy Efficiency Program Manager
Center for Energy and Environment (CEE)	Nonprofit organization that implements, designs, and researches energy conservation programs	Technical assistance, facility audits, diagnostics	Rich Szydowski	Director of Research and Engineering
Strategic Energy Innovations (SEI)	Nonprofit organization that helps under-served markets implement energy efficiency programs	Outreach, peer forum planning, program newsletter	Cyane Dandridge	Executive Director
ICF Consulting, Inc.	Private management and analytical consulting firm specializing in energy, environment, housing, communities, economic development, transportation, and emergency management	Program administrator, energy management tool, finance guide, regulatory reporting, program design and planning	LeAndra MacDonald	Project Manager
PG&E	Electric and gas utility in whose territory the program operates	Contract management	Laura Mann	Contract Manager
		Manager of complementary MF Rebate Program	Helen Fisicaro	Program Manager

The qualitative interviews covered the following broad topics:

- Effectiveness of program administration, coordination, and communication
- Effectiveness of program marketing and outreach activities
- Effectiveness of program implementation activities
- How the program might be improved going forward
- Customer satisfaction.

This section presents the evaluation results from the process evaluation, the program effectiveness assessment, and the program performance assessment. First we provide a brief overview of the data collection activities that were conducted in support of the evaluation. Note that Section 3 describes the research activities in detail.

4.1 DATA SOURCES

The following primary data sources provided the foundation for assessing the effectiveness of program and its processes.

- **Training Assessment Surveys** - ICF and its partners provided training to building operators, asset managers, and multi-family housing tenants. ICF conducted pre- and post-assessment surveys with participants of the building operator and asset manager training. The purpose of the assessment was to evaluate the effectiveness of the training and to assess customer satisfaction.
- **Peer-to-Peer Forum Surveys** – SEI along with ICF and LISC coordinated peer-to-peer forums. A survey was administered to attendees in order to assess customer satisfaction and identify ways to improve the forums.
- **Program Participant Qualitative Interviews** – KEMA conducted qualitative interviews with a sample of 10 customers (mostly property managers) who received technical support and/or other services from the program. Eight of the 10 respondents attended technical trainings, half attended peer forums, and half received audits. The purpose of the interviews was to determine whether/how the program led to energy reductions among the target audience and to assess customer satisfaction and identify areas for program improvement.
- **Program Staff Qualitative Interviews** – KEMA conducted qualitative interviews with key program staff in order to provide valuable process information and allow for identification of any problem areas that might affect implementation and customer satisfaction with the Program.

Note that this evaluation is focused on the 2002-2003 program. However, the program has been approved for 2004-2005 and has been expanded to include rebates and financing services. While we focused our research on the 2002-2003 program, we discussed the 2004-2005 program design during the program staff interviews with regard to any improvements in program processes being incorporated into the new program and how the new program design may impact the effectiveness of the program going forward.

4.2 PROCESS EVALUATION

The first CPUC guideline, “Providing Ongoing Program Feedback and Corrective and Constructive Guidance” was addressed by this evaluation through process evaluation. The evaluation sought to answer the following questions:

- Was the program effectively administered?
- Was communication effective among the partners?
- Was the program coordinated well with other programs targeting the affordable housing sector?
- Were marketing and outreach methods effective?
- How satisfied were participants with the various program services?
- How might the program be improved?

4.2.1 Was the Program Effectively Administered?

To address this question, we utilized the results from the program staff interviews. We explored program administration from the perspective of the overall structure of the partnership, the division of responsibilities, and regulatory reporting.

Partnership Structure. The program is jointly implemented by a partnership of organizations that includes several nonprofits (Non-Profit Housing Association of Northern California (NPH), Strategic Energy Innovations (SEI), and Bay Area Local Initiatives Support Corporation (LISC)) that serve the affordable housing sector. Table 3-6 provided an overview of each of the partners and their role in the project. ICF Consulting and the Center for Energy and the Environment (CEE) round out the partnership by providing project management and energy efficiency program implementation experience.

There was unanimous agreement among the partners that the structure of the partnership was effective in serving the affordable multi-family housing sector. All partners agreed that the right organizations were included, and that no key organizations were left out. The inclusion of NPH, SEI, and LISC ensured the program had a wealth of potential affordable housing provider contacts, and more importantly that the program could utilize the trust built up between these organizations and their clientele to effectively and efficiently recruit program participants. CEE was pivotal in providing the technical expertise, conducting facility audits, technical support, training, and diagnostics. In addition to supporting program outreach and implementation, ICF was the main point of contact with respect to reporting to the CPUC and PG&E. ICF was regarded by the rest of the partners as extremely effective in handling the administrative procedures associated with the program, effectively “shielding” the rest of the partners from burdensome regulatory reporting tasks so they could focus on outreach and implementation.

Division of Responsibilities. Each partner was assigned one or more specific roles at the beginning of the project. In some cases, these roles evolved over time. For instance, the Association of Housing Management Agents (AHMA) was initially expected to be involved in program outreach, but ultimately was not able to allocate resources to the project. LISC was expected to be involved with outreach and marketing, and through the hiring of a circuit rider dedicated to conducting outreach on behalf of the program on a full-time basis, ultimately expanded its role beyond what was initially envisioned. The circuit rider evolved to become the main point of contact for all program participants, acting as a clearinghouse for program services and referrals to other programs. All of the partners agreed that ICF was flexible in working with both of these organizations to try to most effectively utilize their strengths. An effective working relationship developed between LISC and ICF, and along with the emergence of the circuit rider role, this relationship was regarded as key in allowing for effective and streamlined outreach and program implementation.

CEE's role as providing technical services, including facility audits and training to participants, was regarded by all as effective. The organization was felt to have the appropriate expertise and skills to perform their assigned role, and the staff that was dedicated to implementing the program were well-qualified and were able to effectively communicate with the target audience. Likewise, ICF's role as overall project manager and "back office" was regarded as effective, and the specific skills and abilities of the project manager were key to managing administrative functions "in the background" while allowing the partnership to focus on implementation activities.

Most partners agreed that the roles of SEI and NPH could be enhanced going forward to most effectively utilize their experience, knowledge, and contacts. NPH provided the partnership with an in-depth understanding of the fundamentals of multi-family affordable housing. Through leveraging its membership organization, NPH was also able to provide the program with high-quality contacts of affordable housing providers, along with developing and maintaining the program's website. For the 2004-2005 program, ICF is looking to increase NPH's involvement in the program by utilizing their knowledge and experience with developers, consultants and contractors.

SEI brings experience with helping under-served markets implement energy efficiency programs. Their role was initially intended to be coordinating the peer network, assisting with outreach, and designing the program's newsletter. SEI worked with ICF and LISC to maximize outreach through its expertise in building networks and making connections. This role is expected to be continued and expanded in the 2004-2005 program, especially as the program seeks to break new ground in the Central Valley region. SEI's role in coordinating the peer forums was not fully realized in the 2002-2003 program, and going forward LISC and ICF will be performing this role. Since the circuit rider (from LISC) is the main point of contact, it is more effective for LISC to coordinate the forums.

Regulatory Reporting. ICF was the main point of contact with the CPUC and PG&E and handled all regulatory reporting. ICF was required to prepare and submit both monthly and

quarterly reports. These reports were time-consuming to prepare due to the level of detail required. When the quarterly report overlapped with the monthly report, the reporting function was particularly burdensome, consuming upwards of 40 hours for that month. The CPUC has responded to this issue by requiring only monthly reports going forward.

The partnership utilized contact management software (UpShot) to maintain electronic records on all contacts and program participants. The software has a customization function that allows the user to set up the system to allow for tracking and reporting. ICF took on the bulk of the role of gathering data to support the regulatory reports. The rest of the partners appreciated being “shielded” from this function. ICF in some cases had to rely on hard copy sources to prepare the regulatory reports in cases where the UpShot system was unable to generate the appropriate metrics. Going forward, ICF plans to enhance the UpShot database so that reporting will be more efficient.

PG&E’s contract manager reviewed the monthly and quarterly regulatory reports and ensured their completeness and accuracy. PG&E and ICF developed an effective working relationship to facilitate the reporting function. PG&E regarded ICF’s reports as both timely and complete, and ICF viewed the scope of PG&E’s review as appropriate.

4.2.2 Was Communication Effective Among the Partners and with Program Participants?

We utilized the program staff interviews to answer this research question, focusing on communication protocols and the contact management software function.

Communication Protocols. The partnership relied on a combination of regularly scheduled conference calls and the contact management software to facilitate effective communication. The regularly scheduled conference calls eventually evolved to calls on an as-needed basis including only the relevant staff. Almost all the partners agreed this evolution made sense, while some felt that the periodic calls including all partners should be resumed at least during the rollout of the 2004-2005 program.

One area that could be improved with regard to communication is debriefing after program events such as conferences and training sessions. While the partners did hold debriefing meetings after all events, the meetings were sometimes held several days later so their effectiveness was compromised. One partner suggested scheduling the debrief while planning the event, so that the debriefing meeting could be held very soon after the event.

Communication with CEE, the organization that conducted facility audits, training events, and provided technical assistance, at times proved somewhat difficult due to CEE’s being based in Minnesota. Going forward, CEE’s role has been reduced so that it will no longer conduct facility audits. Two new organizations (kW Engineering and GRID Alternatives) that are based in the Bay Area will be performing the audits. This should improve communication.

Contact Management Software. The UpShot contact management software for tracking and reporting of program contacts and services was customized for the program. The software provided a consistent “live” location to store all program contacts. This functionality allowed multiple users to enter and access information on program participants. The software also included a “to-do” function that prompted staff to follow-up with participants with a specific task. This function allowed for efficient communication between the organizations. Some areas that could be improved going forward are streamlining the process for entering contact data, to ensure its completeness and reduce the possibility of redundancy and/or inconsistency. Likewise, the reporting functionality could be better utilized to reduce the manual effort required to assemble the monthly regulatory reports.

4.2.3 Was the Program Coordinated Well With Other Programs Targeting the Affordable Housing Sector?

We relied mainly on program staff feedback to address program coordination effectiveness, but we also utilized program participant survey responses regarding any referrals they received to other programs. There are many programs that provide energy efficiency services to the multi-family housing sector, but few that specifically target affordable housing providers. A sample of the programs that provide energy efficiency services to the multi-family sector include:

- Statewide Investor-Owned Utility (IOU) Low-Income Energy Efficiency program – free and subsidized energy efficiency measures for income-qualified tenants
- Statewide IOU CARE program – low-income rate program
- Statewide IOU Multi-Family Rebate Program – rebates for energy efficiency upgrades in common areas and tenant units
- Statewide IOU Express Efficiency Program – rebates for energy efficiency upgrades for commercial facilities (some multi-family common areas are on a commercial rate)
- Energy Solution’s Lightwash – rebates for lighting and clothes washers for multi-family building common areas
- San Francisco Community Power Cooperative – installation of certain measures, rebates, and education are offered to residents in the Hunter's Point and Bayview neighborhoods
- San Francisco Peak Energy Program - cash rebates for the installation of qualified energy-efficient technologies in apartment dwelling units and common areas of apartment and condominium complexes in San Francisco
- Heschong Mahone Group, Inc.’s Designed for Comfort Program – assistance for public housing authorities in developing and adopting an energy efficiency-based utility allowance schedule

We obtained program staff and participant feedback on referrals to the statewide rebate programs (Express Efficiency and the Multi-Family Rebate program) as well as coordination among other programs.

Referrals to Statewide Rebate Programs. ICF’s initial program proposal to the CPUC included rebates for energy efficient equipment. The CPUC modified the program design by removing the rebates, the rationale being that the program could refer customers to the statewide rebate programs. The program referred customers to rebate programs a number of ways: the audit report linked recommendations to the appropriate rebate program that covered the recommended equipment; training and peer forums included an overview of complementary programs including the rebate programs; the circuit rider informed all contacts and participants of programs that might apply to their situation, particularly the rebate programs; and the finance guide included detailed information on all financial assistance programs including the Statewide rebate programs. Those participants that were considering undertaking energy efficiency improvements were provided with assistance from the circuit rider in filling out the forms, assessing eligibility requirements, and locating contractors and distributors.

Ultimately the program was not successful in increasing participation in the statewide rebate programs. The program intended to file 25 rebate applications to facilitate implementation of audit report recommendations, and only 3 of the 47 properties that received facility audits through the program received statewide program rebates. There were several reasons why more facilities did not apply for and receive rebates:

- the specific measure recommended as a result of the audit was not covered by the programs (e.g., boiler controls, T8s, LED exit sign retrofit kits),
- the Multi-Family program in particular was subscribed early-on each program year due to high demand and limited rebate budget,
- the commitment period (time from application to installation) of the programs were too short for affordable housing provider organizations to act.

Affordable housing properties must compete for rebate funds with private sector (market rate) facilities that can pass the improvement up-front costs on to tenants via higher rents to recoup their investment. Moreover, many affordable housing organizations have strict requirements and procedures for making capital improvements. As such, they are less likely to be able to act quickly and spend up-front dollars to meet the commitment period and reserve program incentive dollars before the program is subscribed.

The 2004-2005 Energy Action program that was recently approved by the CPUC includes rebates specifically tailored to the affordable multi-family housing sector. The program also includes no cost financing, and continues to utilize the circuit rider as the clearinghouse for all program services. Additionally, the program allows for a longer commitment period than the statewide programs. The partnership expects that these unique program design features will help address the specific barriers this sector faces when attempting to participate in energy efficiency programs.

One area of concern with respect to the 2004-2005 program design is ensuring that customers do not “double dip” and receive rebates from ICF and the IOUs. ICF and PG&E should consider developing crosschecking procedures to ensure that double dipping does not occur. It might also

be beneficial for the two programs to further coordinate on marketing strategies. The Statewide Multi-Family program is marketed to the broad multi-family housing sector, while the Energy Action program is specifically targeted to the private housing sector. Marketing efforts likely overlap, and the programs might both benefit from some level of coordination between administrators, such as sharing marketing plans and schedules and possibly marketing databases and sources.

Coordination with Other Programs. In addition to attempting to funnel participants to the Statewide rebate programs, the program circuit rider also informed contacts about the many other programs that provide energy efficiency services, such as the utility-sponsored CARE and LIEE programs, other third-party programs such as Lightwash, and programs sponsored by local, state and federal government. ICF also created a finance guide that provided detailed instructions on the various financial options available to the target market. Going forward in 2004-2005, the partnership may hold a workshop with all the various entities that offer programs to multi-family housing providers to coordinate services and stay up-to-date on program offerings.

Program participants that we interviewed were satisfied with the information they received about other programs. Four of the ten respondents followed up on the referrals, three of which were successful in securing financial assistance. One respondent signed up for the CARE program, while three others attempted to receive rebates from the Statewide Multi-Family program. One received rebates for programmable thermostats and was pleased with their participation experience. Another retrofitted some interior lights with IOU rebates. The third participant attempted to receive rebates on CFLs, but was not eligible for program funds. The program's circuit rider helped the participant work with PG&E to try to obtain rebates, and was very satisfied with the referral services even though they did not ultimately receive rebates.

4.2.4 Were Marketing and Outreach Methods Effective?

To determine whether marketing and outreach methods were effective, we relied on program staff interviews. We focused our questions on identification of the target market, sources for outreach, and marketing methods.

Target Market Identification. The program's target market is publicly supported multi-family (5 or more units) housing in PG&E's service territory with master-metered tenant units and/or common areas. The program partners (in particular, NPH and SEI) are well connected to this target market, and supplied most of the contacts to the circuit rider and ICF for participant recruiting. The circuit rider screened potential participants over the phone to ensure that the referred affordable housing properties were in PG&E's service territory, had master-metered tenant units and/or common areas, and had at least 5 tenant units. Program materials (e.g., brochures, website) highlighted the eligibility criteria as well. Notably, there were many cases

where affordable housing properties were screened out due to size (4 or fewer units), type of meter (non-master-metered) and location (outside PG&E's service territory).¹

The program has contacted almost all of the large multi-family affordable housing organizations that have properties in the Bay Area, according to the partners. Over half of the “major players” are participating.² It should be noted, however, that most organizations received treatment for one or two of their properties.³ This broad and shallow treatment was intentional, to ensure that program funds could be distributed among a large number of organizations.

The program has been less successful identifying and recruiting smaller multi-family affordable housing providers, as well as providers located outside the Bay Area. The 2004-2005 program is attempting to recruit organizations serving the Central Valley and small organizations located in the Bay Area in particular. The circuit rider has already identified more than 250 small organizations in the Bay Area to contact. Likewise, the addition of the California Coalition for Rural Housing will provide access to networks located in the Central Valley.

Sources for Outreach. The program's main source of contacts was the network of organizations that the partners serve. The use of these existing partner contacts was effective and efficient. The circuit rider was able to gain access to these contacts with ease due to the trust built up between the facilities and their respective membership organization. Secondary sources for conducting outreach were the San Francisco Mayor's Office of Housing and the Housing Authority of Oakland, and cross-referrals from other energy efficiency programs.

Marketing Methods. The program was marketed primarily through existing partner networks (e.g., conferences, newsletters, websites), with the circuit rider calling or receiving calls from contacts. Other marketing methods included attendance of conferences sponsored by other agencies (such as the California Association of Homes and Services for the Aging), coordination with the San Francisco Mayor's Office of Housing and the Housing Authority of Oakland, and cross-referrals from other energy efficiency programs such as Lightwash. The program also designed Energy Action brochures, a periodic newsletter and a website.

The existing network of partner contacts provided the circuit rider with a large enough pool of potential participants to meet the audit metric. The circuit rider was successful in recruiting many partner contacts due to several factors. First, contacts provided by the partners were more likely to be interested in learning about the program since they were referred by an organization that they already trust. Second, the circuit rider works for a non-profit organization that many affordable housing providers are familiar with, further enabling access to contacts. Finally, the

¹ The program's services were free of charge, so no properties were screened out due to inability to pay for services. The program had initially intended to charge a fee for audits, but changed the design to reduce financial barriers to participation.

² This statement is based on the opinions of those interviewed in this study. A formal, quantitative baseline analysis was not conducted.

³ The program allowed a maximum of 2 audits per property owner to ensure equity among organizations.

use of the circuit rider as the “face of the program” was yet one more effective method in getting busy property managers to participate in the program and get their peers to participate. Being the one point of contact that each participant and potential participant encountered provided consistency and allowed trust to be built so that contacts would consider participating in multiple program elements and would encourage other colleagues to do the same.

The program also relied on affordable housing conferences such as those sponsored by AHMA and NPH to locate and recruit potential participants. Participation in conferences provided mixed success in raising awareness of the program and identifying potential participants. Some of the conferences did not attract the right audience, and other conferences attracted the same pool of attendees, leading to diminishing returns. Likewise, it was difficult for the program to compete with the other sessions, and as such the program staff adapted by scaling down involvement from formal sessions to booths.

Program brochures and collateral were viewed as an effective way to get conference attendees to learn more about the program, and for program participants (e.g., those attending training or a peer forum) to learn about the other services offered. The website provided the circuit rider with an easy way to get busy property managers to look further into the program. However, some partners felt its usability could be improved. The partners recently met and discussed ways to improve the website’s functionality, organization, and content to make it most effective in disseminating information about the program.

The program will continue in 2004-2005 utilizing partner contacts and using partners to help navigate multi-family affordable housing provider organizations and find relevant contacts within organizations. The program will increasingly rely on the San Francisco Mayor’s Office of Housing and the Housing Authority of Oakland to locate smaller organizations. Likewise, NPH’s expertise and contacts will be engaged to a further extent to locate and target rehabilitation projects. Finally, adding the California Coalition for Rural Housing will be key to reaching the diverse network of providers in the Central Valley. SEI will be involved in helping the circuit rider and ICF navigate the affordable housing community in the Central Valley.

4.2.5 How Satisfied Were Participants With the Various Program Services?

We relied on a combination of program participant qualitative interviews and training and peer forum assessment surveys to determine levels of customer satisfaction with the program. We also asked the partner organizations that referred members to the program whether their members were satisfied with the program.

Overall satisfaction with the program among participants was high. Of the 10 program participants that we interviewed⁴, 8 said they were “very satisfied” with the program and 2 said they were “somewhat satisfied”. All 10 were interested in receiving additional services through the program.

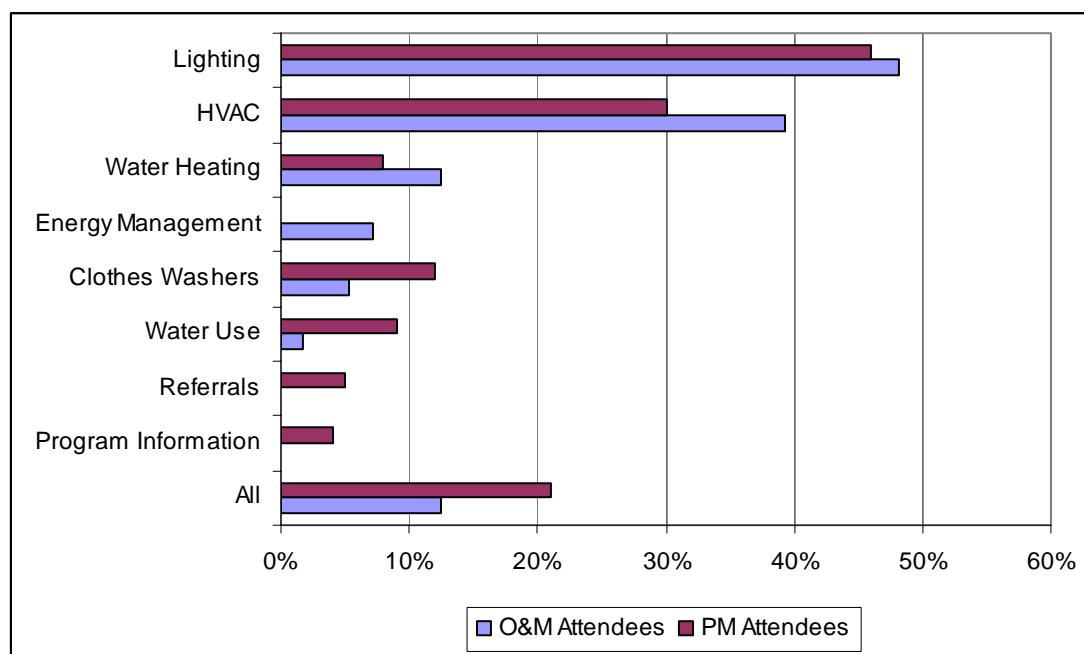
⁴ Recall that eight of the 10 respondents attended technical trainings, half attended peer forums, and half received audits.

Partner feedback regarding customer satisfaction was also positive. Partner organizations that serve the target market reported that the multi-family affordable housing sector had not had access to this type of technical information before. The one-on-one approach (i.e., utilizing the circuit rider as a clearinghouse for program services) also was viewed as a successful way to reach organizations, get them to participate, and keep them satisfied. One partner said that the property managers that the program primarily targets have “thankless” jobs to some degree, and appreciate the attention and recognition the program provided through highlighting their participation in the program during conferences and via exposure through the program’s newsletter.

With respect to specific program services, program participants were also highly satisfied, based on findings from training and peer forum surveys and phone interviews with a sample of program participants.

O&M and Property Manager Trainings. Results from the training surveys indicate that a high percentage of training attendees found the program’s services to be useful, with about half stating the training was “very useful” and another one-third “useful”. Respondents were asked to rate the various elements that were covered during the training as well. The most useful components of the training were lighting and HVAC, as shown below in Figure 4-1.

Figure 4-1
Most Useful Training Elements

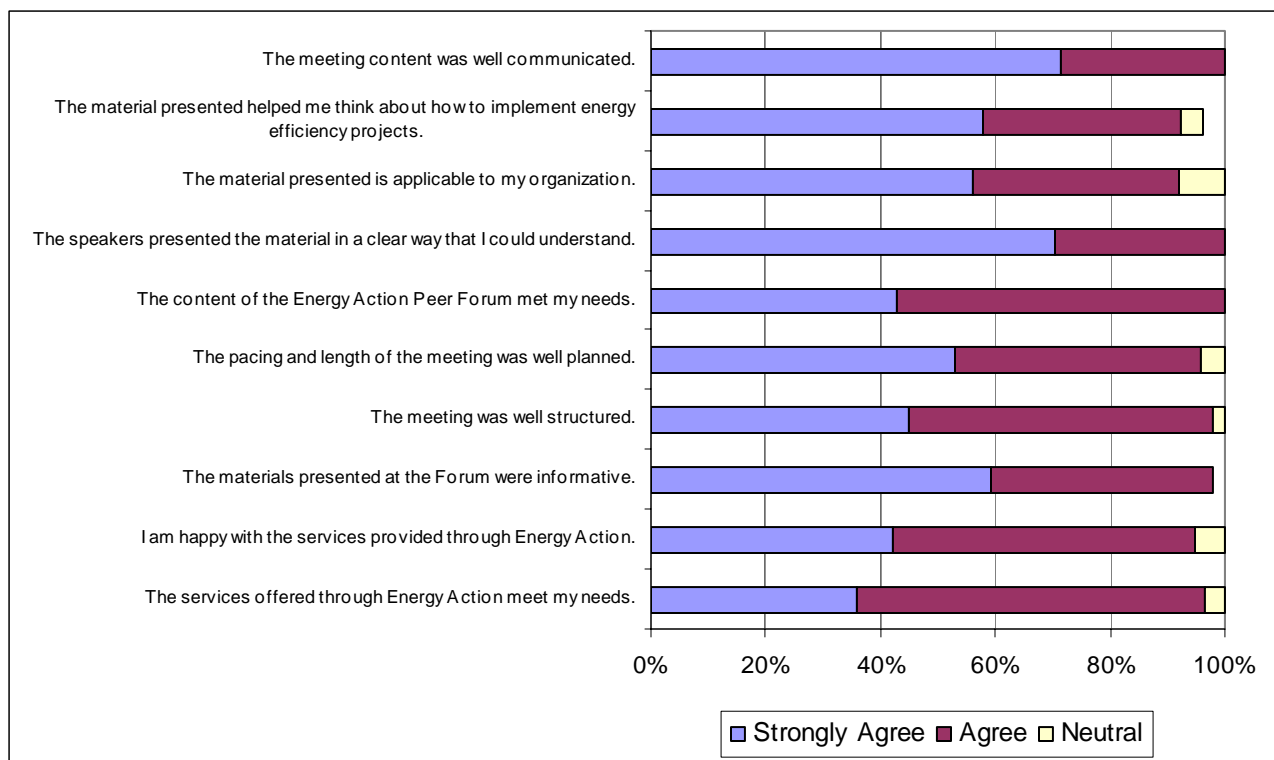


Based on program participant interviews, six of the eight training attendees learned a lot and felt their time was well spent. The other two mentioned redundancy between trainings and peer

forums as their primary complaint. Managers that attended multiple peer forums or a peer forum in addition to attending training felt that the content was repetitive. Likewise, one participant who received training after receiving a facility audit felt that the training information was redundant.

Peer Forums. The peer forum survey results indicated that forum participants were satisfied with the service, appreciating the information gained and the opportunity to network, commiserate, and brainstorm with their peers. As shown in Figure 4-2, feedback from forum participants was very positive.

Figure 4-2
Satisfaction with Peer Forums



Audits and Technical Assistance. Six of the 10 participants we interviewed received either an express audit or a facility assessment. Four of the six found the audit reports to be very helpful and have investigated making the improvements recommended. The other two passed the audit reports onto maintenance staff who they believe are looking into improvements. These two respondents said they needed help interpreting the report results. The circuit rider attempts to schedule an appointment with all audit recipients to go over results and help facilities take action. It is unclear whether these two respondents were aware of this service.

One respondent recalled receiving on-call technical assistance, and was satisfied with the service. All respondents were highly satisfied with their interaction with the program's circuit rider, and felt they could rely on her for information, advice, and program and contractor referral services.

Referrals to Other Programs. Nine of the 10 respondents we interviewed received referrals to other programs, and all were satisfied with the information they received. Four respondents followed up on the referral information (as described previously in the marketing and outreach section).

Tenant Training. One respondent that we interviewed received training for the tenants at his facility. He was satisfied with the training, and felt that the tenants learned a lot, although their primary motivation for attending was likely the free food offered by the management. (Note that this program component is not being continued going forward in 2004-2005.)

4.2.6 How Might the Program Be Improved?

Similar to our approach to assessing customer satisfaction, we relied on a combination of program participant qualitative interviews and training and peer forum assessment surveys to identify areas that might be improved going forward. We also asked program staff to identify any possible improvements.

Based on the program participant interviews, only two of the 10 respondents provided suggestions for improvement. The other 8 were satisfied and could not think of any changes. Improvements suggested included providing more education and rebate dollars to offset project costs.

Training. About 20 of the approximately 200 training survey respondents provided suggestions for program improvement. Suggestions included:

- Increase amount of training time;
- Provide more site-specific information/scenarios;
- Provide more referral information;
- Include displays of products, such as programmable thermostats and compact fluorescent lamps, and/or use clearer photos;
- Increase interactivity; and
- Increase emphasis on air conditioning.

Training presentations were modified as a result of early participant feedback. Revisions included focusing on key measures (e.g., HVAC, lighting and water heating) instead of all measures to allow for more interactivity with participants and including case studies and specific examples.

Peer forums. Some⁵ of the 57 peer forum survey respondents provided suggestions for program improvement. Suggestions included:

- Provide more referral information (contractors and rebate programs)
- Provide more information on specific technologies
- Increase participation in forums
- Invite guest speakers from the energy industry
- Increase amount of training provided
- Present a sample audit
- Develop a tool to track energy use

It should be noted that the program adapted the peer forums based on attendee input to include more training and presentations by industry experts. As will be discussed later in this section, the forums struggled early-on with getting peers to share their experiences. Likewise, ICF developed and disseminated an energy tracking tool.

Program administration and marketing. Program staff provided some suggestions for improvement, including:

- Conduct debriefings soon after events
- Reduce the number of staff entering contact data into the UpShot tracking system
- Improve the UpShot tracking system's regulatory reporting functionality
- Utilize engineering firms in California to improve communication and coordination
- Increase both NPH's and SEI's role in the program to utilize their strengths in understanding and tapping existing affordable housing networks
- Use the circuit rider and ICF to coordinate the peer forums as opposed to SEI, whose staff were not involved with program participants to the extent that the circuit rider was
- Improve the usability of the Energy Action website

With the exception of the suggested improvement regarding event debriefing, ICF has incorporated these suggestions into the 2004-2005 program design.

⁵ As a result of the way the peer forum survey results were compiled, it was difficult to determine the total number of respondents that provided suggestions for improvements. A total of 24 comments were received, likely with some respondents providing more than one comment.

4.3 PROGRAM EFFECTIVENESS ASSESSMENT

The second CPUC EM&V objective, “Measuring indicators of the effectiveness of specific programs, including testing of the assumptions that underlie the program theory and approach” was addressed by a program effectiveness assessment. As mentioned in Section 2, the overall intent of the program is to provide technical assistance and services to affordable multi-family housing owners and managers in order to address the severe impact that rising energy costs have had on this market segment.

Specifically, the program’s objectives were to:

1. **Reduce energy consumption and peak demand in multi-family affordable housing to reduce energy costs** – through energy efficiency investments made as a result of energy audits and rebate program referrals and improved building operations resulting from trainings.
2. **Enhance the overall equity of the California Public Utilities Commission (CPUC) program portfolio by ensuring that the multi-family affordable housing market segment has efficient access to resources** – by providing technical assistance and services to the affordable housing sector.
3. **Build the foundation for sustainable energy savings by strengthening the affordable housing technical assistance infrastructure** – through providing training and technical assistance to help affordable housing providers build an infrastructure that can continue to offer energy efficiency support after the program ends.

Through a combination of program staff interviews, qualitative interviews with program participants, and surveys with training and peer forum attendees, the evaluation sought to answer the following research questions:

- Was the program successful in reducing energy consumption and peak demand as a result of its audit, referral and training services?
- Was the overall equity of the CPUC’s program portfolio enhanced as a result of providing program services to the multi-family affordable housing sector?
- Did the program succeed in helping to strengthen the affordable housing technical assistance infrastructure?

The remainder of this section provides the evaluation results, organized by the three research questions.

4.3.1 Was the Program Successful in Reducing Energy Consumption and Peak Demand as a Result of its Audit, Referral and Training Services?

The program was designed to reduce energy usage among its target market through a combination of effects:

- Increasing participation in energy efficiency programs, specifically PG&E's Statewide Multi-Family and Express Efficiency programs, through referring program participants to these programs
- Influencing energy efficiency investments by identifying savings opportunities via facility assessment and express audits
- Improving building operations among the target market as a result of training services.

Increasing participation in energy efficiency programs. As mentioned previously, the program was initially proposed to the CPUC as a rebate and information program, with the intent of providing rebates to program participants to encourage energy efficiency investments. The CPUC approved a modified version of the program, removing the rebate portion, and instead relying on existing energy efficiency rebate programs to subsidize energy efficiency improvements undertaken by the program's participants. As reported previously in the process evaluation results section, the program was not successful in increasing participation in PG&E's rebate programs due to a combination of the barriers facing affordable housing providers (e.g., insufficient access to financing and inability to act fast due to restrictions on spending and budget cycles) and the program design (e.g., short commitment period, early program subscription due to high demand and limited budget, and measure offering).

Going forward, the 2004-2005 program has been approved by the CPUC including rebates customized to the specific needs of the multi-family affordable housing sector. ICF developed its rebate mix based on the results from the facility audits it conducted via the 2002-2003 program, and tailored eligibility and processing requirements to address the barriers mentioned above (e.g., providing a longer commitment period and offering no cost financing.) Moreover, the continued use of the circuit rider as the clearinghouse of all program services will help to identify (and potentially address) any other barriers beyond those addressed by the program.

Influencing energy efficiency investments. The program's facility audits were designed to provide a comprehensive review of a multi-family affordable housing property's equipment and operations, and offer solutions to reduce burdensome utility costs. The program delivered two types of audits, an in-depth facility assessment and a more streamlined express audit. Ultimately the program treated 47 facilities. Of the 10 program participants we surveyed, 6 received audits through the program. Five of the 6 facilities are in the process of either making improvements or making plans for future improvements based on the audit report results. Improvements already made or underway include:

- Boiler maintenance (1)

- Installation of boiler controls (2)
- Installation of weatherstripping around hallway doors (1)
- Ongoing lighting upgrades (e.g., replacing burnt out bulbs with compact fluorescent bulbs and upgrading tenant unit lighting as units are vacated) (3)
- Purchase of energy efficient clothes washer (1)
- Installation of water heater insulation wraps (1)
- Installation of programmable thermostats (1)

Planned improvements include:

- Replacement of old boiler with energy efficient boiler (2)
- Lighting upgrades (1)

Three of the five managers who are in the midst of making and planning improvements said that cost was one of the major barriers to making additional investments. Two mentioned lack of time as a barrier, while one manager said that he lacks specific knowledge to undertake some of the improvements.

All 10 program participants in general were asked what barriers exist to increasing energy efficient investments in their properties, and lack of time was the most frequent response, followed by split incentives between master-metered tenants and management, cost, lack of education, and condition of the building (e.g., too new or falling apart).

Clearly the audits have led to a limited amount of energy efficiency investments among program participants. However, barriers remain to increasing the amount of investment undertaken at participating properties. Going forward the program is poised to address the initial cost barrier through its custom-tailored rebate component and no cost financing. However addressing managers' perceptions that they lack the time to make improvements will continue to be a challenge. Both property managers and the O&M staff struggle to tend to tenant requests and emergencies on a daily basis, and have a hard time making energy efficiency a high priority item. The program's continued use of the circuit rider will likely help keep energy efficiency as "top of mind" for those participants that choose to stay involved with the program.

The 2004-2005 program will be testing the concept of a memorandum of understanding between facilities that are interested in receiving an audit and the program that will elicit a commitment by the participant that they intend to act on at least some of the recommendations. This new component will help to focus the program's limited resources on properties that are willing and able to make improvements as a result of the audit.

Improving building operations. The program's property manager and O&M staff training were designed to improve operations among attendee facilities. The program offered a total of

23 training sessions, with 375 property manager and O&M staff attending. According to training survey results, training recipients are willing to follow-up on at least some of the measures recommended during the sessions. Figures 4-3 and 4-4 below show the percentage of O&M staff and property managers that intend to follow-up on training recommendations.

As shown, upwards of 80 percent of attendees said they intend to follow some or all of the recommendations regarding lighting, heating and water use. Water heating, ventilation and laundry recommendations were also well-received, with more than half of respondents saying they intend to change their practices with respect to those measures. Recommendations for building commissioning and building shell improvements were much less likely to have been considered for follow-up by attendees. Energy usage of cooling equipment is a lower priority in the areas targeted by the trainings, and as such the training did not focus much on cooling equipment.

Figure 4-3
O&M Staff that will Follow-up On Training by Technology

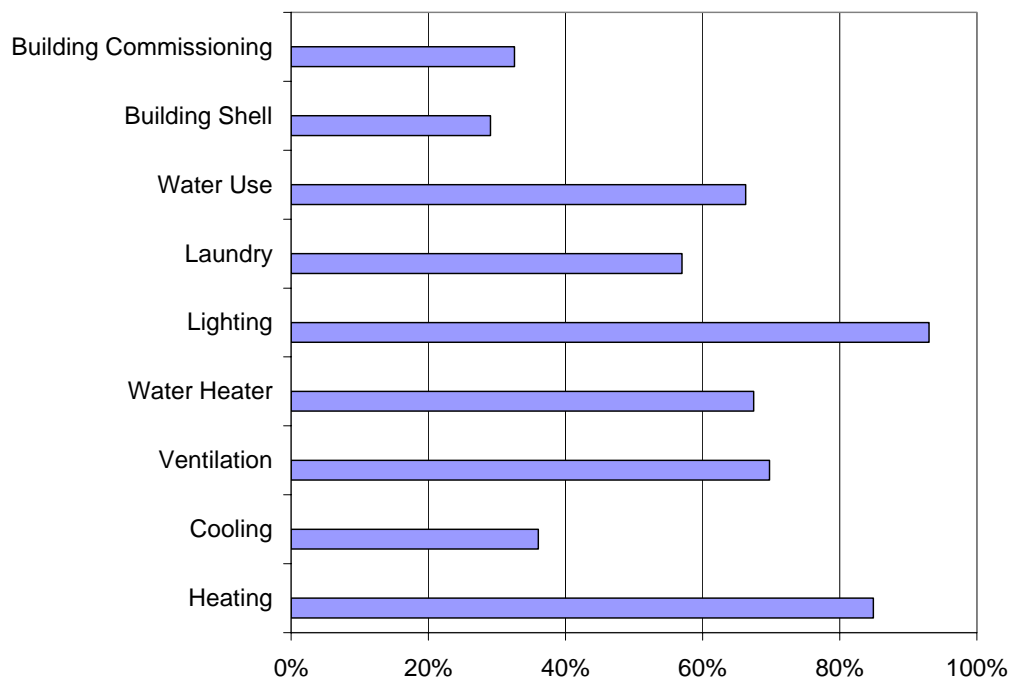
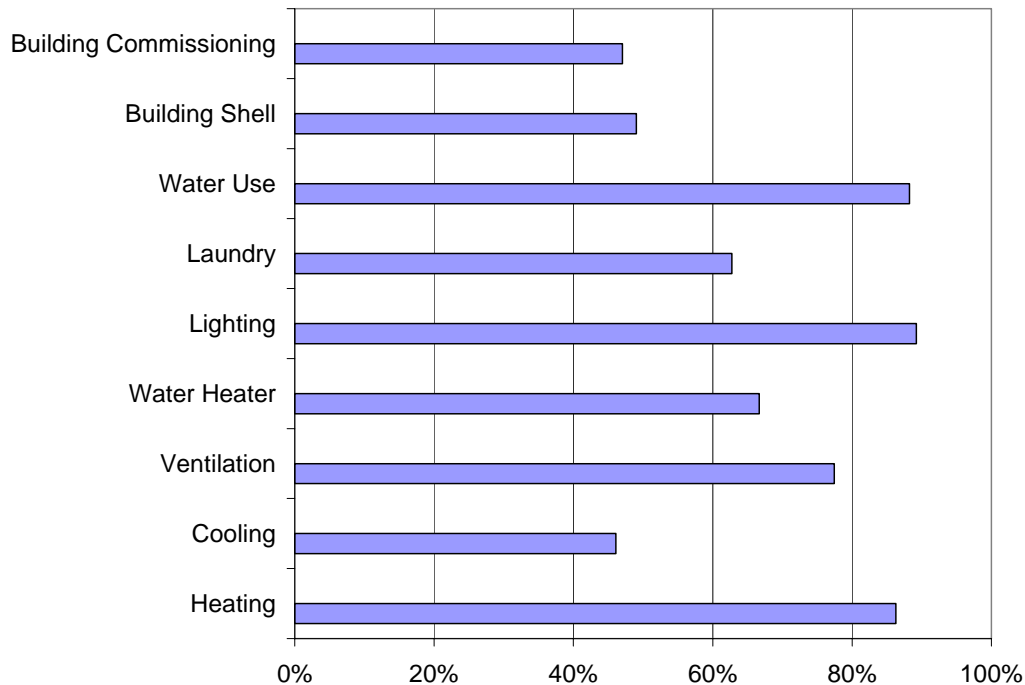


Figure 4-4
Property Managers that will Follow-up On Training by Technology



As part of the participant phone interviews, we spoke with 8 training attendees and asked them to describe actions they have taken as a result of attending the training sessions. Changes made as a result of the program's training include:

- Installation of programmable thermostats (1)
- Lighting upgrades (3)
- Roof maintenance/monitoring (1)
- Bathroom fan adjustments (1)

The major barriers facing managers and O&M staff based on phone interview results include lack of time, lack of authority to authorize changes, and budget constraints. Training survey results complement the participant phone interview findings, as shown below in Table 4-1. An additional barrier mentioned in the training surveys is non-master-metered tenant units. Some participating facilities have master meters only for common areas, so they have a decreased incentive to upgrade tenant units since they are not responsible for the bills. (Note that if these tenants are low-income residents they would be eligible to receive energy efficiency retrofits from the IOU's Low Income Energy Efficiency Program.)

**Table 4-1
Barriers to Implementing Training Recommendations**

Barrier	% of O&M Staff	% of Property Managers
Budget/Financial Resources	34%	39%
Lack of authority	11%	10%
Non-MM Tenant Units	11%	10%
Not applicable to building	11%	0%
Too Busy	8%	6%
Already have adopted energy efficient practices	3%	12%
Other	3%	12%
None	21%	12%
Total	100%	100%

4.3.2 Was the Overall Equity of the CPUC’s Program Portfolio Enhanced as a Result of Providing Program Services to the Multi-Family Affordable Housing Sector?

The program sought to increase the equity with which public goods funding is distributed via energy efficiency programs by targeting a previously under-served sector, multi-family affordable housing. This scope of this evaluation did not include baseline market assessment activities to determine whether this sector is actually under-served⁶. However, the evaluation was able to informally address whether the target market has been served by other energy efficiency programs via the program staff and participant interviews. We included a short battery of questions to determine what other types of program exist to address this target market, and whether the program was successful in reaching the target market.

Existing energy efficiency programs serving the multi-family affordable housing sector.

There are several existing energy efficiency programs that address multi-family buildings, some of which were described previously in this section. California’s IOUs offer two rebate programs that address the multi-family sector. However, the programs do not specifically target affordable housing providers, and anecdotal evidence gathered as part of this evaluation suggests that the rebate programs are not designed to accommodate the specific needs of affordable multi-family housing providers. The Statewide Multi-Family program in particular is fully subscribed early in the year and has a very short commitment period, precluding most affordable housing provider organizations from taking advantage of rebate money. Other programs that offer incentives and/or education to encourage energy efficiency investments are not comprehensive across measures (e.g., Lightwash) or only cover a limited geographic area (e.g., programs offered in the City of San Francisco).

⁶ Market and baseline assessment research activities that were part of the evaluation proposal were excluded from the evaluation research plan per the CPUC and the master evaluation contractor.

The program participants we interviewed over the phone said that they were unaware of other programs that would offer energy efficiency technical assistance. These results corroborate the program staff interview results, which indicated that most existing multi-family affordable housing property manager and O&M staff have never encountered information about the energy usage of their building and are in need of the type of assistance offered by the program. Program partners said that most of the funding and attention directed at the affordable housing sector with respect to energy efficiency goes towards new construction.

Success in reaching the target market. As reported previously, the program identified and contacted almost all of the large multi-family affordable housing organizations that have properties in the Bay Area, with more than half ultimately participating⁷. However, most of these organizations did not receive treatment comprehensively across all of their properties. Likewise, smaller organizations have not yet been reached, and will likely require more marketing resources in 2004-2005. The program's success in reaching one segment (i.e., large organizations located in the Bay Area) of the target market in a very cost-effective manner will be tested going forward as it faces new challenges associated with smaller organizations and locations outside the Bay Area.

4.3.3 Did the Program Succeed in Helping to Strengthen the Affordable Housing Technical Assistance Infrastructure?

The program was designed to provide training and technical assistance to help affordable housing providers build an infrastructure that can continue to offer energy efficiency support after the program ends. As mentioned previously, the evaluation scope did not include a baseline market assessment, which could have determined the extent that a technical assistance infrastructure exists that serves the target market. However, results described in the previous subsection indicate that existing affordable housing properties are an under-served market. The infrastructure that provides support to this target market (e.g., housing associations and government agencies), according to program partners, does not specifically provide technical assistance with respect to energy efficiency and/or does not typically focus on existing properties. One exception is the Department of Energy's Rebuild America program, which Energy Action recently joined. The program is a network of community-driven partnerships that foster energy efficiency. SEI's Executive Director is the Rebuild America's program representative in California. Becoming actively involved in this network should increase the program's influence on how the multi-family affordable housing community is provided with funding for energy efficiency investments and technical assistance.

SEI and NPH are both key organizations that are tapped into the infrastructure that serves the target market, including the Department of Housing and Urban Development and the Department of Energy. We reported previously that these two organizations were somewhat underutilized during the 2002-2003 program. Going forward, ICF plans to engage these organizations more

⁷ This statement is based on the opinions of those interviewed in the study. A formal, quantitative baseline analysis was not conducted.

fully in order to expand the program’s impact on the existing infrastructure and to ensure that its impact is sustained in the long term.

4.4 PROGRAM PERFORMANCE ASSESSMENT

To address the CPUC EM&V objective, “Assessing the overall levels and performance and success of programs”, we reviewed the program’s accomplishments versus its goals, and explored areas where the program fell short of its goals. We utilized the results of the primary data collected in support of the program process and effectiveness assessments to answer the research question:

- Was the program successful in meeting its goals?

The program’s goals and accomplishments are presented below in Table 4-2. The program succeeded in exceeding or meeting most of its goals with the exception of the financial applications, where the program intended to file 25 applications but succeeded in filing only 3. The reasons that the program did not meet this particular goal were outlined previously in this section. In summary, the following three barriers affected program participants’ ability to receive rebates from PG&E’s Express Efficiency and Multi-Family programs:

- the specific measure recommended as a result of the audit was not covered by the program (e.g., boiler controls, T8s, LED exit sign retrofit kits),
- the Multi-Family program was subscribed early-on each program year due to high demand and limited rebate budget,
- the commitment period of the program was too short for facilities to act.

Table 4-2
Program Goals and Accomplishments

Service	Goals	Accomplishments
Peer Forums/ Attendees	4 100	7 85
Facility Assessment Audits/ Units	26 2,600	26 3,324
Express Audit/ Units	30 3,000	21 2,625
On-call Assistance Requests/ Units	50 5,000	102 9,370
Tenant Education Trainings/ Attendees	12 600	12 320
Technical Trainings/ Attendees/ Units	4 50 15,000	23 375 39,512
# of Financial Applications Filed/ Units	25 2,500	3 773

The remainder of the program’s services were well received by participants, as described previously in this section. The program was proactive in revising program components that

needed improving to ensure that goals would be met. In particular, the program made the following improvements:

- Revised technical training content to be more interactive, include more examples, and to focus on a few important measures rather than attempt to cover all measures
- Adapted peer-to-peer forums to provide more technical training since forum attendees lacked experiences to share with peers
- Restructured the audit reports to be more effective and to link recommendations to other programs.

This section presents the study conclusions as they correspond to the CPUC EM&V requirements. The final subsection presents recommendations.

5.1 ONGOING FEEDBACK AND CORRECTIVE GUIDANCE

The first CPUC guideline, “Providing Ongoing Program Feedback and Corrective and Constructive Guidance” was addressed by this evaluation through process evaluation. The process evaluation intended to answer the following questions:

- Was the program effectively administered?
- Was communication effective among the partners?
- Was the program coordinated well with other programs targeting the affordable housing sector?
- Were marketing and outreach methods effective?
- How satisfied were participants with the various program services?
- How might the program be improved?

5.1.1 Effectiveness of Administration

The structure of the partnership was found to be effective in serving the target market. The inclusion of NPH, SEI and LISC ensured that the program had access to a wealth of affordable housing provider contacts. Likewise, CEE’s energy efficiency expertise and strength in communicating technical information ensured that program services were effectively delivered. ICF handled most of the administrative procedures associated with the program, effectively shielding the other partners from burdensome regulatory reporting tasks so they could focus on outreach and implementation. In particular, the ICF project manager’s organizational and management skills were key to effective and efficient administration.

The division of responsibilities evolved to some extent to most effectively utilize the strengths of each of the partners. In particular, the emergence of the circuit rider (the LISC outreach and marketing coordinator) as the “face of the program” and the clearinghouse for program services was key to effective outreach and coordination of program services. SEI’s and NPH’s strengths were underutilized in 2002-2003, and going forward ICF plans to further engage both organizations. Since the 2004-2005 program seeks to expand beyond the large Bay Area organizations that were relatively easy to reach as a result of existing partner relationships, the role of SEI and NPH in identifying and building networks among smaller organizations and those located outside the Bay Area will be pivotal to the program’s continued success.

5.1.2 Effectiveness of Communication Among the Partners

Communication among the partners was effective due to structured protocols developed early on that included regular conference calls including all the partners. The partners eventually modified the communication protocols so that conference calls and meetings were held on an as-needed basis including only those partners relevant to the discussion. Some of the partners felt that the regular conference calls involving all the partners should be re-established at least for the early stages of the 2004-2005 program. Another area that could be improved according to partner feedback was debriefing in more timely manner after events such as conferences and training sessions.

Implementation tasks were coordinated among the partners via contact management software that housed all of the contacts and program participants. The software allowed for multiple users to enter and access contact information and to generate “to-dos” for other staff across organizations, leading to more efficient delegation and tracking of implementation tasks. However, with multiple users entering contact data at times information was entered more than once leading to redundancy and in some cases inconsistency. The software was also initially intended to support regulatory reporting, but the way in which it was set up needs to be improved to be able to utilize it to generate reports for the CPUC.

5.1.3 Extent of Coordination with Other Programs Serving the Target Market

There are many programs that provide energy efficiency services to the multi-family housing sector, but few that specifically target affordable housing providers. Overall, the program was well coordinated with energy efficiency programs that serve the target market. The program’s circuit rider was informed about all the programs that were applicable to the target market and acted as a clearinghouse for all contacts and participants to steer them to financial and other services offered by complementary programs. Moreover, the program created a finance guide that provided asset managers with an exhaustive list of funding sources and eligibility requirements to assist them in navigating funding options. However, there were some specific difficulties in coordinating with the statewide rebate programs, as discussed in Section 5.2.1.

5.1.4 Effectiveness of Marketing and Outreach

The program was marketed primarily through existing partner networks (e.g., conferences, newsletters, websites), with the circuit rider calling or receiving calls from contacts. Other marketing methods included attendance at conferences sponsored by other agencies (such as the California Association of Homes and Services for the Aging), coordination with the San Francisco Mayor’s Office of Housing and the Housing Authority of Oakland, and cross-referrals from other energy efficiency programs such as Lightwash. The program also designed and disseminated Energy Action brochures, fact sheets and a periodic newsletter and launched an Energy Action website.

The inclusion of organizations in the partnership that maintain extensive affordable housing provider contacts was a very effective program design feature that allowed for cost-effective

identification and recruitment of many of the major organizations located in the Bay Area. Likewise, the use of the LISC circuit rider as the face of the program was extremely effective in getting contacts to participate.

However, going forward the program may experience increased marketing costs associated with reaching beyond the largest organizations that are associated with partnership organizations and expanding its geographic scope beyond the Bay Area. The 2004-2005 program plans to reach smaller organizations and facilities located in the Central Valley. The program will rely on its new partner, the California Coalition for Rural Housing, along with the networking capabilities of SEI (its existing partner), to penetrate the multi-family affordable housing sector in the Central Valley. The program will rely on its contacts within the San Francisco Mayor's Office of Housing and the Housing Authority of Oakland, as well as program partners such as LISC, to identify and recruit smaller organizations.

5.1.5 Levels of Program Participant Satisfaction

The participant interviews and post-training and post-peer forum surveys indicated that overall satisfaction with the program was high. Survey results also indicated that satisfaction with specific program services such as training, peer forums, and audits was high. In particular, training attendees reported learning a lot and felt that their time was well spent. Peer forum attendees appreciated the opportunity to network with their peers and were satisfied with the content and structure of the forum. Recipients of the audits found the information contained in the audit reports to be helpful and well presented, with many managers undertaking at least some of the basic recommendations.

Program partners that were interviewed as part of the process evaluation indicated that the high levels of participation and satisfaction among the target market were in part due to the lack of technical services available to this market in the past. Several partners reported that managers at existing multi-family properties have "never heard or seen this type of information" before. Moreover, affordable housing staff have largely "thankless" jobs and the one-on-one interaction with the circuit rider and recognition in the program's newsletter, website and conference events both increased satisfaction and participation.

5.2 INDICATORS OF PROGRAM EFFECTIVENESS

The second CPUC EM&V objective, "Measuring indicators of the effectiveness of specific programs, including testing of the assumptions that underlie the program theory and approach" was addressed by a program effectiveness assessment. Through a combination of program staff interviews, qualitative interviews with program participants, and surveys with training and peer forum attendees, the evaluation tested whether the program was effective in meeting its stated objectives. Specifically, the following research questions were addressed:

- Was the program successful in reducing energy consumption and peak demand as a result of its audit, referral and training services?

- Was the overall equity of the CPUC’s program portfolio enhanced as a result of providing program services to the multi-family affordable housing sector?
- Did the program succeed in helping to strengthen the affordable housing technical assistance infrastructure?

5.2.1 Reducing Energy Consumption and Peak Demand

The program was not successful in getting its audit participants to utilize the statewide rebate programs to secure funding for making recommended energy efficiency improvements. The program intended to file 25 rebate applications to facilitate implementation of audit report recommendations, and only 3 of the 47 properties that received facility audits through the program ultimately filed rebate applications with the statewide programs.

The program experienced limited success in leading to energy efficiency investments as a result of its audit reports, and in improving building operations as a result of technical trainings. While many audit and training participants followed up on some of the program’s recommendations, the actions taken were mostly limited to partial upgrades (e.g., replacing incandescent bulbs with CFLs as they burn out). Significant barriers remain to increasing energy efficiency investments at participating properties including lack of time, lack of authority to authorize improvements and budget constraints.

The 2004-2005 program design seeks to address the barriers that arose during the 2002-2003 program with respect to participants applying and receiving rebates from the statewide rebate programs. Custom-tailored rebates, no-cost financing, and a longer commitment period will help address some of the barriers. However, other barriers (e.g., lack of time, lack of authority, need for additional education) that were not fully addressed for some participants in 2002-2003 may prove challenging to the success of the 2004-2005 program¹. The continued use of the circuit rider as the clearinghouse for program services as well as the introduction of a memorandum of understanding for audit participants to screen out facilities that do not intend to adopt audit recommendations may help to address these additional barriers.

5.2.2 Increasing the Equity of the CPUC’s Program Portfolio

The program sought to increase the equity with which public goods funding is distributed via energy efficiency programs by targeting a previously under-served sector, multi-family affordable housing. This scope of this evaluation did not include baseline market assessment activities to determine whether this sector is actually under-served. However, the evaluation was able to informally address whether the target market has been served by other energy efficiency programs via program staff and participant interviews.

¹ Note that the 2004-2005 program (unlike the 2002-2003 program) will be evaluated based on its success in meeting energy savings goals.

Our results suggest that existing multi-family affordable housing properties are an under-served market that existing energy efficiency programs are not well designed to serve. This sector has specific barriers (e.g., long budget cycles, red tape for authorizing capital improvements, inability to pass on the costs of capital improvements to tenants, etc.) that are not being addressed by the statewide rebate programs.

The program was successful in identifying and providing energy efficiency technical services to many of the major affordable housing organizations in the Bay Area. Its approach relied on a partnership of existing agencies that serve the target market to gain access to housing providers. The 2004-2005 program will test the program's ability to expand beyond the largest organizations and extend its reach outside the Bay Area to continue its impact on increasing equity in the CPUC's program portfolio.

5.2.3 Strengthening the Affordable Housing Technical Assistance Infrastructure

The program was designed to provide training and technical assistance to help affordable housing providers build an infrastructure that can continue to offer energy efficiency support after the program ends. The infrastructure that provides support to this target market (e.g., housing associations and government agencies), according to program partners, does not specifically provide technical assistance with respect to energy efficiency and/or does not typically focus on existing properties. The program recently joined the Department of Energy's Rebuild America program, which going forward will increase its ability to network with a community-driven partnership that fosters energy efficiency. Likewise, the program's intention to more fully engage its partners SEI and NPH will expand the program's impact on the existing infrastructure by increasing the services available to existing multi-family affordable housing properties.

5.3 PROGRAM PERFORMANCE

To address the CPUC EM&V objective, "Assessing the overall levels and performance and success of programs", we reviewed the program's accomplishments versus its goals, and explored areas where the program fell short of its goals. We utilized the results of the primary data collected in support of the program process and effectiveness assessments to answer the research question:

- Was the program successful in meeting its goals?

The program succeeded in exceeding or meeting most of its goals with the exception of the financial applications metric. As described above, the target market faces barriers that are not adequately addressed by the existing statewide rebate programs, and as a result the program struggled to refer its participants to those programs.

5.4 CONTINUING NEED FOR THE PROGRAM

The final CPUC EM&V objective involved “helping to assess whether there is a continuing need for the program”. We used the results from the process evaluation, the program effectiveness assessment, and measurements of program performance to assess whether there is a continuing need for the program.

Multi-family affordable housing properties are an under-served market that existing energy efficiency programs are not well designed to serve. As discussed above, our results suggest that the target market addressed by the program has not had previous access to energy efficiency technical assistance. Moreover, the specific barriers faced by affordable housing providers are not addressed by the existing statewide rebate programs. These findings suggest there is a need for a program that addresses the unique barriers faced by this segment.

The program was effectively designed to identify and recruit many of the major affordable housing organizations in the San Francisco Bay Area. The program successfully engaged the network of organizations serving Bay Area affordable housing providers and recruited more than half² of the organizations to participate in the program. The 2004-2005 program will continue to rely on its partnership approach to expand its reach to smaller organizations and properties located outside the Bay Area. Our results suggest that the program’s approach to engaging affordable housing providers was successful in 2002 and 2003. Going forward, the program may face increasing marketing costs to increase its impact on a more representative segment of the target market. However, it is imperative that the program reaches beyond the large San Francisco Bay Area organizations with which it experienced initial success in order to meet its goals with respect to increasing equity and creating sustainable effects on the marketplace.

The program experienced mixed success in leading to energy efficiency investments and influencing changes in building operations. Its services were well received by participants, but led to only a limited amount of energy efficiency investments and changes in building operations. However, its design was dependent on referring participants to statewide rebate programs, which were not designed to address the specific barriers faced by affordable housing providers. Going forward, the 2004-2005 program includes new features that may address at least some of the barriers to increased investment and improved building operations faced by affordable housing providers. The research suggests, however, that there are some barriers such as lack of time and authority that may be difficult for the program to overcome.

In conclusion, our evaluation results indicate that there is a need for a program that is designed to address the unique barriers faced by the affordable multi-family housing community. The 2002-2003 Energy Action program was effectively designed to identify and recruit participants, however it experienced mixed results with respect to achieving energy savings. The new

² As mentioned in Section 4, statements regarding program participation rates are based on the opinions of those interviewed as part of this study. A formal, quantitative baseline analysis was not conducted as part of this study.

features of the 2004-2005 program are expected to result in significant energy efficiency investments among the target market.

5.5 RECOMMENDATIONS

This final section presents recommendations for improving the Energy Action program. As noted previously, the CPUC has approved the program for 2004-2005.

5.5.1 Program Administration

The evaluation results indicated several areas that could be improved with respect to program administration.

- **Consider reestablishing regular communications at least at the beginning of the 2004-2005 program to ensure partners are kept in the loop and involved in decisions.** The 2002-2003 program relied on regular conference calls including members from each of the partners to facilitate effective communication. This protocol was relaxed once the program was being implemented full-scale. Some of the partners suggested a return to the regular conference calls to ensure that all of the partners stay in the loop with regard to decisions regarding design and implementation of the 2004-2005 program.
- **Schedule debriefing meeting closer to events.** Program services such as trainings, peer forums and conferences could be more effectively improved on a continuous basis if debriefing meetings were held immediately following these events.
- **Improve the usability of website.** The partners have already met and discussed potential improvements so the Energy Action website can be more effective for users.
- **Improve the functionality of the contact management software to reduce the time required for regulatory reporting and streamline the procedure for entering contacts to improve data quality.** To increase administrative efficiency and effectiveness, enhancements should be made to the contact management software. ICF is planning on making the recommended improvements for the 2004-2005 program.

5.5.2 Serving the Target Market and Enhancing the Affordable Housing Infrastructure

We provide three recommendations with regard to improving the program's effectiveness in serving the target market and enhancing the existing affordable housing infrastructure.

- **Utilize the networking skills, experience and contacts of NPH and SEI more fully.** These organizations will be key to the 2004-2005 program's ability to cost-effectively expand its reach beyond the organizations that were served in 2002-2003.
- **Coordinate with PG&E to ensure that double dipping between rebate programs does not occur, and consider sharing marketing strategies.** The Statewide Multi-

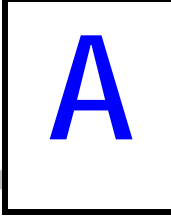
Family program targets the multi-family housing market, and the opportunity exists for properties to apply and receive rebates both from ICF's and the statewide program. ICF and PG&E should coordinate to reduce the potential for double dipping. Moreover, the two entities should consider sharing their marketing plans to increase the effectiveness of reaching multi-family housing providers in general and affordable providers in particular.

- **Record and track multi-family affordable housing properties that are ineligible for the program.** The program currently screens out properties with less than 5 tenant units, properties that are non-master-metered, and those located outside PG&E's service territory. The 2004-2005 program will likely add a formal screening process that records eligibility information. This information should be tracked and reported to help determine the need that exists among these segments of affordable housing providers.

5.5.3 Identifying Additional Barriers to Increasing Energy Efficiency Investment Among the Target Audience

The 2004-2005 program includes specific features that were not a part of the 2002-2003 program in order to address barriers that the 2002-2003 program faced. There likely exists additional barriers to increasing energy efficiency investments among the target market that the 2004-2005 program will not be able to address. These two recommendations suggest tracking of information that may help future programs address these additional barriers.

- **Track reasons that participants do not take advantage of the program's rebates.** The circuit rider is in a unique position to be able to determine why properties choose not to undertake recommended energy efficiency improvements. The program offers rebates and no cost financing, which will help many properties overcome the financial barriers that kept them from fully implementing projects recommended by the 2002-2003 program's audit reports. However, additional barriers such as lack of authority and lack of time were mentioned by program participants as reasons for not undertaking recommended improvements. The circuit rider should identify and document any barriers that prevent 2004-2005 participants from investing in energy efficiency to provide insight to program planners and policymakers with regard to future programs.
- **Determine whether participating organizations are expanding treatment to their other properties.** The 2002-2003 program addressed large organizations that have many properties. Our research suggested that the program typically treated one property per organization to ensure broader treatment across the target market. The circuit rider should determine whether participating organizations utilized the knowledge they gained from participating in the program and expanded treatment to their other properties. The circuit rider should document reasons for not expanding treatment to again help identify potential barriers and needs that may be addressed by future programs.



PROGRAM STAFF INTERVIEW GUIDE

Evaluation of the Partnership for Energy Affordability in MF Housing Program Staff Interview Guide FINAL

Contact Name _____

Contact Organization _____

Contact Work Phone Number _____

Date of Interview _____

Interviewer _____

Introduction

Hello, my name is Tami Rasmussen and I am calling from KEMA-XENERGY. May I speak with (CONTACT NAME)? IF CONTACT IS NOT AVAILABLE, ASK FOR BEST TIME TO CALL BACK.

CALL BACK DATE/TIME: _____

We are evaluating the Energy Action program, with which your organization was a partner. As part of the evaluation we are assessing the effectiveness of the program's processes and identifying ways to improve how the program is implemented going forward. We are contacting each of the program Partners as part of the process evaluation. We would like to interview you about your experience with implementing the program. Depending on your answers, the interview should take about 30 minutes. All responses you provide will remain strictly confidential.

This study is being conducted on behalf of the program's sponsors and the California Public Utilities Commission. CONTACT NAME IF NEEDED TO VERIFY STUDY:
LeAndra MacDonald, 415-677-7131.

I. Overview of Roles & Responsibilities

- A. What is the role of your organization in implementing the program?
- B. What is your position at your organization?
- C. What role did you have in implementing the program? Others in your organization?
- D. Are you going to continue your present role with the 2004/2005 program? If not, why not?

II. Administrative Effectiveness and Coordination Issues

- A. How effective is the overall administrative organization of the program? (e.g., the assignment of roles to each of the partners, the overall management of the partners by ICF.)
- B. Was the partnership (i.e., involvement of all the partners) effective at reaching the target market? [Probe. Any other entities that should have been part of the partnership?]
- C. How effective is the division of responsibilities between ICF and its partners?
- D. How effective has the Partnership been in utilizing each of the firms' strengths? Have there been any coordination issues? [Probe. Inquire about how tools helped maintain coordination, e.g., meetings, UpShot to do's, conference calls.]
- E. Has the Program been well coordinated with other programs (e.g., HUD, utility, state, other) targeting the same audience? [Note that there are many programs targeting this audience, but targeting different needs.]
- F. What type of information were you required to report to ICF to support their CPUC monthly and quarterly reports? How much effort did these reporting requirements entail? Could you suggest any improvements in the reporting process to make it more efficient?
- G. How might program administration, delivery, and communications be better coordinated or improved going forward?

III. Program Marketing, Outreach

- A. How is the program promoted?
- B. Have promotional efforts and materials been effective?
- C. What improvements might be made to more effectively and efficiently identify and reach the target markets?
- D. How effective is the circuit rider (Clare) in providing outreach and recruitment for the program? How might this function be improved in the future?
- E. What is the target market for this program? How is this target market identified?
- F. What portion of the target market has been reached by the program?
- G. Are there segments within the target market that have been easier/harder to reach?
- H. How has the website been utilized? Has it been effective in increasing program participation? In disseminating information about the program? How might it be improved?
- I. How important was attendance of conferences in marketing the program? Were there any conferences or trade events that were not attended that should be? Or ones that were attended that were not very valuable?

IV. Program Implementation

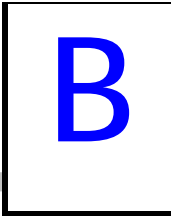
- A. How effective was the UpShot tracking system at coordinating tasks among the partners, and tracking information about contacts and participants?
 1. Were there any problems associated with the system?
- B. Did the project management tracking system effectively report on program metrics as intended? [ICF, CEE and LISC only]
- C. Did the peer forums effectively target the appropriate audience? [Clare, SEI an ICF only]
 1. Did forum participants utilize other program services?
 2. If not, why not?
- D. How effective were the facility audits? [Clare, CEE and ICF]
 1. How many audit participants followed-up with their recommendations?

2. What were some of the reasons why customers did not follow up with recommendations?
- E. How effective were the training sessions with both O&M staff and property managers? [Clare, ICF, CEE, SEI only]
- F. How many customers applied for rebates offered by other programs? [Clare, ICF only]
1. What role did you play in helping the participant apply for financial assistance?
 2. For those that did not, why not?
 3. For those that did, were they satisfied with their experience?
 4. Did they ultimately receive rebates?
 5. If not, why not?
- G. Did participants access the contractor referral database? [Clare only] If yes, do you know if/how they made use of the information? If no, why not?
- H. Was the program effectively designed to intervene at the right time and with the right person?
1. Characterize intervention points, key decision-makers.
- I. What do you think was the most effective program service(s)? Less effective?

V. Assess customer satisfaction and areas for improvement

- A. Are property managers/owners generally satisfied with their involvement in the program?
- B. What areas or elements of the program have been underutilized? Why?
- C. How can the program be improved?
1. What types of services should be added, changed or removed?
 2. How can marketing and outreach be improved?
 3. How can program staff be more effective in managing the overall effort?

Those are all of the questions I have for you. Thank you for your time and cooperation.



PARTICIPANT INTERVIEW GUIDE

Evaluation of the Partnership for Energy Affordability in MF Housing Participant Interview Guide FINAL

Account Name _____

Number of Buildings _____

Number of Units _____

Contact Name _____

Contact Work Phone Number _____

Account/Contact Program Participation History

	Contact			Account			
Program Element	O&M Training	Property Mgr Training	Peer Forum	On-Call Diagnostic	Tenant Training	Express Audit	Facility Assessment
Participated in...							
Date of Participation							

Date of Interview _____

Interviewer _____

Introduction

Hello, my name is _____ and I am calling from KEMA-XENERGY. May I speak with (CONTACT NAME)? IF CONTACT IS NOT AVAILABLE, ASK FOR BEST TIME TO CALL BACK.

CALL BACK DATE/TIME: _____

We are evaluating the Energy Action program, and according to our records you participated in this program [describe specific program elements and dates of participation]. We would like to interview you about your experience with the program to get your feedback on its effectiveness and learn about ways that it may be improved. Depending on your answers, the interview should take about 20 to 30 minutes. All responses you provide will remain strictly confidential.

This study is being conducted on behalf of the program's sponsors and the California Public Utilities Commission.

CONTACT NAME IF NEEDED TO VERIFY STUDY: Clare Bressani-Tanko, 415-397-7322 x28

First, I'd like to get some background information on the properties that you manage or maintain.

I. Background/Characterization

- A. Are you a property owner, manager, or other?
- B. How many complexes or buildings do you own or manage? How many units in total?
- C. Do you also own/manage other multifamily properties? What percent of the total is comprised of affordable properties?
- D. Describe what services you obtained through the Program. [Confirm our records.]

Now I'd like to find out how you learned about the Program.

II. Program Marketing, Outreach

- A. How did you learn about the program?
- B. Did you tell any other colleagues about the program?

Next, I'm going to ask you a series of questions about the program services you received. Remember, your response will remain strictly confidential.

III. Program Implementation

- A. How did you find out about what services were offered through the program?
- B. Were you able to obtain all services you wanted from the program?
- C. How knowledgeable did you find the program staff (specific to services they received, e.g., trainers, forum leaders, etc.)?
- D. Was the program staff responsive to your needs? [Probe. Indicate which program staff, e.g., which of the partners.]
- E. Peer forum participants:
 - 1. Did you find the peer forums to be valuable?
 - 2. Could they be improved upon in any way?
 - 3. How did you use the information you received from the forum?
 - 4. How could the peer forums be improved going forward?
- F. Property/facility manager training participants:

1. How effective was the training in helping you to better manage your building's energy usage?
 2. What types of changes did you make in response to the training?
 3. Were there any barriers to making changes?
 4. How could the training be improved going forward?
- G. Properties that received tenant training:
1. How did your tenants receive the training?
 2. Why do you think most tenants attended the training? What were they looking to learn/gain from the training?
 3. Did you notice any change in behavior of your tenants as a result of the training?
 4. What barriers did they encounter to implementing training recommendations?
 5. How could the tenant training be improved going forward?
- H. Technical assistance:
1. What type of assistance were you looking for?
 2. Did you receive adequate assistance?
 3. What did you ultimately do with the information you received?
 4. Were there any barriers to making changes/applying for financial assistance?
 5. How could the technical assistance service be improved going forward?
- I. Audit participants:
1. How useful was the audit and audit report you received?
 2. Did you make changes in response to the audit report?
 3. Were there barriers to making changes?
 4. How could the audits be improved going forward?
- J. Did the program refer you to any other programs, such as those that offer incentives or rebates for energy efficiency equipment?
1. If yes, which ones?
 2. Did you obtain any rebates?
 3. How satisfied were you with your experience with the other program(s)?
 4. Did you experience any difficulties with trying to obtain rebates/participate in other programs?

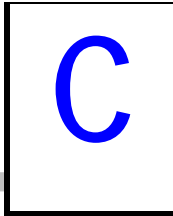
5. How could the referral services be improved going forward?
- K. Do there exist any other barriers to adopting energy efficiency behaviors and measures in your facility?
 1. How might the program address these barriers?

Finally, I just have a few more closing questions about how the program might be improved going forward.

IV. Assess customer satisfaction and areas for improvement

- A. How satisfied have you been with your involvement in the program? [Rate on a scale from 1 to 5, with 1 being not at all satisfied and 5 being very satisfied. Probe for reasons why.]
- B. How can the program be improved?
 1. What types of services should be added, changed or removed?
 2. How can marketing and outreach be improved?
 3. How can program staff be more effective in managing the overall effort?
- C. What program element did you find the most useful?
- D. If given the opportunity, would you choose to participate again?

Those are all of the questions I have for you. Thank you for your time and cooperation.



PEER FORUM SURVEY

Energy Action Workshop Evaluation Form

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The services offered through the Energy Action Program meet my needs. Comments:					
I am happy with the services provided through Energy Action. Comments:					
The content of the Energy Action Workshop met my needs Comments:					
The materials presented at the Workshop were informative Comments:					
The meeting was well structured Comments:					
The pacing and length of the meeting was good Comments:					

What actions do you think you will take in result from participating in this workshop?

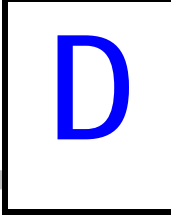
What about the Energy Action Program appeals to you?

What other things would you like to learn from the Energy Action Program?

What worked for you in this Peer Forum?

What suggestions do you have for future Peer Forums?

What suggestions do you have for the Energy Action?



TRAINING ASSESSMENT SURVEYS

Energy Action Pre-Training Survey

Name: _____ Title: _____

Name of Your Facility: _____

This will NOT be used to evaluate your job performance and all answers will be confidential.

Question	Yes X	No X
As part of your job, do you repair broken equipment?		
As part of your job, do you maintain equipment in your buildings?		
As part of your job, do you install equipment in your buildings?		
Do you track tenant complaints using logs?		
Do you use maintenance logs?		
Have you had building energy use training before?		
Have your buildings received audits or other assistance in the past?		
Have you made any HVAC improvements in the past three years?		
Have you made any Hot Water or Boiler improvements in the past three years?		
Have you made any Lighting improvements in the past three years?		
Have you made any Appliances improvements in the past three years?		
Are you responsible for hiring contractors?		
Do you have a contractor(s) you work with regularly?		
Are you responsible for making decisions about which supplies and equipment to buy?		
How many buildings do you manage?		
How many units are there in all your buildings?		

Energy Action Post-Training Survey

Name: _____ Title: _____

Name of Facility: _____

Number of Buildings: _____ Number of Units: _____

This will NOT be used to evaluate your job performance and all answers will be confidential.

1. Will you now take action to reduce energy on your building systems?

System	Yes	No
Heating		
Cooling		
Ventilation		
Water heating		
Lighting		
Laundry		
Water usage		
Building shell		
Building commissioning*		

2. What might prevent you from taking action? _____

3. Did you find the training useful?

	Very Good (X)	Good (X)	Just Okay (X)	Not Good (X)
Overall Training				
Heating				
Cooling				
Ventilation				
Water Heating				
Lighting				
Water Usage				
Building Shell				
Building Commissioning				

4. What was most useful? _____

5. Could any part of the training be improved? _____

6. Other Comments Are Welcome _____
