

Southern California Home Performance Program

1. Projected Program Budget	\$	1,333,851
2. Projected Program Impacts		
MWh		n/a
MW (Summer Peak)		n/a
3. Program Cost Effectiveness		
TRC		n/a
PAC		n/a

4. Program Descriptors

Market Sector:	Residential
Program Classification:	Local
Program Status:	New

5. Program Statement

This program finds, screens, trains, and mentors qualified HVAC and remodeling contractors to deliver comprehensive home performance improvement packages tailored to the needs of each existing home and its owner.

6. Program Rationale

This program will enlist and support HVAC and remodeling contractors as effective promoters of energy efficiency. Rather than allow the “mid-stream” to be an uncertain element in the energy efficiency marketplace, this program ensures support from a critical, but often neglected component.

7. Program Outcomes

- **Home retrofit measures and associated energy savings:** A top-quality home energy retrofit may include an extensive set of measures such as the following, as needed:
 - Envelope air sealing (structural air bypasses, interior penetrations such as can lights, conditioned space perimeter separations) to under 0.35 ACH
 - Enhanced insulation (quality installation of additional attic insulation, possible wall and underfloor insulation)
 - Windows (sealing or replacement with appropriate low-E/SS varieties, possible exterior shading as needed)
 - Crawl space sealing and insulation (if needed)
 - Moisture problem source correction (leaks, entrapments, condensation, interior source abatement, site drainage correction, etc.)
 - Air conditioner upgrading and rightsizing via Manual J/D (SEER 13 minimum, with quality installation including duct sealing and verification testing plus charge and airflow corrections)
 - Duct deficiency correction (sizing of runs and apertures of supply and return, proper connections and bends, avoidance of flow restrictions, filter sizing and type)

- Combustion appliance safety testing (to assure that envelope changes avoid dangerous pressure imbalances)
- Mechanical ventilation (as appropriate to provide high-efficiency space conditioning with adequate fresh air)
- High efficiency lighting replacements (CFLs, pin-based fluorescent fixtures, dimmers, timers)
- Homeowner instruction in proper home operation (filter replacements, thermostat use, moisture source control, control of lights, pool pump/sweep timers, time-of-use considerations, refrigerator use and upgrades, etc.)
- **Only essential incentives used:** No special customer incentives are involved; instead, this program’s contractors are trained to support the SCE measure rebates and guide homeowners in their use. If SCE later implements an alternative financing incentive such as EGIA’s excellent program of easy consumer financing with interest rate buydowns and no utility risk, we will also support that option with our contractors.
- **Future low-cost continued energy savings option:** The program’s trained and active contractors in place at the end of this program will continue to add more jobs and their associated long-term energy savings, even without continued training of more contractors, with only the cost of continued contractor reporting incentives and administration.

8. Program Strategy

The program includes marketing activities to help educate customers on this new service and provide additional customer leads to the trained contractors, although most customers for this service will come from contractors’ own customer records and marketing. At this initial stage, we propose providing contractors with financial incentives to become accustomed to doing formal home diagnostics, post-retrofit quality assurance testing, and reporting of data on all jobs. We also provide independent quality assurance inspections on a sampling basis. This program will be delivered under CBPCA’s status as an Energy Star Partner for the national “Home Performance with Energy Star” initiative, enabling the Energy Star banner to be used in all program marketing and contractor activities.

9. Program Objectives

Number of Contractor Training Sessions Held

The CBPCA proposes to conduct an ongoing series of training and mentoring events. The initial 1-day *Home Performance Orientation* event will be conducted 5 times in 2006 and 3 times in 2007. This event is intended to introduce the idea of home performance to contractors who are unfamiliar with the concept, with special emphasis on business and marketing topics. The 2-day *Home Performance Basics* session will cover building science principles and the interactions of systems within a home. We will hold 3 sessions in 2006 and 3 in 2007. After the overview session, contractors will have the option of taking one or both of the 2-day continuing education sessions, *Advanced Diagnostics* and *Advanced Remediation*. *Advanced Diagnostics* will be offered 3 times each year and *Advanced Remediation* will be offered twice in 2006 and 4 times in 2007. Finally, CBPCA will conduct 1-day, in-field mentoring sessions. *Mentoring* sessions will be offered 3 times in 2006 and 4 times in 2007. The total number of training events held will be 33 — 16 in 2006 and 17 in 2007.

Training Topic	Sessions Held in	Sessions Held in	Total Sessions
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	2006	2007	Held
<i>Home Performance Orientation</i>	5	3	8
<i>Home Performance Basics</i>	3	3	6
<i>Advanced Diagnostics</i>	3	3	6
<i>Advanced Remediation</i>	2	4	6
<i>Mentoring</i>	3	4	7
<i>Totals</i>	16	17	33

Number of Contractors Trained

CBPCA aims to provide *Home Performance Orientation* training to 96 contracting firms operating within SCE's service territory. We will target 60 of these firms to participate in the 2-day *Home Performance Basics* training, with a minimum goal of moving 30 contractor companies to participate in either of the 2-day continuing education courses. Most firms will avail themselves of the in-field mentoring

Training Topic	Contractors Trained in 2006	Contractors Trained in 2007	Total Contractors Trained
<i>Home Performance Orientation</i>	60	36	96
<i>Home Performance Basics</i>	30	30	60
<i>Advanced Diagnostics</i>	15	15	30
<i>Advanced Remediation</i>	15	15	30

Person Days of Training Completed

The CBPCA proposes to use an additional metric of number of person days of training completed. This differs from contractors trained in that each contractor (defined as distinct companies) will most likely send an average of 1.5 staffers to each of the sessions in which they participate. We calculate this number to be 515 over the two-year period.

Training Topic	Contractor Training Days in 2006	Contractor Training Days in 2007	Total Contractor Training Days
<i>Home Performance Orientation</i>	100	60	160
<i>Home Performance Basics</i>	60	45	105
<i>Advanced Diagnostics</i>	45	45	90
<i>Advanced Remediation</i>	30	60	90
<i>Mentoring</i>	30	40	70
<i>Totals</i>	265	250	515

10. Program Implementation

Task 1 – Re-asses Implementation Timeline, Marketing Plan, and Staffing Rates or Unit Pricing with SCE for Inclusion in the Purchase Order

Task Discussion

Changes to the program: After negotiations and bid clarifications, CBPCA will make changes to the implementation timeline based on the purchase order or contract effective date.

Implementation of Changes: CBPCA will implement the negotiated changes within two weeks after agreement on the changes, to be effectuated in contractual terms per SCE RFP requirements.

Task 2 – Assemble and Submit SCE Approved Purchase Order Kit

Task Discussion

- Process Flow Chart of the proposed program
- Process Flow Narrative
- Additional documentation needed
- Scope of Work document
- Program Budget

Task 3 – Build Tracking System

Task Discussion

Proposed tracking system to be developed: CBPCA already has a job and contractor tracking system built as an Access database. That system receives inputs from our contractor solicitation process, training enrollments and completions, contractor reports, CBPCA marketing leads, customer complaints, and CBPCA job verifications. Simple field additions will be made to that system to add tracking of contractor incentives paid and verified or adjusted plus other data required by SCE.

Summary Report: The following report highlights will be provided on the summary of the CBPCA program progress report:

Training days and module sessions completed

Company-days and individual-days of training completed

Number of marketing event days accomplished

Number of media articles published on program

Projects Completed by Trained Contractors

- Total dollar amount installed-to-date
- Total installed kW demand reduction-to-date (using program assumptions)
- Total installed kWh savings-to-date (using program assumptions)
- Total number of installed customers (based on assigned project number)
- Number of customers installed

Task 4 – Develop Marketing Materials and Obtain Approval from SCE

Task Discussion

Proposed CBPCA program marketing materials: The current CBPCA plan for initial marketing materials includes the following:

For solicitation of contractors:

- Expansion of the current www.cbPCA.org and www.calhomeperformance.org informational websites to present course schedules, applications, participation agreements, and other relevant information to prospective contractor trainees.
- Presentations to trade group meetings throughout the region plus postings within their own regular member communications such as newsletters.
- Personalized letters to contractors introducing the program and directing readers to the website plus toll-free telephone number for further information.
- Followup well-designed email and fax descriptions and reminders of course offerings and schedules, particularly for the introductory management orientation sessions.
- Existing CDs for ride-along audio-only explanation of the program and videos on customer and contractor testimonials.

For Customer Education and Marketing:

- Contractor “guerilla” marketing kit: A CD filled with low-cost contractor marketing ideas, tips, and templates for media advertising and other materials, for distribution to program-trained contractors.
- Copies of existing and new mass media articles on the program, gained through outreach to newspaper and radio/TV journalists and editors (throughout program)...for display on CBPCA website and copies used by contractors in their own marketing and sales.
- Existing display materials for home show booths to be staffed in collaboration with trained contractors.

Task 5 – Implement Marketing Campaign

Task Discussion: The CBPCA program marketing plan includes delivering an explanation of the correlation between what marketing efforts or materials are implemented or distributed and the specific desired program results. A current description of that correlation is as follows.

Marketing to Contractors: This CBPCA program markets the training and support services to contractors, largely through local chapters of various trade associations such as NARI, NAHB Remodelers’ Council, ACCA, SMACNA, IHACI, and ICA plus use of targeted commercial contact databases. For this purpose the marketing materials and activities will include all those specified in Task 4 for contractor outreach.

These contractor marketing activities are what fill the training courses that qualify contractors to deliver comprehensive home performance retrofit services to customers, thereby creating the energy savings. Without such tactics to reach contractors, there would be no program and no savings.

Marketing to the public : The program marketing strategy involves empowering the trained contractors to be the primary public educators and marketers, as has worked well in a prior program. This will use updated versions of the new and existing CBPCA materials and activities cited in Task 4. Those consumer marketing and education efforts, including marketing training and support to contractors, help them to be successful at developing and managing the customer leads that provide the necessary path to specific home performance jobs.

Task 6 – Enroll Customers

Task Discussion: The enrollment process for customers is purposely made the responsibility of the individual contractors who must find customers and sell retrofit projects. The only enrollment responsibilities of the program itself are to receive inquiries from the public (generally via the toll-free telephone listing or the website), screen and record them, and allocate those who so desire equitably to the trained contractors. This process covers only a small share of all customers, since most will come from the efforts of the contractors themselves in mining their prior customer base and conducting their own marketing in various ways (e.g., per suggestions of the program’s Guerilla Marketing Kit).

All customers receiving actual retrofit projects are enrolled in the project database (post-project) through routine reporting by contractors as a condition for receiving the \$100 contractor incentive payment.

Task 7 –Field Training, Contractor Support, and Reporting Services

Task Discussion: This task requires delineation of the steps to be taken to issue contractor incentives and perform other program services. We also include here a summary of our proposed program operation procedures. If selected, per the RFP instructions CBPCA will submit a program operations manual that supports this task. Following is a summary of those steps.

- a. Training and Mentoring Services
 1. Scheduling and advertising of training content, sites, and schedule per website, fax, phone, & email
 2. Marketing to contractors to solicit their involvement (per Task 5)
 3. Receipt and screening of training applications from contractors
 4. Securing and logistics for training sites throughout the service area
 5. Providing reminders, directions, and encouragement to contractors to attend the training
 6. Conducting the training sessions
 7. Securing contractor evaluations of the training sessions
 8. Evaluating each trainee on general competence via written tests and field performance; recording status of all trainees
 9. Contacting each trained contracting company’s designated representative to monitor progress and arrange participation in further training and group mentoring as continuing education and advancement.
 10. Conducting informal ad hoc group mentoring sessions as demand dictates
 11. Recording and updating status of all participants

- b. Contractor Reporting and Incentive Payments

1. Explain incentive process to contractors in initial outreach materials, training sessions, and early mentoring.
2. Qualifications for payment: Conduct home assessment, record data and findings, propose and sell retrofit project, complete project, do verification tests as dictated by job scope (e.g., duct blaster for duct sealing), and report to CBPCA the customer name and address, house size and configuration, diagnostic results, job scope, and test-out results.
3. Job verification: On sampling basis (approximately 10% average, more for beginning and marginal performers) arrange visit with homeowner, and do independent test of key elements of job (e.g., blower door for envelope leakage, visual inspections of insulation and air sealing, combustion safety check).
4. Reconciliation: Adjust ongoing payment stream to each contractor as needed to reverse unqualified incentive payments.

Task 8 – Quality Assurance

Task Discussion: As noted in Task 7, CBPCA will independently verify an average of at least 10% of all reported retrofits. Those verifications will consist of a checklist walkthrough inspection of the reported job scope plus physical tests of each job's key quantifiable measures, particularly duct sealing, airflow, combustion safety, and envelope leakage reduction. All verification data will be recorded in the project database for SCE review and reporting as necessary, as well as CBPCA's estimation of energy savings through a combination of computer simulation modeling (currently TREAT) and normalization on utility bill data.

Task 9 – Remedy Installation Issues

Task Discussion: Complaints rising to CBPCA are immediately investigated with both the customer and contractor. If it is determined that the contractor is at fault, CBPCA has the option to terminate that contractor's involvement in the program if that contractor provides no satisfactory solution. Such cases will be reported to SCE.

Task 10- Perform Customer Satisfaction Surveys

Task Discussion: As noted in Task 9, retrofit customers will receive a short satisfaction survey. Responses will be tabulated by contractor, and any needed actions will be taken per Task 9.

Task 11 – Address Customer Satisfaction Issues

Task Discussion: As noted in Tasks 9 and 10, we will address all customer satisfaction issues immediately with the customer and contractor involved. Regarding warranty issues, home improvement contractors are required in California to provide a one-year warranty on work done, in addition to manufacturers' warranties on any products and equipment involved. Such post-project concerns will be addressed in the same manner as issues that arise during the job or as an immediate result of its unsatisfactory completion. Fairness to both the customer and the contractor is crucial; disputes are not always the fault of the contractor.

As noted in the previous tasks, customer satisfaction issues that CBPCA cannot resolve will be reported to SCE along with any disciplinary actions taken by CBPCA against the contractor, if any. In addition, CBPCA will advise both parties on other avenues for mediation or legal action.

Task 12 – Invoice SCE for Completed Jobs

Task Discussion: SCE will work with the selected Contractor in providing guidance and understanding and delivering these requirements. For example, the invoice presented by CBPCA to SCE will provide a clear and visible tie-in of all budgetary cost items and their supporting documentation, by contract task. The expenditures related to the program services (information and training) will provide a direct tie-in to the program's estimate energy savings results and information services rendered.

Task 13 – Perform Program Reporting

Task Discussion: The proposed monthly report and invoice will include the invoice, the E3 calculator or workbook, the budget expenditures workbook, and the requisite flat files generated by the CBPCA tracking system to indicate quantitative non-resource goal achievement progress (trainings, number of contractors, trainees, materials, etc.) and to validate the program's estimated energy savings tie-in quantities. All those elements are described in later tasks in this proposal.

Task 14 – Program Ramp Down

Task Discussion: This program has minimal ramp-down requirements. In the 4th quarter of 2007, if the program is not extended in some form by SCE, all participating contractors will be notified of CBPCA's transition plan and procedures for continuing contractors. That plan will involve a shift to contractor-paid services for further training, marketing materials and support, and mentoring as well as verifications (similar to the Title 24 independent third party "quality installation" verification process payments). Contractors entering the program at that point will be advised of the change before the 4th quarter training sessions.

Task 15 – Shut Down the Program

Task Discussion Trained contractors will continue to do program-generated projects and achieve savings indefinitely after the program ends, so there is no concern with ending services or warranties to their customers.

Task 16 – Respond to Miscellaneous Utility/CPUC Data Requests

Task Discussion: All project data will be maintained by CBPCA throughout and beyond the project term. Much of this data will be entered in the project's Microsoft Access databases for contractor status/activity and customer/home data. All backups (paper, email, spreadsheets) to those databases will be retained for inspection. Specific data requests from SCE will be handled promptly, and SCE personnel will also be given access to the databases if requested.

Task 17 – Follow Up with Remaining and New Customer Issues

Task Discussion Our plan for closeout-period customer satisfaction issue response is the same as during the active program: CBPCA will promptly address all issues, whether raised by customer or contractor, and will report all such incidents routinely. Unresolvable issues will be reported to SCE along with any CBPCA disciplinary action and other recommendations made to either disputing party.

Task 18 – Submit Final Program Report

Task Discussion: The final document submitted at the conclusion of the program will be the final program report. As requested, in Appendix A we provide a sample of a program report from a similar prior program (a somewhat simpler form than required for this SCE program). We also discuss here how CBPCA will report on the following in the final report:

1. **Program achievements:** Bulleted and categorized text descriptions reflecting the major accomplishments both in contractor engagement and their success in generating home retrofit projects and associated energy savings.
2. **Program challenges:** Separate section discussing each major challenge encountered, the means employed to overcome it, and the nature of the result.
3. **Goal attainment:** Bulleted listing of goals versus achievement on each, with brief discussions of each.
4. **Lessons learned:** Includes positive and negative lessons learned in both program design/operation and contractor operations.
5. **Program improvement recommendations:** Categorized according to function.
6. **Program next step proposed:** We anticipate that this will be a mainstreaming resource program transition. However, depending on outcomes other options including continued refinement and termination would be addressed.

11. Customer Description

This program's customer targets are owners of existing homes (i.e., anything other than brand new), with emphasis on the hot/dry climate zones in the SCE territory. At SCE's option, the program can be more tightly focused or intensified in specific communities with especially severe energy use and demand reduction needs within those climate zones. We recommend SCE assistance in identifying such areas of high electricity use or high-bill customers for targeting, although the program can operate successfully without such support.

12. Customer Interface

The primary customer interface will be with HVAC installers and remodeling contractors.

13. Energy Measures and Program Activities

13.1. Measures Information

Non-Resource

13.2.1 Energy Savings and Demand Reduction Level Data

Non-Resource

13.3. Non-energy Activities (Audits, Trainings, etc.)

This program's goals encompass both information delivery quantities and estimated energy savings tie-ins. We propose the following goals for the 2006-07 period:

- Over 30 training module sessions delivered (6-8 cycles of each of 5 modules);
- Over 90 contracting firms completing owner orientation/business training (1 day)
- Over 60 firms completing basic building science course (2 days)
- Over 30 contracting firms completing at least one advanced practices course (2 days)
- Over 150 individuals completing basic building science training
- Over 500 person-days of training received
- At least 4 major local mass media articles published (newspapers, TV, radio)
- At least 4 exhibits at regional home shows and other relevant events
- At least 200 program-generated leads for contractors
- At least 1000 homes retrofitted at various levels of comprehensiveness (more expected)
- Estimated energy savings 2,000,000 kWh from qualified contractors in home retrofits
- Estimated peak demand savings 2000 kW minimum

13.4. Subcontractor Activities

Bevilacqua-Knight, Inc.

BKi is the current home performance project's administrator and planner and is also principal contractor on a related California Energy Commission PIER project to research and refine contractor methods for building science-based home diagnostics and retrofits, resulting in a long-term plan for statewide implementation. BKi has a long history of activities in planning and moving energy-saving technology and practice innovations such as whole-house contracting into practical use. BKi is the author of studies on whole-house retrofit programs for the CEC and PG&E and is active in the national Home Performance with Energy Star program. Bevilacqua-Knight, Inc. is also leading a program for the California Energy Commission's PIER program that is developing complete protocols for home performance contractors.

Quality Assured Comfort

QAC is a multifaceted diverse consulting entity providing programmatic market transformational solutions and a prototype general contracting, HVAC and air balance company that includes interests in residential and commercial state-of-the-art home/structure as a system approaches. Specialties of focus include insulation, heating and air conditioning and balancing, windows, analysis and performance testing and energy use warranty programs.

Chitwood Energy Systems, Inc.

One of the most respected California authorities in home energy efficiency diagnostics and comprehensive improvement; Rick Chitwood now assists Mr. Locke in all curriculum refinement, training, and field operations while he is not running his own successful home performance business in Mount Shasta.

Solem & Associates

Solem, the current customer marketing subcontractor, will continue in that role with the assistance of Adrising as a sub-subcontractor and expert adviser on consumer marketing

methods. Solem is a major public relations and marketing consulting firm in San Francisco specializing in public programs and issues. The firm has close ties with other related firms throughout the state, and by working with those allies can place marketing personnel for the program in virtually any city. We will rely on that capability to carry out economical local “on the ground” activities in each program city.

13.5. Quality Assurance and Evaluation Activities

See Tasks 7, 8, and 9.

13.6. Marketing Activities

See Task 4 and 5.