

# PROPOSAL FOR POSITIVE ENERGY LOAN FUND PROGRAM

Prepared for

California Public Utilities Commission  
San Francisco, California

**Confirmation Number:**

**KEMA-XENERGY PROPOSALS SUBMITTED**

<b>Program Name</b>	<b>Utility Area(s)</b>
Comprehensive Compressed Air Program	PG&E, SCE, SDG&E
EEGOV B.E.S.T. Program	PG&E, SCE
Enhanced Automation Initiative	PG&E, SCE
Green Building Education and Technical Assistance Program	PG&E
Positive Energy Loan Program	PG&E
Wastewater Treatment Improvement Program	PG&E, SCE

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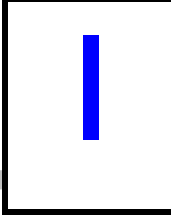
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## I.A PROGRAM CONCEPT

The *Positive Energy Loan Program* will provide below-market rate loans through local banks to finance the implementation of cost-effective energy efficiency projects. In its first year, the program will be targeted primarily to hard-to-reach commercial and industrial customers in the San Francisco Bay Area and, pending satisfactory progress, may be expanded to more rural areas in the second year. The loan program will be marketed through existing energy efficiency programs targeted to small commercial and industrial customers, as well as through the participating banks. Only projects that meet the technical criteria for support from relevant local programs will be considered. The program will administer a fund that reduces the borrowers' interest rate by 4 percentage points from the bank's regular rate applicable to the individual customer. This interest rate subsidy will lead to positive project cash flow under a broad range of plausible assumptions concerning project performance and financial market conditions. Participating banks will be responsible for all credit review, loan origination, servicing, and collections. As program implementer, KEMA-XENERGY, Inc. (formerly XENERGY Inc.) will be responsible for recruitment of participating banks; marketing of the program to customers via existing programs, banks and other channels; development of application procedures; coordination with energy efficiency programs operated by utilities and non-utility parties; review of loan applications for technical eligibility of the proposed energy efficiency measures; and administration of the interest reduction fund.

## I.B PROGRAM RATIONALE

### I.B.1 *Principal Objectives*

The principal objectives of the program are as follows.

- ***Develop a new and effective channel for the marketing of energy efficiency programs to small commercial and industrial customers.*** According to many studies, commercial and industrial customers often become informed about energy efficiency measures and programs in the course of construction and remodeling projects. Moreover they often seek loans for these projects. The loan application process offers a “naturally occurring” market event at which energy efficiency measures and programs can be effectively marketed.
- ***Significantly expand the resources available to reduce the first costs of energy efficiency improvements for small commercial and industrial customers.*** Small C&I customers have neither the managerial nor the financial resources to undertake extensive energy efficiency improvements to their facilities. In recognition of this basic condition,

the CPUC has funded a number of local programs around the state to provide turnkey audit, installation, and rebate programs targeted to the hardest-to-reach commercial customers. These programs typically offer rebates in the range of 60 – 90 percent of the incremental cost of eligible measures. While the local programs have generally been successful in reaching small business customers, their incentive structure offers little leverage and constrains both participation levels and cost-effectiveness. Under the proposed program, banks provide project funding and relatively small amounts of PGC funding are used to subsidize interest. This approach will allow the CPUC to leverage its contributions from 10 to 15 times (ratio of program incentives to project cost financed). By way of contrast, deep rebate programs offer leverage ratios in the range of 1.5 to 2.5.

- ***Stimulate participation of banks in energy efficiency project financing.*** To date, commercial banks have played little if any direct role in financing energy efficiency projects. For example, none of the small C&I customers interviewed for the baseline portion of the 2000 *Market Assessment* mentioned approaching a bank for project financing or any type of help in implementing energy efficiency measures. KEMA-XENERGY's experience in marketing a loan fund in New York indicates that commercial banks can realize a number of important benefits by offering an energy efficiency product, including enhanced lending opportunities and community good will. Through a well-structured interest subsidy program, banks can move up the learning curve in dealing with the technical issues surrounding energy efficiency project financing. In the long run, we believe this could open up a significant source of project financing with lower transaction costs than leases or performance contracting.

### ***I.B.2 Barriers Addressed***

The proposed *Positive Energy Loan Program* has been designed to address the specific barriers that deter small and very small nonresidential customers from implementing cost-effective energy efficiency measures.

**Lack of access to capital/high first costs.** Small nonresidential customers (20 to 100 kW) and particularly very small nonresidential customers (< 20 kW) have limited access to internal or external capital for facility improvements. Moreover, investments aimed primarily at controlling costs, such as energy efficiency improvements, often take low priority compared to those related to meeting regulations or enhancing production and sales. Thus, small and very small nonresidential customers are often deterred from making energy efficiency investments by perceived high first costs. Among small nonresidential customers interviewed for a 2001 baseline study, two-thirds of those who answered questions concerning investment criteria reported that they sought a simple payback of three years or less from energy efficiency investments.<sup>1</sup> KEMA-XENERGY's experience in fielding programs for very small nonresidential customers in the San Diego and Bay areas suggests that many of these customers seek paybacks shorter than one year. These results show that very small customers are willing to bear only very low costs for implementing energy efficiency projects.

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<sup>1</sup> XENERGY Inc. and Quantum Consulting. 2001. *1999 State-Level Small/Medium Nonresidential MA&E Study: Final Report*. San Francisco: Pacific Gas & Electric Company. p. 5-36

Information on participation in the statewide Express Efficiency program further supports the hypothesis of high first costs as a deterrent to adoption of energy efficiency measures. Only 0.5 percent of small customers participated in this program, which provides rebates for roughly 40 – 50 percent of the incremental cost of eligible measures. Among small nonresidential customers, the participation rate is considerably lower<sup>2</sup>.

Given the current low level of interest rates and indications of their persistence, the proposed *Positive Energy Loan Program* can be used to structure project financings in which monthly energy savings exceed monthly loan payments. The development of such a facility or subprogram was one of the key recommendations of the *State-Level Small/Medium Nonresidential MA&E Study* to enhance the effectiveness of statewide small business energy efficiency programs. Figure I-1 illustrates provides an example of a hypothetical project with positive cash flow.

**Figure I-1**  
**Example of Positive Cash Flow Transaction**

<b>Cost of Project/Principal of Loan</b>	<b>\$20,000</b>
Assumed simple payback	3 years
Monthly energy savings	\$556
Loan Term	4 years
Interest rate: Market (current prime rate + 3%)	7%
Interest rate: Program	3%
Monthly Payment	\$443
<b>Net Monthly Cash Flow</b>	<b>\$113</b>

Customers who do not require an immediate positive cash flow can use the loan fund to finance projects with longer payback periods for which they do not have ready cash or that might not otherwise meet investment criteria.

**Information or search costs.** In spite of nearly two decades of prior utility promotional efforts, the MA&E study found that only 20 percent of all small and medium sized nonresidential customers were aware of *any* energy efficiency programs. This figure is likely much lower among the subgroup of small and very small customers. This result probably reflects many contributing factors: the relatively high failure rate of small businesses; the multiple diverse demands on owners and managers, and the relatively low priority accorded to energy costs and management. Among Express Efficiency program participants interviewed for the study, over one-half used the program to support the implementation measures that were installed in the course of remodeling. Property owners and lessees often seek loans for major leasehold

<sup>2</sup> *ibid.* p. E-7.

improvements. Thus, banks can become an important channel for informing small business owners of the availability of energy efficiency programs when they see customers seeking to finance renovations – a “naturally-occurring” market event. Banks participating in the New York State Energy Research and Development Authority (NYSERDA) Energy \$mart<sup>SM</sup> Loan Program have served as the entry point for one-half of all projects financed, as opposed to incentive and technical assistance programs making cross referrals. New York’s experience demonstrates that banks can serve as an effective, incremental channel for informing customers about energy efficiency programs.

**Hassle or Transaction Costs.** As discussed above, small and very small nonresidential customers often require “deeper” financial incentives than those provided by the Express or Custom programs to overcome first cost barriers. However, accessing statewide sources of such assistance, such as the Small Business Standard Performance Contract program entail transaction costs for contract development and savings verification that far outstrip the resources available to small businesses, or even the value of the available energy savings. The proposed application process for this program is extremely simple and imposes very little incremental burden on the customer beyond what would be necessary to participate in any of the relevant utility or local programs. Moreover, the application process has been developed, tested, and streamlined over the years in New York. Thus, the proposed program offers additional financing and project management resources at virtually no additional hassle or transaction costs to the customer. Moreover, it is designed to be used in conjunction with programs that provide various kinds of facility audit and project development services.

**Performance Uncertainty.** The *Positive Energy Loan Fund* will review all applications to assure that they meet the technical requirements of the Express program. This will provide some reassurance to customers regarding the likely technical performance of the project. In the early stages of the program, KEMA-XENERGY, Inc. will inspect most projects financed through the program if they have not already been inspected by another statewide or local program.

**Access to external financing.** For many reasons, small businesses experience greater difficulty in obtaining loans than larger companies, no matter what the intended application of the loan proceeds. In theory, at least, financing energy-efficiency improvements should improve overall loan coverage and creditworthiness by reducing net occupancy costs. Based on our experience in marketing NYSERDA’s Energy \$mart<sup>SM</sup> Loan Fund Program, lenders do not necessarily accept this proposition immediately due to their perception of credit risks unrelated to the cash flow consequences of energy efficiency projects. However, over time, we anticipate that lenders will become more comfortable with loans to energy efficiency projects, and that this experience will serve as a platform for building channels for a larger array of energy efficiency related products and services.

The program as designed provides lenders with a number of incentives to participation. Among the most important is that a program targeted to very small businesses and businesses in economic development areas may be used to meet Community Reinvestment Act (CRA) requirements. In the program’s development stage, KEMA-XENERGY will seek the opinion of

federal and state bank regulators on guidelines that will help ensure program qualification for CRA credits. A second important benefit is the development of a new loan product with which to approach small commercial customers to strengthen commercial relationships and goodwill. Finally, the program will offer a small origination fee to lenders who energetically market energy efficiency loans.

### ***I.B.3 Classification as a Local Information Program***

The proposed *Positive Energy Loan Program* contains elements of both a local information and an incentive program. We are proposing that the CPUC evaluate the proposal as a local information program. Our rationale for this classification is as follows.

**Contribution to overall effort to serve hard-to-reach nonresidential customers.** We believe that the *Positive Energy Loan Program* is best understood as one element in a panoply of utility and non-utility programs designed to help hard-to-reach (HTR) nonresidential customers implement the broadest possible range of cost-effective energy efficiency measures. These programs consist primarily of hardware/incentive programs and include:

- The statewide, utility-operated Express Efficiency, Nonresidential Energy Audit, and Savings by Design programs;
- Local programs in or near the PG&E territory that offer some combination of energy audits, project management, and measure rebate assistance to small non-residential customers. In the 2002 round of programs, the CPUC funded such programs in Davis, Santa Cruz, Sonoma, Napa, and Lake Counties, the Central Valley, and Stockton.
- Programs proposed for this round that would deliver similar services in the San Francisco Bay area.

The *Positive Energy* program will enhance the effectiveness of these programs in a number of ways. First it will provide an important and effective marketing channel for them. Second, it will significantly increase the total volume of projects that can be supported by these programs and allow their operators to focus the deepest rebate subsidies on the smallest customers.

**High Leverage of Incentive Funds.** The interest rate on qualifying loans will be reduced by transferring to the participating bank a lump sum equal to the present value of the difference in monthly repayment streams between the bank's regular rates and program rates. This mechanism represents a project-oriented incentive for which the Public Goods Charge is the ultimate source. However, compared to any other kind of hardware incentive, the interest rate reduction is extremely inexpensive. For example, the Efficiency Express programs offer incentives in the range of 30 – 50 percent of incremental costs. The local programs discussed above, which are generally targeted to smaller customers offer incentives in the range of 70 to 90 percent of incremental cost. By way of contrast, the lump sum payment required to reduce interest rates by 4 percent – assuming an average loan repayment period of 4 years – is 7.6 percent of the loan principal, a reasonable proxy for project cost.



**Avoidance of double dipping.** We are aware of the CPUC’s objections to “double dipping”, and agree that interest rate subsidies funded by PGC funds should not be used to finance the given measures in a given project that has already qualified for PGC-funded rebates. On the other hand, two important program objectives are to provide the managers of the incentive/hardware programs with additional project financing resources to encourage participation and to expand the scope of measures included in projects developed through the programs. To achieve these objectives while avoiding double dipping, we propose the following guideline: No individual measures will be eligible for funding from more than one source. However, borrowers will be able to use the *Positive Energy Loan Fund* to finance eligible measures in a remodeling or construction project in which other measures are receiving subsidies from another energy efficiency program. Thus, for example, a customer undertaking a remodeling project that encompasses both refrigeration and lighting measures could receive rebates for the former while using the loan fund to finance the latter. We believe this approach will keep recordkeeping and application procedures clean.

Of course, if given the choice, most customers will prefer to take all rebates to which they may be entitled rather than a package of the loan and a lower amount of rebates. Similarly, program implementers will wish to use rebates to the extent possible under their guidelines expedite project closing and build participation and savings numbers. The *Positive Energy* program can address these potential disincentives to cooperation by offering full credit for energy and demand savings to the programs that provide energy audits and project management services for the measures funded through loans. Managers of the cooperating programs can then view the loan fund as a resource for increasing the volume of projects they can fund with limited incentive budgets, thereby boosting program cost-effectiveness. The loan facility will also enhance the ability of existing programs to serve hard-to-reach customers by preserving the deep rebates for very small customers who are unlikely to implement any measures without them.

#### ***I.B.4 Program Objectives***

**Overview.** The overriding objective of the proposed *Positive Energy Loan Program* is to extend and strengthen the network of local programs that have been built up over time to help small commercial and industrial customers implement energy efficiency projects. The benefits of these projects in terms of reduced operating costs, increased profits, economic development, and environmental preservation have been well documented. The program will support and strengthen existing programs in the following specific ways:

- Provide additional marketing channels for the program focused on market events, such as renovations and remodeling, during which customers are receptive to spending for energy-efficient products and designs.
- Facilitate access to sources of funding, specifically commercial bank loans and equipment leases, which to date have played a limited role in funding energy efficiency projects. Used creatively, these funds will enable the sponsors of current programs to

expand the volume of projects they can support, increase the scope of individual projects, and boost the overall cost effectiveness of their efforts.

- Stimulate customer interest in implementing energy efficiency by supporting the development of positive cash flow project financing arrangements.

**Milestones and quantitative goals.** Briefly, the operational goals for the first two years of the project encompass the following.

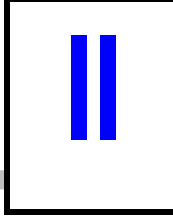
- Establish the working procedures for the fund, including: project eligibility criteria and review; loan application forms and procedures; interest rate reduction pay-out procedures, and project monitoring.
- Recruit 8 – 10 banks active in the Bay area and statewide for participation in the program.
- Train a minimum 1 – 2 lending officers in each bank concerning the objectives and procedures of the fund and provide support for marketing the program to appropriate borrowers and projects. For larger banks, we will attempt to train from 5 to 12 lending officers.
- Coordinate the offer of the loan facility with operators of other programs targeted to small businesses. Develop detailed joint marketing agreements with these program implementers.
- Close 40 – 50 loans per year with an aggregate value of roughly \$3.0 million per year.

These milestones and goals are discussed in greater detail in subsequent sections.

**Relationship to primary evaluation criteria.** We believe that the proposed program clearly responds to the primary evaluation criteria listed in the *Energy Efficiency Policy Manual*.

- **Ability to overcome market barriers.** Section I.B.1 above details the specific ways in which the proposed program will address market barriers to broader adoption of energy efficiency measures by small commercial and industrial customers.
- **Equity.** This program will promote equity objectives by targeting hard-to-reach customers and by supplementing the resources available to other programs that target hard-to-reach customers. To facilitate this targeting, participating banks will receive modest loan origination fees with a bonus for serving very small businesses or businesses that otherwise meet the definition of hard-to-reach.
- **Innovation.** While targeted reduced-interest loan funds are not new in the energy efficiency field, we have incorporated a number of innovative features into the proposed program to enhance its potential to stimulate energy efficiency investments by small nonresidential customers. These include:
  - Close coordination with incentive and technical assistance programs targeted specifically to hard-to-reach customers.

- Identification of incentives to implementers of other programs to pursue co-funding of projects.
- Multi-channel marketing to targeted customers.
- Intensive training of lending officers in program objectives and procedures.
- Provision of additional incentives to lenders for promotion of the program to small, hard-to-reach customers.
- ***Coordination with other program implementers.*** We have built considerable time and resources into both the start-up and operational phases of the program to ensure effective coordination with other program implementers. For example, during the start-up phase, we will meet with all implementers of incentive programs that target small nonresidential customers to work out individual cross-marketing and referral procedures. These discussions will result in memoranda of understanding that address the circumstances under which projects will be referred and goals for the number and types of projects that will be referred.



## II.A PROGRAM IMPLEMENTATION

This section describes activities to be undertaken during the start-up period of the *Positive Energy Loan Program* from inception through program launch. We present these activities in rough chronological sequence. Several will run in parallel. See the Timeline in Section II.G for the schedule of start-up activities.

### II.A.1 Develop Draft Program Procedures

The first step in program implementation will be to develop draft procedures and documents for review by the CPUC and local partners: lenders and other program implementers. To expedite this process, KEMA-XENERGY will use procedures and documents developed for the commercial component of the NYSERDA program as a point of departure. We will modify these documents to reflect recent feedback from cooperating banks and organizations in New York and to accommodate the special objectives of the *Positive Energy* program.

**Loan Application Forms and Procedures.** The loan application forms used for the NYSERDA program represent a simple overlay for the procedures used by the participating banks and programs providing technical assistance. They consist of one page for the bank and two pages for the customer. If the customer elects not to use other programs, there is a simple matrix of pre-approved measures to fill out. These forms are included in Appendix A. KEMA-XENERGY will adapt them for use in the California program.

**Policy and Procedures Manual for Participating Banks.** The draft *Policy and Procedures Manual* will summarize concisely the key elements of the relationship between the program and the participating banks, with emphasis on the mutual obligations of the parties. The topics to be addressed will be as follows.

- **Limitations on loan amounts and terms.** In order to facilitate lending for larger projects, we anticipate setting dollar limits on individual loans fairly high (\$1,000,000). Banks will be given the flexibility to set repayment terms to any length they choose. However, the program will set a limit of 10 years for the life of the interest reduction. This provision links the length of the write-down to the likely useful life of the measure. It also reduces the amount of money needed for the lump sum interest subsidy.
- **Definition of eligible customers.** Customer eligibility will be defined by size and location. Provisionally we propose to limit participation to customers with less than 500 kW peak demand, with targets to make at least two-thirds of the program's loans to customers smaller than 100 kW.

- **Definition of eligible projects.** We will use measure definitions for the Express Efficiency program to define pre-approved technologies and projects. Custom projects will need to be pre-approved by the referring implementers using their technical and economic criteria or by the KEMA-XENERGY Program Coordinator.
- **Procedures for pre- and post-approval of projects for financing.** These include procedures for pre-approval of custom projects and certification of project completion.
- **Calculation of lump sum payment for interest rate reduction.** Topics to be covered under this heading include the definition of the lender's regular interest rates, level of interest rate reduction, maximum periods for interest rate reduction, and formula for calculating the lump sum payment.
- **Origination fees.** In order to stimulate energetic marketing of the program on the part of banks, KEMA-XENERGY proposes to pay a small origination fee (0.125 to 0.250 percent of the loan principal) to the banks. The maximum fee will be paid for loans made to borrowers that fit one or more of the hard-to-reach categories identified in the *Policy Manual*. These include owners whose first language is not English, businesses with fewer than 10 employees or classified as "Very Small" on the basis of electric usage; businesses located outside the largest metropolitan areas, and businesses that lease their space. Origination fees will be credited and paid only if the bank makes a minimum number of loans (to be negotiated) through the program each year.
- **Requirements and timing for remittance of the lump sum payment and origination fee.** These provisions cover documentation required for remittance – primarily certification of project completion.
- **Definitions and consequences of events of default.** These provisions cover return of a portion of the lump sum payment if the borrower defaults or prepays the entire principal.

**Memorandum of Understanding (MOU) with Other Program Implementers.** The draft MOU will cover the following topics:

- Co-marketing procedures and activities.
- Procedures for referral of projects between *Positive Energy* and other implementers' programs.
- Non-binding goal for number of projects to be co-funded.
- Definition of "best efforts" that managers of one program will take to make use of the resources of the other.

### **II.A.2 Market the Program to Banks**

The KEMA-XENERGY team will undertake the following steps to inform banks of the availability of the program and to interest them in participation.

**Arrange for individual program presentations to appropriate lenders at selected Bay Area banks.** The KEMA-XENERGY team will make individual presentations to the appropriate lenders for at least 10 banks and community development lenders active in the Bay Area. The group will include representatives of large banks with statewide operations, such as Wells Fargo and Bank of America, as well as representatives of smaller banks with visible community lending operations. The initial group of banks will be selected in consultation with participants and observers of the local banking community, including the California office of the Local Initiatives Support Corporation, the California Economic Development Lending Initiative, and the Low Income Investment Fund. The presentations will cover the following topics:

- Advantages of participation for the bank. Based on our experience in New York, these include low-cost development of new lending products to offer small business customers; ability to increase the size of loans made for remodeling and renovation projects; enhanced customer relations; Community Re-investment Act compliance, and public relations value.
- Relevant experience of the New York program.
- Program objectives and procedures, including a quick review of the *Policy and Procedures Manual*.
- Programs offered by other implementers in the area.
- Address concerns about additional paperwork and administration.
- Solicit ideas for modifications to make the program more attractive to bankers and their customers.

**Broader marketing to banks.** For a second tier of 20 – 40 banks and community lending organizations, the KEMA-XENERGY team will identify appropriate lenders and promote the program via direct mail with follow-up telephone calls to gauge the interest of these parties. KEMA-XENERGY will stage quarterly group training sessions for smaller lenders who may be interested in the program.

### ***II.A.3 Marketing to Other Program Implementers***

The KEMA-XENERGY team will arrange for personal visits with the managers of all PGC-funded programs that address small commercial and industrial customers in the Bay area, including utility programs (Express Energy, Nonresidential Energy Audit Program, Savings by Design Program), local programs that receive extended funding, and programs newly funded through the current round of CPUC Local Program solicitations. The meetings will cover broad exploration of the implementers' potential interest in the loan program, specific ways the two programs can work together and review of the draft Memorandum of Understanding. Based on comments received from these meetings, KEMA-XENERGY will develop an MOU customized to each program.

#### ***II.A.4 Enrollment of Participating Banks; Establishment of MOUs with other Implementers***

Based on the results of the presentations to bankers and implementers of other programs, KEMA-XENERGY will revise and finalize the draft *Policy and Procedures Manual* for lenders. This will serve as the basis for a formal program Participation Agreement with the banks. The KEMA-XENERGY team will arrange a second round of meetings with the 10 initial banks discussed above with the goal of obtaining signed Participation Agreements from each. Similarly, we will arrange meetings with representatives each of the other energy efficiency programs serving small business customers, with the goal of obtaining signed MOUs governing ongoing cooperative activities.

#### ***II.A.5 Develop Loan Tracking System***

KEMA-XENERGY will develop a relatively simple Microsoft Access database to track program activity. The system will be used to track project status and to support reports of program accomplishments. Table 2-1 shows the information to be captured in the database.

**Table 2-1  
Contents of Program Tracking System Database**

Information Category	Sample Data Items
Customer Identification	Name, Address, Telephone, Contact, Account No.
Customer Characteristics	Electric consumption: kW, annual kWh, annual therms of gas Type and size of facility Number of Employees HTR Characteristics: Language, Tenure, Location, Size.
Project Status Milestones	Lead/Source of Referrals Project Technical Pre-Approval Date Application Submitted Date Loan Approval Date Disbursement of lump sum payment and origination fee
Project Description	Total Measures Installed: description, costs, projected savings Measures financed through the program: description, costs, projected savings Other incentives accessed Participating Bank and lending officer Amount of loan; repayment period Amount of lump sum payment and origination fee

## II.B MARKETING PLAN

### II.B.1 Launch Event

Immediately following conclusion of Participation Agreements with the first group of key banks, KEMA-XENERGY will attempt to structure 2 – 4 early loans that can be featured as part of the Launch Event. The event itself will be structured around announcements of those transactions. The event will be held at the site of one of the borrowers, and representatives of the participating banks and other program implementers will be invited to speak. KEMA-XENERGY will prepare press releases for the local general and business press, who will also be invited to attend the launch events. We will also invite representatives of organizations that could serve as channels for marketing the program direct to targeted end-use customers. These include local merchant associations, community development organizations, and relevant government agencies.

### II.B.2 Ongoing Marketing Activities: Customers

KEMA-XENERGY proposes to undertake the following activities to inform and interest end-use customers in using the *Positive Energy* program.

**Marketing via other program implementers.** As part of the process of developing MOUs with the implementers of other programs, KEMA-XENERGY will suggest a number of marketing activities. These will include the following.

- **Training to other implementers' staff.** KEMA-XENERGY program staff will conduct training sessions with the implementation staff of utility and non-utility programs that target small commercial and industrial customers. The training will cover the objectives of the loan programs, the specific ways in which the loans can be used in conjunction with the particular services offered by the program, the benefits of co-funding for both organizations, loan program procedures, and case studies. The training will also cover the contents of the MOU and the mutual undertakings of the two programs.
- **Development and dissemination of program materials.** KEMA-XENERGY will produce a short program brochure and case studies that lenders and implementers of other programs can use to publicize the loan program to their customers. KEMA-XENERGY will distribute these materials to the other programs and work with their staff to develop a mutually acceptable method for their distribution. For example, programs that deliver energy audits could include information on the loan program as part of their report to the customer, as a means to finance implementation of the recommended measures. Programs that package together technical services and rebates could also include information on the loan program in their project proposals, along with an illustration of how the loan could be used to yield immediate positive cash flows.



- **Links to Internet sites.** KEMA-XENERGY will explore the possibility with cooperating organizations of placing a link to the *Positive Energy* web site (to be hosted by KEMA-XENERGY) on web sites maintained by other programs or their sponsoring organizations.

**Marketing via participating banks.** As discussed above, participating banks will serve as a primary channel in marketing the program to directly customers. KEMA-XENERGY undertake the following activities to support this marketing function.

- **Lending officer training.** Training will be conducted by KEMA-XENERGY staff involved in the New York program and by associates Doug Bulfinch and Bob Rothenberg who have direct experience as in commercial lending and administration of special purpose loan funds for small businesses. Topics to be covered by the training will include:
  - Program objectives.
  - Benefits to the bank of participating in the program.
  - Eligible customers and projects.
  - Interest reduction payment calculations, origination fees, and remittance procedures.
  - Methods for identifying and screening potential projects for which the loans can be used.
  - Overview of other energy efficiency programs available to firms in the target market.
  - Strategies for encouraging customers to participate in the loan program, as well as in other energy efficiency programs.
  - Referral procedures and resources.

This training will be repeated on an annual basis to address new loan officers, communicate progress of the program, and inform loan officers of changes to the program. As mentioned above, KEMA-XENERGY will also provide group training sessions periodically.

- **Development and dissemination of materials.** In addition to the materials discussed in regard to working with other programs, KEMA-XENERGY will develop materials specifically for bank customers. These will include program brochures in Spanish, Chinese, and Vietnamese.
- **Links to Internet Sites.** KEMA-XENERGY will explore with participating banks the possibility of placing a link to the *Positive Energy* web site (to be hosted by KEMA-XENERGY) on the commercial area of the bank's web site or of inserting information about the program in the appropriate area of the bank's own web site.
- **Account representation.** KEMA-XENERGY's local program liaison will be responsible for personal representation of the program to all participating lending officers. She or her designee will call each participating loan officer and/or the program contact for the bank

once a month during the first year of program operations to check on progress, discuss leads, troubleshoot problems, and identify potential strategies for accelerating growth of the program. At the one-year anniversary of the program, KEMA-XENERGY will assess whether this intensity of personal contact is required. Depending on the volume of program activity and feedback from the lending officers, the level of contact may be reduced in the second year.

**Marketing via associations of end users.** KEMA-XENERGY will make presentations concerning the loan general business advantages associated with increased energy efficiency to meetings of local associations of potential program users. These include real estate and manufacturing associations, merchant associations, and community development forums. In the course of this presentation, the opportunities offered by the loan program will be introduced, as well as information on relevant cooperating programs.

### **II.B.3 Marketing Costs**

Table 2-2 shows the estimated costs of the marketing activities and materials described above. See Section VIII for more detail on the component costs of these items.

**Table 2-2  
Program Marketing Costs NEED TO FILL THIS IN!!!**

Cost Item	Amount
<b>Labor</b>	
Personal marketing to lenders	\$15,021
Personal marketing to other program implementers	\$7,267
Stage program launch event	\$2,206
Account representation to lenders	\$10,167
Develop materials	\$2,465
TOTAL LABOR	\$37,128
<b>Direct Expenses</b>	
Subcontractor: Personal marketing to lenders	\$16,800
Graphic production and printing	\$7,000
Mailing of marketing materials	\$2,500
Other training and marketing expenses	\$500
Travel to meetings and events	\$2,000
TOTAL DIRECT EXPENSES	\$28,800

## II.C CUSTOMER ENROLLMENT

As discussed above, we anticipate that virtually all customers will come into the *Positive Energy* program through one of two channels. The first will consist of the participating banks. Lending officers will be trained to identify projects that could benefit from the program when customers seek financing for the purchase or renovation of business or non-profit facilities. The second will be statewide and local energy efficiency programs targeted to small nonresidential customers. Figure 2-1 depicts the customer enrollment process as well as basic process flow for the entire program. Briefly the steps are as follows.

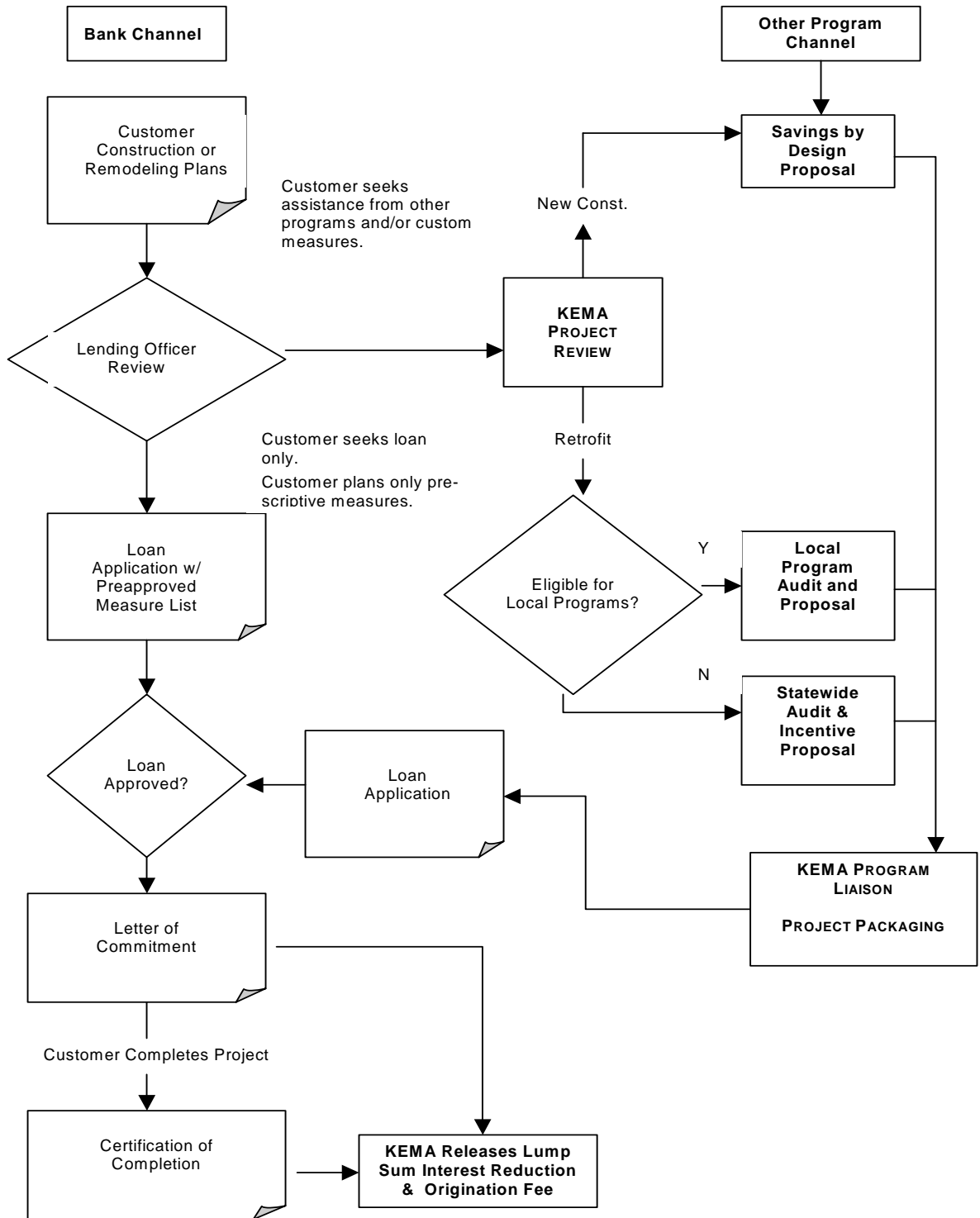
### BANK CHANNEL

- The customer approaches his or her bank officer with a request to finance a planned construction or remodeling project.
- The lending officer introduces the customer to the *Positive Energy* program in the course of reviewing the loan application and offers two paths. The first is to include pre-approved (prescriptive) measures in the project and to proceed without making application to other statewide or local programs. The second is to apply to other statewide or local programs for technical assistance and/or incentives.

### No Referral to other Programs

- If the customer chooses to proceed without referral to other programs, he or she simply fills out the loan application and the pre-approved measure matrix.
- The lending officer processes the loan application and applies the interest reduction formula to a portion of the loan corresponding to the cost of the pre-approved measures.
- If the loan is approved, the lender issues a letter of commitment.
- The lender forwards the *Positive Energy* portion of the loan application and a copy of the letter of commitment to KEMA-XENERGY.
- Upon approval of the interest rate reduction, the lender closes on the loan and forwards a copy of the signed note to KEMA-XENERGY.
- KEMA-XENERGY releases the lump sum interest reduction payment and the appropriate origination fee.
- The customer completes the project and returns a simple form certificate of completion to the lender.

**Figure 2-1  
Program Process Flow**



### Referral to other Programs

- If the customer is interested in using the technical assistance or incentives of other statewide or local programs, the lending officer will refer the project to the KEMA-XENERGY program liaison.
- The liaison will contact the borrower to gather details on the project. Based on the scope of the project, the liaison will refer the project to the appropriate program. For example, projects involving new construction will be referred to the statewide Savings by Design program. Borrowers who do not fit the hard-to-reach categories will be referred to the Express Efficiency program. Those who qualify for local, intensive programs for hard-to-reach customers will be referred to those programs.<sup>1</sup>
- The KEMA-XENERGY program liaison will develop a proposed package of technical assistance, rebates, and loans that provides the customer with positive cash flow from project inception while making most efficient use of the program resources for which the customer is eligible.
- Upon the customer's approval of the package, the KEMA-XENERGY program liaison will prepare a brief project description providing the costs and energy savings of measures to be financed through the *Positive Energy Loan*. The customer will attach this description to the loan application.
- The remaining steps in the process are the same as described for the "no referral" case.

### REFERRALS FROM OTHER PROGRAMS

Customers who seek loans via referrals from other programs will go through the project eligibility and proposal development phases of those programs before being referred to the KEMA-XENERGY program liaison. Upon receipt of the project materials, the KEMA-XENERGY program liaison will perform the following steps.

- Review project materials to identify and price measures to be financed through the *Positive Energy* loan.
- Develop a short application attachment clearly identifying the measures to be financed and their costs.
- Return the project package along with loan application forms and a list of participating banks to the customer.

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<sup>1</sup> In this round of local program applications, a consortium that includes KEMA-XENERGY and the East Bay Partnership has proposed to develop an intensive, turnkey retrofit and replacement program targeted to hard-to-reach nonresidential customers.

## II.D MATERIALS

Not Applicable

## II.E PAYMENT OF INCENTIVES

### *II.E.1 Uses of the Interest Rate Reduction*

The program will contain guidelines to ensure that interest rate reductions are only applied to eligible energy efficiency measures, while providing for considerable flexibility in deal structuring. Specifically:

- The reduced interest rate will only be applied to that portion of the loan that pays for the eligible energy efficiency measures.
- The maximum repayment period for which the reduced rate will be applied will be the lesser of the useful life of the measure or ten years.
- The costs of measures for which rebates are received will not be eligible for financing with interest rate subsidies. However, other eligible measures undertaken in the same remodeling or construction project will be eligible for reduced-interest financing.

### *II.E.2 Computation of Payment Amounts*

Incentive payments for interest rate reductions will be made in the form of a lump sum to the participating lender. Lenders will also receive a small origination fee as an incentive to market the program energetically. The following paragraphs describe how the amounts of those payments will be set.

**Lump sum interest rate reduction payment.** The amount of the lump sum interest rate reduction payment will be set equal to the present value of the difference in monthly payments between the regular rate that would ordinarily be applied to the loan, and the program rate, which will be set at 4 percent below the regular rate. The stream of payments will be discounted at the applicable market rate to reflect the interest payments the bank will receive by lending the lump sum payment. As Figure 2-2 shows, the lump sum needed to reduce the interest rate by a fixed amount increases with the term of the loan. Based on experience with the NYSERDA program, we expect an average repayment period of 4 – 5 years.

**Table 2-2**  
**Lump Sum Payment Computation Example:**  
**Assumed Principal \$60,000; 4% Interest Reduction**

	3 Years	5 Years	7 Years	10 Years
Monthly Payment: Market	\$1,852.63	\$1,188.07	\$905.56	\$696.65
Monthly Payment: Program	\$1,744.87	\$1,078.12	\$792.80	\$579.36
Difference in Monthly Payment	\$107.75	\$109.95	\$112.76	\$117.29
Difference over life of loan	\$3,879.12	\$6,597.03	\$9,472.07	\$14,074.37
PV of Difference/Lump Sum Payment	\$3,489.75	\$5,552.72	\$7,471.36	\$10,101.45
Leverage rate	17.2	10.8	8.0	5.9
Percent of Principal	5.8%	9.3%	12.5%	16.8%

**Origination Fee.** To encourage attention to marketing the *Positive Energy* product, we will offer bankers a small origination fee. For loans to businesses that meet one or more of the hard-to-reach criteria, the origination fee will be set at ¼ percent of the principal (for the energy efficiency portion of the loan). For all other loans, the origination fee will be set at 1/8 percent of the principal.

### **II.E.3 Payment Process**

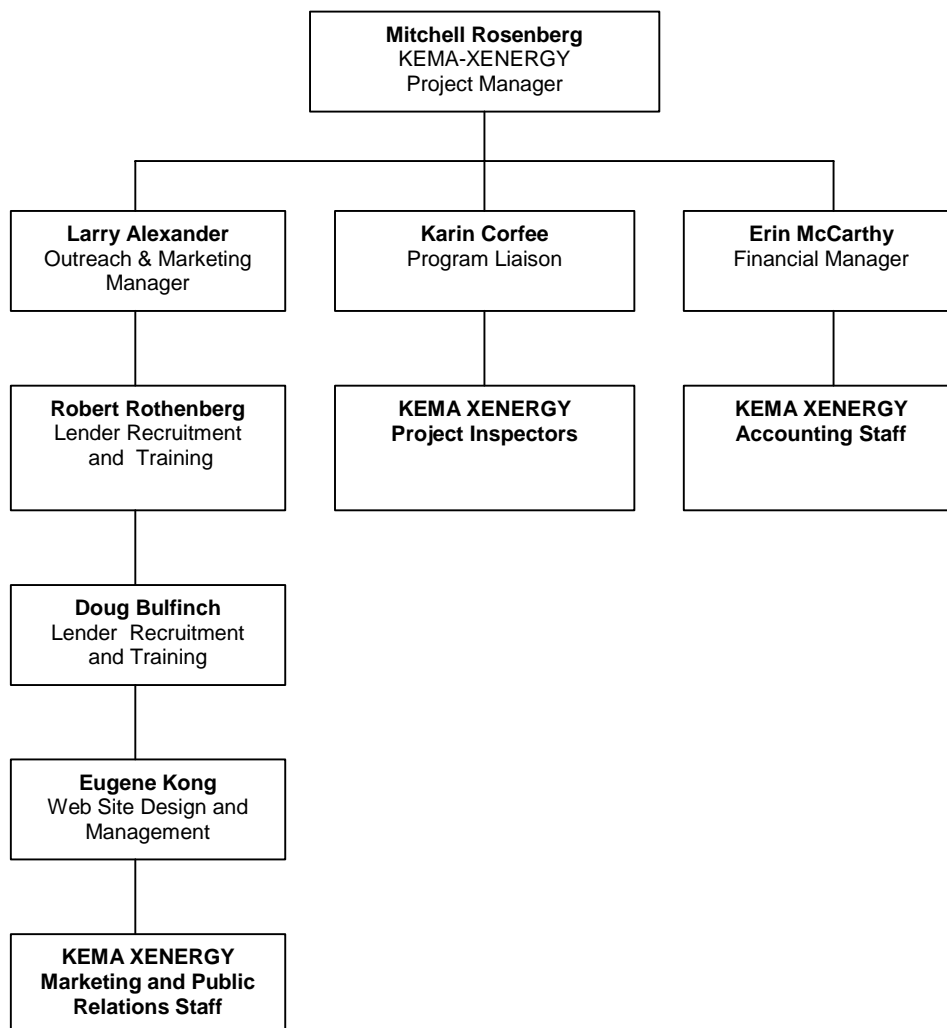
The program will disburse the lump sum payment for interest rate reduction and the origination fee upon receipt of a copy of the bank's letter of commitment to the customer. As discussed earlier, banks will be required to return a prorated portion of the loan if the customer prepays or defaults.

## **II.F STAFF AND SUBCONTRACTOR RESPONSIBILITIES**

Figure 2-3 displays the organization of staffing for this project. The following paragraphs describe each individual's (or group's) program responsibilities and indicate the percentage of time each key individual will be dedicated to the program.

**Mitchell Rosenberg, Project Manager** will take overall responsibility for the development and management of the program. In particular, he will be responsible for the final design of the interest reduction mechanism, development and negotiation of Participation Agreements with banks, negotiation of Memoranda of Understanding with implementers of other programs, coordination of outreach, project development operations, and financial operations, and maintenance of reporting requirements to the CPUC. Percentage of time dedicated to the project: 9 percent.

**Figure 2-3  
Program Organization**



**Larry Alexander, Outreach & Marketing Manager** will oversee marketing of the program to banks, other program implementers, and end use customers. Among his key responsibilities will be the development of lists of relevant organizations, programs, and contacts, arrangements for personal meetings for program marketing, development of collateral marketing materials, and public relations. Percentage of time dedicated to the project: 7 percent.

**Robert Rothenberg, Banking Consultant** will take lead responsibility for identifying banks and individual lending officers for recruitment into the program, and will participate in preparation and delivery of the lender training sessions. Mr. Rothenberg is a former chief commercial credit officer and has extensive experience in special purpose loan programs for small businesses. Percentage of time dedicated to the project: 6 percent.



**Doug Bulfinch** will participate in developing the training package for bankers and will deliver training seminars. Mr. Bulfinch is a former senior commercial lending and risk management officer. He has played a similar role in KEMA-XENERGY's work for NYSERDA. Percentage of time dedicated to the project: 6 percent.

**Eugene Kong, Information Technology Specialist** will design and maintain the program's web site and work with cooperating organizations to place appropriate links on their web sites. Mr. Kong will also develop and implement the program tracking system database. Percentage of time dedicated to the project: 2 percent.

**Karin Corfee** will serve as the Program Liaison to other program implementers. She will be responsible, along with Mr. Rosenberg, for identifying all relevant programs with which the *Positive Energy Loan Fund* will work and for developing MOUs for ongoing cooperation with those organizations. Ms. Corfee will review loan applications for eligibility and package applications with technical and financial resources from other program implementers. Percentage of time dedicated to the project: 7 percent.

**Erin McCarthy, Controller** will oversee the financial operations of the program. Working with the CPUC, she will establish an account to fund the lump sum interest reduction payments and loan origination fees. She will also work with the CPUC to establish procedures for timely approval of payments out of that fund. Once the fund is established, Ms. McCarthy will oversee documentation and tracking of all payments to banks and produce monthly reports on the status of individual projects and the fund overall. Percentage of time dedicated to the project: 7 percent.

## II.G WORK PLAN AND TIMELINE FOR PROGRAM IMPLEMENTATION

Section II.A details the steps in program implementation. Figure 2-4 shows a schedule of implementation for the first year. Assuming that the program is well received by lenders, other program implementers, and end-use customers, we will attempt to expand its geographical scope beyond the Bay area in Year 2. This will be accomplished primarily by working with banks already recruited to the program to train lending officers serving areas categorized as hard-to-reach.

**Figure 2-3  
Program Schedule**

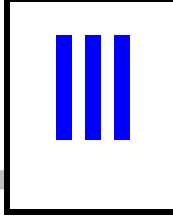
	2004												2005			
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Q1	Q2	Q3	Q4
<b>START-UP ACTIVITIES</b>																
<b>Develop Draft Program Procedures</b>																
Develop draft loan application procedures and forms	■															
Develop draft Policy and Procedures manual for banks	■															
Develop draft standard MOU for other programs	■															
<b>Market Programs to Banks</b>																
Identify target banks	■	■														
One-on-one meetings with potential participating banks		■	■	■												
Sign Participation Agreements with banks			■	■												
<b>Market Program to other Program Implementers</b>																
Arrange meetings and negotiations		■	■	■												
Sign Memoranda of Understanding				■												
<b>Develop Loan Tracking System</b>																
Establish interest reduction account and payment process		■	■	■												
<b>PROGRAM LAUNCH AND MARKETING</b>																
Prepare for Launch Event			■	■	■											
Launch Event						x										
Lending Officer Training: Preparation		■	■													
Lending Officer Training: Delivery				■	■	■										
Development of Printed materials				■	■											
Development of Program Internet Site and Links				■	■											
Account Representation to Banks						■	■	■	■	■	■	■	■	■	■	■
Presentation to End User Associations							■	■	■	■	■	■	■	■	■	■
<b>PROGRAM OPERATIONS</b>																
Develop initial loans (for feature in Launch Event)			■	■												
Ongoing Loan Processing Operation					■	■	■	■	■	■	■	■	■	■	■	■
Performance Tracking						■	■	■	■	■	■	■	■	■	■	■
<b>PROGRAM EVALUATION</b>																
Select EM&V Contractor								x								
Data Collection & Analysis									■	■					■	
Mid-point program assessment											x					
Draft Evaluation Report																D
Final Evaluation Report																F
<b>Expansion of program outside Bay Area</b>																

x = meeting or event, d = deliverable, D = Draft Final Report, F = Final Report

**Reporting.** KEMA-XENERGY will prepare monthly reports covering progress against scheduled milestones and program budget expenditures. In addition, we will prepare reports based on the program tracking system that address:

- Number of customers who have requested loan applications.

- Number of applications submitted.
- Number of applications approved.
- Total cost and energy savings for projects supported by the loan fund.
- Total cost and energy savings for measures financed by the loan fund only.
- Lump sum interest reduction payments and origination fees paid.
- Number of HTR projects, and percentage HTR by number of projects, loan volume, and energy savings.



## **CUSTOMER DESCRIPTION**

### **III.A DETAILED DESCRIPTION OF TYPES OF CUSTOMERS TARGETED BY PROGRAM**

The target market will be comprised of commercial and industrial businesses, including non-profit agencies.<sup>1</sup> In general, the target business types will be retail, small office, service establishments, and warehouses along with some small fabrication industrial customers.

Most of the businesses will be privately owned or a franchise. The majority of the building space will be leased space.

The program will target the hard-to-reach small businesses, particularly businesses that lease their space. However, reduced interest loans will be made available to all eligible businesses with demand less than 500 kW. One result of allowing larger “small” customers (100 – 500 kW) to participate will be to help managers of other programs target steeper rebates and financial incentives to hard-to-reach customers.

#### ***III.A.1 Customer sizes targeted***

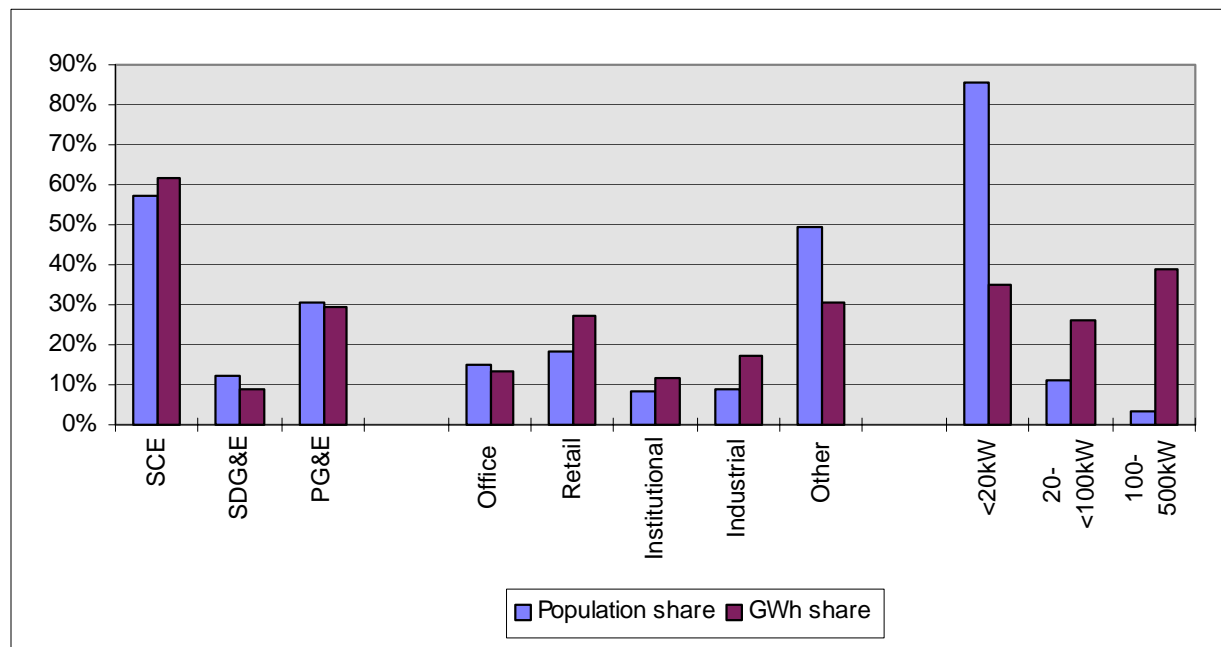
Businesses with average annual maximum electricity demand below 100 kW will be targeted. We expect that the average customer will have 40 kW of demand, 140,000 kWh of energy usage, and about 10,000 square feet of floor space.

The number of small or very small businesses in California is very large. Figure 3-1 shows the distribution of small/medium business customers of the three electric IOUs, Pacific Gas & Electric (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E), according to utility area, customer type, and customer size (kW demand). Distributions are shown by number of customers (based on accounts) and electricity consumption. As can be seen in Figure 3-1, 85 percent of the small and medium business customers are very small, with electricity demand less than 20 kW. This percentage represents over 835,000 small or very small business customers throughout the state.

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<sup>1</sup> “To avoid double-dipping, customers will be screened carefully and will be required to sign an affidavit declaring that they will receive no funds for the same activity or measure from another program or source.”

**Figure 3-1**  
**Small/Medium Business Customer Distribution**



Source: 1999 Statewide Small/Medium Nonresidential MA&E Study, prepared by XENERGY Inc. for Pacific Gas & Electric Company, December, 2000. Data are from utility billing records.

Table 3-1 shows the distribution of small business establishments in the Bay Area<sup>2</sup> by broad business type and number of employees. Generally, businesses with fewer than 50 employees will have electricity demand below 100 kW. As the table shows, there are over 150,000 businesses with fewer than 10 employees in the targeted area, with an additional 27,000 with 10 to 49 employees.

**Table 3-1**  
**Distribution of Business Establishments by Type and Employee**

SIC Division	<10	10 - 49
Manufacturing	7,934	3,017
Transportation and Public Utilities	5,438	1,411
Wholesale Trade	9,687	2,308
Retail Trade	27,254	5,621
Finance, Insurance, and Real Estate	15,116	2,424
Services	87,925	11,712
Public Administration	428	398
Nonclassified Establishments	327	25
<b>Total</b>	<b>154,109</b>	<b>26,916</b>

<sup>2</sup> For purposes of this proposal, the Bay Area encompasses San Mateo, Alameda, San Francisco, and Contra Costa counties

### III.B CUSTOMER ELIGIBILITY

All businesses with electricity demand less than 100 kW within the boundaries of San Mateo, San Francisco, Alameda and Contra Costa Counties, or within the boundaries of specific LGP cities, will be eligible for the *Positive Energy Loan Fund* Program. The Program will coordinate with the Smart Lights Program to optimize energy efficiency service offerings for small nonresidential customers in the East Bay. For the most part, the program will be serving HTR businesses with annual peak demand in the 20-100 kW range, specifically focusing on businesses in leased space.

### III.C CUSTOMER COMPLAINT RESOLUTION

KEMA-XENERGY's approach to dispute resolution and consumer protection is outlined in this section. There are several methods through which disputes between program staff and end-user customers will be resolved. First, when problems arise, it is the job of the KEMA-XENERGY Program Manager to use all means at their disposal to resolve the issues at hand. If they are not successful, the issue is brought to the attention of the Project Manager for his input and problem resolution skills. If necessary and as a last resort, KEMA-XENERGY's contracts specialists will be enlisted, depending on the nature of the problem.

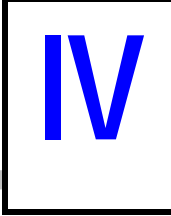
We should point out that never in our long history of delivering programs and implementing consulting engagements has there been a customer complaint that we did not satisfactorily resolve. In fact, KEMA-XENERGY has rarely had to go beyond the Project Manager to resolve conflicts. We value our long-standing working relationship with various players in the industry, and look forward to our continued mutual success on future projects. We will also consult with each of the participating banks to ensure that the program's complaint resolution procedures are consistent with those already in place at the bank.

In addition, KEMA-XENERGY will inform customers of the Commission's informal and formal complaint processes, which are available through the Consumer Services Division, as another channel through which customers may file a complaint.

### III.D GEOGRAPHIC AREA

As discussed in Section 3.B, the program will serve communities located in Alameda, San Mateo, San Francisco and Contra Costa Counties. Our intent is to work with local governments that have an interest in providing energy efficiency programs, the capability to add value to the program delivery process, but for whom it would be inefficient to develop and submit their own proposals directly to the CPUC. Besides having significant subpopulations of HTR customers, potential LGPs expressing interest in the program will need to demonstrate their commitment to the program, have an adequate infrastructure of marketing and outreach capabilities, show strong ties to community-based organizations, and have a positive brand identity among the HTR

segments of their communities. KEMA-XENERGY will work with the LGPs to designate various areas within their boundaries that are economically distressed or that have a high percentage of HTR businesses. These areas will be characterized as having older smaller buildings, higher business turnover, higher vacancy rates and lower property values.

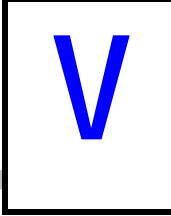


## *MEASURE AND ACTIVITY DESCRIPTIONS*

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**Not applicable.**





## V.A QUALITATIVE STATEMENT OF GOALS AND OBJECTIVES

As discussed in Section 1, the broad goals of this project are to:

- Develop a new and effective channel for the marketing of energy efficiency programs to small commercial and industrial customers by using the “naturally occurring” opportunity to market energy efficiency programs at the point that customers are seeking financing for facility improvements.
- Significantly expand the resources available to reduce the first costs of energy efficiency improvements for small commercial and industrial customers through high leverage of PGC funds.
- Stimulate the participation of banks in energy efficiency project financing, a function they have generally not fulfilled to date.

## V.B INDICATORS OF PROGRAM SUCCESS

Based on these goals, the key indicators of program performance will be as follows.

- ***Number and variety of banks that sign participation agreements.*** As discussed in Section 2, we will set a first year goal of signing participation agreements with ten banks or other lending institutions that serve small businesses and nonprofit organizations in the Bay area. In subsequent years, we set a goal to expand the program through extending relationships with the first group of banks to sign on, as well as finding local institutions in locations within the PG&E service territory that are outside the Bay area. In regard to variety of institutions, we plan to enroll large, regional commercial banks such as Wells Fargo and Bank of America, local commercial banks, and community lending institutions such as the Low Income Investment Fund.
- ***Number of programs that sign formal Memoranda of Understanding to refer customers.*** In addition we will track the number of customers referred, numbers of loans closed from these sources, the costs and expected savings of measures financed by those loans, and the representation of hard-to-reach customers among the borrowers.
- ***Lending volume.*** Indicators of success in this area will include numbers of loans made, the total costs and energy savings associated with the measures installed through the projects supported by the program, the costs and savings of the specific measures financed by the program.

- **Success in targeting hard-to-reach customers.** Key indicators of success in this area will include the number of HTR customers that participate in the program, the number of HTR customers as a percentage of total customers, the volume of loans to HTR customers as a percent of total volume, and the amount of projected energy savings for measures financed in HTR facilities as a percent of total savings for measures financed by the program.

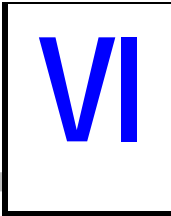
## V.C QUANTITATIVE GOALS

Based on review of the performance of the Express Efficiency program and more recent experience in administering a number of turnkey project development/rebate programs for small business customers, KEMA-XENERGY believes that it is reasonable to set a goal of \$6 million in total lending activity for the first two years of the *Positive Energy* program. We have developed the proposed program budget based on an assumption of that loan volume, with an average loan size of \$60,000.

Table 5-1 presents additional quantitative goals based largely on experience in other states and with different kinds of programs in California. This goals table will be revised in the course of start-up work on the program.

**Table 5-1  
Proposed Program Goals (for 2-year period)**

Number of loans made	100
Amount of loans disbursed	\$6 million
Total KWh savings (cumulative all projects)	36 million/year
Total kW reduction	23,000 kW
Number of participating banks	15



### VI.A BASIC APPROACH

KEMA-XENERGY proposes to structure an evaluation effort for the program that consists of three components. These are:

- ***Market Assessment/Operational Feedback.*** The *Positive Energy* program is designed to facilitate the participation of banks in energy project financing and to enhance the overall potential of audit and rebate programs. Thus, the success of the loan program will depend on KEMA-XENERGY's ability to tailor program operations and offerings to meet the needs of lenders and other program implementers, as well as those of borrowers. Information on market baseline conditions and close attention to response from banks and other program implementers will be required both to make and document progress in drawing these essential partners into the program effort. These items will be tracked in a systematic way by KEMA-XENERGY program staff for use in short-term project design and management decisions and will be forwarded to the evaluation contractor.
- ***Energy savings and demand reductions.*** Even though the *Positive Energy Loan Fund* is being proposed as an information-only program and will not attempt to claim energy savings, it is designed to result in the development of clearly identifiable energy-efficiency projects. The volume of loans made by the program and the energy savings and demand reductions associated with the projects financed by those loans are clearly important indicators of program success. We will use the evaluation results of cooperating programs to quantify savings from projects financed by the program. For projects that do not go through other programs, we will use savings estimation procedures developed for audit/rebate programs that KEMA-XENERGY administers. These savings data will be stored in the program tracking system.
- ***Achievement of program goals.*** As discussed earlier, the three primary goals of the program are to provide effective marketing of existing energy efficiency programs, to expand the flow of external financing into energy efficiency projects, and to encourage banks to take greater initiative in lending for energy efficiency improvements. Performance indicators can be developed for each of these objectives. KEMA-XENERGY will work closely with a third-party evaluation contractor to structure an appropriate "summative" evaluation to assess the program's value and the advisability of continued funding.

The following sections describe each of the three evaluation components in turn.

## VI.B MARKET BASELINE/OPERATING FEEDBACK

The program theory for the *Positive Energy Loan Fund* is based on many well-documented facts about the behavior of small commercial customers and banks in regard to energy efficiency improvements. Despite the fact that small commercial and industrial customers could benefit from borrowing to finance energy efficiency improvements and that banks could benefit by making lending to those improvements, few such loans are made because energy efficiency is a low-priority issue for both parties. “Turnkey” style programs address this set of barriers through steep rebates, aggressive marketing, and assumption of project development responsibilities. However, this approach is very expensive and does little to elevate the visibility of energy efficiency among actors who are in the market for the long-term.

KEMA-XENERGY will collect information from banks, borrowers, and cooperating programs to provide both rapid feedback for adjusting program design and a fund of data for the third-party evaluator to use in assessing progress towards longer-term program goals. Information to be gathered from these parties will be as follows.

**Banks.** In the course of recruiting banks to participate in the program we will collect information on their current practices in regard to promoting energy efficiency when making loans to small businesses for facility purchase or remodeling. These questions will cover lending officer knowledge of existing statewide and local programs, staff understanding of the costs and benefits of energy efficiency investments, and the use of special lending programs, whether to support energy efficiency or other purposes. As negotiations with participating banks progress, we will document requested changes in the draft Participation Agreements and the resolutions reached on such issues. This will help the program managers and, ultimately, the evaluation contractor understand the banks’ motivations and constraints in lending for energy efficiency programs. We will request formal evaluations of the training programs from the participating lending officers. Again, we anticipate that this information will provide useful feedback for refining the program, as well as background material to be used in the Final Evaluation. Finally, we will contact representatives of the participating banks on a monthly basis during the first year to ascertain the number of prospects that lenders are seeing and the nature of any problems they may be having in marketing and administering the program. If the number of program applications from a given bank is running very much behind schedule, we will take steps to contact that bank more frequently to ascertain problems and evolve potential solutions.

**Other program implementers.** To support later evaluation by a third party, we will document changes negotiated in the draft Memoranda of Understanding. This will provide a check against the program theory concerning motivations of other program implementers to participate in the program. In order to assess the effectiveness of referral channels through other program implementers, we will monitor the number of potential projects referred by each cooperating program, as well as basic characteristics of the project and borrower. This information will be used to assess the extent to which the program as structured is yielding referrals to hard-to-reach customers.

**Customers.** To minimize burden on customers, we will require no information from them that they would not otherwise in the course of applying for a loan. In particular we will collect information on the nature of the customer's business, size of facility, number of employees, HTR characteristics (first language of the proprietor, size, tenure [leased or owned], and location. We will also collect contact information so that the customer can be contacted later by the evaluation contractor. We will also collect basic contact information, firmographic, and facility information from all customers from whom we receive inquiries concerning program participation. This information will be used to develop a sample of non-participants for use by the evaluation contractor.

### VI.C TRACKING ENERGY SAVINGS AND DEMAND REDUCTIONS

As discussed above, we do not plan to claim energy savings for this program. However, the volume of projects financed and the energy savings associated with those projects clearly constitute an important indicator of program performance. The program tracking system database will collect information on the following for each project financed:

- Identification, total cost, estimated annual energy savings, and peak demand reduction for all measures included in the project.
- Identification, cost, estimated annual energy savings, and peak demand reduction for the measures specifically financed by the program.
- Characterization of customers as hard-to-reach.

For projects referred through other programs, we will use the *ex ante* estimates of energy savings demand reduction developed by the program implementers as the values to be entered in the tracking system. For projects initiated by the *Positive Energy* program, the KEMA-XENERGY program coordinator will develop energy savings and demand reduction estimates using guidelines from relevant programs, such as Express Efficiency.

## VI.D FINAL EVALUATION

KEMA-XENERGY will select a third-party contractor to carry out the Final Evaluation of the program. The evaluation will be designed to assess the program's progress in achieving the goals and objectives summarized above.

### ***VI.D.1 Research Questions***

The key research questions to be addressed in regard to each of the primary program objectives are as follows.

#### **Value of the program as a new marketing channel for energy efficiency programs targeted to small commercial and industrial customers.**

- How many customers and projects were referred by participating banks to other statewide and local energy efficiency programs?
- What percentage of these referrals met eligibility criteria for the other programs?
- Were the customers referred aware of utility and/or non-utility energy efficiency programs prior to their referral from the bank?
- To what extent had the customers referred to other programs made energy efficiency improvements on their own prior to the referral?
- To what extent were the customers referred to other programs aware of energy efficiency opportunities in their facilities prior to referral?

#### **Incremental contribution of the program to energy efficiency project financing for small commercial and industrial customers.**

- What portion of the total costs of projects supported by the loan fund was financed with the loans (versus customer's own funds or rebates from other programs.).
- To what extent did cooperating program implementers use the facilities provided by the loan fund to expand the scope of projects they supported with their own program resources?
- What factors encouraged or inhibited cooperating programs from using the loan program?
- What changes to the program do the cooperating program implementers recommend to increase the volume of project cross-referrals?

#### **Facilitation of banks' entry into lending for energy efficiency projects.**

- How and to what extent did banks change their approach to lending for energy efficiency projects as a result of the program?

- What were the effects of the specific elements of the program, including the interest rate reduction, origination fee, and training?
- What specific benefits did the participating banks perceive from participating in the program?
- What were the costs and other drawbacks of participating in the program?

### ***VI.D.2 Evaluation Activities***

To address the research questions listed above, the evaluation contractor will undertake the following activities.

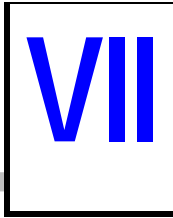
- Compile and review information on bank and cooperating program response to the initial loan fund plans and draft participation agreements.
- Compile and review the information on loan program activity collected in the tracking system database.
- Conduct interviews with a sample of managers for banks and other program implementers that participated in the project.
- Conduct interviews with a sample of banks and programs that declined to participate in the program to ascertain reasons why they did not participate.

KEMA-XENERGY will release a Request for Proposals for an evaluation contractor during the third quarter of the second year of program operations. We will select an evaluation contractor based on the proposals submitted in response to the RFP. Research will be conducted towards the end of the third quarter of the second year, with a draft report to be submitted at the beginning of the fourth quarter.

KEMA-XENERGY is aware of many independent evaluators who would be appropriate for carrying out the evaluation. Among them are:

Shel Feldman Management Consulting  
7611 Voss Parkway  
Middleton, WI 53562

Research into Action  
PO Box 12312  
Portland, OR 97212



## VII.1 PRIMARY IMPLEMENTER

### VII.1.1 Qualifications of primary implementer

KEMA-XENERGY's 350 employees throughout the United States are experts in energy engineering, energy audits, energy efficiency program administration and implementation, construction management, design/build services, energy metering and statistical analysis, economic analysis, education, training, and energy software development. Related consulting services include market research and assessment, program monitoring and evaluation, technology assessment, energy policy analysis, and information technology to support these specialties. Our specific qualifications in regard to the requirements for developing and operating the proposed *Positive Energy Loan Fund* are as follows.

- ***Development and management of special purpose loan funds to finance energy efficiency improvements.*** Mitchell Rosenberg, the designated project manager for this program has developed and managed two special-purpose loan funds designed to finance energy efficiency projects for commercial and industrial customers. Mr. Rosenberg developed and managed the Boston Non-Profit Energy Loan Fund, which provided reduced interest loans for energy efficiency projects carried out by non-profit organizations in their facilities. The program operated from 1981 through 1990. In addition to reduced interest loan from cooperating banks, the program provided project development assistance in the form of energy audits, project implementation support, quality control inspection, and resolution of problems with contractors. The program financed projects for over 50 non-profits in the Boston area. It was funded by a consortium of Boston area foundations and corporations. Mr. Rosenberg also participated in the development of a similar program in Chicago and a program to provide loans to Nebraska state agencies for energy efficiency-related facility improvements. KEMA-XENERGY is currently working under contract to the New York State Energy Research and Development Authority (NYSERDA) to provide a number of support services to that agency's Energy Smart<sup>SM</sup> Loan Fund. Those services include recruitment of participating banks, lending officer training, program marketing to end-users, and public relations support.
- ***Access to the Bay Area financial community.*** Through local consultant Robert Rothenberg and our own staff's previous work, KEMA-XENERGY has established personal relations and channels to appropriate lending officers at many banks in the Bay Area. These relationships will facilitate identification of appropriate persons to approach at key banks and the development of Participation Agreements with those banks. By using experienced lending officers in the recruitment and training process, we will accelerate the processes of program development and marketing.



- Management of energy efficiency programs for small and hard-to-reach.** KEMA-XENERGY is currently managing turnkey audit and incentive programs targeted specifically to small, hard-to-reach nonresidential customers in the Bay Area (in partnership with Quantum Consulting) and in the San Diego Gas & Electric territory in partnership with the San Diego Regional Energy Office. In addition, KEMA-XENERGY is currently completing work on its extremely successful Innovative Peak Load Reduction Program, which provided similar kinds of services to small commercial and industrial customers under contract to the California Energy Commission. KEMA-XENERGY is currently managing or winding up several similar programs in California and Nevada. Through this work, KEMA-XENERGY has built up the technical tools, capabilities, and staff to assume the program coordinator role for the proposed *Positive Energy Loan Fund Program*.

Table 7-1 provides a brief of project experience.

**Table 7-1  
Summary of Selected KEMA-XENERGY Qualifications**

Project Name	Client	Sector	Year	Description
<b>Turnkey Program Implementation</b>				
• B.E.S.T Program	CPUC	Small Commercial	Ongoing	Turnkey marketing, energy education, site-specific energy analysis, financial incentives, equipment procurement, and installation program
• Innovative Peak Load Reduction Program	Calif. Energy Commission (CEC)	Nonresidential	Present	Program Administration of \$14 million statewide small nonresidential grant program.
• Comprehensive Compressed Air	PG&E Third-Party	Industrial	Present	1 MW of turnkey assessment and implementation
• Comprehensive Compressed Air	CPUC	Industrial	Present	3 MW of turnkey assessment and implementation in SCE & SDG&E service areas.
• Sure Bet	Nevada Power/Sierra Power	Small to Medium Commercial	Present	Turnkey marketing, implementation, and administration of energy-efficiency incentive and audit program.
• Partners in Energy Program	SMUD	Small Commercial	1996	Small Commercial direct install program delivered to over 740 project sites.
• Model Energy Communities Program	PG&E	Small Commercial	1994	Small commercial direct install program servicing over 320 sites.
• Onsite Energy & Water Audits	Glendale Water & Power, Montana Power, Kauai Electric	Residential	Present	Audit and direct install services for residential.
• HVAC PACT	PG&E, NYSERDA	Small Commercial	Present	HVAC Contractor training program.
<b>Loan Fund Administration</b>				
• Energy Smart Loan Fund	NYSERDA	Nonresidential	Present	Bank recruitment, lending officer training, marketing to end users, public relations support
<b>Tech Services/Auditing</b>				
• Technical Services Contract	PG&E	Nonresidential	Present	Audits, feasibility studies, wastewater treatment benchmarking.
• Technical Services Contract	PacifiCorp	Nonresidential	Present	Energy auditing of nonresidential customers.

**Table 7-1 (continued)  
Summary of Selected KEMA-XENERGY Qualifications**

<b>Research and Planning with Focus on Small Nonresidential Customers</b>				
<b>Planning Studies</b>				
• 2001 DEER Update Study	CEC	Commercial and Residential	2001	Statewide study to update measure costs and measure savings.
• CA Commercial Sector Energy Efficiency Potential Study	PG&E, SCE, SDG&E	Commercial	2001	Statewide study to identify and estimate cost-effective electric savings potential.
• CA Industrial Market Characterization Study	PG&E, SCE, SDG&E, SCG	Industrial	2001	Energy efficiency and market characterization study.
<b>Market Research &amp; Data Collection</b>				
• Residential Appliance Saturation Surveys (RASS)	CEC, Multiple Clients	Residential	Present	RASS studies (sample design, mail surveys, on-site data collection, data analysis and reporting).
• Commercial End Use Saturation Surveys (CEUS)	CEC	Commercial	Present	Subcontractor to conduct approximately 1,500 on-site surveys of commercial businesses.
• The Retail Energy Markets (REM) Studies	Multiple Clients	All sectors	Ongoing	Comprehensive research and analysis of energy industry restructuring/retail markets.
• US Motors Assessment	USDOE	Industrial	1998 – Present	National assessment of motors markets, motor inventories, and savings opportunities.
• Customer-oriented market research	Multiple	All sectors	Ongoing	Surveys and analyses of energy-related customer attitudes, behaviors, preferences.
<b>Evaluation</b>				
• Statewide Large Nonresidential SPC Evaluation	SCE, PG&E, SDG&E	Nonresidential	1998 to Present	Multiple years evaluating the nonres SPC Program.
• Statewide Small/Medium Nonresidential Study	PG&E, SCE, SCG, SDG&E	Nonresidential	1999	Assessment of small/medium nonres market in CA, evaluation on Express and SBSPC.
• PG&E Express Market Transformation Study	PG&E	Nonresidential	1998	Market effects evaluation of 1998 Express Program.

Projects descriptions are contained in the following subsections that demonstrate KEMA-XENERGY's experience and capabilities in the following related topical areas:

- Turnkey programs and loan funds
- Technical services and auditing.

### **VII.1.2 Turnkey Programs and Loan Funds**

KEMA-XENERGY has worked with utilities, state government agencies, federal government agencies, and representatives of equipment suppliers and consumers to build and administer successful turnkey energy-efficiency programs. Major projects in this area are summarized below.

### **Support Services for the New York Energy \$mart<sup>SM</sup> Loan Fund Program, New York State Energy Research and Development Authority.**

NYESRDA awarded KEMA-XENERGY a contract to provide comprehensive support services to its New York Energy \$mart<sup>SM</sup> Loan Fund Program. This program provides interest rate subsidies to banks that make loans to support approved energy efficiency programs undertaken by commercial, industrial, and resident customers. Program support services include recruitment of participating banks, lending officer training, program marketing to end-users, and public relations support. Other project deliverables include market research on bank interest in the program; design and hosting of a key part of the program's website; new collateral materials including brochures, case studies, and buckslips; regular e-bulletins to participating institutions; media relations; outreach to energy partners and trade associations; and advice regarding the structure of the program and potential program enhancements.

### **Business Energy Services Team (B.E.S.T) Program**

The California Public Utilities Commission awarded KEMA-XENERGY a contract to manage a direct installation program for the hard-to-reach, small commercial market in economically depressed areas. Targeted measures include indoor and outdoor lighting and HVAC. The program is a turnkey approach, offering marketing, energy education, site-specific energy analysis, financial incentives, equipment procurement, and installation, an approach tailored to this market segment. Door-to-door marketing is key to the program's success because these customers generally do not respond to mail or telephone solicitations. The program leverages local government participants and community-based organizations for outreach activities. Relatively high cash incentives deliver high participation levels and low per-unit marketing costs. The program's gross annual energy, demand, and therm savings goals are 5.4 million kWh, 1,117 kW, and 20,800 therms, respectively.

### **Innovative Peak Load Reduction Small Grants Program, California Energy Commission**

KEMA-XENERGY was hired by the CEC to administer a major portion of the CEC Peak Load Reduction Program. The Peak Load Reduction Program provides incentives to California's industrial and commercial customers to reduce their summer afternoon energy usage by installing energy-efficient and load-shifting technologies. Funding for the project was approved by the State of California in April of 2001, with the goal of achieving significant demand reduction during the summer of 2001.

KEMA-XENERGY's responsibilities included marketing the program, reviewing and processing applications, determining the expected demand reduction, processing incentives, and verifying project completion. KEMA-XENERGY created its marketing plan during the first month of the project and achieved the goal of fully subscribing the program within the first 90 days. Marketing efforts included a combination of direct mail, telemarketing, technical assistance, and seminars. KEMA-XENERGY's marketing effort resulted in nearly 300 applications, totaling approximately 60 MW of demand reduction. The applications covered a very wide range of

technologies, including equipment replacement, control systems, thermal energy storage, engine-driven chillers, industrial process improvements, heat recovery, and distributed generation. In processing the applications, KEMA-XENERGY reviews the proposed demand reduction calculations and assists applicants in making necessary modifications to their demand reduction claims. Once the projects are completed, KEMA-XENERGY reviews the project documentation and conducts verification visits to ensure that the projects are likely to produce the expected demand savings. KEMA-XENERGY's responsibilities also include obtaining appropriate levels of assurance that these projects will continue to reduce demand through the summer of 2004.

#### **Sure Bet Program, Nevada Power/Sierra Power**

KEMA-XENERGY developed the Nevada Sure Bet incentive program to help customers facilitate the implementation of cost-effective energy-efficiency improvements. The Nevada Power and Sierra Pacific Power companies are offering this program to their small- and medium-sized commercial customers; KEMA-XENERGY acts as the program administrator. The Sure Bet program offers prescriptive incentives on a per-unit basis for common high-efficiency lighting, cooling, and motor technologies, while a custom incentive option allows for flexibility in choosing energy-saving measures. KEMA-XENERGY trained contractors in Nevada on the program policies and procedures and continues to work closely with them to market energy savings opportunities. In addition to cash incentives, KEMA-XENERGY performs energy audits and project proposal reviews for commercial electricity customers in Nevada.

#### **Partners in Energy Program, Sacramento Municipal Utilities District, Sacramento, California**

KEMA-XENERGY contracted with the Sacramento Municipal Utilities District (SMUD) to serve as a Prime for the delivery of their *Partners in Energy Program*. The program offered rebate incentives to commercial and industrial customers for the implementation of energy efficiency measures in their facilities. As prime contractor, KEMA-XENERGY had a dedicated staff of field auditors and engineers to conduct site analyses and make recommendations for cost-effective upgrades. The program addressed all electrical end uses, including lighting, motors, HVAC, and refrigeration. At the 740-plus KEMA-XENERGY project sites located in economically depressed areas, electricity demand was reduced by more than 3.4 MW and energy consumption by over 17 million kWh per year.

KEMA-XENERGY contracted directly with the commercial/industrial customers to implement the recommended measures, and used a network of electrical contractors and other trade professionals to install state-of-the-art technologies.

#### **Model Energy Communities Program, Pacific Gas and Electric Company, San Francisco, California**

*At over 320 sites, electricity demand was reduced by more than 1,385 kW and energy consumption was reduced by over 56 million kWh per year.*

KEMA-XENERGY contracted with the Pacific Gas and Electric Company (PG&E) to serve as a Prime for the delivery of their *Model Energy Communities Program* to commercial buildings. The program offered rebate incentives to commercial and industrial customers for the implementation of energy efficiency measures in their facilities. As prime contractor, XENERGY has a dedicated staff of field auditors and engineers to conduct site analyses and make recommendations for cost-effective upgrades. The program addressed all electrical end uses, including lighting, motors, HVAC,

and refrigeration.

### **Residential Audits/Residential and Commercial Lighting Retrofits- Anaheim Public Utility, Anaheim, California**

XENERGY is providing a full-scale, turnkey audit and installation service for residential water and electric customers who participate in Anaheim Advantage Services energy programs. The on-site audits involve data collection of customers' equipment and usage patterns as well as the installation of several energy efficient measures. Issues concerning energy-efficient lighting for inside and outside the home, electrical appliance usage, and air duct efficiency are addressed as well. The first year's goal is to address 1,200 homes for the residential audit, 900 participants for the indoor and outdoor lighting programs, and 200 customers for the air duct efficiency program.

Water conservation concerns are addressed both inside and outside the home. Customer education covers water usage regarding laundry, dish washing, and bathing habits, followed by the installation of energy-saving water devices such as low-flow shower heads and faucet aerators. Installation of toilet dams is preceded by toilet tank leak testing and conversations with the customer regarding newer low-flow toilets. Outside water audits include checking sprinkler heads for proper operation and positioning, utilizing different watering approaches for different landscaping needs, optimizing watering schedules to reduce water usage, and water leak checks at the meter.

KEMA-XENERGY also provides a commercial lighting retrofit program for businesses in the Anaheim Public Utility domain interested in energy-efficient outdoor security lighting fixtures.

The scope of the project includes management and support to the field staff, as well as scheduling and supporting the residential and commercial customers while providing the utility with a full database.

### **VII.1.3 Technical Services and Audits**

#### **Commercial and Industrial Services**

KEMA-XENERGY is unsurpassed in its ability to provide broad-based technical services and to conduct cost-effective audits that produce meaningful, understandable, and practical conclusions. KEMA-XENERGY conducts numerous types of audits, all of which are consistent with ASHRAE and the Federal Energy Management Program (FEMP), and CEC guidelines and methodologies. The scope of work ranges from simplified walk-through audits to quickly determine potential for energy conservation measures to structured audits using data-collection protocols. The most sophisticated audits include a detailed engineering analysis using DOE-2, ASEAM, TRACE, HAP, and Carrier, which involve multiple site-visits and rigorous analyses. KEMA-XENERGY's vast auditing experience makes us uniquely qualified to give meaningful, timely, specific technical assistance across a wide spectrum of commercial and industrial facilities. The following list of projects highlight KEMA-XENERGY's experience and capabilities in providing technical and auditing services to commercial and industrial customers.

*KEMA-XENERGY has conducted energy audits for more than 6 billion square feet of private and public sector commercial, industrial, and institutional, floor space.*

#### **Technical Service Contract, Pacific Gas and Electric Company**

Under a technical services contract with Pacific Gas and Electric Company, KEMA-XENERGY is providing commercial and industrial audits, feasibility studies, monitoring and evaluation, and technical support for specific industry studies. To date, audited sites have included wineries, refrigerated storage, food processing, and equipment manufacturing facilities. KEMA-XENERGY also provides follow-up contact with each customer to encourage implementation, identify barriers, and suggest ways to overcome the barriers.

#### **Roseville Electric Company, Roseville, California**

KEMA-XENERGY is providing technical assistance for industrial and commercial customers of Roseville Electric Company, a California municipal utility. These audits include an evaluation of all electrical systems, including lighting, HVAC, motors, and process end uses. To date, KEMA-XENERGY has performed audits of 30 sites, including city buildings, the municipal wastewater treatment plant, a semi-conductor fabrication facility, a hospital, office buildings, a solid waste treatment facility, a college campus, and a telephone company. In addition, KEMA-XENERGY was selected to help implement the Summer Peak Load Reduction Program for the city. KEMA-XENERGY helped to recruit customers to participate in the voluntary load shedding program, identified and quantified curtailable loads, advised the customers and Roseville Electric on technologies necessary to automate the curtailment, and verified the installation and effectiveness of the measures. KEMA-XENERGY also assisted in developing baseline load profiles for each of 29 participating customers to be used in determining payments by the state program to Roseville Electric and its customers.

### **Alameda County Waste Management Authority**

KEMA-XENERGY provides green building design assistance to the Alameda County Waste Management Authority and its member agencies, including all the 16 cities in Alameda County, the county itself and the Parks Department. The services KEMA-XENERGY provides include running design charettes, reviewing plans and specifications, recommending alternate materials, equipment, building siting and construction techniques. KEMA-XENERGY provides educational services to architects, engineers, contractors, and city staff through lectures and seminars as well. The goals of the program are to reduce the total solid waste from the construction industry, reduce energy use in buildings and improve the quality and safety of the indoor environment.

### **City of San Jose, California**

KEMA-XENERGY recently completed a green building study for the City of San Jose that estimated the costs associated with meeting the certification requirements of the Leadership in Energy and Environmental Design (LEED™) green building program. From the costs, KEMA-XENERGY developed a strategic plan for building each of 16 libraries to a certified level. Additional work involved creating recommendations for how San Jose should tailor LEED™ to meet their local needs while maintaining the national credibility of the rating program. The study was funded by the Environmental Services Department and California's Integrated Waste Management Board.

### **The Energy FinAnswer DSM Program, PacifiCorp, Portland, Oregon**

KEMA-XENERGY is currently conducting small and mid-size commercial energy audits for PacifiCorp's *Energy FinAnswer DSM Program*. The program offers rebate incentives to commercial customers for the implementation of energy-efficiency measures in their facilities. The program targets all electrical end uses, including lighting, motors, HVAC, and refrigeration. During calendar year 2001, the first year of its participation in the program, KEMA-XENERGY completed over 400 site audits. KEMA-XENERGY is also anticipating over 750 site audits in calendar year 2002.

### **City of Santa Ana, Santa Ana, California**

KEMA-XENERGY was hired by the City of Santa Ana to develop a Strategic Electric Plan for energy cost control in the City. As part of this contract, KEMA-XENERGY studied all 795 city electric accounts, conducted a right/best analysis for each account, and did energy audits of city libraries, police and fire stations, city parks, outdoor stadiums, parking structures, senior centers, and the City Hall. KEMA-XENERGY also conducted an in-depth analysis of energy uses for city street lighting, traffic control, and the city's municipal water department. Taken together, KEMA-XENERGY's recommendations for energy conservation measures; improvements to the way in which city accounts were structured, billed, and paid; and procurement strategies are expected to save the city over \$1 million annually.

## VII.2 SUBCONTRACTORS

KEMA-XENERGY will not be contracting with other firms for services in relation to this program. We have made arrangements to hire two former lending officers on a consulting basis to assist in bank recruitment and training. Their relevant qualifications are presented below.

## VII.3 RESUMES OR DESCRIPTION OF EXPERIENCE

This section presents summary biographies for selected key staff and project associates.

**Mitchell Rosenberg**, Vice President, will serve as the Project Director. Mr. Rosenberg has over twenty years of experience in the design, implementation, and evaluation of energy efficiency programs. Of greatest relevance to this proposal, he developed and managed the Boston Non-Profit Energy Loan Fund, which provided reduced interest loans for energy efficiency projects carried out by non-profit organizations in their facilities. The program operated from 1981 through 1990. In addition to reduced interest loan from cooperating banks, the program provided project development assistance in the form of energy audits, project implementation support, quality control inspection, and resolution of problems with contractors. The program financed projects for over 50 non-profits in the Boston area. It was funded by a consortium of Boston area foundations and corporations. Mr. Rosenberg also participated in the development of a similar program in Chicago and in the development of a special lending facility for energy efficiency projects in Nebraska state government buildings. Mr. Rosenberg has recently developed and overseen the operation of two other turnkey implementation programs in for the New York State Energy Research and Development Authority focusing on improvement of industrial compressed air and small commercial HVAC systems. Finally, Mr. Rosenberg has directed many market assessment and evaluation projects focusing on commercial and industrial markets for lighting, motors, compressed air systems, HVAC, and specialized industrial production technologies.

Mr. Rosenberg holds a BA in Economics from Columbia University and a Masters in City Planning from Harvard University.

**Lawrence Alexander**, Senior Principal, will serve as the Outreach Manager for the program. At KEMA-XENERGY, Larry Alexander oversees outreach and marketing for a wide variety of programs. He currently heads the KEMA-XENERGY team that is providing extensive support to NYSERDA's Energy Smart Loan Fund Program. Larry Alexander is also currently providing support to the U.S. Environmental Protection Agency's Green Power Partnership. He has provided marketing assistance to three electricity suppliers/utilities in different parts of the country in shaping a green power product and in targeting prospective customers. Together with the Center for Resource Solutions (CRS), he has worked on website and collateral materials for the Rhode Island Renewable Energy Fund. He previously led a team that developed a Guidebook on Renewable Energy and Distributed Generation for the Massachusetts Division of Energy Resources. Mr. Alexander formerly served as a Commissioner of the Massachusetts Department of Public Utilities and also was House Chairman of the Massachusetts legislature's Energy Committee. He authored the state's Appliance Efficiency Law. In addition, Larry



Alexander has served as Executive Director of the Consortium for Energy Efficiency (CEE), whose members included the California Energy Commission as well as all of the California investor-owned utilities.

Larry Alexander earned his A.B. from Yale University and his J.D. from Boston University School of Law, where he was a member of the Law Review.

**Karin Corfee**, Senior Consultant, will serve as the Program Coordinator. Ms. Corfee performs project management, program administration, marketing, and quantitative and qualitative research in the areas of energy-efficiency, load management, market transformation, market assessment, and performance measurement. Ms. Corfee currently serves as the project manager for the B.E.S.T. Program, Innovative Peak Load Reduction Small Grants Program, and the Sure Bet Program. Ms. Corfee has been active in KEMA-XENERGY's multi-client research on Internet business strategies and on electric market restructuring activities throughout the U.S. For PG&E, Ms. Corfee started her career working in the field as a conservation analyst performing audits on small commercial and industrial facilities. She also was the Small Commercial Audit Program (SCAP) Coordinator and the Alameda School District's Energy Conservation Representative.

Ms. Corfee has a M.S. in Civil Engineering – Infrastructure Planning and Management from Stanford University and a B.S. in Political Economy of Natural Resources from the University of California at Berkeley.

**Douglas Bulfinch**, Project Associate, will work on recruitment of participating banks and lending officer training. He is currently playing a similar role in KEMA-XENERGY's support project for the New York Energy Smart Loan Fund. Mr. Bulfinch is an independent bank consultant. Prior to beginning his consulting career, Mr. Bulfinch worked for 15 years as a commercial lending officer and risk management specialist with FleetBoston Financial Corporation, the parent company of Bank of Boston. He was a senior credit officer and, prior to that, Vice President in charge of the Energy and Utilities Division.

Mr. Bulfinch holds a BA and MS in Geology and an MBA from Boston College.

**Robert Rothenberg**, Project Associate will work on recruitment of participating banks and lending officer training. Mr. Rothenberg has over 25 years of experience in the California banking industry. He has worked as a lending officer and a Chief Credit Officer, with specialization in lending to commercial customers. Through work with various Small Business Administration programs, he is familiar with lending to small commercial and industrial customers.

**Mr. Eugene Kong, P.E.**, Director of Information Systems. Mr. Kong will provide information technology support for this project, including development of the tracking system database, development and maintenance of the program web site, and development of links to other web sites. Mr. Kong is a professional engineer specializing in energy conservation systems, data acquisition systems, and energy measurement with 25 years of experience. He is an expert in data systems architecture with in-depth knowledge and experience in IT systems integration,

software development, project management, electrical engineering, and network communications. He has extensive expertise in energy management systems, supervisory control and data acquisition systems (SCADA), automated meter reading systems, electric metering, power quality monitoring, substation automation, and electric de-regulation back office systems. Before joining KEMA-XENERGY, Mr. Kong was the manager of energy information systems at PG&E Energy Services where he was responsible for implementing remote monitoring of commercial and industrial facilities to analyze and apply energy conservation measures. He also worked for 16 years at PG&E in the Electric Distribution Engineering Department where he developed and maintained system design standards that specified the design and implementation of metering, energy conservation systems (including CVR programs), overhead and underground distribution system design, distribution automation, data acquisition, and SCADA operations.

**Erin McCarthy**, Accounting Manager, will administer financial relationships with participating banks, including verification of loan documentation, disbursement of lump sum interest rate reduction payments and origination fees, and management of the account set up for the incentive payments. Ms. McCarthy is manages accounting operations at KEMA-XENERGY's headquarters office. She has over 10 years of experience in corporate financial management. She also played a lead role in managing the financial elements of complex energy performance contracts developed by KEMA-XENERGY and affiliated companies.



VIII.A BUDGET SUMMARY

Table 8-1 summarizes the budget for the Positive Energy Loan Fund program.

Table 8-1
Positive Energy Loan Fund Program Budget Summary

Table with 6 columns: Item, Administrative, Marketing, Direct Implementation, Evaluation, Total. Rows include Labor, Subcontractor Labor, HR Support & Development, Overhead, Travel, Materials, Incentives, and TOTAL.

VIII.B EXPLANATION OF SELECTED BUDGET ITEMS

Subcontractor Labor. Subcontractor labor for administrative, marketing, and direct implementation categories represents the work of bank consultants Doug Bulfinch and Robert Rothenberg on development of the basic offer to bankers, recruitment of bankers to the program, and training of lending officers. It is charged at an hourly rate specified by those individuals without mark-up to KEMA-XENERGY Inc. We assume that the evaluation services will be provided by a corporation and will be charged to KEMA-XENERGY at a rate reflecting labor and overhead.

Travel. Travel expenses for this program will include travel by KEMA-XENERGY staff and consultants from home offices to the Bay Area to develop and market the program. It will also include local travel to present training and information programs to banks, cooperating program implementers, and associations of borrowers. Finally, travel expenses will cover local travel of KEMA-XENERGY staff to conduct inspections on completed projects.

Incentives. Incentives include \$600,000 to be disbursed as lump sum interest reduction payments. Under assumptions discussed in Section 2, this amount will be sufficient to reduce interest by 4 percentage points from the participating banks' customary rates for a total loan

volume of \$6,000,000. Incentives also include the payment of ½ percent origination fees to the participating banks.