

Application No.: A.08-07-021
Exhibit No.: SCE-5 (Amended)
Witnesses: G. Rodrigues



SOUTHERN CALIFORNIA
EDISON

An *EDISON INTERNATIONAL* Company

(U 338-E)

***SCE's 2009-2011 Energy Efficiency Program Plan
Implementation Plans***

Before the
Public Utilities Commission of the State of California

Rosemead, California
March 2009

Table of Contents

Residential Programs

1	Efficient Affordable Housing	1
2	Comprehensive Mobile Home.....	13
3	Comprehensive Home Performance	24
4	Community Language Efficiency Outreach.....	39

Nonresidential Programs

5	Cool Planet.....	55
6	Healthcare EE Program	64
7	Livestock Industry Resource Advantage	74
8	Comprehensive Beverage Manufacturing and Resource Efficiency.....	84
9	Solid Waste Energy Efficiency Program	95
10	Data Center Energy Efficiency	105
11	Data Center Optimization.....	116
12	Lodging EE Program.....	127
13	Food & Kindred Products.....	137
14	Primary and Fabricated Metals	148
15	Industrial Gases	159
16	Nonmetallic Minerals and Products.....	170
17	Comprehensive Chemical Products	180
18	Chemical Products Efficiency Program.....	192
19	Comprehensive Petroleum Refining	203
20	Oil Production	215
21	Refinery Energy Efficiency Program.....	225
22	High Performance Hospitals.....	236
23	Cool Schools.....	246
24	Public Pre-Schools, Elementary Schools, and High Schools	257
25	Retail Energy Action Program	268
26	Commercial Utility Building Efficiency	277
27	Monitoring-Based Commissioning	287
28	Monitoring-Based Persistence Commissioning.....	298
29	Leased Office Space Retrofit Program	308
30	Sustainable Portfolios	317
31	Management Affiliates Program	328
32	Private College Campus Housing.....	339

Crosscutting Programs

33	Automatic Energy Review for Schools.....	348
34	Sustainable Communities.....	360
35	Third Party Solicitations Program.....	378

1

Residential: Efficient Affordable Housing

1. **Program Name:** Efficient Affordable Housing
Program ID: SCE-TP-001
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-001	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
RESIDENTIAL						
	Efficient Affordable Housing	\$ 522,000	\$ -	\$ 1,000,000		\$ 1,522,000
	TOTAL:	\$ 522,000	\$ -	\$ 1,000,000	\$ -	\$ 1,522,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-001	Efficient Affordable Housing	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Efficient Affordable Housing	896,862	716	-
	TOTAL	896,862	716	-

4. Program Description

a) Describe program

SCE's Efficient Affordable Housing program (EAH) is a new addition to the 2009-2011 residential energy efficiency portfolio and was first offered in 2006-2008 as two IDEEA programs (Designed for Comfort and Affordable Housing Energy Efficiency Alliance). In accordance with the Strategic Plan, the EAH advances comprehensive energy efficiency measures in the affordable housing retrofit market by instituting whole house solutions targeting this underserved market and integrates with other DSM programs.

The program will use a performance-based approach to encourage affordable housing property owners to choose the most cost-effective measures to achieve a 20 percent

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Residential: Efficient Affordable Housing

energy savings improvement over existing building conditions. The program transforms the affordable housing retrofit market away from a prescriptive, one-size-fits-all approach, towards a comprehensive building analysis approach. This approach utilizes California Home Energy Rating System (C-HERS) raters to evaluate the energy efficiency improvement options for rehabilitating properties. In addition, energy education workshops will be offered to tenants and owners to provide information regarding the retrofit and knowledge about energy efficiency. The program also refers customers to other DSM programs, including low income, as applicable.

b) List measures

Measures
Package A/C or heat pump
Windows
Insulation
Electric water heaters
Energy SmartPak consist of 2 CFLs, low flow shower head, and low flow faucet aerators

c) List non-incentive customer services

The program will complete a thorough plan check and verify the eligibility of each project. The program may also be involved in the design assistance and suggest measures to the energy consultant and owner to enhance energy savings. The program will conduct marketing and outreach campaigns targeting the affordable housing market segment.

5. Program rationale and expected outcome

The EAH is designed to deliver cost-effective energy improvements within the property to reduce energy consumption by at least 20% from existing conditions. This program is new to the residential portfolio. In 2009-2011, the program team will continue to resolve program implementation issues as the program scales-up. The program will work towards the CPUC's goals of deep energy reduction in California households. In order to reach those deep energy reduction goals, the program will need to motivate property owners to do more than they otherwise would.

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a

Residential: Efficient Affordable Housing

result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Since inception, the EAH has run into several major barriers:

Addressing the market:

The affordable and supportive housing market has been unresponsive to energy efficiency programs due to lack of awareness, lack of funds, and a perception that efficiency costs too much. The supportive housing market consists of housing for tenants with special needs. This market has not fully participated in energy efficiency programs because some of these older buildings are master-metered for electricity. Despite the comprehensive measure recommendations, many of them are not able to afford the replacements or upgrades.

Continued problems with split incentives:

“Split incentives” is another barrier to these customers taking energy efficient actions. Many buildings in this sector are master-metered, which means that owners/managers may not see the benefit of energy efficiency investments. This would make selling relatively expensive equipment and appliances to these customers difficult. In addition to the split incentive barrier, there is a significant out-of-pocket barrier for this market segment.

To counteract the above barriers, the program has designed an extensive and consistent marketing and outreach campaign to deliver all elements of the affordable housing market through proven marketing channels including presentations, exhibits at trade shows, and other appropriate training and workshops. Property owners will be educated through these trade shows about the benefits of energy efficiency to

Residential: Efficient Affordable Housing

reduce their lack of awareness. The program has been successful in influencing this market through specialized outreach techniques tailored to this market, and will continue with this proven approach.

The program provides incentives for owners who achieve the 20% improvement goal. The incentives will help offset the cost of incorporating energy-efficient equipment replacement in rehabilitation projects, thereby reducing the barrier that the owner does not have sufficient funds for upgrading old and inefficient equipment. There are also incentives for contractors and C-HERS raters to bring their expertise into this market.

d) Quantitative Program Targets

The proposed targets may be modified due to funding restrictions, especially for the 2009 bridge funding year.

Table 5

	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1: Rehabilitate Property by Dwelling Units	289 dwelling units	340 dwelling units	560 dwelling units
Target #2: Conduct outreach events at trade shows	1	1	1
Target #3: Conduct classes at for eligible property owners	2	2	2
Target # 4: Meet 100% of kW and kWh program goals	Meet 100% of kW & kWh program goal for 2009-2011 program cycle	Same as 2009	Same as 2009

Note: The above program activities are subject to change due to funding restrictions and program activity level. We may shift these target to match program results (i.e., conduct training only if there is sufficient program participants to attend)

e) Advancing Strategic Plan goals and objectives

In accordance with the Strategic Plan, the EAH advances comprehensive energy efficiency measures in the affordable housing retrofit market by instituting whole-house solutions in this underserved market segment.

The program provides long-term energy benefits by promoting a performance based, comprehensive, cost-effective package of energy efficiency measures with long,

Residential: Efficient Affordable Housing

useful lives (typically 16-20 years). In order to achieve reductions in energy intensity, program measures include a combination of high performance windows, better insulation, and high efficiency heating and cooling.

The program will help to achieve the following near-term strategic goals identified in Section 2 of the Strategic Plan:

- *2-1: Deploy full-scale whole house program:* The program will target the affordable housing market segment and deliver comprehensive EE options.
- *2-2: Promote effective decision-making to create widespread demand for energy efficiency measures:* The program will launch campaigns to raise awareness in the affordable housing market segment and will utilize C-HERS raters to assess the buildings.
- *2-5: Increase Title 24 compliance through specific measures leading to aggressive statewide enforcement:* The program will leverage the C-HERS raters to support the adoption of local energy efficiency codes and standards.
- *3-2: In coordination with Strategy 2-2, develop public awareness of and demand for highly efficient products:* The program will launch marketing and outreach campaigns to increase awareness and demand for highly efficient products in the affordable housing market segment.

6. Program Implementation

a) Statewide IOU Coordination

The program is to be delivered through a single point of contact, implementing all aspects of program marketing, participant outreach, customer enrollment, and incentive payment processing. We will describe each of the tasks in more detail below:

i. Program name: Efficient Affordable Housing

ii. Program delivery mechanisms

EAH uses a performance-based approach to encourage affordable housing property owners to choose the most cost effective measures to achieve 20 percent energy improvement over existing building conditions. The program will utilize the expertise of C-HERS raters to perform the initial audit and final inspection of rehabilitated complex. Energy Consultants (EC) will also be utilized to provide the most cost effective measures to achieve 20 percent energy improvement. Affordable and supportive housing owners will receive an incentive to partially offset the costs to install or replace measures. An extensive marketing campaign will be conducted to target the affordable and supportive housing market. In addition, energy education workshops will be offered to tenants and owners to provide information regarding the retrofit and knowledge about energy efficiency.

iii. Incentive levels

The program offers a combination of cost effective measures to achieve a 20 percent energy improvement over existing building conditions. The list of

Residential: Efficient Affordable Housing

measures below may include other measures as they become available. The incentives are customized and based on the performance of the project.

iv. Marketing and outreach plans

The EAH is planning an extensive and consistent marketing and outreach campaign that will be delivered to all elements of the affordable housing market through proven marketing channels including presentations, exhibits at trade shows, and other appropriate training and workshops. Owners will be educated through these trade shows the benefits of energy efficiency to reduce their lack of awareness. The program has been successful in influencing this market through specialized outreach techniques tailored to this market, and will continue with this proven approach.

v. IOU program interaction

The program will coordinate with SCE's Energy Leader Partnerships, CEC, ARB, AQMD, and others to track new developments at local, state and federal level to make sure the implementer is aware.

vi. Similar IOU and POU programs

The EAH will collaborate with other IOU or POU programs.

b) Program delivery and coordination

The program is to be delivered through a single point of contact, implementing all aspects of program marketing, participant outreach, customer enrollment, and incentive payment processing. Each task is described in more detail below:

i. Emerging Technologies program

EAH is a comprehensive retrofit program that will coordinate with the emerging technologies program and offer new technologies, as appropriate.

ii. Codes and Standards program

The program will coordinate with the Codes & Standards program to ensure any impacts of code changes are incorporated into the program design and implementation.

iii. WE&T efforts

Separate from formal IOU WE&T efforts, this program will expand the expertise and presence of C-HERS raters through the training program.

iv. Program-specific marketing and outreach efforts

The overarching goal for the program is to increase program visibility in energy efficiency design and construction in the existing affordable housing multi-family market. The following marketing activities are planned:

- Attend community outreach events and meetings;
- Attend relevant conferences;

Residential: Efficient Affordable Housing

- Contact housing agencies and non-profit housing associations and organizations (i.e., HUD); and
- Participate and advertise in industry trade publications and newsletters.

v. Non-energy activities of program

An integral part of the rehabilitating process is providing design assistance to improve the energy performance of a project in the event it does not qualify due to insufficient energy savings or mischaracterization of project details. When these two common problems arise, the program will discuss the issues with the design team, and work to find solutions. In addition, the program will fund all the necessary marketing expenses to support community outreach.

vi. Non-IOU programs

The program will coordinate with non-profit organizations such as Global Green to incorporate green building strategies. In addition, coordination with public agencies like non-profit Housing Authorities, U.S. Department of Housing and Urban Development, Redevelopment Agencies, building and planning departments that are involved with building owners and rehabilitation projects will be leveraged, as appropriate.

vii. CEC Work on PIER

CEC PIER program includes affordability as a key program element of PIER. This program aligns with the PIER approach and the Emerging Technology program.

viii. CEC work on Codes and Standards

The 2008 Title 24 code revision is the most relevant to this program's work. EAH will be coordinated with the Codes & Standards program to ensure that the impacts of any code changes are incorporated into program design and implementation.

ix. Non-utility market initiatives

The program will contact public agencies like Housing Authorities, Redevelopment Agencies, building and planning departments that are involved with building owners and rehab projects to promote the program and build relationships.

c) Best Practices

One of the best practices that the program offers is the available training for the owners, property managers, and tenants on the proper use of their upgraded apartments after the completion of each rehabilitation project. On-site maintenance staffs have an opportunity to walk the site and ask any questions regarding proper long-term maintenance of the new equipment. These events also allow the opportunity to promote SCE's other energy efficiency programs and ensure that the tenants are aware of all available programs.

Residential: Efficient Affordable Housing

Lessons Learned: In the 2006-2008 program cycle, the program completed rehabilitation on large (9+ units) multi-family buildings. In the upcoming program cycle, the program would like to see an increase of smaller (3-8 units) multi-family buildings and supportive housing rehabilitated. The supportive housing market consists of housing for tenants with special needs. This will create a better balance of reaching out to the different market segment in the program.

d) Innovation

By implementing an innovative grass-roots marketing approach to reach out to all who influence affordable rehabilitation projects, direct access to affordable housing owners will be achieved through presentations at industry meetings, conferences, and workshops as well as leveraging strategic industry partners:

- By training property owners to take a comprehensive look at their buildings energy use and identify the most cost-effective efficiency measure for upgrades;
- By bringing energy experts, such as Energy Consultants and C-HERS Raters, into a market in which they typically do not serve; and
- By engaging the tenants of these properties to learn about the energy efficiency upgrades to their dwellings, and encouraging them to further conserve energy.

e) Integrated/coordinated Demand Side Management

IDSMD activities will be limited to making participating property owners aware that other programs, such as demand response programs, are available. However, the IOUs have identified IDSMD as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSMD efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc.)

The program will coordinate with water districts, AQMD and CARB, as appropriate. Detailed plans for process evaluations and other evaluation efforts specific to this program will be developed after the final program design is approved by the CPUC and program implementation has begun, since final plans will be based on identified program design and implementation issues and questions. However, a brief description of the current, preliminary plans is provided below:

- Establish metric A, B, C & D baseline data in 2009 using program data from 2008;
- Conduct SCE evaluation to track the all proposed key metrics;
- Conduct SCE -specific process evaluation to improve program design, implementation and market effectiveness; and
- Assess the impact of the program if the minimum per property savings is increased from 20% to 30% to 70%:
 - From a program cost-effectiveness perspective,
 - From a participant's affordability perspective,
 - Also, assess the requirements necessary for the program infrastructure to support these modifications.

Residential: Efficient Affordable Housing

g) Pilots

There are no pilots tied to this program for the 2009-2011 program cycle.

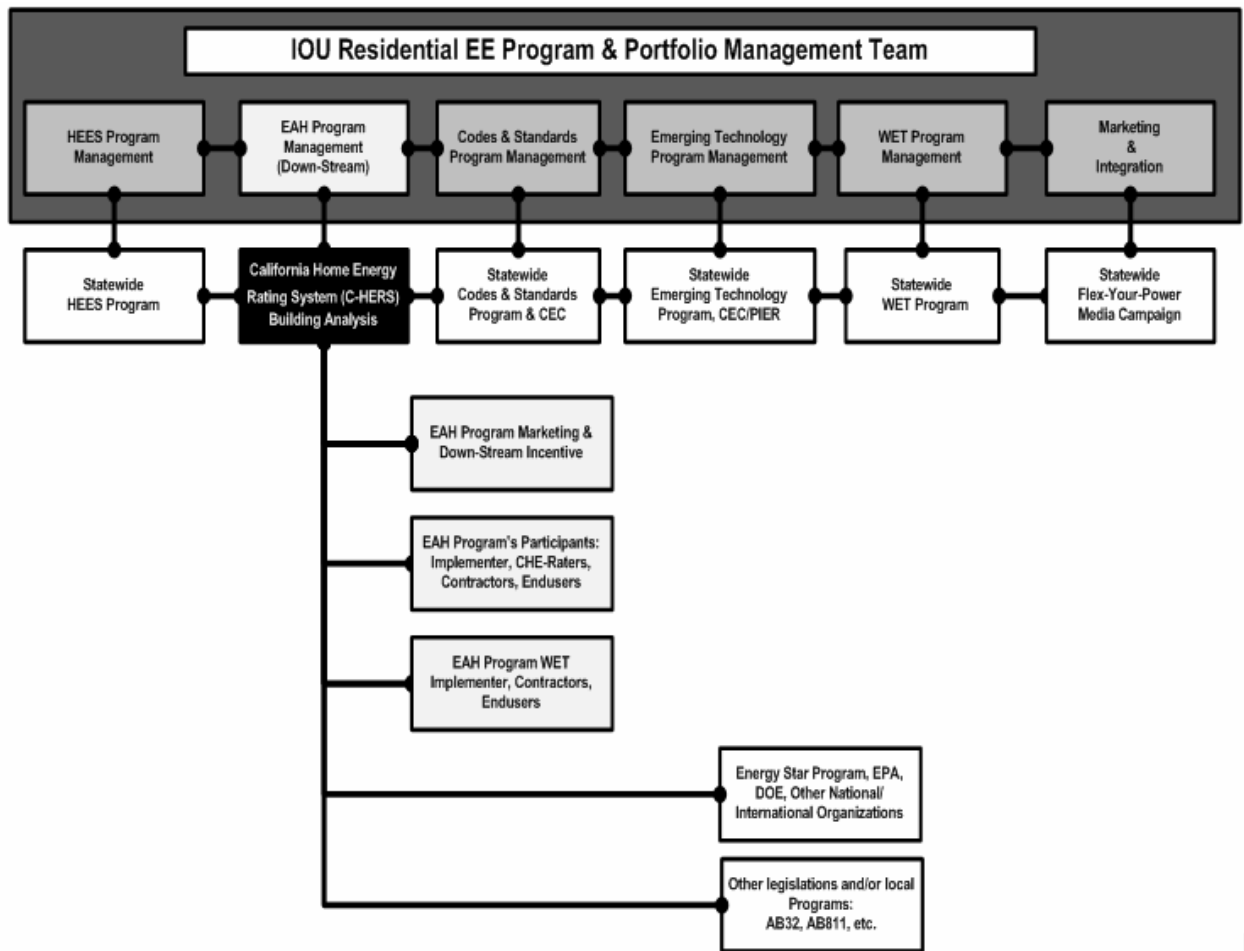
h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for the 2009-2011 program cycle after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies.

More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

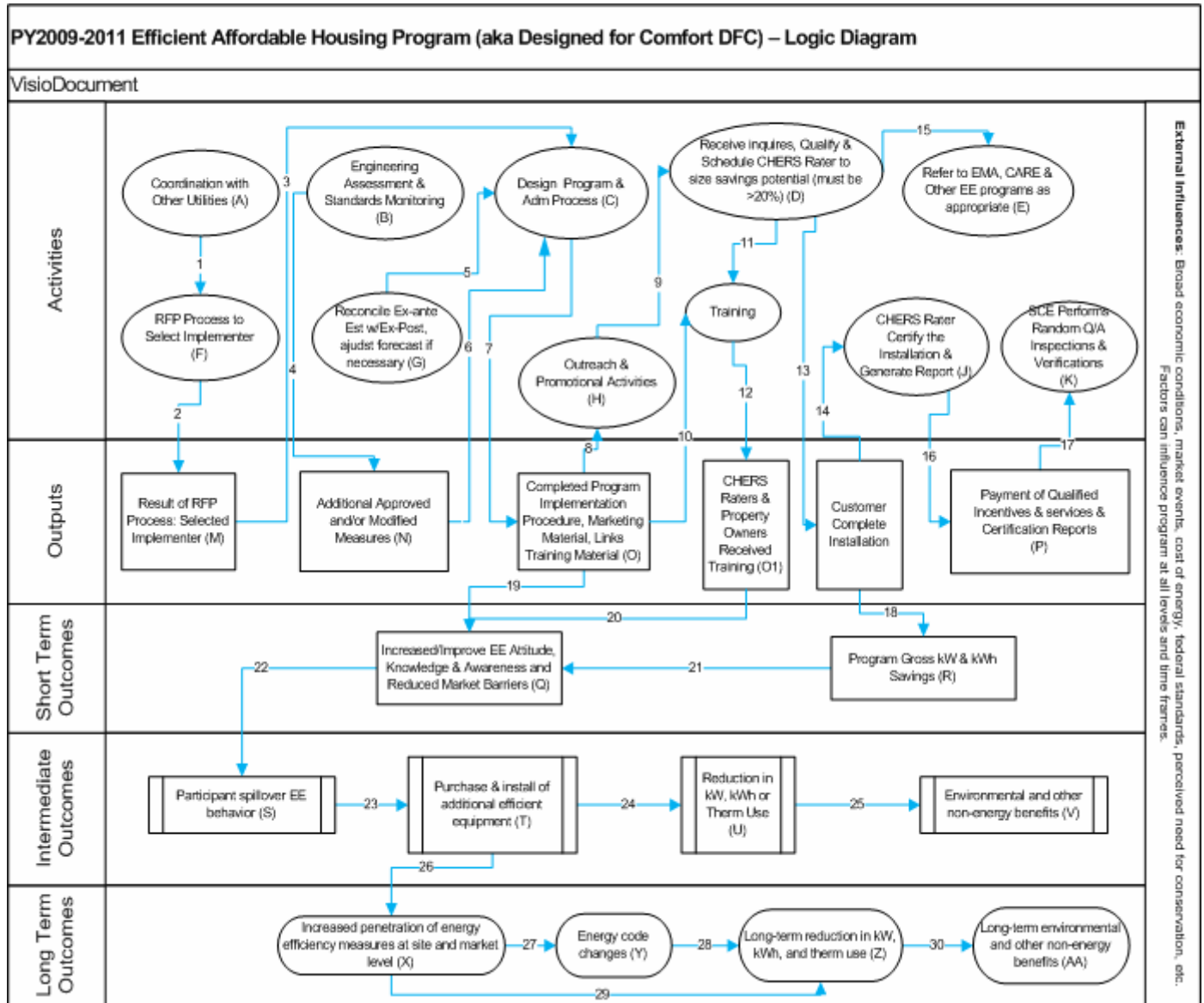
Residential: Efficient Affordable Housing

7. Program Interaction Diagram



Residential: Efficient Affordable Housing

8. Program Logic Model



2

Residential: Comprehensive Mobile Home

1. **Program Name:** Comprehensive Mobile Home
Program ID: SCE-TP-002
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-002	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
RESIDENTIAL	Comprehensive Mobile Home	\$ 1,495,600	\$ 12,000	\$ 9,441,400		\$ 10,949,000
	TOTAL:	\$ 1,495,600	\$ 12,000	\$ 9,441,400	\$ -	\$ 10,949,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-002	Comprehensive Mobile Home	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Comprehensive Mobile Home	30,254,753	10,852	-
	TOTAL	30,254,753	10,852	-

4. Program Description

a) Describe program

SCE's Comprehensive Mobile Home (CMH) program is a continuance of the existing mobile home program within SCE's residential energy efficiency portfolio, in coordination with SCG. CMH is a direct install program designed to provide a comprehensive energy efficiency program to mobile home customers in collaboration with local communities to maximize service to the citizens of their cities and towns. The program provides for installation of energy-efficient (electric and gas) products in the mobile home dwellings and common areas of mobile home parks, starting with the warmer climate zones, at no charge to the customer.

The target customers for this program are mobile homes and mobile home parks that are difficult to reach by other energy efficiency programs. These mobile home

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Residential: Comprehensive Mobile Home

customers are typically of moderate or fixed income, elderly, retired, and disabled individuals. The program is designed to enhance the energy efficiency knowledge and program participation within this market segment.

b) List measures

Electrical measures:

- Air Conditioning Diagnostic and Tune-Up;
- Duct Test and Sealing;
- ENERGY STAR®-qualified Hardwired Fluorescent Fixtures;
- ENERGY STAR®-qualified Screw-in CFLs;
- Occupancy Sensors;
- LED Exit Sign; and
- Vending Machine Controls.

Gas measures (SCG-delivered):

- Faucet Aerators;
- Low-Flow Showerheads;
- Water Heater Pipe Wrap; and
- Filter Tone.

c) List non-incentive customer services

CMH offers workshops to educate both property management and home occupants of the benefits from the measures offered by this program and opportunities available through SCE's & SCG's other energy efficiency programs and low-income programs.

5. Program Rationale and Expected Outcome

The CMH is a direct install program, for qualifying units, at no charge to the customer or property owner. The target customers for this program are mobile homes and mobile home parks which are difficult to reach by other energy efficiency programs. Mobile homes in California are occupied by a range of people. These mobile home customers are typically of moderate or fixed income, elderly, retired, and disabled individuals. In many cases, customers prefer to communicate in a language other than English.

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

Residential: Comprehensive Mobile Home

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

There are several program barriers that CMH is designed to overcome. They are:

- Lack of individual household visibility due to master-metered arrangements; and
- Income barriers to participation.

Lack of individual household visibility due to master-metered arrangements:

This market segment has not been able to benefit more fully from energy efficiency programs partially because many homes are master-metered for electricity. However, in other instances the homeowner does not have the same incentive or capabilities to improve their dwelling and many are fixed or lower income, and yet is above federal poverty guidelines and thus unable to qualify for low income programs or assistance.

This program offers an opportunity to achieve a balance in comprehensiveness, reducing energy bills, and reducing peak period energy usage. It eliminates the financial barrier to investing in efficiency by providing energy efficiency measures at no cost to the customer. Also, many of the third party technicians assigned to this program are bilingual (English/Spanish) and some multi-lingual, making them capable of providing program information regarding the measures installed and knowledge about other SCE energy efficiency, demand response, solar initiative, and low-income programs.

Target lower income households:

To reach these residences, special marketing and outreach activities are required. The CMH program team will coordinate with SCE's Low Income Energy Efficiency Program to identify and promote to income-eligible customers additional services not offered under the program, such as a refrigerator, air conditioning, and a window/wall air conditioner replacement. Also, the program will provide information regarding other income-qualified programs such as the California Alternate Rates for Energy and Family Electric Rate Assistance (FERA) programs.

Residential: Comprehensive Mobile Home

d) Quantitative Program Targets

The program will work towards achieving the following targets over the three-year program cycle. The proposed targets may be modified due to funding restrictions, especially for the 2009 bridge funding year.

Table 5

SCE	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1: The program will serve approximately 10,000 dwellings	3,000	3,000	4,000
Target #2: The program will outreach to 35,000 customers by flyers (direct mail and canvass notifications)	12,000	12,000	11,000
Target #3: The program will complete 180 contacts with property managers and Owners	60	60	60

Note: We are waiting for SCG to confirm these activity targets.

e) Advancing Strategic Plan goals and objectives

This program supports the Strategic Plan through its comprehensive approach to improve the energy efficiency of this unique market segment. This supports Strategic Plan goals for residential and low-income in terms of finding innovative and effective ways to reach the low-income or hard to reach market. In an effort to leverage additional energy savings, the CMH supports inter-program referral and data sharing. In addition, the program participates in bundling DSM solutions across energy efficiency, DR, CSI, smart meter and other DSM efforts to reach these customers.

The program will help to achieve the following near-term strategic goals identified in Section 2 of the Strategic Plan:

- 2-2: Promote effective decision-making to create widespread demand for energy efficiency measures: The program will work with EM&V group to incorporate studies that determine the property management and home occupant “decision triggers” to improve home energy efficiency.
- 3-2: In coordination with Strategy 2-2, develop public awareness of and demand for highly efficient products: The program intends to coordinate with Emerging Technologies to promote adoption of new technologies and offer workshops to educate both property management and home occupants of the benefits from the measures offered by this program.
- 3-4: Continuously strengthen standards, including the expansion of both Title 24 and 20 to codify advances in plug load management: The program will utilize Title 24-compliant energy-efficient measures, and will continue to coordinate

Residential: Comprehensive Mobile Home

with the Codes & Standards program to ensure that the impacts of any code changes are incorporated into program design and implementation.

6. Program Implementation

a) Statewide IOU Coordination

CMH is a local program in SCE's territory. This program is implemented jointly with SCG. This collaboration provides an opportunity to offer a cost-effective program while increasing the comprehensive measures offered in the program to include electric and gas measures, thereby increasing electric and gas savings. Statewide coordination with the other IOUs and consistency will be considered, as applicable.

i. **Program name:** Comprehensive Mobile Home Program.

ii. Program delivery mechanisms

The program will be implemented in alignment with all applicable research, best practices and policy movements.

iii. Incentive levels

The CMH is a direct install program.

iv. Marketing and outreach plans

CMH begins its efforts by doing research on mobile homes by target market. The third party vendor for this program has located approximately 253,000 manufactured mobile home units in parks and communities within the SCE service territory homes as targets for marketing. The program will contact the manager or owner of these units and present the program opportunity. From this activity, a neighborhood meeting will be scheduled to explain the program. Vendor staff and an experienced technician will attend the meeting.

The program will work directly with mobile home property owners/managers to coordinate events typically held at mobile home park clubhouses or meeting rooms. These events are a key outreach and education tool to explain the program to customers, park owners/managers, members of the neighborhood and mobile home community. These are good venues to explain the measures being offered and promote all other SCE energy efficiency, demand response, solar initiative and income-qualified programs. Much of the program success can be attributed to the recognized trust established between outreach associates, technicians and homeowners, residents and property managers/owners. In addition, SCE is well-known among the mobile home park communities. Other marketing activities include neighborhood canvassing, program information in monthly mailings from the park office including newsletters and billing statements. Program information will be posted in common areas and the office.

Customer Enrollment: Enrollment takes place at clubhouse, community events or by the customer calling a toll free number and scheduling an installation

Residential: Comprehensive Mobile Home

appointment. On the scheduled date, the program's certified technician completes a walk-through of the home with the customer to completely assess the site and install the needed measures to maximize energy efficiency. In the end, the technician provides the customer with an energy efficiency brochure with energy savings tips and information on other energy efficiency programs.

Quality Assurance and Reporting: Upon notice of completion, information will be collected and reported according to program requirements. The program will randomly inspect installations.

v. IOU program interaction with others

SCE will monitor activities with CEC, ARB and AQMD to make certain the program incorporates appropriate local, state, national and international policies and agreements.

vi. Similar IOU and POU programs

There are no similar IOU and POU programs in California.

b) Program delivery and coordination

The program will be implemented in alignment with all applicable research, best practices and policy movements.

i. Emerging Technologies program

In the Emerging Technologies (ET) proposed program plan, details are provided on integration with other segments. CMH intends to coordinate with ET through this process to promote the adoption of new technologies in the target market.

ii. Codes and Standards program

CMH utilizes Title 24-compliant energy-efficient measures. In addition, this program will be coordinated with the Codes & Standards program to ensure that the impacts of any code changes are incorporated into program design and implementation.

iii. WE&T efforts

This program targets mobile home owners and mobile home parks. It is not directly relevant to the WE&T efforts.

iv. Program-specific marketing and outreach efforts

CMH will market through local community organizations, active involvement in the mobile home associations, direct mail pieces, and advertisement in magazines.

v. Non-energy activities of program

This program is designed to work with a number of local governments and community organizations and associations.

Residential: Comprehensive Mobile Home

vi. Non-IOU programs

SCE will coordinate with existing non-IOU programs, as appropriate.

vii. CEC work on PIER

The CEC's PIER program specifically targets affordability: From the CEC's website: "The Buildings End-Use Energy Efficiency is a program area of the PIER program. PIER supports energy research, development and demonstration projects that are helping to improve the quality of life in California by bringing environmentally safe, affordable and reliable energy services and products to the marketplace." CMH will stay informed of PIER activities, and this will be reflected in progress reports to SCE on the program.

viii. CEC work on Codes and Standards

The residential program portfolio will coordinate with CEC and statewide Codes and Standards Programs to make certain CMH gets timely inputs and incorporates new measures as appropriate.

ix. Non-utility market initiatives

The program helps support the Western Climate Initiative with the utilization of advanced energy-efficient technologies and reduces the carbon footprint created by single family and multi-family residences in California.

c) Best Practices

CMH has incorporated a number of best practices through experiences. A variety of lessons have been designed into the program for improvements:

- To refine savings estimates, the program adopted improved climate zones and hours of operation to improve overall program savings accuracy; and
- Program is improving its documentation process in order to improve its verification results.

d) Innovation

The program will develop a database, organized by mobile home parks, that includes each unit in the park. The database will be loaded with customer information, provided by SCE/SCG, and track the work completed at each unit. In addition, this database may be able to report the saturation levels of the program at each mobile home park.

e) Integrated/coordinated Demand Side Management

The IOUs have identified IDSM as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

Residential: Comprehensive Mobile Home

f) Integration across resource types (energy, water, air quality, etc)

To increase the comprehensiveness of the measures offered in this program, both electric and gas measures will be included. This will be provided through a joint program coordination between SCE and SCG.

g) Pilots

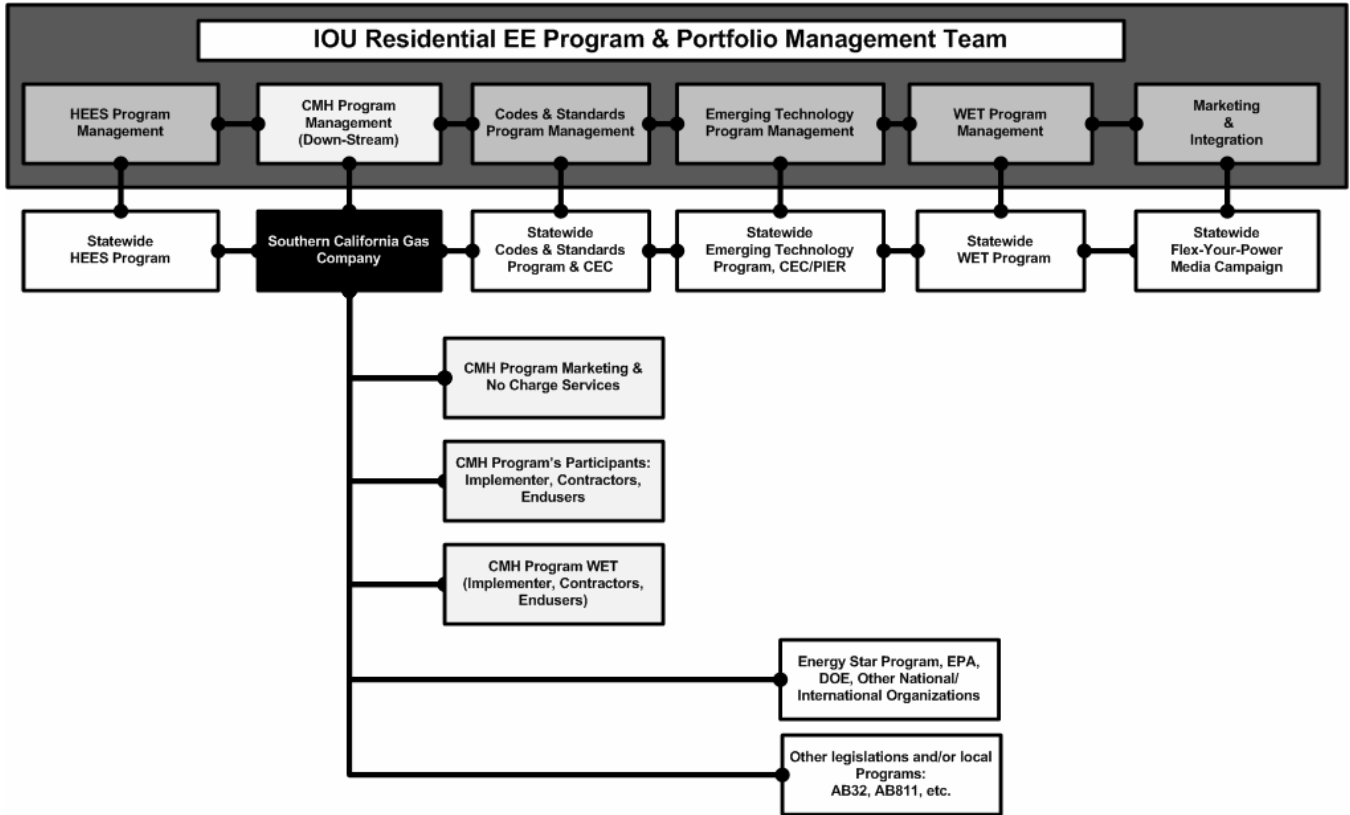
The CMH does not have any plans to conduct any pilots at this time. If new measures are added to the program during 2009-2011, a pilot will be considered prior to system-wide implementation.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

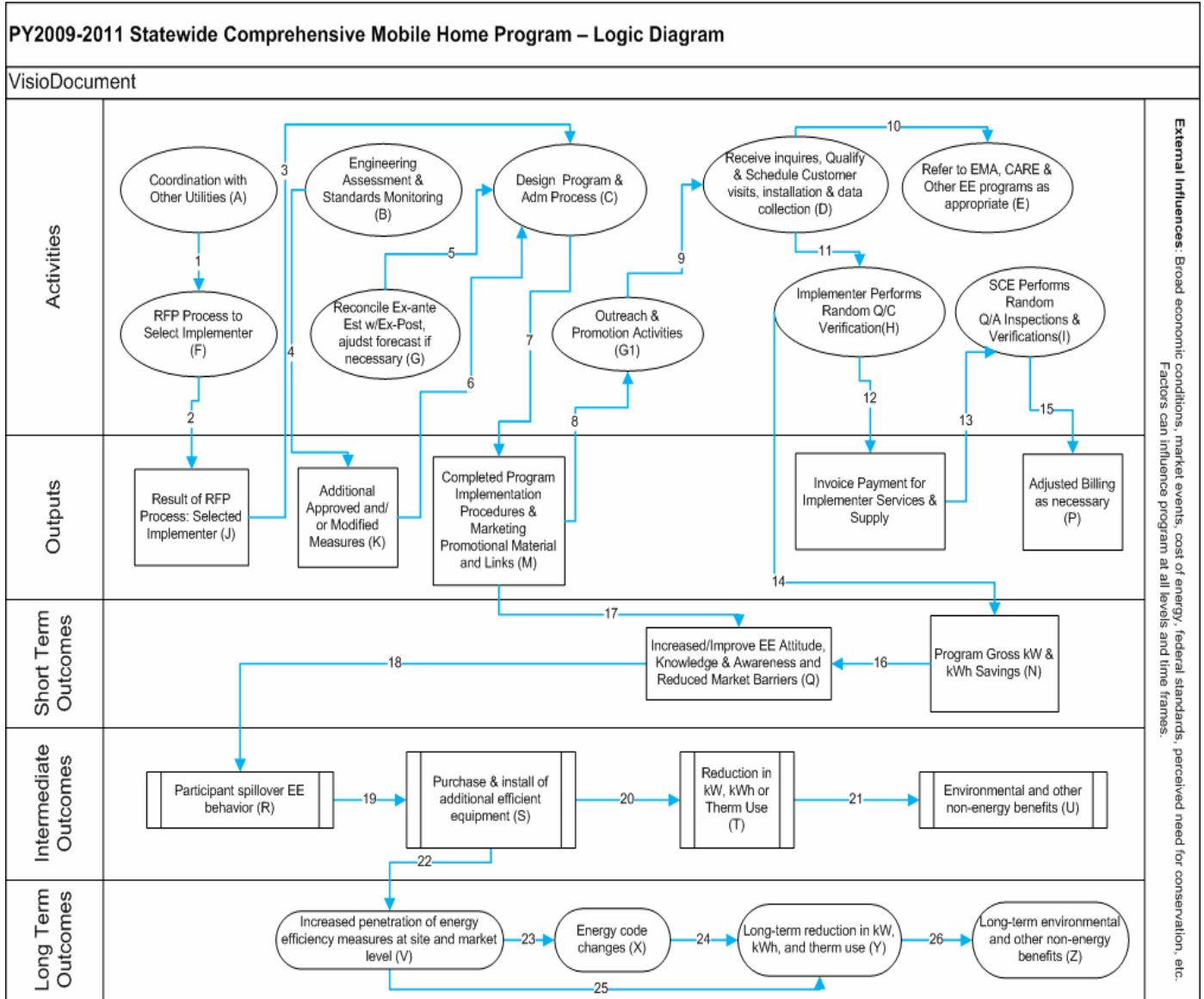
Residential: Comprehensive Mobile Home

7. Program Interaction Diagram



Residential: Comprehensive Mobile Home

8. Program Logic Model



3

Residential: Comprehensive Home Performance

1. **Program Name:** Comprehensive Home Performance
Program ID: SCE-TP-003
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-003	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
RESIDENTIAL						
	Comprehensive Home Performance	\$ 662,716	\$ 9,000	\$ 2,694,284		\$ 3,366,000
	TOTAL:	\$ 662,716	\$ 9,000	\$ 2,694,284	\$ -	\$ 3,366,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-003	Comprehensive Home Performance	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Comprehensive Home Performance	1,176,146	1,304	-
	TOTAL	1,176,146	1,304	-

4. Program Description

a) **Describe program**

SCE's Comprehensive Home Performance program (CHP) is a new addition to the 2009-2011 residential energy efficiency portfolio and is based on the successful 2006-2008 IDEEA pilot Comprehensive Home Performance delivery program. The CHP delivers comprehensive improvement packages tailored to the needs of each existing home and its owner.

The CHP solicits, screens, and trains qualified residential repair, renovation and HVAC contractors so it can assemble a capable contracting team to perform whole-house diagnostics, develop a comprehensive improvement package, complete the recommended improvements, and verify and report overall results. The program also

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Residential: Comprehensive Home Performance

includes marketing activities to help educate customers on other DSM programs and services to motivate homeowners toward deeper energy savings.

Incentives will be available to offset the homeowners cost for home performance improvements. The CHP offers rebates for various measures installed through CHP-specific rebates and rebates offered by other DSM programs; e.g., Home Energy Efficiency Rebate (HEER), Appliance Recycling Program (ARP), Comprehensive HVAC, California Solar Initiative (CSI) and Summer Discount Plan (SDP).

Contractors will also receive an incentive for completing formal home diagnostics, post-retrofit quality assurance testing, and reporting data on all jobs. Furthermore, the program will provide consistent standards of professional branding associated with the DOE/EPA's Home Performance with ENERGY STAR® programs.

CHP provides the participating contractors a full range of services including technical training, business (marketing and sales) training, field mentoring, specialty team building and support. The extensive program support includes website materials, email newsletters, an online peer group Q&A forum, and a broad range of alliance-building tools.

b) List measures

SCE and SCG are working to develop the most appropriate level of incentives for CHP.

Customer Incentive Table A

SCE Measures
Thermal load reduction via air sealing, insulation, ventilation, windows, etc.
Right-sizing and proper installation of HVAC systems, including duct sealing.
Baseload reduction opportunities such as lighting, plug loads, water heating, and appliances.
Where applicable - solar water heating, photovoltaic (PV) installations, self generation, demand response applications.

Customer Incentive Table B

SCG Measures
Faucet aerators,
Low-flow showerheads, water heater pipe wrap,
Filter tone insulated siding

Contractor Incentive Table C

Incentives to Contractors
Upon completion of project and acceptance of final project reporting
Additional contractor incentive upon the 5 th site completed

Residential: Comprehensive Home Performance

c) List non-incentive customer services

The program offers technical, business/marketing training sessions and field mentoring services. The technical training and field mentoring are used to improve basic contractor skills and to introduce the basic concept of energy-efficient home repair and renovation practices. Business/marketing seminars will be offered to help contractors learn the most effective way of selling home performance to customers. The program will also implement an extensive marketing and outreach campaign to recruit contractors and also educate home owners about the benefits of home performance.

5. Program Rationale and Expected Outcome

The program is designed to reinforce a customer's willingness to participate in comprehensive home improvements by providing a one-stop resource for whole-house energy-efficient improvements. In addition to enhancing the supply of building science professionals who are qualified to provide and document deep energy savings during extensive retrofits, this program also leverages all existing residential programs that offer measure-specific applications. The program is designed to influence the maximum energy efficiency improvements of a household through a series of incentives to help offset participant costs.

To ensure a quality level of service, the program offers contractor technical, business/marketing, and mentoring services, all packaged under a recognized national brand name of Home Performance with ENERGY STAR®.

Participants are also able to receive rebates through SCE's other programs, such as HEER, ARP, CSI, and other DSM programs, to induce maximum energy efficiency actions within the same household. Program controls are in place to ensure that benefits claimed by CHP are not claimed elsewhere within the portfolio.

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-

Residential: Comprehensive Home Performance

known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The CHP program is designed to offer a one-stop approach for whole-house energy-efficient improvements. CHP addresses several barriers in the existing home retrofit marketplace, identified as important to move California toward deep energy reductions in the residential housing stock, as identified in the Strategic Plan. First, there is a need for contractors qualified in the building sciences to thoroughly assess the energy savings potential within dwellings and present comprehensive recommendations to homeowners to improve not only their energy intensity, but their overall comfort as well. Second, there is a need for contractors who are qualified to deliver comprehensive retrofits to understand basic business and marketing practices that will enable them to grow their enterprise in ways that can reach more consumers. Third, there is a need to build the demand for comprehensive home retrofits such that greater numbers of contractors enter into the field to continually drive greater energy savings.

To address the first and second barrier, CHP recruits, trains and supports contractors as they develop their comprehensive home retrofit businesses. To ensure quality of service, the program offers contractor technical, business/marketing, and mentoring services, all packaged under a recognized national brand name of the Home Performance with ENERGY STAR® program.

To improve the demand for comprehensive home retrofits, CHP offers a range of incentives to participating customers. In addition, CHP and home performance providers highlight many of the non-energy benefits to customer participants such as improvements that can influence their health, safety and overall comfort.

d) Quantitative Program Targets

The program will work toward achieving the following targets over the three-year program cycle. The proposed targets may be modified due to funding restrictions, especially for the 2009 bridge funding year.

Residential: Comprehensive Home Performance

Table 5

	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target 1: Enrolled and Completed Homes Retrofit Projects	300	495	705
Target 2: Completed Home Performance Technical Training Classes	2	3	2
Target 3: Completed Business/Marketing Seminars	2	2	2

e) Advancing Strategic Plan goals and objectives

This program responds to the need for more progressive approaches to energy savings in existing homes than is possible with conventional checklist audits or single measure improvement (prescriptive) programs. The CHP program design is consistent with the requirements of the Strategic Plan. It addresses a key “whole-house” strategy of the Strategic Plan by influencing homeowner “decision triggers” to increased participation in comprehensive energy efficiency measures.

The program will help to achieve the following near-term strategic goals identified in Section 2 of the Strategic Plan:

- *2-1: Deploy full-scale Whole-House programs:* The program will target the existing housing market segment and deliver comprehensive DSM options.
- *2-2: Promote effective decision-making to create widespread demand for energy efficiency measures:* The program plans to conduct process evaluations and other evaluation efforts to better identify customer decision triggers for choosing highly energy-efficient devices.
- *2-3: Manage research into new/advanced cost-effective innovations to reduce energy use in existing homes:* The program will work with IOU emerging technology programs for inclusion of, or even field testing of, new technologies, as appropriate.
- *3-2: In coordination with Strategy 2-2, develop public awareness of and demand for highly efficient products:* The program will roll out marketing campaigns to promote the benefits of home performance and promote participation in the program.

6. Program Implementation

a. Statewide IOU Coordination

CHP is a local program in SCE’s service territory that will be implemented jointly with SCG. This collaboration will increase the comprehensiveness of the program, while providing an opportunity for a more cost-effective offering. SCE has been in active discussions with the other California IOUs and active California municipalities

Residential: Comprehensive Home Performance

(SMUD and Anaheim Public Utilities) in planning Home Performance programs. As the program develops, statewide coordination and consistency will be delivered, as appropriate.

i. Program name: Comprehensive Home Performance Program.

ii. Program delivery mechanism

The CHP delivers comprehensive improvement packages tailored to the needs of each existing home and its owner. The CHP solicits, screens, and trains qualified residential repair, renovation, and HVAC contractors so it can assemble a capable contracting team to deliver program services, such as performing whole-house diagnostics by proposing a comprehensive improvement package and then completing the recommended improvements. The program also includes marketing activities to help educate customers on program services and provide additional customer leads to trained contractors. Participating contractors will receive an incentive for completing formal home diagnostics, conducting post-retrofit quality assurance testing, and reporting data on all jobs. The CHP will provide consistent standards and professional branding identified in association with the national Home Performance with ENERGY STAR® program.

In addition, CHP provides the participating contractors a full range of services including technical training, business (marketing and sales) training, field mentoring, specialty team building and support. The extensive program support includes website materials, email newsletters, an online peer group Q&A forum, and a broad range of alliance-building tools.

iii. Incentive levels

Please refer to section 4(b), above, for incentive levels.

iv. Marketing and outreach plans

CHP is planning an extensive and consistent marketing and outreach campaign that will be delivered at exhibits, trade shows, and other appropriate workshops. Contractors and home owners will be educated on the benefits of Home Performance through these trade shows.

v. IOU program interactions

The program will coordinate with SCE's Energy Leader Partnerships, California Energy Commission (CEC)/ Public Interest Energy Research (PIER), ARB, AQMD, and others to track new developments at local, state and federal level to make sure the implementer is aware.

vi. Similar IOU and POU programs

CHP is based on the 2006-2008 IDEEA program, which was conducted in collaboration with the City of Anaheim's municipal utilities "Home Performance with ENERGY STAR®" campaign. CHP program managers will continue to

Residential: Comprehensive Home Performance

collaborate with the City of Anaheim's effort, and other IOU and POU efforts, as appropriate throughout the program delivery.

b. Program delivery and coordination

SCE will implement the program in collaboration with a third-party implementer. Implementation will include coordination with ENERGY STAR®, CEC/PIER for needed research and design, and a variety of other allies. The CHP will be implemented in alignment with all applicable research, best practices, and policy movements. The following activities are part of the program implementation design:

Contractor solicitation and screening:

The program uses contractor lists provided by allied organizations such as the Institute for Heating and Air Conditioning Industries, Air Conditioning Contractors of America, National Association of the Remodeling Industry, Build It Green, Insulation Contractors of America, and solar groups to recruit contractors. It will have a presence at key local conferences such as the Journal of Light Construction's Remodelers Exhibition to advertise the program directly to interested contractors. The CHP includes personal screening interviews to assure active interest and dissemination of the scope and intent of the training.

Training and mentoring activities will include the following:

- Training to improve basic contractor skills and introduce the basic concepts of energy-efficient home repair and renovation practices;
- Training in building science, home assessment, and proper remediation including an intensive day of in-home hands-on diagnostic practice;
- Advanced training with an additional day in an actual home, and access to Building Performance Institute technical certification; and
- Small-group field mentoring in technical and proposal development activities.

Many contractors are not successful with comprehensive home performance due to business, rather than technical, challenges. Business barriers include contractor staff training, team-building, work process management, quality control, marketing, job estimation, and sales. At least two annual seminars in these business matters will be offered, as well as a broad range of supporting materials, such as data collection and homeowner report templates and regular monitoring of contractor activity. Contractors will be offered business planning guidance as needed, including help in grouping complementary trades and interests into fully job-capable teams.

CHP will offer financial incentives to both contractors and customers. Contractors will receive financial incentives for home diagnostics, post-retrofit verification, and reporting of data. Customers will receive financial incentives for installing Home Performance measures performed by an eligible CHP contractor.

Energy simulation models will be combined with utility billing data for calibration for each project. To assure contractor reporting the payment of customer incentives will be tied to the contractor's delivery of full job data, utility bills and homeowner report.

Residential: Comprehensive Home Performance

As required by ENERGY STAR®, the program's implementers will randomly select 5 percent of each contractor's reported retrofits for on-site job verification and review 100 percent of the job data inputs from contractors. Verifications will include homeowner interviews, intensive visual checklist inspections, and selective retesting of key items. A subset of these energy savings estimates may later be validated against the first year's after-retrofit utility bills, plus climate data and homeowner interviews, as needed, to identify changes in other factors affecting energy use.

Contractors will be instructed in cost-effective marketing methods. Media attention will be gained through free home retrofit contests. SCE may assist in media outreach and provide customer billing data to help identify and approach priority candidates. Realtors will be engaged as lead generators to identify clients of interest. Other groups will be engaged as appropriate. The program will coordinate, as applicable, with SCE's marketing activities and may include website links, bill inserts, press releases, referrals, and information in marketing collateral.

A subcontractor will be involved in specifying, staffing, scheduling, and general oversight of the program's activities. A selected group of trainers and contractors will assist the subcontracted lead trainer with technical training and mentoring activities. Job verifications are assigned to qualified experts such as C-HERS raters. Other subcontractors will provide marketing assistance, promotional materials, energy simulation software support, etc.

i. Emerging Technologies program

This comprehensive retrofit program is an ideal early-adopter vehicle for new technologies such as the hot/dry air conditioner, energy use monitors for users, new approaches to hydronic heating, ecological insulation options, cool roof technologies, and even advanced solar hot water and PV installations. CHP program managers will work with IOU emerging technology programs for inclusion of, or even field testing of, new technologies, as appropriate.

ii. Codes and Standards program

The 2008 Title 24 code revision is the most relevant to this program's work. CHP will be coordinated with the Codes & Standards program to ensure that the impacts of any code changes are incorporated into program design and implementation.

iii. WE&T efforts

Through its program delivery, CHP offers a unique approach toward the professional training and development of contractors for the delivery of comprehensive home retrofits; it is not directly related to WE&T efforts.

iv. Program-specific marketing and outreach efforts

Marketing campaign will be structured to continuously solicit contractors and market to customers throughout the life of the program. Marketing efforts will be conducted using the following approach:

Residential: Comprehensive Home Performance

- **Marketing to Contractors:** The program will market to contractors, through local chapters of various trade associations, plus targeted commercial contact databases.
- **Marketing to Customers:** The program marketing strategy involves empowering the trained contractors to be the primary public educators and marketers. These consumer marketing and education efforts will help contractors develop and manage the customer leads that provide the necessary path to specific home performance jobs. This program will also target customers who have participated in utility audit programs to further increase the opportunity for a more comprehensive approach in meeting the customer's energy efficiency needs. The program will participate in select public events, such as home shows, and work with local media to publicize the program's benefits. CHP will also market via direct mailing, brochures, and bill inserts to create interests of the program.

v. Non-energy activities of program

A truly comprehensive home retrofit includes some elements that are chosen by the homeowner primarily for reasons other than energy bill savings, such as indoor air quality, noise abatement, or structural deterioration problems. When building envelope enhancements are made, the homeowner typically also receives health benefits, home integrity assurance from moisture problems, HVAC equipment longevity, and potential home value increase. At the program level, implementers review projects to identify and encourage all project components that contribute to energy savings as well as other benefits. At an individual project level, contractors seek to identify homeowners' desires, solve a full range of Home Performance deficiencies, and clearly explain how these deficiencies contribute to energy waste.

vi. Non-IOU programs

CHP is marketed and implemented under the umbrella of the "Home Performance with ENERGY STAR®" campaign. CHP staff will communicate with ENERGY STAR® program sponsors throughout the program cycle to continue to adopt and refine best practices in program delivery.

vii. CEC work on PIER

PIER funded the development of Home Performance contracting protocols during 2003-2006. That program provided field testing and contractor feedback for the PIER project. In addition, PIER may fund further research into related topics including homeowner motivation, valuation of societal benefits, and comparative demonstration and analysis of methods for energy savings forecasting and verifications.

viii. CEC work on Codes and Standards

The 2008 Title 24 code revision is the most relevant to this program's work. CHP will be coordinated with the Codes & Standards program to ensure that the

Residential: Comprehensive Home Performance

impacts of any code changes are incorporated into program design and implementation.

ix. Non-utility market initiatives

CHP coordinates and fulfills Home Performance with ENERGY STAR® requirements, and its contractors are allowed to display the ENERGY STAR® logo in their home performance marketing. The program is actively allied with Build It Green and the U.S. Green Building Council, and provides energy-related training and support to “green remodelers” in those organizations. The Lung Association’s “Health House” program is another ally in promotion of whole-house solutions. The program implementer is also involved in the Berkeley Solar Plan’s efforts to incorporate substantial energy efficiency improvements and options such as whole house retrofits into solar installations.

c. Best Practices

Much was learned during the 2006-2008 IDEEA pilot program cycle that will be incorporated in the 2009-2011 campaign. Lessons learned include: reinforcing the accountability of contractors for the collection of completed reports upon completion of a job, and attracting more customers to participate in comprehensive home retrofits. These lessons, plus other tactics that will better enable contractors to grow their businesses, will be employed during 2009-2011.

Through experience both in SCE’s CHP and in similar Home Performance with ENERGY STAR® efforts elsewhere, a variety of lessons have been drawn that permit some key design refinements. These include:

- Customer incentives are necessary to overcome the broad lack of market awareness of comprehensive energy retrofit opportunities and benefits;
- Contractor incentives are needed to assist transitioning home improvement businesses towards more comprehensive Home Performance contracting; and
- Incentives need to be tied to pre- and post-testing data to motivate contractors to complete the reporting process.

In addition, the program’s approach to training contractor participants has been refined during the 2006-2008 program cycle. These refinements have led to the enhancement of training sessions to best suit the needs of participants in properly assessing sites and recommending solutions to address deficiencies of an existing home, while reinforcing a higher quality standard of installation. Contractors attend classroom training and also learn “hands on” approaches to use of many of the advanced tools necessary to assess a home’s condition. Mentoring sessions are also conducted in order for the contractors to absorb more knowledge from professionals who have experience in the subject matter.

Contractor participants are also offered a business/marketing seminar to assist them in developing the business skills necessary to grow their Home Performance business. A business planning guide will be provided, as needed.

Residential: Comprehensive Home Performance

d. Innovation

This program is innovative because it addresses both supply and demand side deficiencies of the existing home retrofit marketplace to motivate activities necessary toward achieving deep energy reductions in the area of existing housing stock. CHP takes a whole-house approach instead of a “prescriptive” approach to offering bundled solutions to homeowners, and due to its comprehensiveness offers the highest possible electric, gas, and water savings per home. The improvement package is tailored to the needs of each existing home and its owner which minimizes lost opportunities.

e. Integrated/coordinated Demand Side Management

The IOUs have identified IDSM as an important priority. As a result, they have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f. Integration across resource types (energy, water, air quality, etc)

As this program delivers comprehensive solutions to home owners, it has been specifically designed to integrate across resource types to maximize customer benefits not only in terms of deep energy savings, but also as a means to improve occupant health, safety and comfort. These extra-energy efforts include opportunities for water reductions, indoor air quality improvements, and the like. At present the CHP only provides incentives for electricity and gas savings, but will work with local water agencies, as appropriate, to improve customer benefits and improve participation.

g. Pilots

For the 2009-2011 program years, the program team will assess program growth and development to streamline implementation and explore new avenues to tap the existing home retrofit market.

The program will also explore the concept of addressing the large number of homes in foreclosure brought about by the present economic crisis. The concept of revitalizing distressed homes may be a unique way to reduce lost opportunities in reaching large numbers of unoccupied homes. With participation from financial institutions and coordination from IOU Energy Leader Partnerships, this program could provide a new market to attract contractor participants to the program. Furthermore, with the support of local governments, the costs of these retrofits may be largely financed through a combination of federal or state programs through actors such as the Department of Housing and Urban Development (HUD) plus local community support enabled by AB 811². As such, a Distressed Home Revitalization Pilot (DHRP) is under development between EE program staff, local government partners, implementers and other stakeholders.

² http://info.sen.ca.gov/pub/07-08/bill/asm/ab_0801-0850/ab_811_bill_20080721_chaptered.pdf.

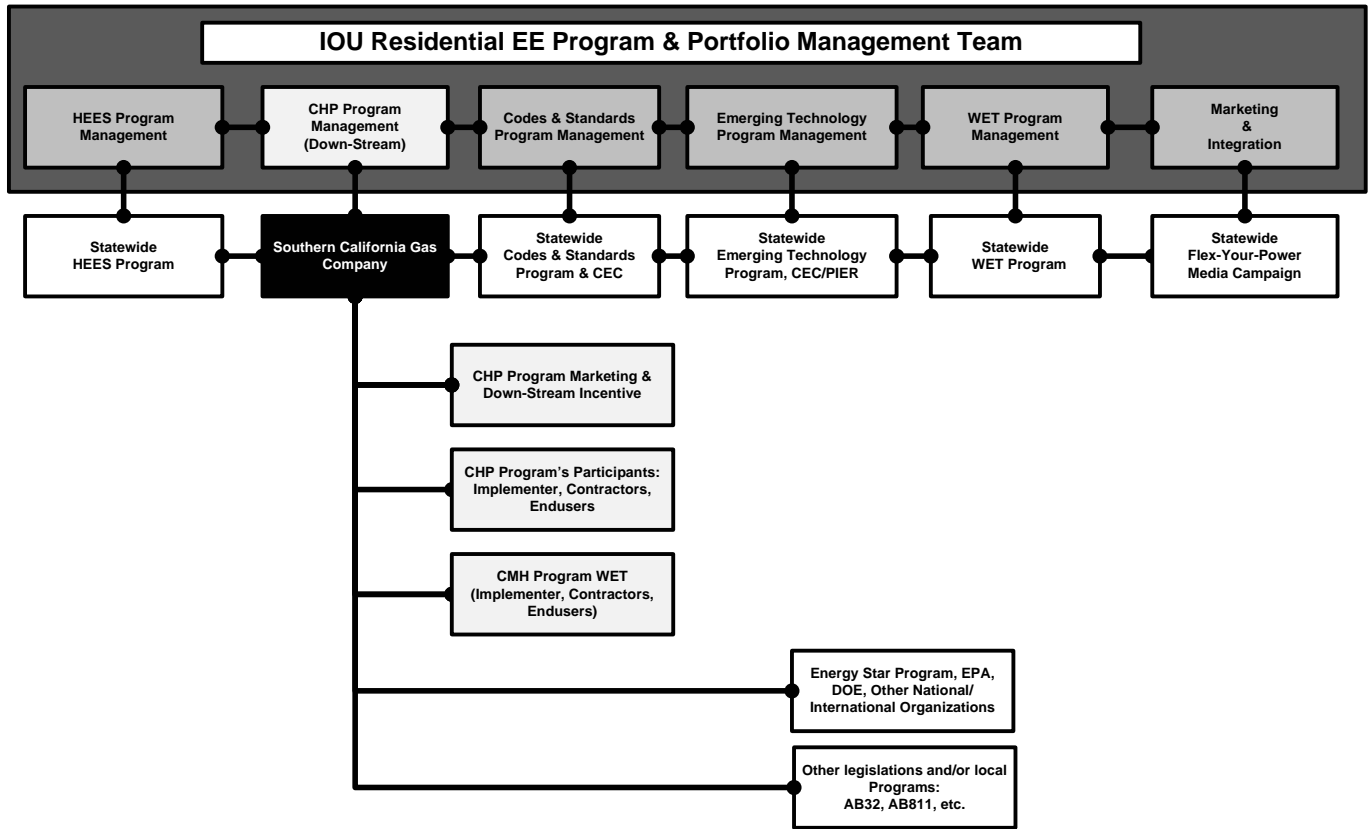
Residential: Comprehensive Home Performance

h. EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

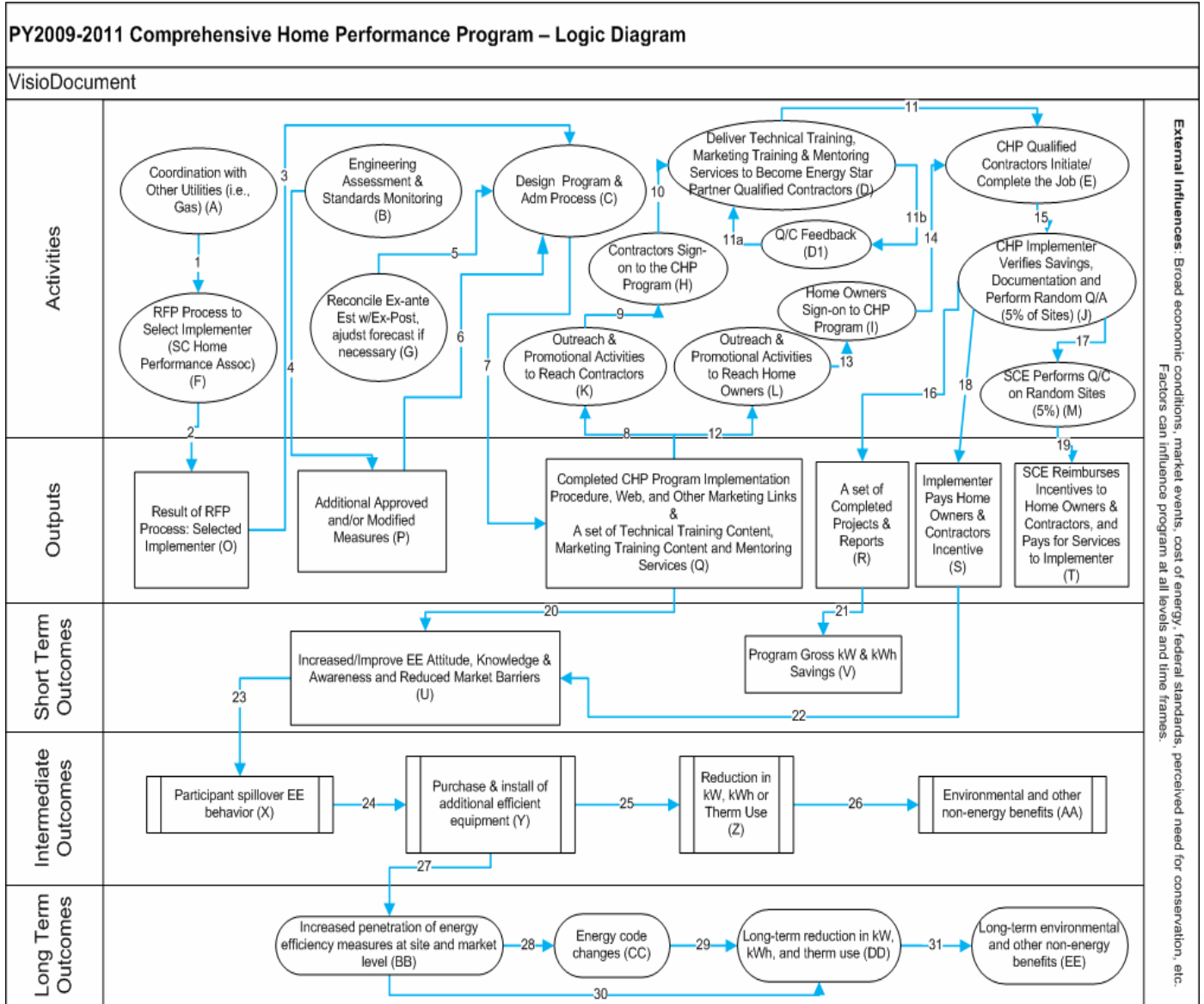
Residential: Comprehensive Home Performance

7. Diagram of Program Interaction



Residential: Comprehensive Home Performance

8. Logic Model



4

Residential: Community Language Efficiency Outreach

1. **Program Name:** Community Language Efficiency Outreach
Program ID: SCE-TP-004
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-004	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
RESIDENTIAL						
	Community Language Efficiency Outreach	\$ 583,437	\$ 665,989	\$ 3,510,574		\$ 4,760,000
	TOTAL:	\$ 583,437	\$ 665,989	\$ 3,510,574	\$ -	\$ 4,760,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-004	Community Language Efficiency Outreach	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Community Language Efficiency Outreach	2,547,860	699	-
	TOTAL	2,547,860	699	-

4. Program Description

a) Describe program

The Community Language Efficiency Outreach program (CLEO), formally the Custom / Chinese Language Efficiency Outreach Program, is a highly targeted residential energy efficiency marketing, outreach, education and training program specifically targeted to Vietnamese, Indian, Chinese, Spanish and Korean speaking customers of SCE and SCG. CLEO is a continuation of the existing joint SCE/SCG program offered in 2006-2008. In 2009-2011, the program will expand to include customers in the Hispanic and African American communities. In addition, the CLEO program will enhance its comprehensive portfolio of outreach and delivery tactics by conducting in-language surveys through the HEES program.

¹ Definition of Table 1 Column Headings: Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Market Research: e.g. customer segmentation, message pre-tests, behavior, baselines, if available.

Collateral: information produced for customer e.g. brochures, bill inserts, advertisements (TV, radio, print, internet), event displays, etc

Delivery: delivery channels, e.g. direct mail, mass media (print, radio, TV, internet), outdoor, etc

Total Budget is the sum of all other columns presented here

Sub-program: a “sub-program” of a program has a specific title: targets, budget, unique delivery or marketing approach not used across the entire program, if no sub-program exists, please leave blank.

Residential: Community Language Efficiency Outreach

CLEO brings energy efficiency and other DSM programs and services to customers who otherwise might not be reached. In its most basic terms, CLEO takes the same programs and services other customers receive, and simply repackages them for more effective delivery through in-language communication, use of local community knowledge, execution of programs in-language and other means intended to conquer barriers that keep some customers from being as efficient as they might be.

b) List measures

There are no measures associated with this program

c) List non-incentive customer services

See program description, Section 4a.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

Residential: Community Language Efficiency Outreach

c) Program Design to Overcome Barriers

The need for CLEO is supported by an observed underutilization of energy efficiency and other DSM programs by customers with a strong language barrier or who are hard to reach in terms of receiving outreach. The in-language aspect of CLEO separates it from other outreach efforts in that it delivers energy efficiency knowledge and possibilities directly to the target population. Many of the program participants speak only their native language and cannot be reached through mainstream outreach efforts, as traditionally delivered in English. Target customers fluent in English but otherwise hard to reach will be accessed by this program as well.

The market barriers that prevent some customers from participating in efficiency programs and accessing utility incentives include language barriers and limited access to information. CLEO has designed program elements to address these barriers. CLEO will continue to target moderate-income customers whose primary language is Chinese, Vietnamese, Spanish and Korean.

CLEO is based on the premise that the target communities, and especially the Vietnamese, Chinese, Spanish and Korean speaking communities are not always effectively reached by mainstream of advertising campaigns for utility rebate programs, as well as for many products and services in general. The idea is to take a more direct path to the target groups, and then attempt to increase participation. It is believed, based on general experience with other community outreach that as community awareness is raised, the number of people utilizing utility rebate programs will increase. In this manner, CLEO can end up being quite efficient and effective in reaching the targets and beyond, i.e. for every successful CLEO engagement, a customer nearby then acts on her own. In this way, barriers and broken and markets transformed

Program Integration: The program will be implemented in close association with other residential energy efficiency programs. CLEO will be the starting point for many in-language residential customers to tap into the IOU's residential energy efficiency services. Through marketing, education and outreach, each program will encourage end-users to adopt multiple measures to gain the benefits associated with an integrated whole-house approach to energy efficiency. CLEO will leverage its audit information to provide in-language information and referrals to other energy efficiency programs such as the Home Energy Efficiency Rebate Program, Appliance Recycling Program, and others.

Support for LIEE and Non-LIEE qualifying low income families: The CLEO program will collaborate with the Low-Income Energy Efficiency Program by informing participants of income-qualified services available and by providing customers with in-language program information.

d) Quantitative Program Targets

The proposed targets may be modified due to funding restrictions, especially for the 2009 bridge funding year.

Residential: Community Language Efficiency Outreach

Table 5

Community Language Efficiency Outreach Program	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target 1. In-language seminars (attendees/households)	1,500	1,500	2,000
Target 2a. Outreach HEES surveys - in-language (Surveys)	1,500	1,500	2,000
Target 2b. In-home in-language audits (households)	1,500	1,500	2,000
Target 3. Booths – community events (attendees)	See below	See below	See below
Target 4. Radio ads (reach)	See below	See below	See below
Target 5. Newspaper ads (reach)	See below	See below	See below
Target 6. Television ads (reach)	See below	See below	See below
Target 7. School outreach (participants)	See below	See below	See below
Target 8. Church and adult center outreach events	See below	See below	See below
Target 9. Community & city partnership outreach events	See below	See below	See below
Target 10. Quarterly website	See below	See below	See below
Target 11. Nonresidential in-language audit outreach	See below	See below	See below

Descriptions of targets within Table 5 are provided below.

Targets 1 - 3: Each in-language seminar will reach up to fifty in-language participants or 5,000 or more households during 2009-2011. In addition, each Outreach HEES survey will be filled out by a valid SCE/SCG customer with the goal of reaching an additional 5,000 in-language households during 2009-2011. Community booths and all outreach strategies will reach a wide range of customers.

Targets 4 - 6: The CLEO marketing campaign will continue to employ advertising in in-language media. Media outlets have a tremendous audience and will contribute greatly to the communities embracing the CLEO program. While quantification of the number of people reached is elusive, the media campaign will effectively reach more people than 1.5 million customers in their primary language. The advertisers utilized are the mainstream media in the targeted communities where their advertising is viewed by the community at large. Expected reach also varies. In-language television ads generate necessary awareness, which is identified as important to reaching all program goals. Television ads are aired during peak hours to ensure maximum market penetration and will contain useful energy efficiency information to the targeted demographic.

Residential: Community Language Efficiency Outreach

Language	Media Type	Name	Circulation / Audience
Chinese	Newspaper	Chinese Daily News	50,000
Chinese	Newspaper	Sing Tao Daily	40,000
Chinese	Radio	AM 1400 Networks Asia	170,000
Chinese	Radio	KMRB Radio	140,000
Chinese	Television	KSCI - Channel 18	250,000
Vietnamese	Newspaper	Nguoi Viet	22,000
Vietnamese	Newspaper	Viet Bao	20,000
Vietnamese	Newspaper	Vien Dong	18,000
Vietnamese	Radio	Little Saigon Radio	70,000
Vietnamese	Television	Saigon TV	80,000

Targets 7-11: CLEO will offer a school program designed with a whole-house approach. CLEO will also deliver the program to faith-based organizations and offer seminars at churches and senior centers and serve elderly senior customers. CLEO will also build upon its existing relationship with cities, consolidating and forming new 'Green' partnerships. CLEO's efforts will be supported by a robust web presence providing customers with a platform to access CLEO's offerings. This web-site will offer program information and participation and will be in-language. Marketing brochures and fliers will also facilitate CLEO program information and sustain a community energy efficiency image and will effectively reach out to households.

Program Goals:

Community Language Efficiency Outreach Program (CLEO)	Program Target by 2009	Program Target by 2010	Program Target 2011
1. In-language seminars	30	30	40
2. Outreach HEES surveys - in-language	1,500	1,500	2,000
3. Booths – community events	15	15	20
4. Radio Ads – marketing	112	113	150
5. Newspaper ads – marketing	180	180	240
6. Television ads – marketing	18	18	24
7. School outreach events	3	3	4
8. Church and adult center outreach event	3	3	4
9. Community & city partnership outreach events	3	3	4
10. Quarterly website updates - marketing	4	4	4
11. Nonresidential in-language outreach - Pilot	TBD	TBD	TBD
12. In-home in-language audits	1,500	1,500	2,000
13. Telephone in-language audits	120	120	160
14. CFL's installed	3,750	3,750	5,000

Residential: Community Language Efficiency Outreach

Community Language Efficiency Outreach Program (CLEO)	Program Target by 2009	Program Target by 2010	Program Target 2011
15. Low flow showerheads installed	1,500	1,500	2,000
16. Sink aerators sets installed	1,500	1,500	2,000
17. ESR training hours (estimated)	270	270	360

e) Advancing Strategic Plan goals and objectives

The approach is intended to provide a well-rounded community approach and will ensure a comprehensive residential energy efficiency outreach program for the under-served in-language market. In addition, CLEO will support several strategies and goals of the Strategic Plan.

The CLEO program will advance three specific sections of the Strategic Plan including; DSM Coordination and Integration, Workforce Education and Training, Marketing, Education and Outreach

- 1-1: DSM Coordination and Integration (Section 8) – Carry out integrated marketing of DSM opportunities across all customer classes - The CLEO program will advance the Strategic Plan by educating the target market on the benefits of energy efficiency and promote other DSM programs.
- 1-1: Marketing, Education and Outreach - Establish a recognizable and trustworthy brand for California's, energy efficiency and other DSM consumer products and services - The image of the CLEO program is synonymous with energy efficiency in the ethnic communities with a language barrier. CLEO has been branded as a 100% in-language efficiency brand serving the hard-to-reach communities with a language barrier. The CLEO program will align its in-language efficiency message with the statewide branding created by the ME&O vision.
- 1-2: Marketing, Education and Outreach – Develop an integrated marketing plan for all Californians - Over the past three program cycles, the CLEO program has evolved from marketing of EE knowledge and programs to the communities to an integrated marketing of EE programs to specific customer groups such as local cities, community based organizations, social networking clubs, chamber of commerce, churches, adult day care centers and schools within the residential communities. The CLEO program will continue to support this strategy by increasing messages that offer bundles of DSM programs to the in-language market.
- 1-3: Marketing, Education and Outreach –Use social marketing techniques to build awareness and change consumer attitudes and perceptions - The program has encouraged significant community participation by social marketing of the program at a community level. The CLEO program will create an emotional driver to encourage participation in energy efficiency programs. For example, the program coordinates an annual EE and environmental 'Art Competition', which facilitates dissemination of EE information to schools, students and families.

Residential: Community Language Efficiency Outreach

- 1-4: Marketing, Education and Outreach – Develop a California Energy Efficiency web portal with statewide information on GHG reductions, efficiency and DSM awareness and options - CLEO has created a multi-lingual web-site which will incur significant enhancements and EE features transforming it to a web portal with blogs, newsletters, request for home surveys, and direct enrollment for seminars. The multi-lingual web-site will promote the exchange of information and solutions on implementing energy efficiency programs to the target market.

6. Program Implementation

a) Statewide IOU Coordination

i. Program name: Community Language Efficiency Outreach

ii. Program delivery mechanisms

The delivery mechanisms include in-language seminars and outreach to schools community events and faith-based organizations plus home energy efficiency surveys, WE&T and in-home audits.

- In-language seminars: The objective of in-language seminars will be to provide a classroom style forum to empower residential customers to conserve resources by teaching them simple ways of saving electricity, gas and water. This strategy will also align itself with a goal of the WE&T Strategic Plan so that minority, low-income and disadvantaged communities fully participate in education programs by providing elements that will seek to encourage interest toward careers in the energy efficiency industry. Seminars will also be used to promote other IOU program offerings such as Comprehensive Home Performance and of course demand response and other integrated DSM offerings like Summer Discount.
- Community booths: CLEO will continue participating in prominent ethnic cultural booths such as the ‘Chinese New Year’ and ‘Harvest Moon Festivals’. Progression will be made during 2009-2011 to include participation in African American and Hispanic cultural events. This will also include coordinating with SCE’s and SCG’s Energy Centers and faith-based organizations and other cultural opportunities. Community booths will also continue to promote the Home Energy Efficiency Survey (HEES) Program for in-language customers.
- Schools outreach: In 2009-2011, the CLEO program will expand its schools outreach efforts by providing a comprehensive schools initiative. In addition to the continuing the ‘Energy-Artist’ contest, this initiative will also introduce the HEES Program to encourage parental participation. The PEAK Program will be utilized to encourage energy efficiency behavior for fourth graders. Outreach efforts will also include coordination with SCE’s Mobile Energy Unit and will also target Adult Education (ESL) educational centers. Primary focus will involve K-12 elementary schools.
- Faith-Based Organizations (FBO’s) and adult day care center outreach: Local community FBO’s and religious forums form the backbone of the ethnic community. FBO’s also provide a forum for community events and an

Residential: Community Language Efficiency Outreach

excellent platform to market and encourage energy efficiency. CLEO will cultivate and add to the existing relationships with churches and adult day care centers to effectively cultivate program participation and promote energy conservation. This outreach mechanism will allow the CLEO Program to expand outreach to the Hispanic and African American Community in 2009-2011.

- **Community / city partnership and outreach:** This outreach strategy will build upon existing relationships with the cities of Monterey Park, San Gabriel, Alhambra, Walnut, Diamond Bar and others to promote energy efficiency in the community. CLEO will place information kiosks at city community centers and will participate in community events to further promote energy efficiency in the community. CLEO will also integrate components of the program with other existing partnership programs with higher ethnic populations.
- **HEES (in-language):** Started as a successful pilot program in 2007, the CLEO program will continue to provide in-home in-language audits to residential customers. The HEES program provides customers with a personalized assessment of their natural gas, electricity and water usage, together with practical ideas on how to improve their home energy efficiency and will bridge the in-language barrier.
- **Workforce, Education and Training:** The HEES in-language audit team will be composed of a bi-lingual workforce and will be trained in areas of energy conservation and technologies, as required, toward increased knowledge base of demand-side management and energy efficiency. A comprehensive training curriculum will be implemented to formalize the knowledge base of the audit workforce. This strategy falls in line with the goals of the Workforce Education and Training Program intended to ensure that minority, low income and disadvantaged individuals fully participate in training and education programs at all levels of the demand-side management and energy efficiency.
- **Non-residential in-language audits outreach (Pilot):** In 2009-2011 CLEO may provide outreach to over 20,000 small business customers and provide direct service (seminars, booths and qualifying energy audits) to nearly 5,000 small business customers, with a focus on ethnic small business customers. Customers will receive a simple walk-through energy efficiency audit and will be pre-qualified for participation in SCE's small business EE Programs.

iii. Incentive levels

Incentives are not offered with this program.

iv. Marketing and outreach plans

The CLEO program will promote all energy efficiency and demand reduction programs that would benefit that community using brochures and written materials, interactive displays, newspaper advertising, radio advertising, television advertising, online website presence, and static displays.

Residential: Community Language Efficiency Outreach

The CLEO program message will encourage customers to participate in SCE's programs and services, and will coordinate with SCG and the local water agencies and will promote increased awareness for customers to understand the structure and opportunities for energy conservation and efficiency, both at home and in their businesses.

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs, as applicable

In addition to strengthening the existing relationships with the cities of Monterey Park, San Gabriel, Alhambra, Walnut, Diamond and other cities, CLEO will also support SCE's community-based partnership programs. CLEO will also coordinate efforts with SCE's Mobile Energy Unit to further promote energy efficiency in the community. CLEO will cultivate existing relationships and partnerships with the cities to deliver cost-effective outreach. City newspapers and television will broadcast efficiency messages and encourage ethnic customers to enroll in the program offerings.

vi. Similar IOU and POU programs

The CLEO program is a non-resource outreach program but provides services for the multi-lingual customers of SCE and SCG. The program will coordinate with all residential outreach efforts for consistency, utilizing the multi-lingual strengths of the core program. No other IOU program provides similar services to the in-language customers.

b) Program delivery mechanisms

i. Emerging Technologies program

Not applicable

ii. Codes and Standards Program

Not applicable

iii. WE&T

CLEO will support WE&T initiatives by offering in-home and outreach surveys to in-language customers. The CLEO-HEES in-home survey team will comprise both contract and utility staff who will be trained in areas of energy conservation and technologies working toward an increased knowledge base of demand-side management and energy efficiency. A training curriculum will be implemented to formalize the knowledge base of the survey workforce. This strategy falls in line with a goal of the Workforce Education and Training program intended to ensure that minority, low-income and disadvantaged individuals fully participate in training and education programs at all levels of the demand-side management and energy efficiency.

Residential: Community Language Efficiency Outreach

iv. Program-specific marketing and outreach efforts

CLEO spearheads a comprehensive marketing and outreach program, primarily for customers and communities with a significant language barrier. The program focuses on outreach to the residential customers to impart information in a non-intrusive manner while garnering interest in IOU energy efficiency programs. By funneling CLEO participants to other EE programs, CLEO is a key instrument to cultivating behavior changes.

Behavior changes will include increased penetration of energy efficiency measures, purchase and installation of EE equipment, reductions in kW, kWh or therm use, and improved knowledge and awareness and reduced market barriers.

Delivery channels for marketing activities include: online website, direct mail, and coordination with other residential energy efficiency programs. Other media outlets include: newspapers, radio and television media outlets will also be utilized to generate program awareness for the in-language customer.

v. Non-energy activities of program

CLEO will continue supporting the HEES program by performing in-home, in-language audits and outreach HEES audits.

In addition, the program will be implemented in close association with other residential energy efficiency programs. CLEO will be a starting point for a segment of residential customers to tap into the IOU's residential energy efficiency services. Through marketing, education and outreach, each program will encourage end-users to adopt multiple measures to gain the benefits associated with an integrated whole-house approach to energy efficiency.

vi. Non-IOU programs

The program will promote non-utility programs (e.g. financing options, tax credits, and recycling) to further encourage customers to adopt energy efficiency measures.

vii. CEC work on PIER

Not applicable

viii. CEC work on Codes and Standards

Not applicable

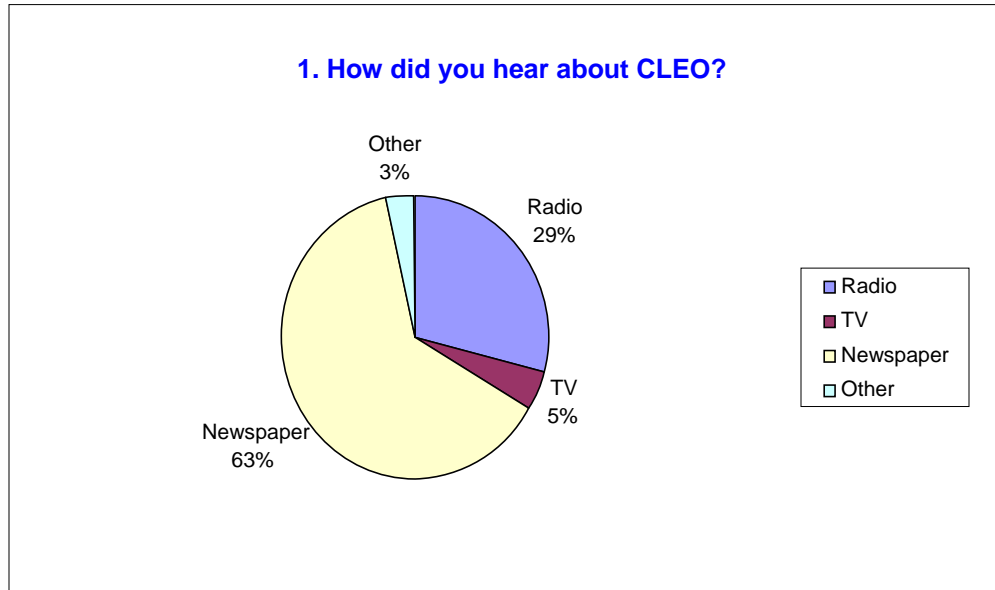
ix. Non-utility market initiatives

Where feasible, interested CLEO participants will be referenced to other energy efficiency programs, demand response initiatives and other DSM and distributed generation offerings, including CSI.

Residential: Community Language Efficiency Outreach

c) Best Practices

Media marketing has proven to be the primary mechanism to generate community awareness about the CLEO Program and its offerings. Internal metrics further outline the importance of the marketing mix, as well. Illustrated below are the results of an internal 2006-2007 CLEO Participant study asking the question; “How did you hear about CLEO?”



The program relies on a dynamic EM&V to gauge the program’s success and to listen to the customer for feedback. These are transformed to ‘lessons learned’ and incorporated in to the program strategy and offerings. For example, in 2006-2008, costly television spots were swapped for effective newspaper and radio spots, as illustrated above.

In addition, CLEO has improved its offering with targeted messages for maximum effectiveness. CLEO program offerings have evolved with lessons learned as it deals directly with the community through its seminars, community booths, and home surveys.

d) Innovation

The 100% in-language aspect of CLEO separates it from any other outreach effort, and provides a level of understanding to the target population that is unmatched. Many of the program participants speak only Chinese and cannot be reached through any outreach effort that is delivered in another language.

In addition, CLEO has continued to evolve and innovate. A chronological history of the program is provided below.

- PY 2004-2005: **Chinese** CLEO program serving the Chinese customers of SCE, SCG and PG&E.

Residential: Community Language Efficiency Outreach

- PY 2006-2008: **Custom** CLEO Program serving the Vietnamese Indian Chinese Spanish and Korean customers of SCG and SCE.
- PY 2009-2011: **Community** CLEO Program proposes to serve the target in-language communities while adding Spanish speaking Latino and African American communities. The program will serve all SCE and SCG residential customers with a language barrier in the target communities of SCE and SCG.

e) Integrated/coordinated Demand Side Management

The IOU's have identified IDSM as an important priority. As a result they have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types: (energy, water, air quality, etc.)

Statewide CLEO Program (HEES Strategy) will pursue alliances with local municipalities and water agencies as warranted.

g) Pilots

The Nonresidential in-Language Audits Outreach pilot may be conducted in 2009-2011 under the CLEO program. This innovative concept may provide outreach to over 20,000 small business customers and provide direct service (seminars, booths and qualifying energy audits) to nearly 5,000 small business customers, with a focus on ethnic small business customers. Customers will receive a simple walk-through energy efficiency audit and will be pre-qualified for participation in SCE's small business EE Programs. This integration will involve the Non-Residential Energy Audit Team and Business Customer Representatives to generate resource audits from in-language customers.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

A full process evaluation will address researchable issues based on the program theory and logic model. These issues will include the following:

- Which medium, if any, did the non-English speaking customer segment prefer;
- Which source (e.g. community organizations, churches) did the non-English speaking customer segment prefer;

Residential: Community Language Efficiency Outreach

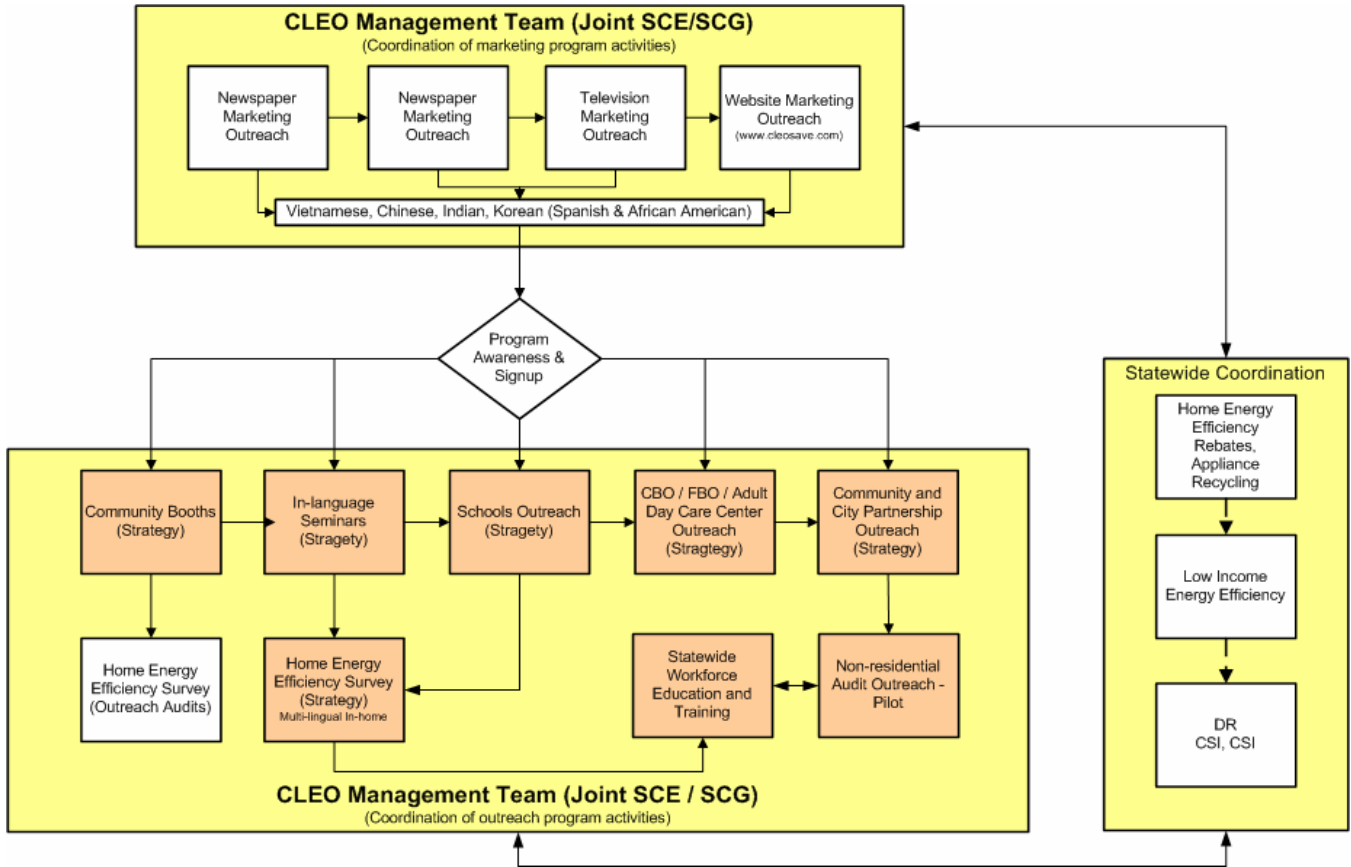
- Whether CLEO's marketing efforts with programs such as HEES were well-coordinated;
- Whether customers increased their level of knowledge about energy efficiency programs;
- Whether customers had any barriers to participating in the workforce, education and training program elements; and
- How satisfied customers were with the information they gained, or with the events they attended

To address these issues, the following major evaluation tasks will be completed:

- *Logic model and program theory.* The logic model and program theory will establish a starting point for all evaluation activities. The structure of the logic model, which links program activities and expected outcomes, will be a useful instrument for identifying specific program assumptions that can be tested using a survey or other primary data collection activities.
- *In-depth interviews.* In-depth interviews will be conducted with program managers and other key staff members. Program staff members will clarify program goals and gauge program progress, provide valuable insight into daily operations, and proposed research topics to be addressed during the evaluation.
- *Participant survey.* The primary data collection instrument will be a participant survey, fielded over the phone and via mail. The survey will explore the participant experience with program services and address the research issues identified by the logic model to provide more in-depth interviews. When appropriate, results will be examined by survey mode (mail-in, online, in-home, and phone) to investigate how participants in the various modes compare with regard to the most effective marketing strategies, recommendation implementation rates, and measures of satisfaction.
- *Program-specific data collection and review.* Another key evaluation activity will involve a comprehensive review of all program documents. In particular, this evaluation will assess the effectiveness of the program's marketing materials and will identify which specific recommendations have been implemented.

Residential: Community Language Efficiency Outreach

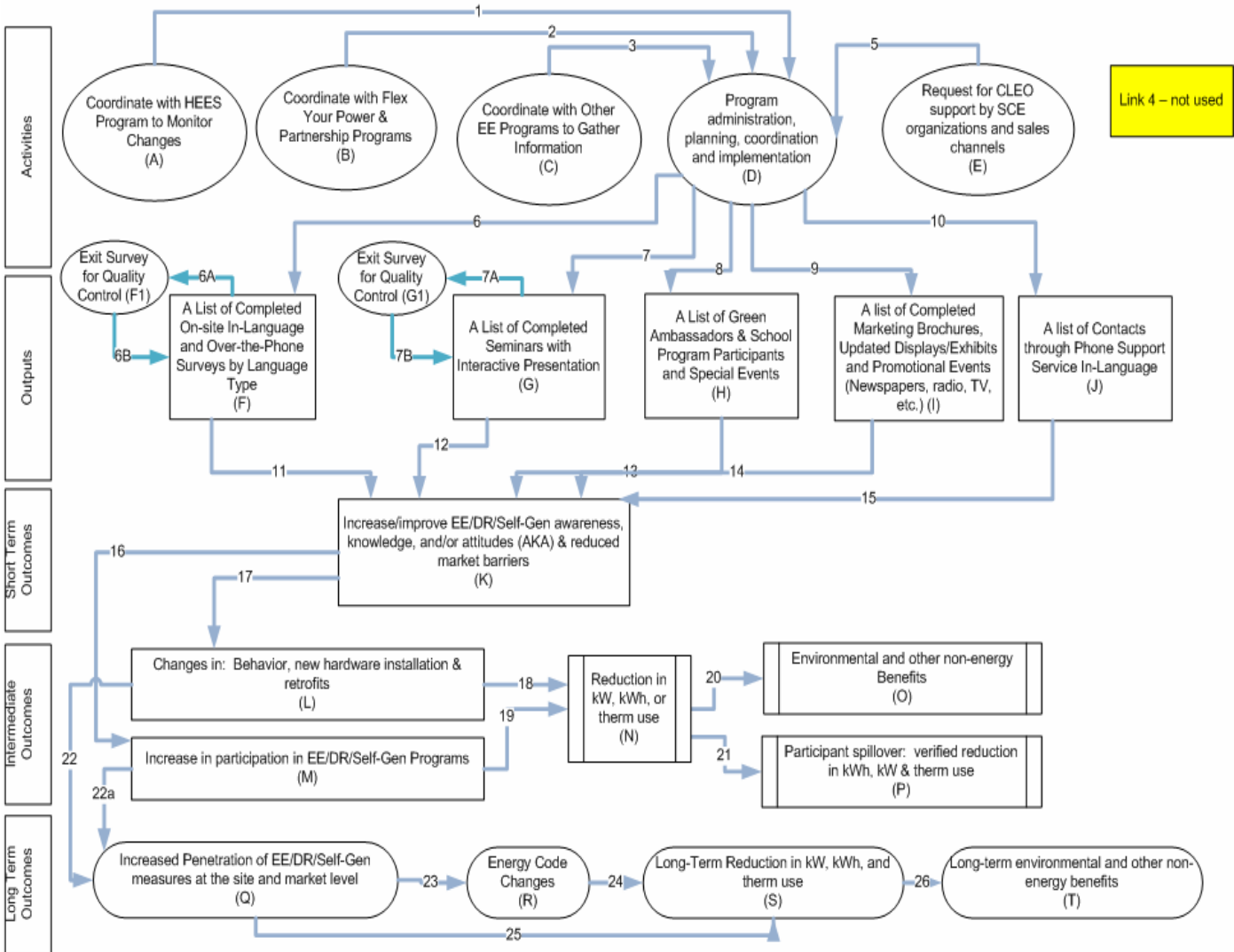
7. Diagram of Program



Residential: Community Language Efficiency Outreach

8. Program Logic Model

PY2009-2011 Community Language Energy Outreach Program (CLEO) – Logic Diagram



5

Nonresidential: Cool Planet

1. **Program Name:** Cool Planet
Program ID: SCE-TP-005
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-005	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL						
	Cool Planet	\$ 130,000	\$ 100,000	\$ 250,000		\$ 480,000
	TOTAL:	\$ 130,000	\$ 100,000	\$ 250,000	\$ -	\$ 480,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2 - Not applicable. This is a non-resource program.

4. Program Description

a) Describe program

The Cool Planet program encourages SCE customers to join the California Climate Action Registry (Registry). Cool Planet targets large commercial and industrial customers with recent installation of energy-efficient measures in excess of one million kWh of energy savings. The Registry is a voluntary, non-profit, public-private partnership that promotes benchmarking and reductions in green house gas (GHG) emissions. The Registry assists participants in measuring, monitoring and establishing a state-recognized baseline of GHG emissions. Registry members are responsible for measuring, verifying and publicly reporting their GHG emissions using Registry-developed GHG reporting standards and tools.

b) List measures

As a non-resource program, no measures are specified. The program helps defray the Registry membership fee. Customers are eligible for Cool Planet based on participation in a 2009-2011 SCE resource program resulting in at least one million

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Cool Planet

kWh total annual energy savings achieved across their facilities. These resource savings will be attributed to SCE's nonresidential Calculated and/or Deemed offerings.

c) List non-incentive customer services

Non-incentive customer service benefits derived from SCE affiliation and membership in the Registry are:

- Reduction of GHG emissions through reduced energy usage;
- Recognition for GHG emission reductions under AB 32, the Global Warming Solutions Act;
- Help customers gain a stakeholder voice in climate change policy and implementation;
- Public relations and marketing assistance to position their company as an environmental leader in the marketplace;
- User-friendly Registry software and technical support to simplify tracking GHG emissions; and
- Educational services including workshops, conference calls, newsletters, and conferences.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Nonresidential: Cool Planet

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Reducing the impact of greenhouse gas emissions on climate change is the most important development in California energy policy in decades.² Many customers are unaware of the link between energy use and carbon emissions, both because acquiring the information (search cost) can be difficult and confusing, but time consuming (hassle cost) as well. Cool Planet helps overcome these barriers by advising eligible customers of the benefits of the Registry, and facilitating membership, including offsetting their initial membership fee.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Customers Enrolled	10	10	10

e) Advancing Strategic Plan goals and objectives

Cool Planet advances Strategic Plan’s near-term action steps through the following:

Near-Term Action Step	Program Activity
<ul style="list-style-type: none"> Establish one- or two-tiered voluntary EE standards, coordinated with green building rating systems (Commercial Strategy 1-1) 	<ul style="list-style-type: none"> Support the voluntary portions of California Green Building Initiative and Action Plan legislation in the commercial sector by encouraging program participants to take measures described in the Green Building Action Plan to retrofit, build, and operate the most energy- and resource-efficient buildings
<ul style="list-style-type: none"> Align Title 24 targets with goals of AB 32 and carbon reduction (Commercial Strategy 1-1) 	<ul style="list-style-type: none"> Encourage voluntary measuring & reporting of GHG emissions after installing energy efficiency measures Support focused educational efforts to enhance public understanding of AB 32 by showing program participants the carbon-reduction effects of energy efficiency programs
<ul style="list-style-type: none"> Develop performance data (Commercial Strategy 1-4) 	<ul style="list-style-type: none"> Provide direction to customers on how to solicit and retain the services of an independent (third party) certified GHG emissions verifier, who will measure and report on emission reduction
<ul style="list-style-type: none"> Investigate other funding support that might be offered, such as ... GHG reduction benefits, e.g. via carbon offsets (Commercial Strategy 1-5) 	<ul style="list-style-type: none"> Provide direction to customers on how to apply for GHG reduction benefits

² Energy Action Plan, 2008 Update, February 2008, p. 2

Nonresidential: Cool Planet

Near-Term Action Step	Program Activity
<ul style="list-style-type: none"> Streamline and integrate EE, DR, and DG program outreach (DSM Strategy 1-1) Align Title 24 targets with goals of AB 32 and carbon reduction (Commercial Strategy 1-1) 	<ul style="list-style-type: none"> Facilitate customer applications for energy efficiency program participation

6. Program Implementation

a) Statewide IOU Coordination

The Cool Planet program is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however best practices will be shared with the other IOUs as appropriate.

i. Program Name: Cool Planet

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable

vi. Similar IOU and POU programs

Not applicable

b) Program delivery and coordination

Customers may enroll at any time; however, program benefits are provided only when the customer completes an energy efficiency project of greater than one million kWh. The resulting energy savings amount will be the kWh project savings approved by SCE upon installation verification.

Customers must submit an application to enroll for available program benefits. Applications must demonstrate that the customer's energy efficiency project(s) have been approved by SCE. When the application is approved, membership funds will be reserved on a first-come-first-served basis or until funds are depleted.

Savings from energy efficiency projects may not be aggregated across customer facilities located in other utility service territories. However, customers may

Nonresidential: Cool Planet

aggregate projects at multiple SCE-served facilities to reach the kWh threshold for program benefits.

Once the energy efficiency project is submitted and approved, SCE will advise the Registry that the customer is eligible to receive the benefits, and will process the customer incentives.

The customer is responsible for all fees that arise as a result of the GHG certification process.

To the extent possible, Cool Planet will coordinate with other internal and external programs as outlined below:

i. Emerging Technologies program

Not applicable to this program

ii. Codes and Standards program

Not applicable to this program

iii. WE&T efforts

Not applicable to this program

iv. Program-specific marketing and outreach efforts

Both SCE and Registry staff will provide information about the program to customers. Marketing efforts will primarily consist of direct customer contact, an approach historically proven most effective.

v. Non-energy activities of program

The program provides a non-resource benefit to customers for implementing energy efficiency upgrades through membership in the Registry..

vi. Non-IOU programs

Not applicable

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Through this program SCE will be leveraging the California Climate Action Registry to encourage SCE's customers to maximize energy efficiency projects at their facilities.

Nonresidential: Cool Planet

c) Best Practices

Participation in this program is consistent with SCE's best practices guidelines for energy efficiency.

d) Innovation

By working in partnership with the Registry, which many customers are not familiar with, the program provides SCE an opportunity to leverage Registry expertise both to benefit customers and to reduce energy demand within SCE's service territory.

e) Integrated/coordinated Demand Side Management

IDSMD activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSMD as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSMD efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc)

Not applicable to this program

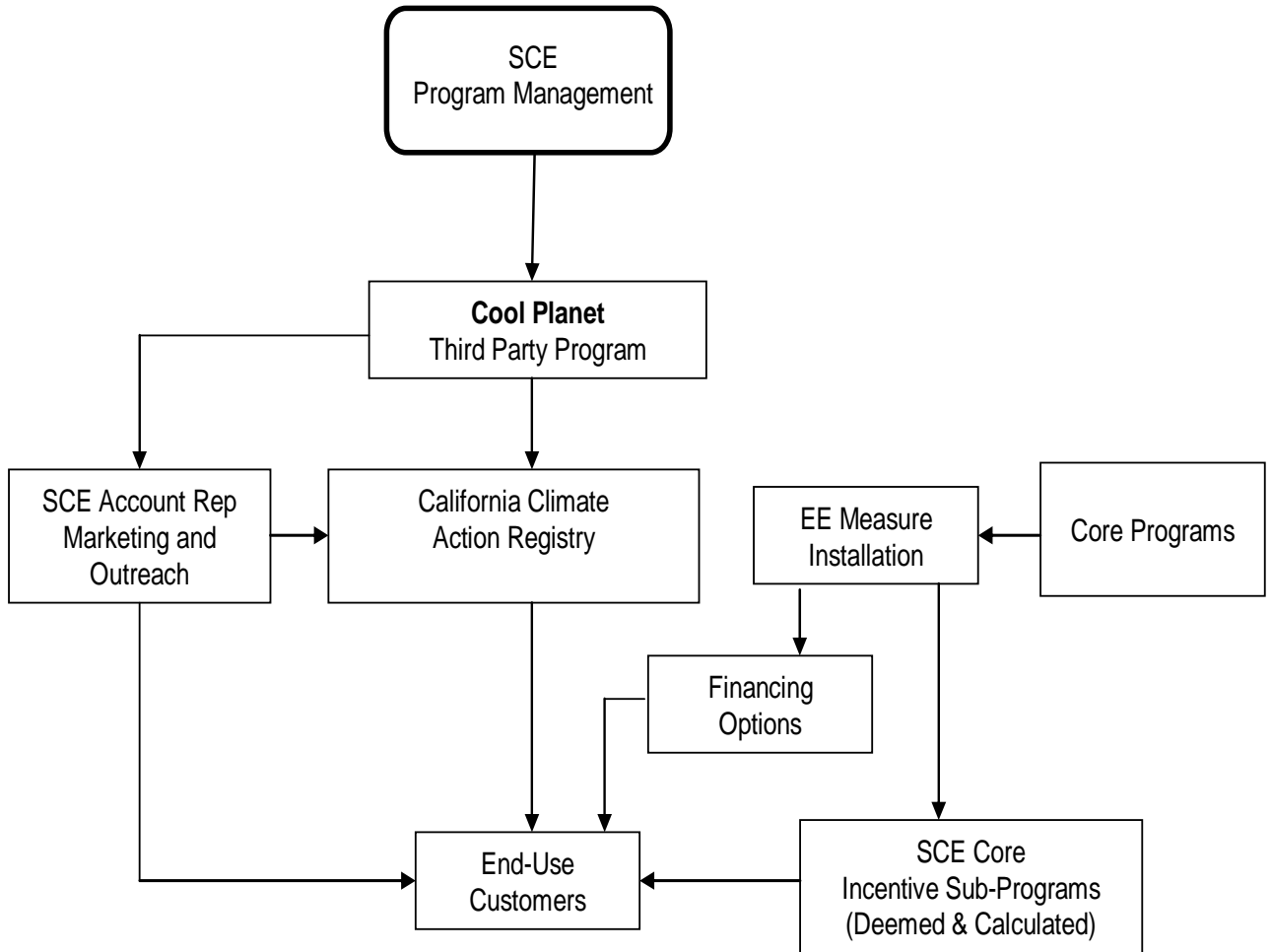
g) Pilots

Not applicable to this program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

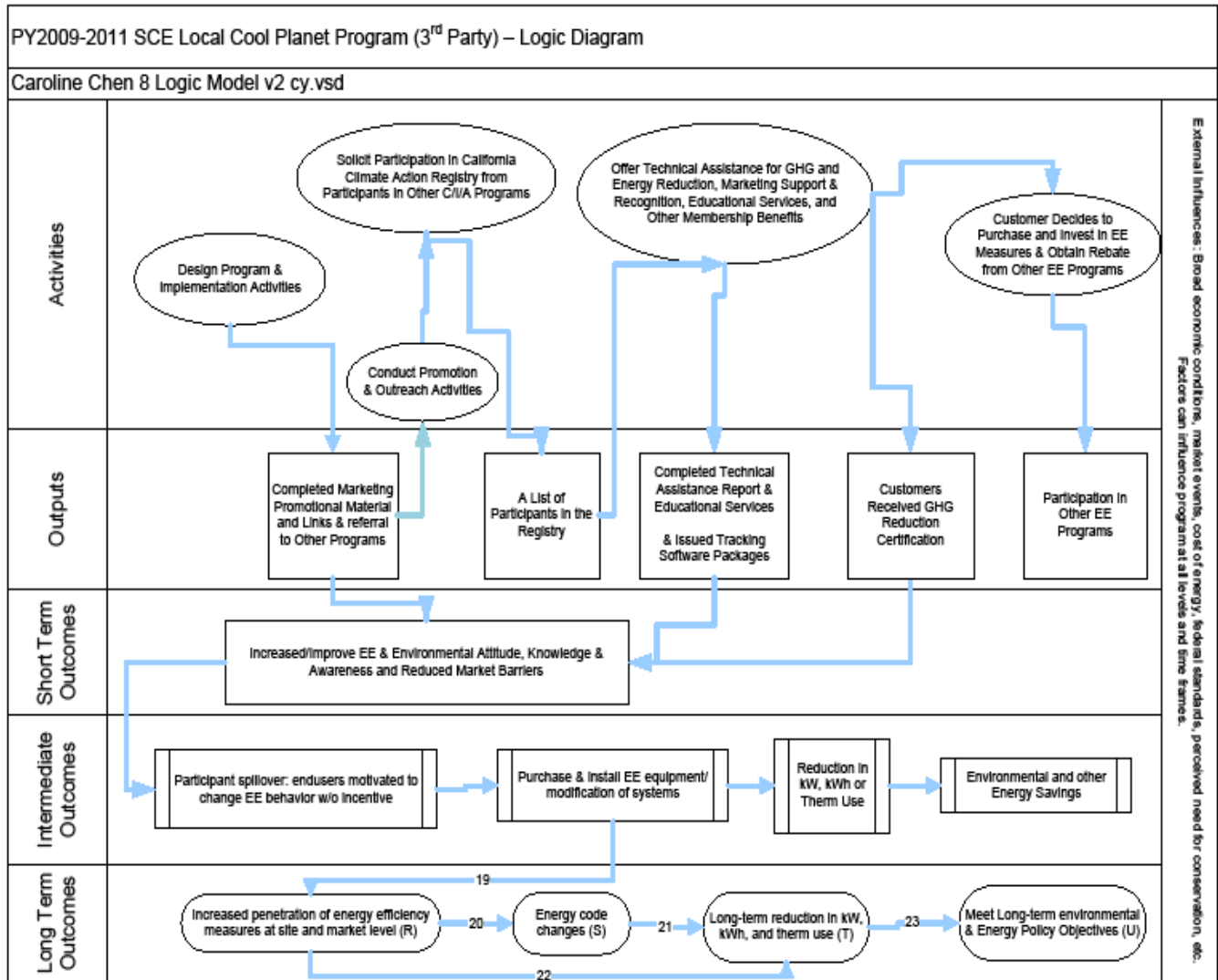
7. Diagram of Program



*Utilize core programs
to ensure consistent
incentive offerings*

Nonresidential: Cool Planet

8. Program Logic Model



6

Nonresidential: Healthcare EE Program

1. **Program Name:** Healthcare EE Program
Program ID: SCE-TP-006
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-006	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL						
	Healthcare EE Program	\$ 616,000	\$ -	\$ 3,345,000		\$ 3,961,000
	TOTAL:	\$ 616,000	\$ -	\$ 3,345,000	\$ -	\$ 3,961,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-006	Healthcare EE Program	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Healthcare EE Program	16,600,617	2,343	-
	TOTAL	16,600,617	2,343	-

4. Program Description

a) Describe program

The Healthcare EE Program targets existing medical facilities, including hospitals, acute care facilities, office buildings, service buildings, and central plants. Four healthcare systems will be participating in this program, including: Kaiser Permanente, Providence Healthcare Services, Catholic Healthcare West and St. Joseph's. The program encompasses energy efficiency opportunities with the following design features:

- Comprehensive energy audits covering all key end-uses and measures for energy efficiency;

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Healthcare EE Program

- Technical assistance including support for measures specification, procurement, and project management;
- Retro-commissioning for large-space conditioning systems;
- Post-installation inspection to verify performance;
- Workforce training and education of facility staff;
- Incentives coordination SCE's other programs; and
- Customer satisfaction surveys and resolution.

This program is one of two separate but similar programs directed at the healthcare industry (see High Performance Hospitals). This program targets medical office buildings and acute care facilities that are not regulated by Office of Statewide Health Planning and Development (OSHPD) requirements with a comprehensive facility retrofit offering.

b) List measures

Measures include energy efficiency technologies including, but not limited to:

• HVAC-upgrades	• Time of day controls
• Appliance upgrades	• Occupancy and lumen sensing
• Comprehensive lighting	• CO sensors and virtualization of data center servers
• Building retro-commissioning	• Solar-assisted water heating
• Variable frequency speed drive for chilled water or hot water loops	• Cool roof
• Heat exchangers	• HVAC motor upgrades
• LED exit signs	• Variable frequency drive motor use on VAV fans

c) List non-incentive customer services

- Comprehensive whole-building/system technical audit;
- Benchmarking analysis and facility planner training;
- Retrofit design, specification and financial analysis;
- Contractor screening;
- Project implementation consulting;
- Pre- and post-installation inspections;
- Customer satisfaction surveys;
- Coordination with SCE's DSM activities; and
- Outreach seminars.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

Nonresidential: Healthcare EE Program

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The program design contains features that are desirable in addressing the key market transformation tools. The table below shows the categories of market transformation tools and the specific program design features to overcome the barriers.

Market Transformation Tools to Overcome Barriers	Program Design Features to Overcome Barriers
Customer Incentives	Rebates from SCE for capital items; advice on financing from other sources
Codes and Standards	1) Recommended measures comply with building codes and equipment standards 2) Review projects already approved by OSHPD; make recommendations to increase the energy efficiency of approved plans; effect plan changes through an expedited change order process
Education and Information	Program marketing materials, case studies, seminars, websites
Technical Assistance	Energy audits, benchmarking, equipment specification, procurement assistance, retro-commissioning, project management assistance, performance verification

Nonresidential: Healthcare EE Program

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	14	14	14

e) Advancing Strategic Plan goals and objectives

The program supports the Strategic Plan, as described below.

Section 3, Commercial Sector

Goal 2: 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

Strategy 2.5: Develop tools and strategies to use information and behavioral changes, commissioning, and training to reduce energy consumption in commercial buildings.

- The program takes a comprehensive approach to energy efficiency retrofits including lighting and lighting controls, HVAC systems and controls, and other appliances and equipment, including those with ENERGY STAR[®] listing.

6. Program Implementation

a) Statewide IOU Coordination

HEEP is a local program. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Healthcare EE Program

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms

Not applicable

Nonresidential: Healthcare EE Program

- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable**

Not applicable

- vi. Similar IOU and POU programs**

Not applicable

b) Program Delivery and Coordination

i. Emerging Technologies program

The program will support the Emerging Technologies program by increasing the demand for new energy efficiency technologies and assisting in overcoming market barriers that delay the adoption of new technology. Potential technology areas of interest include: lighting – plasma, organic LEDs and advance lighting controls; HVAC – hot / dry air conditioning and low-energy cooling systems; and desktop computer and data-server network applications.

ii. Codes and Standards program

Projects requiring OSHPD approval often experience long delays. New seismic standard upgrades are further retarding the long waiting time for permits. The program will work with OSHPD to increase the energy efficiency of approved plans and to work toward policies that will allow expedited changes in the approval process.

iii. WE&T efforts

Not applicable to this program.

iv. Program-specific marketing and outreach efforts

The program will achieve its market penetration objectives by using such practices as:

- Implement an awareness marketing campaign with leading membership associations, such as California Hospital Association (CHA) and California Society for Healthcare Engineering (CSHE);
- Use one-to-one marketing by the contractor with customers through telephone and personal meetings;
- Conduct seminars for facility managers and hospital administrators;
- Develop program marketing materials, including brochures, flyers, and case studies;
- Encourage word-of-mouth marketing among hospital administrators;
- Partnering with leading membership associations (CHA and CSHE);
- Participate at conferences and trade associations;
- Coordinate with SCE's core programs for possible joint marketing activities, including: distribution of marketing materials, joint presentation to target audience, and periodic referrals via e-mail;
- Create a program website where potential participants can find out more information about the program; and

Nonresidential: Healthcare EE Program

- Review projects already approved by OSHPD in order to make recommendations to increase the energy efficiency of approved plans; effect plan changes through an expedited change order process.

v. Non-energy activities of program

Not applicable to this program.

vi. Non-IOU Programs

Not applicable to this program.

vii. CEC work on PIER

Not applicable to this program.

viii. CEC work on Codes and Standards

Not applicable to this program.

ix. Non-utility market initiatives

The program will coordinate with activities of two leading statewide healthcare associations, the CHA and CSHE.

c) Best Practices

The program builds on lessons learned from successful implementation of the Hospital Facility Energy Efficiency Program developed and tested under SCE's Innovative Design for Energy Efficiency Activities (IDEEA) during the 2006-2008 program cycle. HEEP expands the service provided through SCE's nonresidential programs by addressing the specific needs and unique opportunities in the healthcare market for the delivery of cost-effective energy efficiency.

d) Innovation

The program incorporates three key areas of innovation:

- Employing whole-building energy intensity (kWh/ft²) benchmarking to facilitate retrofit project screening. The HEEP whole-building approach not only signals potential for high yielding retrofit projects, but also provides the means and metrics to support integrated DSM. Whole-building performance is common in new construction but an innovation in retrofit programs;
- By partnering with leading membership associations (CHA and CSHE), the program both raises awareness about energy efficiency and achieves credibility for alignment with exemplary industry operating practices; and
- Jump-starting program participation on the foundation of formal commitments by five major healthcare systems as a way to mitigate much of the risk and uncertainty associated with market penetration.

e) Integrated/coordinated Demand Side Management

IDSMD activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs

Nonresidential: Healthcare EE Program

have identified IDSM as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc)

The program will remain sensitive to other resource types by flagging recommended energy saving measures with meaningful impacts on other resources. To assist with implementing the California Global Warming Solutions Act of 2006 (AB 32), the program will provide facility staff with the publication *Guidance and Protocols for Businesses to Facilitate Greenhouse Gas Missions Reductions*.²

g) Pilots

Not applicable to this program.

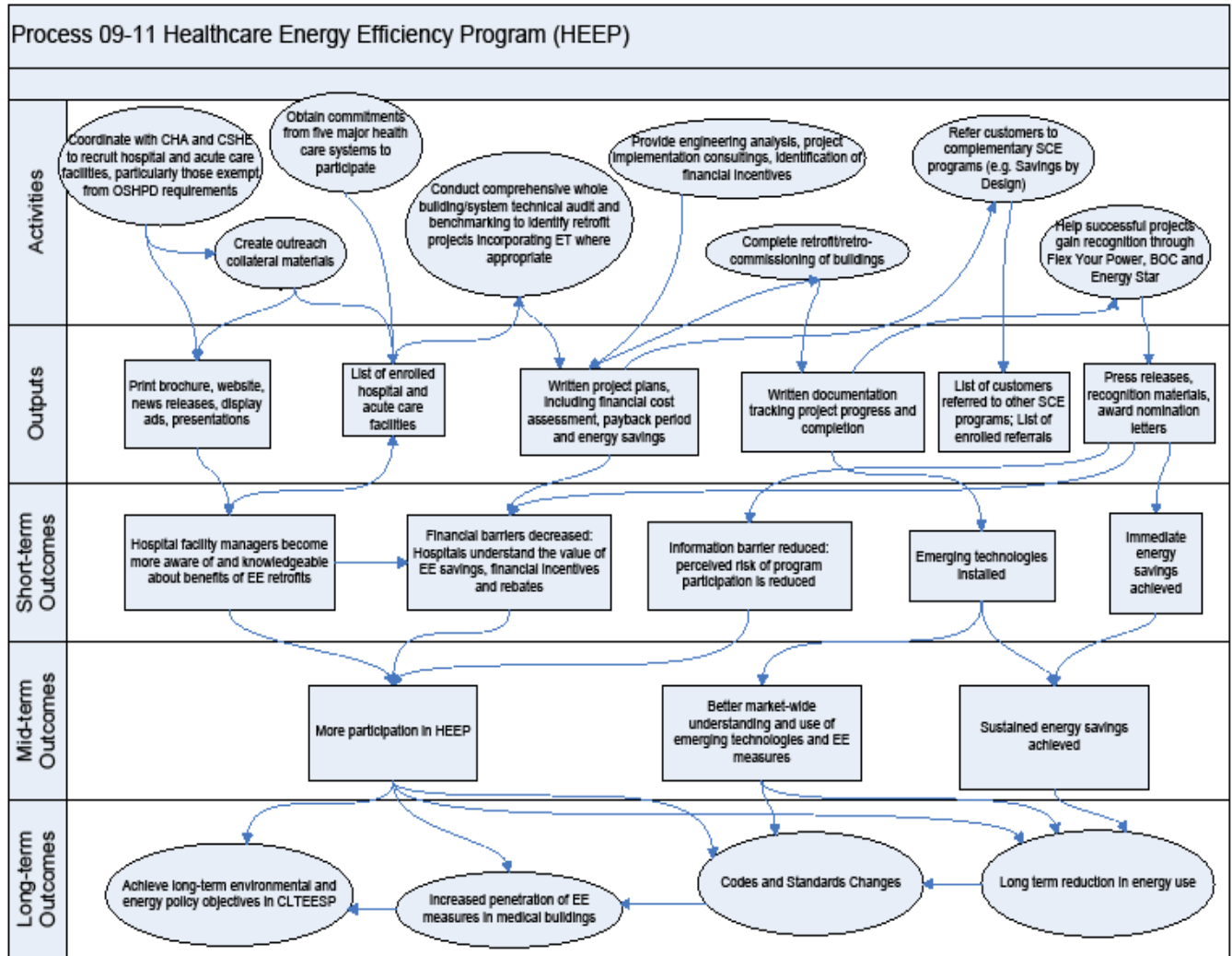
h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

² Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions, California Environmental Protection Agency, Air Resources Board September 2007 Table 2 Greenhouse Gas Reduction Strategies.

Nonresidential: Healthcare EE Program

8. Program Logic Model



7

Nonresidential: Livestock Industry Resource Advantage

1. **Program Name:** Livestock Industry Resource Advantage
Program ID: SCE-TP-007
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-007	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Livestock Industry Resource Advantage	\$ 515,413	\$ 242,963	\$ 2,886,624		\$ 3,645,000
	TOTAL:	\$ 515,413	\$ 242,963	\$ 2,886,624	\$ -	\$ 3,645,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-007	Livestock Industry Resource Advantage	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Livestock Industry Resource Advantage	7,900,000	2,215	-
	TOTAL	7,900,000	2,215	-

4. Program Description

a) Describe program

The Livestock Industry Resource Advantage program (LIRA) targets agricultural facilities, focusing on dairies, poultry production, egg production, hog and pig farming, and aquaculture. The program will feature:

- An energy audit covering energy efficiency and water/wastewater opportunities;
- Direct installation of no-cost/low-cost energy efficiency measures on small properties;
- Technical assistance, including specifications review, procurement assistance and project management;
- Post-installation inspection to verify performance;
- Financial assistance coordination and processing with SCE; and

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Livestock Industry Resource Advantage

- Customer satisfaction surveys and resolution.

b) List measures

Measures will include:

- Refrigeration: Install premium efficiency motors, variable frequency drives (VFD), plate coolers, tank insulation, efficient compressors, air-cooled condensers;
- Lighting: Install high efficiency lighting, day-lighting, controls;
- Ventilation: Install high-volume, low-speed fans, fan cleaning/maintenance, misters, facilities design-natural ventilation systems;
- Vacuum pumping: Install premium efficiency motors, VFDs, sensors and controls, compressed air technologies;
- Pumping (for waste handling, irrigation, drinking water, cooling/washing water for animals): Install premium efficiency motors, VFDs, compressed air technologies, premium efficiency pumps, pump system design (flow, pressure), irrigation pumping systems, irrigation distribution systems, liquid/solid separation systems;
- Pumping (for waste water management): Install pond design elements, dissolved oxygen controls, aeration or oxygen injection, solar-powered circulators, methane/waste recovery systems; and
- Water heating: Install high efficiency boilers, water heater, heat exchanger.

A base incentive budget is calculated from the size of the estimated annual energy savings from energy efficiency measures times the deemed incentive and calculated incentive levels under SCE's core programs.

c) List non-incentive customer services

LIRA provides the following non-incentive customer services:

- Identifies comprehensive efficiency solutions through animal production facility energy audits, covering facilities, and pumping and irrigation systems;
- Provides recommendations for efficiency upgrades through integrated audit reports that flag water/wastewater reduction strategies;
- Coordinates with complementary programs in SCE's range of offerings; and
- Provides analysis of green house gas reductions associated with recommended improvements.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a

Nonresidential: Livestock Industry Resource Advantage

result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Agricultural customers require specialized assistance in order to implement energy efficiency measures or strategies. There are several challenges that must be overcome in order for agricultural customers to participate in a program. Key challenges include: a complex regulatory environment and lack of time to devote to energy management.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Measures	13,800	19,700	14,900

e) Advancing Strategic Plan goals and objectives

The program advances the following elements of the Strategic Plan:

Section 5, Agricultural Sector

Goal 3: Achieve significant increases in the efficiency of electricity and natural gas use and on-site renewable energy utilization, including setting a specific target for irrigation efficiency.

Nonresidential: Livestock Industry Resource Advantage

The program implementation approach is both customer-focused and measure-focused. This means that rather than pushing a small set of measures, such as lighting or ventilation, the program will approach the customer with an understanding of what types of measures they use at their facility. The program has the experience to know what types of measures are best suited for different types of agriculture, and will thus focus on a whole farm, comprehensive delivery model that emphasizes the full spectrum of appropriate measures.

6. Program Implementation

a. Statewide IOU Coordination

LIRA is a local program. No coordination with other IOUs is expected for this program; however best practices will be shared with the other IOUs as appropriate.

i. Program name: Livestock Industry Resource Advantage Program

ii. Program delivery mechanisms
Not applicable

iii. Incentive levels
Not applicable

iv. Marketing and outreach plans
Not applicable

v. IOU Program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
Not applicable

vi. Similar IOU and POU programs
Not applicable

b. Program delivery and coordination

i. Emerging Technologies program
Not applicable to this program

ii. Codes and Standards program
Not applicable to this program

iii. WE&T efforts

The program will work with and educate designers on specific design features and latest emerging technologies that are applicable toward the design of ultra-low and zero-net energy livestock industry facilities. LIRA encourages designers to incorporate proposed design features into the design template for future facilities.

Nonresidential: Livestock Industry Resource Advantage

iv. Program-specific marketing and outreach efforts

LIRA will achieve its market penetration objectives by using such practices as:

- Partner with trade associations;
- Build on current relationships with dairy cooperatives, equipment providers, research groups and government agencies;
- Use one-to-one marketing with customers;
- Conduct seminars for energy managers and facility owners and managers;
- Develop program marketing materials including brochures, flyers, case studies, web pages;
- Encourage word-of-mouth marketing among facility managers;
- Participate at conferences and trade associations; and
- Coordinate with SCE's core programs for possible joint marketing activities, including distribution of marketing materials, joint presentation to target audience, and periodic referrals via email.

v. Non-energy activities of program

California has some of the strictest agriculture-related air and water quality regulations in the country, requiring various levels of reporting and permitting, depending on farm size. The program will seek to engage agriculture sector customers by showing how upgrades to energy efficiency can contribute to meeting existing regulations, particularly in the areas of wastewater management and overall product quality.

As affordable development moves farther and farther into rural, traditionally agricultural areas, animal farm operations are increasingly surrounded by residential neighbors. As a result, farms must deal more aggressively with issues such as waste (manure) management in order to mitigate excessive odor, air quality attainment issues, or reduce fly populations. The program provides assistance in dealing with neighbor complaints by providing information and incentives that can help reduce the quantity of wastewater, improve the efficiency of waste management, and potentially offer new EE technologies that reduce odor and volume of waste overall.

vi. Non-IOU programs

Not applicable to this program

vii. CEC work on PIER

This program will investigate new energy efficiency technologies for the livestock sector, in collaboration with PIER.

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

Nonresidential: Livestock Industry Resource Advantage

c. Best Practices

The program will build on the experience of other utility programs and national programs for energy efficiency in the agriculture sector. It will take a “whole-farm” approach by integrating energy efficiency with additional needs and interests of the agriculture community for water conservation, renewables, and the environment. The program will research, share, and adopt energy efficiency best practices and emerging technologies, as applicable.

Some California animal facilities, such as medium- and larger sized dairies, often have near-continuous operations – up to 23 hours per day. Thus, any downtime to test or replace equipment is a significant investment for farmers. The program will keep such operations in mind when proposing approaches to installing measures. For example, some new equipment can be installed in parallel with existing equipment, to allow for the least possible downtime. Further, the program will strive to help ensure that proposed measures will work for each customer, so that they will not have to face downtime due to faulty or poorly-suited equipment or technologies.

d. Innovation

Comprehensive energy audits identify the full range of measures eligible in the program, and often flag additional opportunities. Following project completion, the program will continue to work with the customers to install additional measures from the list of recommendations, resulting in a broader and higher number of installations per customer, and per audit, thus reducing costs.

e. Integrated/coordinated Demand Side Management

IDSMD activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSMD as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSMD efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f. Integration across resource types (energy, water, air quality, etc.)

One of the primary candidates for emerging technologies in animal production is methane recovery from waste and wastewater ponds. The methane can be used for self-generation, and also provide for heat recovery. This approach can also reduce odors and volume of wastewater. Another approach is the installation of photovoltaics on large shelter structures for on-site generation - making use of the expansive surface space available on structure rooftops.

The program will coordinate with SCE and other program implementers to stay abreast of additional complementary program offerings. These other programs may

Nonresidential: Livestock Industry Resource Advantage

include Demand Response, solar incentives, and other programs in the agriculture and wastewater sectors, and the SCE-sponsored Pump Test Services Program. By integrating information about these additional program offerings, the program will leverage the most long-term and comprehensive energy savings feasible.

g. Pilots

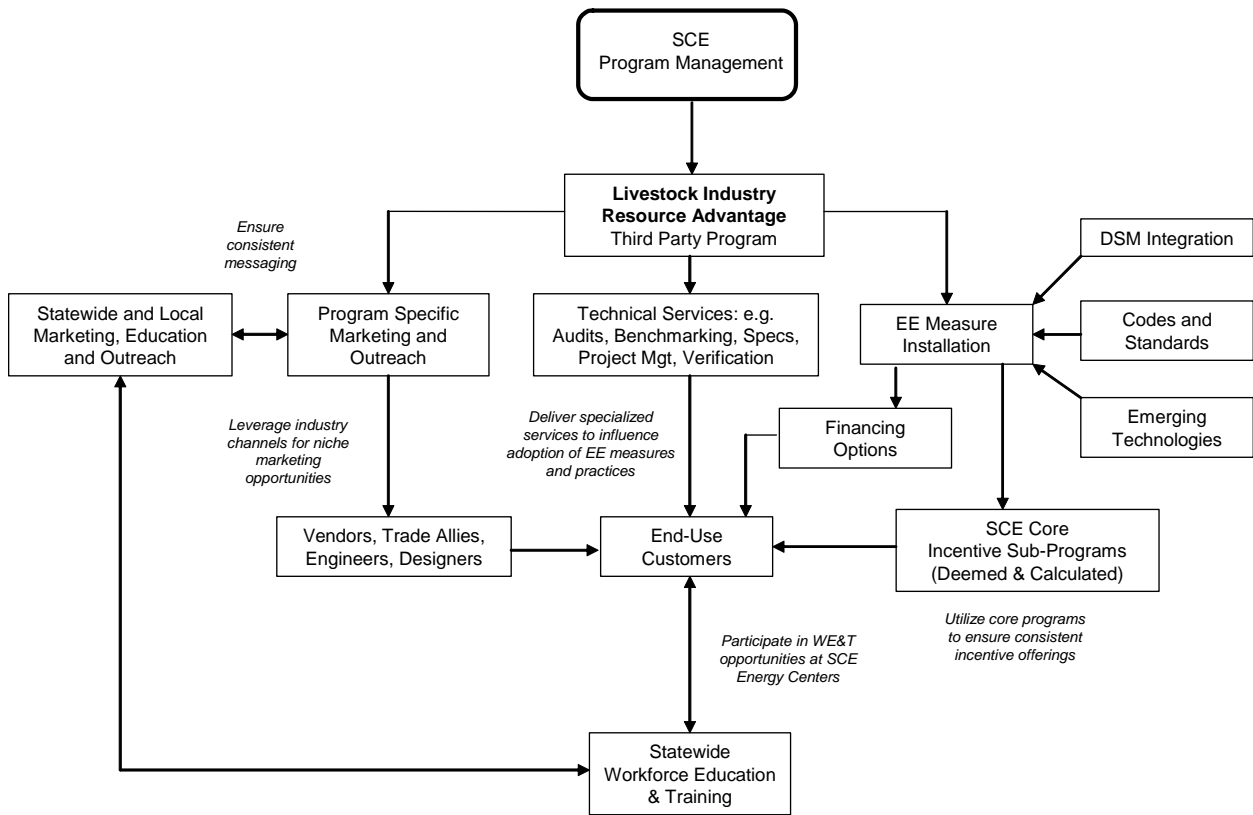
Not applicable to this program

h. EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

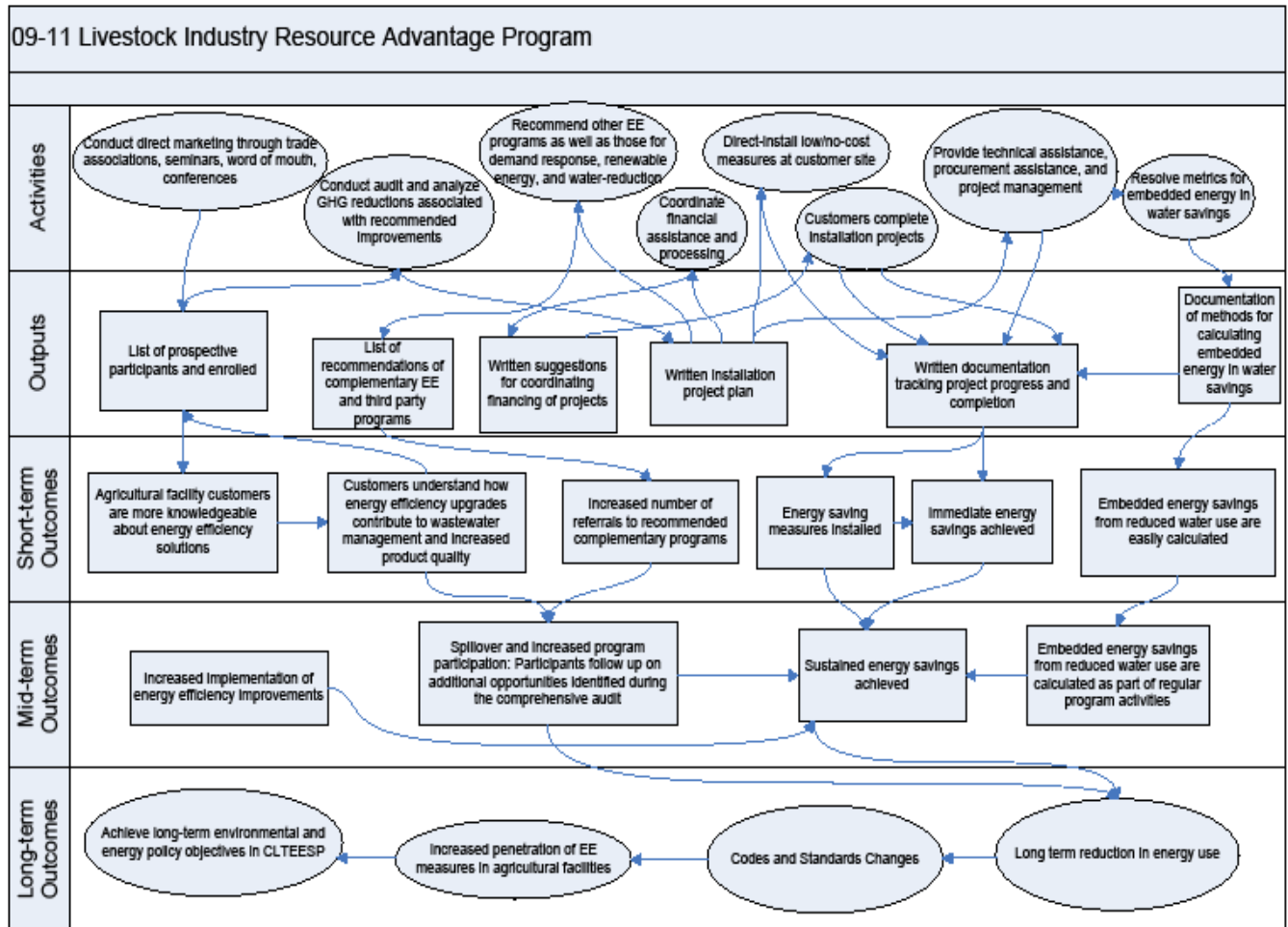
Nonresidential: Livestock Industry Resource Advantage

7. Diagram of Program



Nonresidential: Livestock Industry Resource Advantage

8. Program Logic Model



8

Nonresidential: Comprehensive Beverage Manufacturing and Resource Efficiency

1. **Program Name:** Comprehensive Beverage Manufacturing and Resource Efficiency
Program ID: SCE-TP-008
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-008 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Comprehensive Beverage Manufacturing and Resource Efficiency	\$ 185,670	\$ 144,460	\$ 1,186,870		\$ 1,517,000
	TOTAL:	\$ 185,670	\$ 144,460	\$ 1,186,870	\$ -	\$ 1,517,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-008	Comprehensive Beverage Manufacturing and Resource Efficiency	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Comprehensive Beverage Manufacturing and Resource Efficiency	4,337,806	584	-
	TOTAL	4,337,806	584	-

4. Program Description

a) Describe program

The Comprehensive Beverage Manufacturing and Resource Efficiency program is a new turnkey program for the 2009-2011 program cycle. It will deliver electric energy savings and demand reduction opportunities for the beverage manufacturing industry throughout SCE's service territory. The program will offer facility audits and incentives for the installation of energy efficiency measures that address major electric end-uses in beverage manufacturing facilities. Each beverage manufacturing facility is examined to deliver electricity savings and provides the customer with step-by-step assistance through the program process. The program includes a comprehensive approach including both low-cost improvements and capital investments to systems at beverage manufacturing facilities.

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Comprehensive Beverage Manufacturing and Resource Efficiency

b) List measures

The program will offer a broad portfolio of electric equipment measures that address every major electric end-use in beverage manufacturing facilities, including:

- Refrigeration:
 - Floating head pressure controller;
 - Floating suction pressure controller;
 - Oversized evaporative-cooled condenser;
 - Variable Speed Drive (VSD) on screw compressor using deemed values; and
 - Facility-specific refrigeration equipment and controls.
- Motors:
 - Premium efficiency motors; and
 - Facility-specific motor optimization.
- Drives:
 - Adjustable speed and variable voltage control drives (motors, pumps, and other rotating machinery).
- Process Optimization:
 - Compressed air systems; and
 - Customized pumping systems.
- Lighting:
 - Indoor industrial lighting replacement.
- Fans – customized system improvements to include fan size and design, ducting and damper system, drive motor, and control system for applicable items, including:
 - Combustion air blowers;
 - Cooling tower fans;
 - Wastewater aeration blowers; and
 - Ventilation fans.

c) List non-incentive customer services

In addition to financial incentives, the program will offer customers:

- Site assessments and reports identifying cost-effective energy savings and demand reduction opportunities;
- Referrals to other SCE services such as rate evaluations and demand response programs that can help reduce their energy bills;
- Coordination with industry associations to promote energy efficiency improvements through trusted sources and encourage market-transforming practices among equipment vendors and purchasers;
- Technical assistance to facilitate installation of recommended equipment; and
- Educational information about non-energy benefits associated with recommended measures.

Nonresidential: Comprehensive Beverage Manufacturing and Resource Efficiency

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

- Information and transaction costs: The program will provide assessments at no cost to customers, and inform decision-makers in energy and non-energy benefits and equipment selection.
- "Hassle" or transaction costs: The program will provide customers and vendors with technical and administrative assistance to expedite equipment selection and the incentive qualification process.
- Performance uncertainties: The program will only offer proven, commercially available, and documented measures to the target market facilities. Additionally, program staff will leverage its connections and market credibility to educate customers and to help ensure they are comfortable and confident with savings opportunities.
- Access to financing: Incentives will defray project costs; first-year bill savings may free current-year operating funds.

Nonresidential: Comprehensive Beverage Manufacturing and Resource Efficiency

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	5	8	13

e) Advancing Strategic Plan goals and objectives

In accordance with the Strategic Plan, this program will advance comprehensive energy efficiency, including the following strategies:

- It will address an approach to integrated DSM that will create additional energy savings through inter-program referral and data sharing, and bundling of DSM solutions across energy efficiency, DR, and other IDSM efforts, using a “one-stop shop” approach.
- It will educate this market on the benefits of energy efficiency, thereby creating awareness and market value for demand for energy efficiency and its continuous improvements.
- It will address the need for a customized approach to the California industrial sector to meet its diverse needs by providing comprehensive, customizable services to a targeted market sub-segment that includes a wide variation in sizes and types of beverage manufacturing facilities, from small-scale facilities, such as boutique wineries and distilleries, to very large breweries and soda bottling plants.

Through the above items and its program implementation strategies, the program will serve to overcome the predominantly institutional and behavioral barriers identified for the industrial sector including:

- Lack of awareness of energy efficiency opportunities by industry personnel, consultants and suppliers;
- Difficulty in accessing industry-relevant technical assistance;
- Primary business focus on optimizing industrial output, not energy throughput;
- Risk aversion to investing in new technologies and processes which many impact industrial output or quality;
- Resource limitation of both time and capital for assessment and implementation of energy efficiency projects; and
- Internal hurdle rates that often limit capital available for energy efficiency projects with paybacks longer than two years.

The program will advance the Strategic Plan’s 2009-2011 near-term action steps for the industrial sector through the following:

- It will support the near-term action steps associated with the goal of integrating energy efficiency with other resource strategies by using a broad network of beverage manufacturers, beverage manufacturing industry associations like the

Nonresidential: Comprehensive Beverage Manufacturing and Resource Efficiency

- California League of Food Processors (members routinely share information, advice, and tips), and local beverage manufacturing equipment vendors, which will support the creation of industry teams and studies of the feasibility of implementing negotiated agreements.
- It will support the implementation of the near-term action steps associated with the goal of implementing an ME&O program to educate industry and consumers by building a network of beverage manufacturing industry personnel, consultants, and contractors, thus spurring interest in and demand for energy efficiency in the beverage manufacturing sector.
 - It will aid the attainment of the goal of providing centralized technical and public policy guidance for California's industrial energy and resource efficiency through its collaborative efforts with industry associations and related stakeholders.

6. Program Implementation

a) Statewide IOU Coordination

The Comprehensive Beverage Manufacturing and Resource Efficiency program is a local program. No coordination with other IOUs is expected for this program; however best practices will be shared with the other IOUs as appropriate.

- i. Program name:** Comprehensive Beverage Manufacturing and Resource Efficiency
 - ii. Program delivery mechanisms**
Not applicable
 - iii. Incentive levels**
Not applicable
 - iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.**
Not applicable
 - v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable**
Not applicable
 - vi. Similar IOU and POU programs**
Not applicable
- b) Program delivery and coordination**
- i. Emerging Technologies program**
Not applicable to this program

Nonresidential: Comprehensive Beverage Manufacturing and Resource Efficiency

ii. Codes and Standards program

Not applicable to this program

iii. WE&T efforts

Not applicable to this program

iv. Program-specific marketing and outreach efforts

Emphasis will be placed on leveraging existing relationships with beverage manufacturers, industry associations, interested stakeholders, and equipment vendors in SCE's service territory. Outreach activities will advertise the program and identify customers with potential electricity savings opportunities.

v. Non-energy activities of program

Not applicable to this program

vi. Non-IOU programs

Not applicable to this program

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c. Best Practices

The program implementation team's industry and energy efficiency program experience informs the program's design. The program design has been refined based on the experiences gained from working in industrial and agricultural facilities nationwide. Lessons learned align with a number of the best practices identified in *Energy Efficiency Best Practices Project* reports (<http://www.eebestpractices.com/>). These include:

- Using a hands-on "systems approach," which examines each beverage manufacturing facility to deliver optimal electricity savings, results in greater savings than mere component replacement, and provides the customer with step-by-step assistance through the program process;
- Offering an inclusive set of itemized and custom measures, as well as customized educational and enabling services to fit the needs of a diverse customer group in this targeted industrial sub-sector;
- Utilizing program staff with experience and knowledge of the large commercial/industrial market to gain customer trust and confidence; and
- Providing comprehensive energy use information to end-users, consultants, and vendors using "in field" testing equipment.

Nonresidential: Comprehensive Beverage Manufacturing and Resource Efficiency

d. Innovation

The program offers a number of unique advances in the planning, marketing, outreach, and implementation that have been developed from industry and past program experience. Innovative program aspects include:

- Multiple targeted audits with individual customers will provide a comprehensive service that maximizes customer energy savings and reduce lost opportunities. As opportunities arise, comprehensive audits will be conducted. Experience has shown that customers want to start with smaller projects that address their immediate needs. This allows them to become familiar and more comfortable with the process, while achieving some energy savings at lower cost and risk.
- Customized educational and enabling services for participants. The program serves as an “enabler,” providing the necessary motivation and convenience to encourage the implementation of energy efficiency measures. The program also serves as an educator, facilitator, and opportunity identifier, creating the awareness that will likely lead to familiarity, comfort, and then action on the customer’s part.
- Experience has shown that customers generally prefer making changes to one specific aspect of their operation at a time. They want to see success with one measure or end-use before considering others. Many times customers install additional measures as their satisfaction with and confidence in our advice builds. Repeat contact is quite effective in bringing projects to completion and making subsequent projects more likely.
- Partnering early in the program ramp-up period with local organizations that promote energy efficiency (e.g., the Ventura County Regional Energy Alliance, Southern California Association of Governments, and the California Manufacturers and Technology Association) to investigate energy efficiency program integration opportunities. These relationships provide the ability to integrate parallel energy efficiency programs to encourage cross-pollination of customers.

e. Integrated/coordinated Demand Side Management

IDSMS activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response Program, and Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and Customer Generation Programs). However, the IOUs have identified IDSMS as an important priority and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSMS efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f. Integration across resource types (energy, water, air quality, etc)

Not applicable to this program

Nonresidential: Comprehensive Beverage Manufacturing and Resource Efficiency

g. Pilots

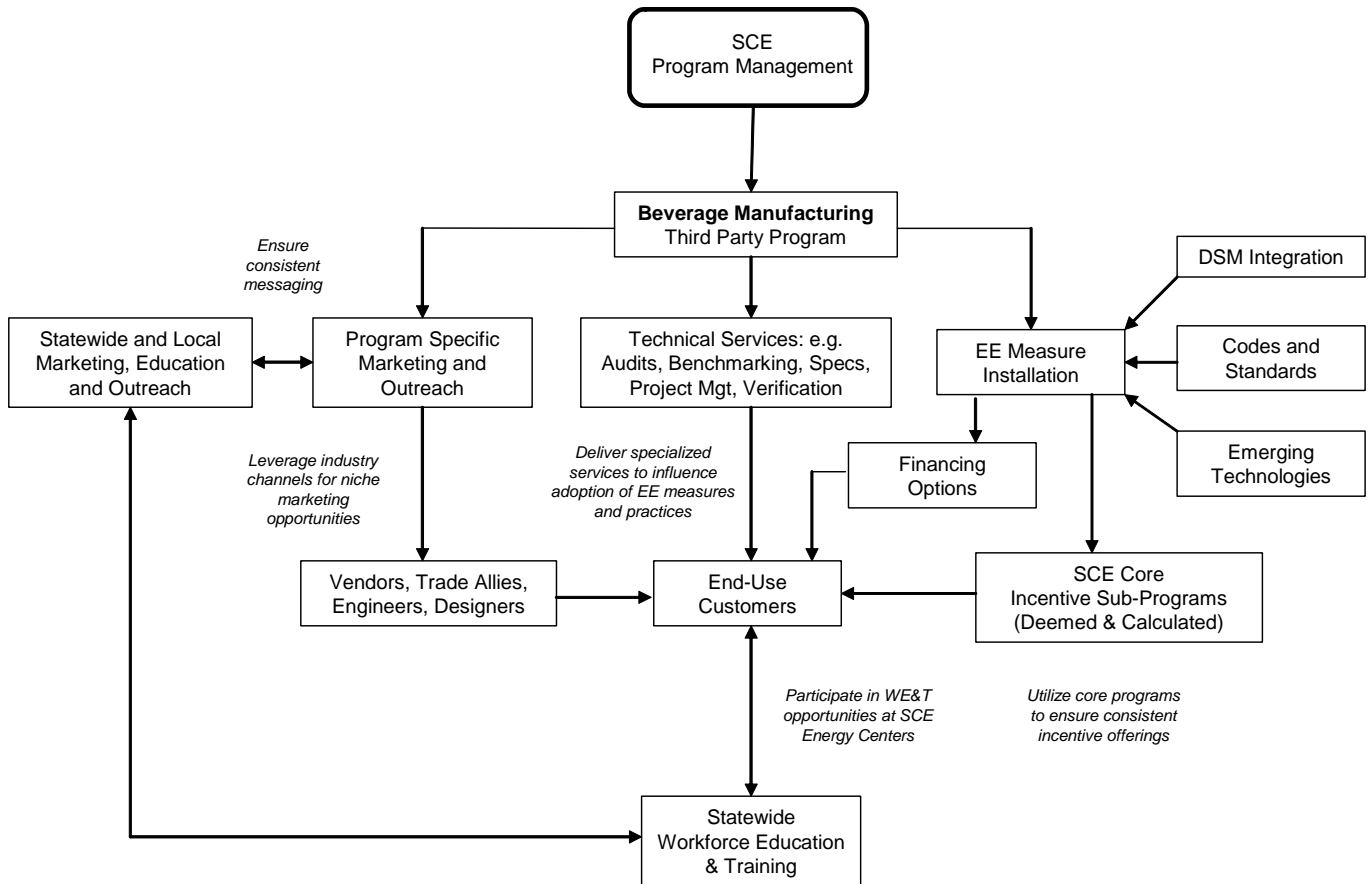
Not applicable to this program.

h. EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

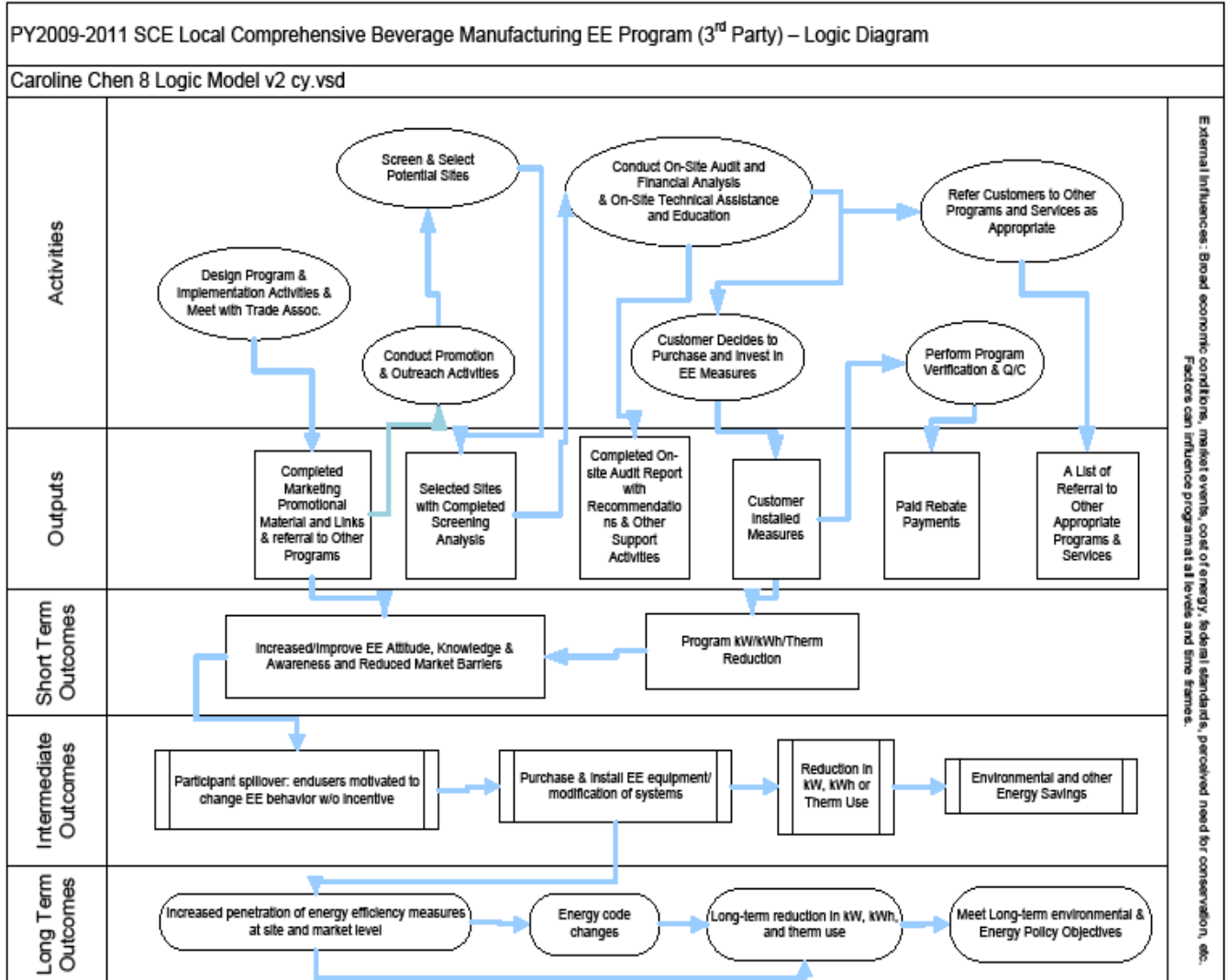
Nonresidential: Comprehensive Beverage Manufacturing and Resource Efficiency

7. Diagram of Program



Nonresidential: Comprehensive Beverage Manufacturing and Resource Efficiency

8. Program Logic Model



9

Nonresidential: Solid Waste Energy Efficiency Program

1. **Program Name:** Solid Waste Energy Efficiency Program
Program ID: SCE-TP-009
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-009	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Solid Waste Energy Efficiency Program	\$ 194,488	\$ 114,140	\$ 1,342,372		\$ 1,651,000
TOTAL:		\$ 194,488	\$ 114,140	\$ 1,342,372	\$ -	\$ 1,651,000

3. Projected Program Gross Impacts Table

Table 2

SCE-TP-009	Solid Waste Energy Efficiency Program	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Solid Waste Energy Efficiency Program	6,180,205	1,318	-
TOTAL		6,180,205	1,318	-

4. Program Description

a) Describe program

The purpose of the Solid Waste Energy Efficiency Program is to deliver energy savings, and demand reduction opportunities by offering facility audits and incentives for the installation of energy efficiency measures to qualifying waste management customers. Target facilities include:

- Transfer Stations/Material Recovery Facilities (MRF);
- Landfills; and
- Solid Waste/Recycling Collection Company Facilities.

The overall program process includes several key program elements. Program elements include:

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Solid Waste Energy Efficiency Program

Direct marketing effort through leverage of specific industry contacts (large commercial/industrial): The implementation process will begin by leveraging existing waste management contacts to build interest. As program interest is established, marketing will expand to additional industry contacts. A program brochure and presentation will be used as marketing materials in face-to-face meetings with critical facility personnel.

Pre-screening/qualification of facility: SWEEP will pre-screen and qualify facilities based on criteria, including overall facility design and system characteristics such as facility size, vintage, and other facility site data. In addition, SWEEP will evaluate facility qualification based on guidelines around the major facility systems, such as lighting, motors, HVAC and any major processes that consume energy within the facility. Qualification will also include the determination of the facility budget available for energy efficiency projects in addition to the budget cycles (fiscal year start/end dates) that dictate when funds are available. As part of the pre-screening, SWEEP will also work to determine available facility manpower to assist with gathering project data, to support audit and analysis activity (for example, facility access, answering operational questions, and supplying system information or records), and to support implementation activity.

Facility audit and project proposal: After the customer has completed the initial program participation requirements, program contractors will be sent to the customer's facility to conduct a brief audit and evaluation of existing equipment and conditions. Based on preliminary screening information, the audit will focus on the lighting, motors, HVAC, and any major processes that consume energy within the facility. The equipment will be evaluated for upgrades based upon qualified program measures and measurements taken to determine project potential energy savings. This survey information will be compiled into a project proposal to the customer. This summary document will outline the proposed energy savings measures including potential energy and cost savings, implementation costs, available incentives, and simple project payback.

Customer incentive application process: SWEEP will assist customers with all incentive application requirements to ensure timely project approvals. 100% of the measures offered by the program fall into SCE's Deemed and Calculated program categories.

Project/construction management and planning: In order to move audits through to completed implementations, SWEEP will provide project management support.

Program incentives based on potential savings: The program will provide incentives to reduce or eliminate customer installation costs based on the project potential savings as calculated in the project proposal. Incentives are based on potential kWh savings and are capped at project cost. Incentives may be transferred directly to the program installation contractor to simplify the process for the customer, create a more attractive project proposal, and dramatically accelerate implementation.

Nonresidential: Solid Waste Energy Efficiency Program

b) List measures

The end-uses and measures covered by the program include:

Lighting	Screw-in CFLs Hardwired Fluorescent Fixtures (14-26 W; 27-65 W (incandescent basecase); 27-65 W (mercury vapor basecase) T-8 & T-5 Lamp & Electronic (2-, 3- 4-, and 8-foot) Exterior HID Fixtures Interior Pulse Start Metal Halide Fixtures Interior High Output 4-6 Lamp Fixtures Commercial Lighting Controls Interior LED Lamps
Motors – Process	High Efficiency Motors Variable Speed Drives Industrial Process Optimization
HVAC	Cooling – Customized Space Conditioning

c) List non-incentive customer services

Non-incentive customer services include:

- Energy audits and engineering analyses to qualifying customers, which will serve not only to identify energy efficiency opportunities, but will also serve to educate the individual customer as well as the industry as a whole;
- Development of best management practices for each type of targeted operation. These best management practices will help provide key strategies for similar operations to save on energy consumption as well as reduce consulting hours to achieve comparable goals moving forward through this project; and
- Technical assistance in equipment specification, procurement and project management.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

Nonresidential: Solid Waste Energy Efficiency Program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

By offering a program specifically targeted to this industry and employing an implementation team having unique experience and understanding of both the solid waste and energy industries, SWEEP will identify and address these barriers and bring financially attractive and technically feasible projects to the customer.

Accordingly, SWEEP will:

- Use its understanding of the regulatory issues in environment and safety that face the industry and the changes within the comfort zone of operations staff, to overcome distrust and move projects through to implementation; and
- Leverage its experience and understanding of the solid waste regulatory environment to show how energy efficiency can work in a customer facility, while meeting safety and environmental regulations.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	2	9	14

e) Advancing Strategic Plan goals and objectives

The program advances the Strategic Plan's long-term goals by:

- Taking a broad series of actions toward very low energy existing industrial buildings and setting a high bar that energizes market players and other stakeholders to focus on transformational approaches;
- Including its products, companies, employees and even its customers— to develop, install and maintain highly efficient and peak-friendly systems (by promoting installations of high-efficiency HVAC equipment); and

Nonresidential: Solid Waste Energy Efficiency Program

- Educating the market on the benefits of energy efficiency, thereby creating awareness of, market value of and demand for energy efficiency and its continuous improvements.

SWEEP advances the 2009-2011 near-term action steps for the industrial sector by supporting steps associated with the goal of integrating energy efficiency with other resource strategies by creating an awareness of and demand for energy efficiency in the solid waste sector, which would support the creation of industry teams and studying the feasibility of implementing negotiated agreements.

6. Program Implementation

a) Statewide IOU Coordination

SWEEP is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Solid Waste Energy Efficiency Program.

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

This program is unique to SCE territory.

b) Program delivery and coordination

i. Emerging Technologies program

Not applicable to this program

ii. Codes and Standards program

Not applicable to this program

iii. WE&T efforts

Not applicable to this program

Nonresidential: Solid Waste Energy Efficiency Program

iv. Program-specific marketing and outreach efforts

Due to nature of the solid waste industry, successful participation in an energy efficiency program will need to be addressed in person with an operations staff decision maker. For this program effort, marketing material will consist of two items:

- Marketing Brochure – A one page document describing the overall program process, benefits, available incentives, and contact information, in addition to a section addressing frequently asked questions (FAQs); and
- Program Presentation – A presentation addressing similar information as in the brochure in the form of talking points, designed to generate discussion with operations staff regarding key industry issues addressed by the program.

This material will be distributed mainly in face-to-face meetings, so the quantity produced will be low and done in-house on an as-needed basis.

v. Non-energy activities of program

Not applicable to this program

vi. Non-IOU programs

Not applicable to this program

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

The program reflects industry and energy efficiency program experience in the program's design. Lessons learned align with many of the best practices identified in *Energy Efficiency Best Practices Project* reports (<http://www.eebestpractices.com/>).

These include:

- Leveraging unique industry knowledge and customer relationships to overcome mistrust of new, untested contractors involved with key facility systems and operations;
- Utilizing program staff with intimate knowledge of the large commercial/industrial market to gain customer trust and confidence; and
- Simplifying customer program participation and implementation to make best use of the customers' limited time and resources. The program's turnkey approach, which simplifies and reduces paperwork and provides the customer a "one-stop shop" from project evaluation through implementation, significantly increases the chance for successful implementation.

Nonresidential: Solid Waste Energy Efficiency Program

d) Innovation

The program will leverage extensive contacts with solid waste and recycling industry management throughout SCE's service territory. While the program's technologies are proven and trusted, its focus on relationships and an in-depth understanding of the industry's regulations, project guidelines, environmental issues, and overall barriers, is innovative for this traditionally under-served market. While maintaining standardized program policies and procedures for participants, the program will provide a customized message to address each of the three key facility type sub-segments that it targets. It is critical to understand the differences among these types of facilities and the tremendously different issues they face.

e) Integrated/coordinated Demand Side Management

As part of the energy audit and respective engineering analysis, SWEEP will also inform the customer of demand response opportunities.

f) Integration across resource types (energy, water, air quality, etc)

The solid waste industry is highly regulated with complicated operations and labor rules. The regulatory complexities facing managers in the industry range from public health and safety issues such as ground water, air quality, and road and highway use to compliance surrounding conditional use permits. To assist with implementing the California Global Warming Solutions Act of 2006 (AB 32), the program will provide facility staff with the publication Guidance and Protocols for Businesses to Facilitate Greenhouse Gas Missions Reductions.²

g) Pilots

Not applicable to this program

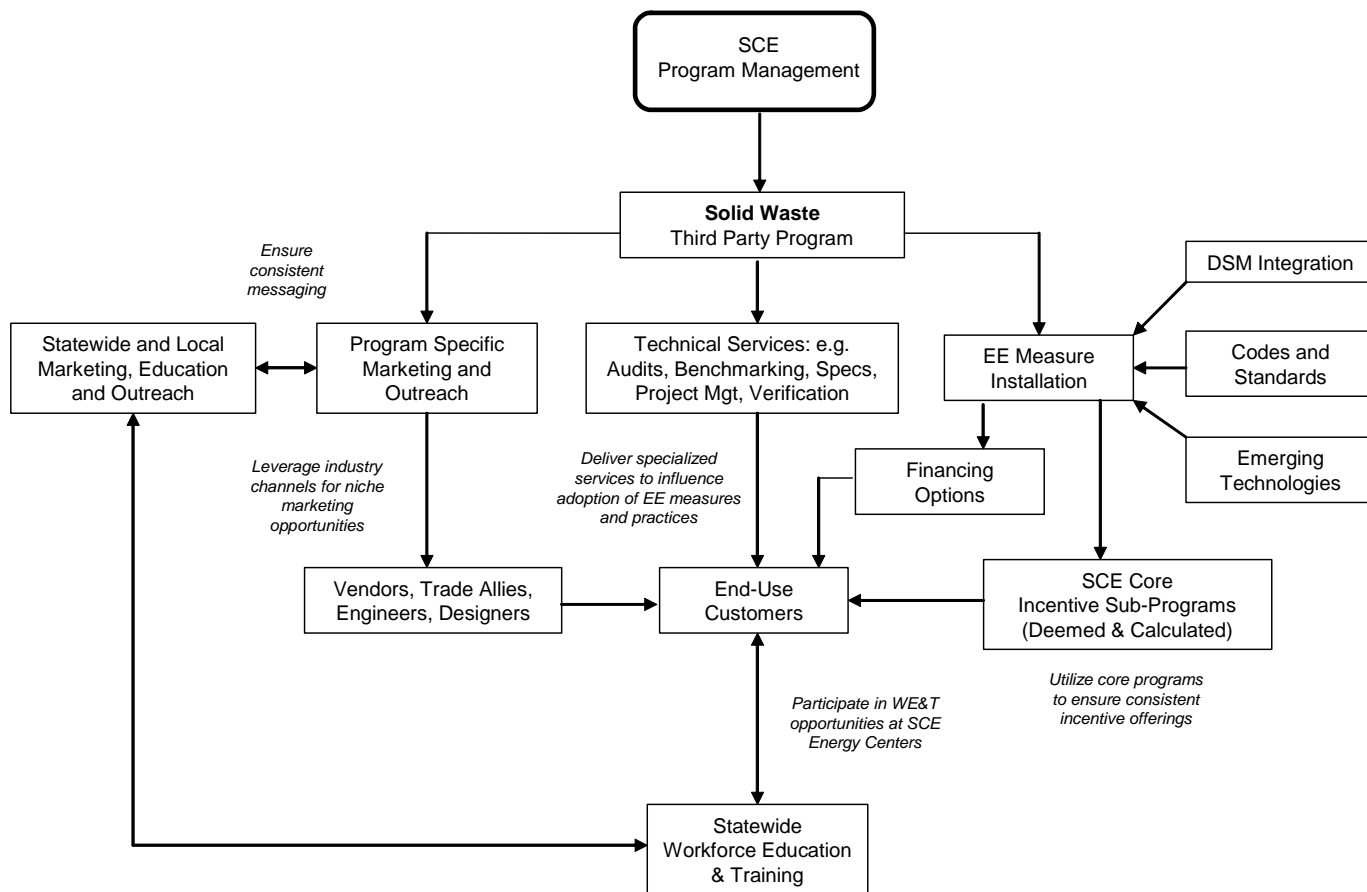
h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

² Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions, California Environmental Protection Agency, Air Resources Board September 2007 Table 2 Greenhouse Gas Reduction Strategies.

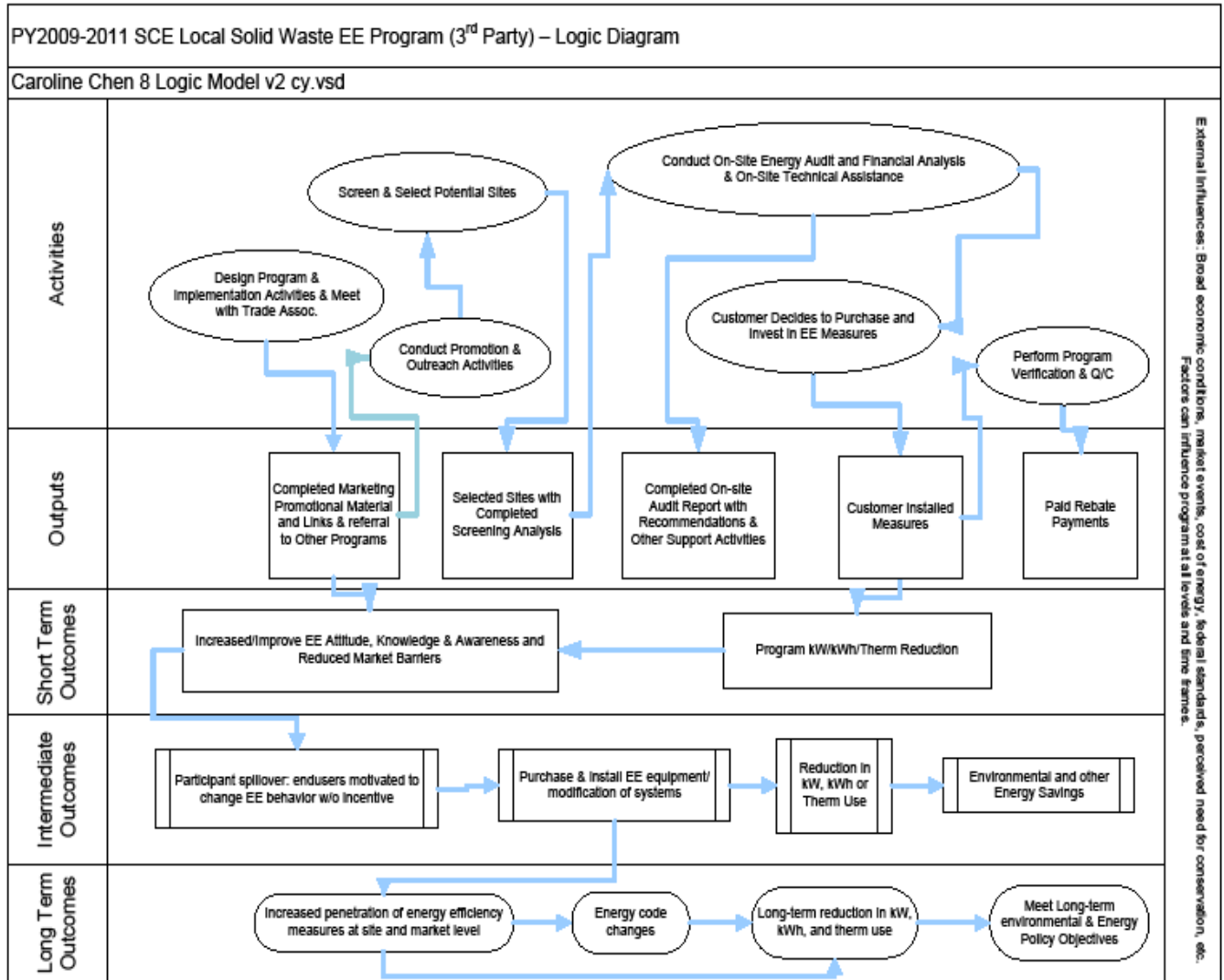
Nonresidential: Solid Waste Energy Efficiency Program

7. Diagram of Program



Nonresidential: Solid Waste Energy Efficiency Program

8. Program Logic Model



10

Nonresidential: Data Center Energy Efficiency

1. **Program Name:** Data Center Energy Efficiency
Program ID: SCE-TP-010
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-010 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Data Center Energy Efficiency	\$ 181,899	\$ -	\$ 2,589,101		\$ 2,771,000
	TOTAL:	\$ 181,899	\$ -	\$ 2,589,101	\$ -	\$ 2,771,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-010	Data Center Energy Efficiency	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Data Center Energy Efficiency	10,200,000	988	-
	TOTAL	10,200,000	988	-

4. Program Description

a) Describe program

The Data Center Energy Efficiency program provides a comprehensive solution for the growing needs of data centers. It will provide a wide range of energy saving activities to data centers including virtualization software to reduce server load, retrocommissioning, HVAC/mechanical, and lighting load reduction.

This program is one of two, separate but similar, third-party programs directed at data centers in SCE's territory (see Data Center Optimization program for description of SCE's other third-party program). Due to the ever-growing energy usage in this sector (data centers currently consume about 1.5% of all electricity consumption in the US), having two programs allows SCE to reach more data centers and mitigate

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Data Center Energy Efficiency

program risk. Historically, data centers are one of the underserved market segments in SCE's territory. Also, having two programs allows better diversification of measures and promotes knowledge sharing that would advance both programs.

The program will serve the customer with the following tasks:

- Energy audit of equipment and operations with recommendations for action based on analysis of financial costs and savings;
- Assistance with engineering, design and specifications;
- Assistance with project management and implementation;
- Software training and certification; and
- Assistance with detailed performance verification.

b) List measures

The program focuses on the following measures:

- Control system upgrades including wireless sensors;
- Variable frequency drives (VFDs) on computer room air conditioners fans;
- VFDs on chillers and pumps;
- Cooling set point adjustment to maximize system efficiency;
- Optimize air economizers to save cooling energy;
- Equipment scheduling changes;
- SprayCool server racks;
- Occupancy sensors;
- Lighting upgrades; and
- Other measures based on the retrocommissioning process.

c) List non-incentive customer services

The non-incentive customer services include:

- Providing energy usage benchmarking for data centers;
- Serving as a single source of information, strategies, and program elements targeted to data centers;
- Providing links to key partners such as "Green Grid" and other industry groups;
- Educating and training facility staff to deliver persistent energy savings;
- Enhancing understanding of AB 32 by relating the carbon reduction effects of energy efficiency programs to program participants; and
- Providing potential customers with a technical cost/benefit analysis that will clearly explain the program benefits, potential energy savings, program incentives, and customer costs and payback period. The analysis will include financial analysis, all measures including virtualization, retro-commissioning and other technologies and demand response.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A,

Nonresidential: Data Center Energy Efficiency

3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Enterprise data centers are running into a power and cooling wall as they try to deploy new servers, storage, and blades, which, in addition to consuming more power than their predecessors, are often much more densely packed into a space. Businesses continue to deploy more powerful computer systems and applications, bringing more heat to the data center and pushing the limits of cooling systems. Failure to find better ways to remove the heat from data centers results in the loss of opportunities for IT organizations to take advantage of ongoing improvements in processor performance and system density.

- Customer financial incentives: There are financial implications with new data centers since they require more power for servers, processors and cooling systems which all add up to higher total costs of ownership. Incentives will be offered at levels consistent with other SCE programs to avoid market confusion. Incentive kickers may be offered, based on certain criteria during program implementation.
- Emerging technologies: There is a technological barrier associated with achieving energy-efficient computing, since an enterprise must look at more than just processors or even the servers, themselves. This challenge is best addressed from a perspective that considers all components of the overall problem, including

Nonresidential: Data Center Energy Efficiency

the design of processors, racks, and the data center itself, and the management of resources.

- Technical assistance: There is a barrier in having sufficient technical staff and adequate time to assess options and implement solutions. The program provides a comprehensive technical assistance strategy including virtualization, retro-commissioning, HVAC/mechanical, and other energy efficiency measures. Staff will be trained to deliver persistent energy savings.
- Education and information: The barrier of limited customer information is addressed through an alignment of data center benchmarking, labels and operations and maintenance to address energy efficiency. Also, collaborative education efforts can take place with key partners such as “Green Grid” and other industry groups.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	15	16	-

e) Advancing Strategic Plan goals and objectives

The program supports the Strategic Plan goals of Section 3, the Commercial Sector. More specifically, the program supports:

Goal 2: 50% of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

Strategy 2-5: Develop tools and strategies to use information and behavioral changes, commissioning, and training to reduce energy consumption in commercial buildings.

At the core of the program is a comprehensive retro-commissioning effort that addresses air management, air-side economizers, central air handling, cooling plant optimization, direct liquid cooling, free cooling, humidification, power supplies, and uninterruptible power supplies. This comprehensive approach sets an example for other commercial customers considering commissioning their facility.

Strategy 2-7: Develop business models and supplier infrastructure to deliver integrated and comprehensive “one stop” energy-management solutions.

The program provides comprehensive energy engineering services, from design and specifications, to bid assistance and contractor-support, all the way to full implementation oversight. The program partners with industry leaders as

Nonresidential: Data Center Energy Efficiency

potential solution providers to ensure that all sources of energy used at the data center is addressed.

6. Program Implementation

a) Statewide IOU Coordination

The Data Center Energy Efficiency program is a local program managed in SCE's service territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs, as appropriate.

i. Program name: Data Center Energy Efficiency

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable

b) Program delivery and coordination

The program will facilitate the installation of virtual infrastructure software into large server installations in SCE's service territory, and will provide support services to data centers, including energy and cost benefit analysis, project implementation consulting, software optimization training and certification, financial incentives, and coordination of other demand reduction activities to address the many barriers existing in this continuously evolving market.

Where applicable, program personnel will perform detailed audits of all cooling loads and equipment within the data center. Experienced auditors will perform complete on-site audits. This will result in a detailed analysis and a list of retro-commissioning, HVAC/mechanical and other energy efficiency recommendations, implementation costs, energy savings, cost savings, and the rebate applicable through SCE's core programs. The detailed project requirements, including implementation costs and any engineering services needed, will be provided at the end of this process. The program will provide comprehensive energy engineering services, from design and specifications, to bid assistance and contractor-support, all the way to full

Nonresidential: Data Center Energy Efficiency

implementation oversight. After approval of the program proposal by the customer, implementation will begin immediately. The vendor will offer the customer a full turnkey solution for retro-commissioning and other energy efficiency measures. Customers will not be required to use program contractor(s). After the program (or other) contractor has completed the implementation, the program implementation contractor will perform a detailed verification.

The implementation team will provide a training and certification process for data center personnel. For virtualization, this process will ensure that the software is functioning at an optimal level both from a performance and energy efficiency standpoint. The program team will perform on-site facility staff training on the use/maintenance of the virtualization strategy and other installed measures and controls. Facility personnel will also be trained on the retro-commissioning measures implemented and continuous commissioning will be strongly encouraged. Customer facility staff will be involved in the entire implementation process so that they acquire the knowledge to not only identify issues with any of the implemented measures, but can independently take next steps to rectify those issues and harness long-term savings via the installed measures.

i. Emerging Technologies program

Technologies used to better manage energy use for data centers are being introduced to keep pace with market demand. Increased emphasis on demonstrating the energy savings potential for these technologies is required to ensure the program specifies and installs equipment that can be readily adopted by the market. The program will work through SCE's program management team to influence the evaluation of appropriate emerging technologies.

ii. Codes and Standards program

The program will monitor changes to Codes and Standards and apply them to this program. Where applicable, this program will coordinate with the Codes and Standards program to suggest potential changes to the Codes and Standards for this particular market segment.

iii. WE&T efforts

The program will provide informal training to data center operators on energy efficiency best practices, and refer them to the Building Operator Certification program, if appropriate. Data center operators are typically hesitant to change the way their data centers operate, and instead focus on maintaining operating continuity as any disruptions to their operation can be very costly. By demonstrating that energy efficiency measures can be implemented while still maintaining operational safety and reliability, the program aims to transform the mindset of this industry.

Nonresidential: Data Center Energy Efficiency

iv. Program-specific marketing and outreach efforts

The program will leverage the membership of the Green Grid², industry expertise and knowledge (implementer for retro-commissioning and other strategies in data centers) and the SCE Account Representatives to sign on customers and deliver reliable energy savings.

Once sites are identified through industry partnerships or other sources, the program will present and market the technology to the targeted customers. Program support and financial incentives will help overcome any barriers that may exist with data centers. The marketing effort by the team will be sufficient to pinpoint customers and help enroll them in the program.

v. Non-energy activities of program

The program will provide data center support services that include: energy and cost benefit analysis, project implementation consulting, software optimization training and certification, and coordination of other demand reduction activities to address the many barriers existing in this continuously evolving market. It will broaden the use of virtualization as a powerful energy efficiency product by providing incentives for the adoption and implementation of virtual infrastructure software. The program will leverage the retro-commissioning, HVAC/mechanical, virtualization and other energy efficiency opportunities presented by data centers to take a comprehensive approach and capture energy savings at such data centers. The program marketing and incentive structures will help eliminate lost opportunities to save energy within this energy intensive environment.

vi. Non-IOU programs

The program will participate in industry forums, meetings, and conferences intended to advance technologies for this market segment.

vii. CEC work on PIER

Although not a particular focus for the program, program will seek applications of cutting-edge process control and refining technologies including any such technologies that are advocated by the PIER program.

viii. CEC work on Codes and Standards

No specific linkages with CEC Codes and Standards work are envisioned for this program.

ix. Non-utility market initiatives

The program will monitor any non-utility market initiatives and apply them to the extent possible.

² A global consortium dedicated to advancing energy efficiency in data centers and business computing ecosystems.

Nonresidential: Data Center Energy Efficiency

c) Best Practices

The program will leverage the successes from SCE's 2008 pilot program and apply the lessons learned to successfully continue the program in 2009 - 2011.

d) Innovation

The program incorporates the latest techniques and best practices in the area of data center energy efficiency to improve energy efficiency of data centers in SCE's service territory. Technologies such as server virtualization and HVAC load mitigation, although fairly new, are evolving rapidly and this program aims to deliver market-ready technologies to this market segment, which has been historically underserved in SCE's territory.

e) Integrated/coordinated Demand Side Management

Data Center Energy Efficiency is an Innovative Design for Energy Efficiency Activities (IDEEA) program that SCE has identified as a potential energy efficiency/demand response coordinated offering (per A.08-07-021, Exhibit SCE-6). Coordinated program activities may include integrated EE/DR audits, and linkage to not only energy efficiency incentives, but DR (TA/TI) incentives, as well.

f) Integration across resource types (energy, water, air quality, etc)

There is no direct linkage across resource types.

g) Pilots

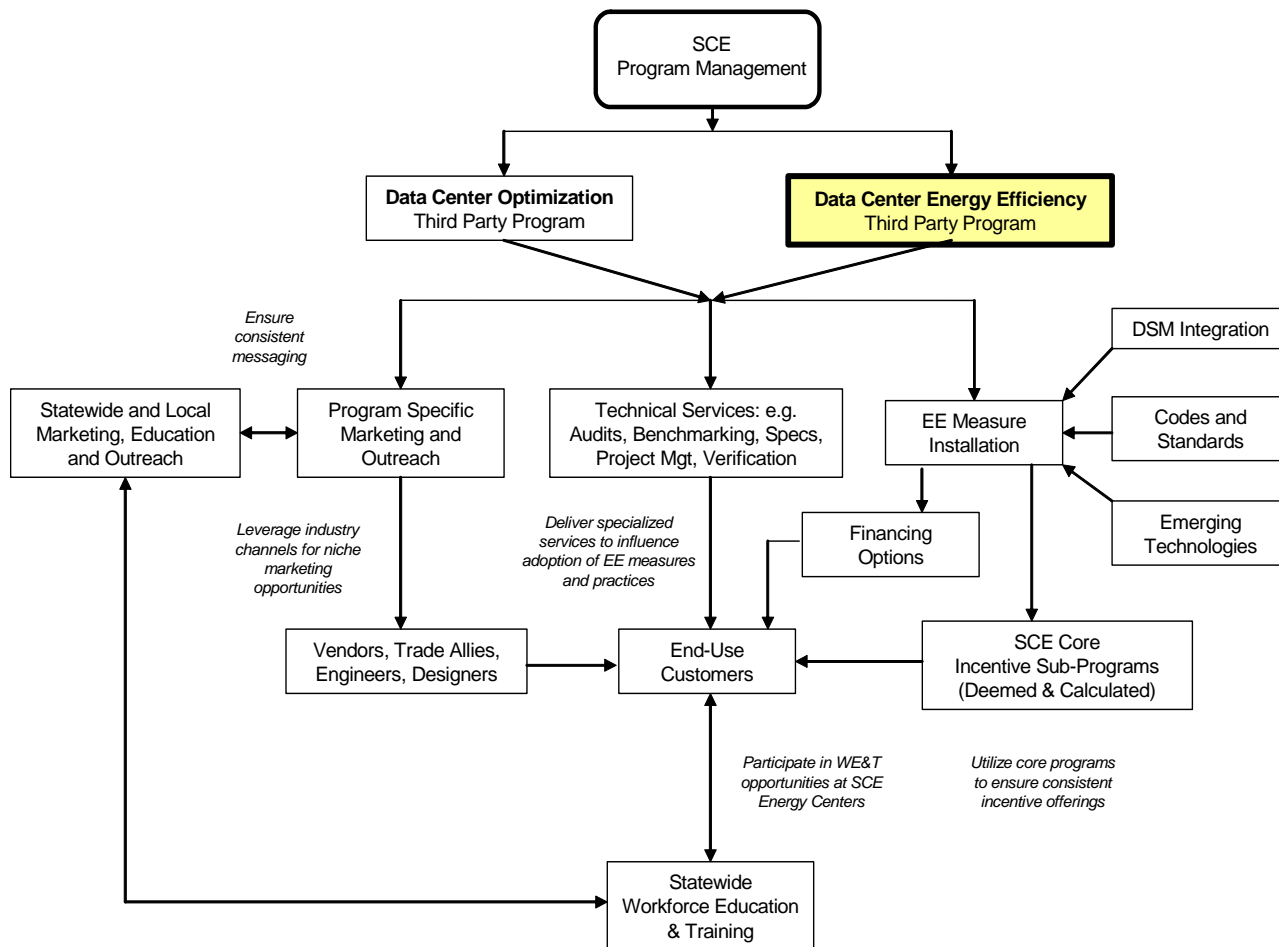
There are no pilot programs anticipated for this third-party program.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

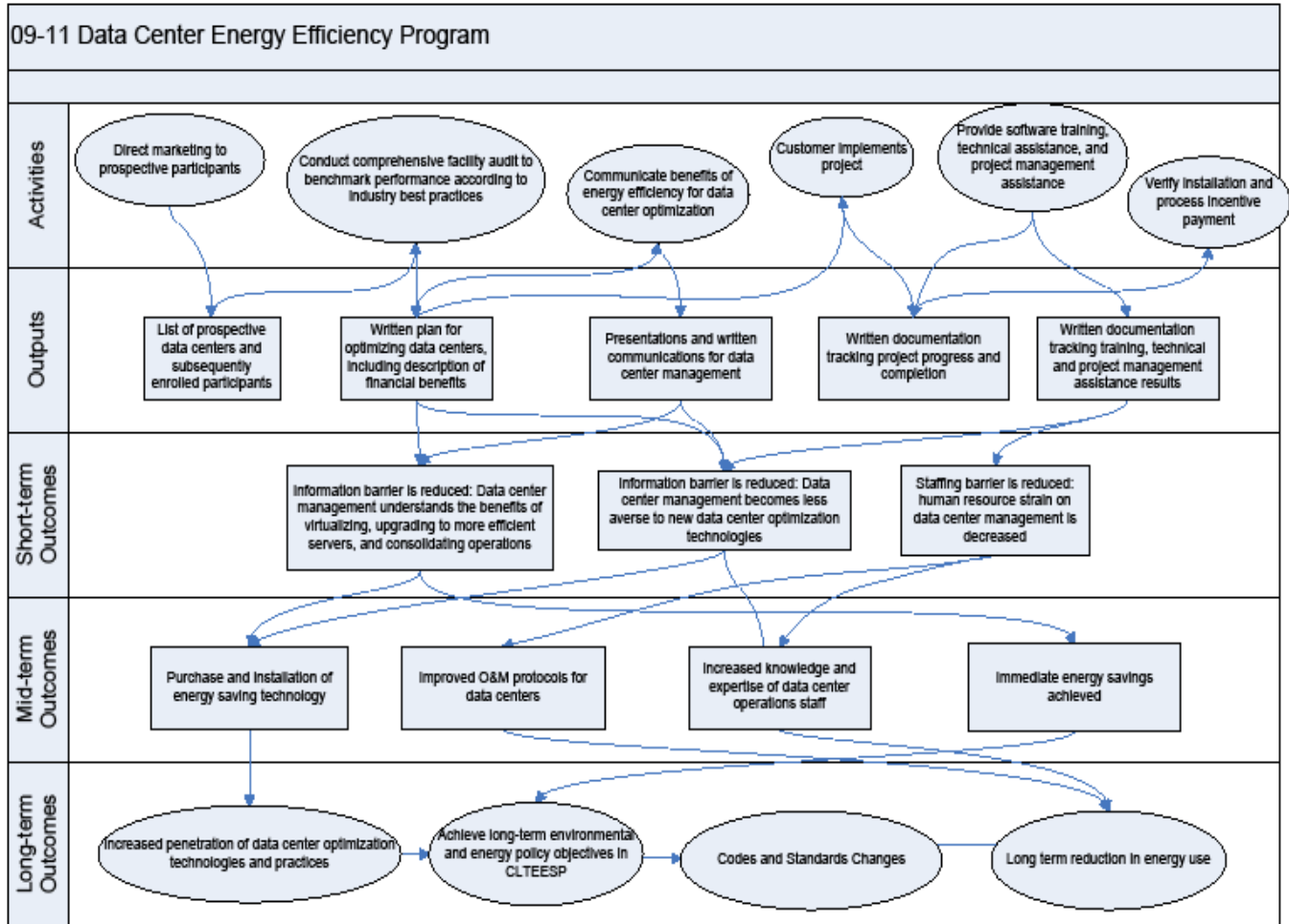
Nonresidential: Data Center Energy Efficiency

7. Diagram of Program



Nonresidential: Data Center Energy Efficiency

8. Program Logic Model



11

Nonresidential: Data Center Optimization

1. **Program Name:** Data Center Optimization
Program ID: SCE-TP-011
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-011 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Data Center Optimization	\$ 196,820	\$ -	\$ 2,790,180		\$ 2,987,000
	TOTAL:	\$ 196,820	\$ -	\$ 2,790,180	\$ -	\$ 2,987,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-011	Data Center Optimization	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Data Center Optimization	10,572,770	538	-
	TOTAL	10,572,770	538	-

4. Program Description

a) Describe program

The Data Center Optimization program serves the SCE non-residential market. It is specifically for data center utility customers located within the SCE service territory with a focus on Climate Zone 8². This comprehensive energy efficiency program will impact a variety of electric end uses such as: facility site infrastructure loads (cooling, fans, pumps, lighting, and uninterruptible power supplies); and computer network equipment (servers, CPU, storage hardware). The program scope includes a comprehensive facility assessment and report, recommendations, and estimated energy savings, plus project management support for implementation, and incentives for gross kWh reductions.

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

² Although program will be made available to all data center customers located within the SCE utility service territory, Program marketing and enrollments will be concentrated in the Orange County area.

Nonresidential: Data Center Optimization

The program analyzes key energy end-uses (*for example*, cooling, lighting, and operations such as uninterruptible power supplies), and is designed for larger data centers of over 5,000 square feet, although smaller facilities with sufficiently high-energy usage will be considered.

A key program element is a comprehensive facility audit to benchmark the facility's performance. The audit uses metrics specific to data centers developed by the Green Grid, a global consortium dedicated to advancing energy efficiency in data centers and business computing ecosystems.

The program uses the recently developed efficiency metrics (Power Usage Effectiveness, PUE, and Compute Power Efficiency, CUE). The PUE is useful for understanding the total amount of energy consumed by information technology (IT) equipment compared to total power and the CUE captures how efficiently the data center uses power for computation.

The program assigns each facility benchmarks based on the standard indices of IT Power Management and the HVAC Performance Index, which measures the relative efficiency of the overall HVAC system. These benchmarks are critical for measuring persistence of savings.

The facility audit includes tiered energy efficiency opportunities, measure recommendations, estimated energy and demand savings, and implications for greenhouse gas (GHG) reductions. The audit also details financial costs, savings, incentives, and estimates of return on investment.

When the customer decides to implement the measures, it receives technical assistance and project management assistance from the program. After the customer finishes the installation, the program verifies the installed measures and processes the customer's incentive payment.

This program is one of two, separate but similar, third-party programs directed at data centers in SCE's territory (see Data Center Energy Efficiency program for a description of SCE's other third-party program). Due to the ever growing energy usage in this sector (data centers currently consume about 1.5% of all electricity consumption in the US), having two programs allows SCE to reach more data centers and mitigate program risk. Historically, data centers are one of the underserved market segments in SCE's territory. Also, having two programs allows better diversification of measures and promotes knowledge sharing that would advance both programs.

b) List measures

Program measures will reduce computing load through more efficient servers, decreasing the total number of servers and energy required to power them by:

- Virtualizing to reduce servers needed to meet computing requirements;

Nonresidential: Data Center Optimization

- Upgrading to more efficient servers, ensuring the existing servers (after virtualization) are more energy-efficient; and
- Consolidating and optimizing operations through as-needed use of servers.

Virtualization refers to the pooling and sharing of technology resources, including servers, storage, and networking. Virtualization allocates resources dynamically across an organization's applications and processes. In a virtualized environment, the logical functions of computing, storage and network elements are separated from their physical functions.

Program measures will reduce cooling load by delivering *only* required cooling, after reducing server load, through:

- Eliminating the mixing and recirculating of hot equipment exhaust air (*for example*, hot aisle / cold aisle configuration, install rigid enclosures, strip curtains, blanks for unused rack positions, design IT airflow configuration, and select racks with good internal air flow);
- Maximizing return air temperature by supplying air directly to loads (*for example*, retrofit diffusers, the reposition of supply and returns to minimize air mixing, block leaks in raised floors, and optimizing locations of computer room AC units);
- Improving air temperature monitoring;
- Increasing cold aisle temperatures; and
- Introducing free cooling by virtue of adding economizers.

The program also encourages the adoption of virtualization and the consolidation of projects through active power management. This technology matches computing equipment run times with varying IT loads.

c) List non-incentive customer services

- Detailed engineering audit benchmarking the data center's performance;
- Technical assistance and project management;
- Customer training and education;
- Systems manual to provide data center personnel with a schedule to check settings; in order to maintain optimized conditions; and
- Educational information about non-energy benefits associated with recommended measures. The material includes a review of California Assembly Bill 32 (AB 32) covering greenhouse gas emissions and relates the carbon reduction effects of energy efficiency programs to program participants.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

Nonresidential: Data Center Optimization

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Despite the economic benefits of energy efficiency, many barriers limit the implementation of effective conservation systems. Data center owners and operators often face organizational barriers in adopting energy efficiency measures.

Below is a list of the most significant barriers with their proposed mitigation strategies.

- *Split Customer Incentives*: Those responsible for purchasing and operating IT equipment are usually not responsible for power and cooling, so they do not consider these factors in their decision-making processes. The program addresses this barrier by communicating the problem to upper management and assists in formulating policies that the customer can work to implement.
- *Emerging Technologies and Risk Aversion*: Data center operators are particularly averse to changes that could result in increased down time, and consider energy efficiency potentially risky to overall operations. To demonstrate its awareness of this aversion, the program will address each recommendation it makes from this perspective.
- *Education and Communication*: Facility and IT management are not always integrated, and may not communicate with each other about needs or priorities. The Desktop Communication Protocol data center analysis includes feedback from facility and IT personnel, and highlights any lack of communication inside

Nonresidential: Data Center Optimization

an organization. Desktop Communication Protocol aims to align the IT group with the Facilities group so they can understand each other's work practices.

- *Technical Assistance and Inadequate Staffing*: Lack of staffing resources is another critical barrier frequently encountered when proposing energy efficiency projects in the data center market segment. The most effective way to deal with this barrier is to reduce the amount of staff time required for the project as much as possible.
- *Codes and Standards*: Recommendations for energy efficiency will be grounded in full compliance with building codes and equipment standards.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	3	8	-

e) Advancing Strategic Plan goals and objectives

The program supports the Strategic Plan's goals, as presented in Section 3: Commercial Sector. More specifically, the program supports:

Goal 2: 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

Strategy 2-5: Develop tools and strategies to use information and behavioral changes, commissioning, and training to reduce energy consumption in commercial buildings:

The program incentivizes customers for implementing data center "best practices" that significantly reduces energy use for data center cooling. After project implementation, the program provides training to building operators on the proper use and maintenance of the system to ensure persistent savings. Additionally, the increased knowledge gained through the program will inform the development of case studies and tools that can be disseminated to the industry and increase participation in future program cycles.

Strategy 2-7: Develop business models and supplier infrastructure to deliver integrated and comprehensive "one stop" energy management solutions.

The program comprehensive approach makes it much easier for the customer to move forward with multiple measures as it does not require additional staff time and project management resources on their part. This additional need for resources is often enough to dissuade an understaffed facility manager from acting on a proposed project.

Nonresidential: Data Center Optimization

6. Program Implementation

a) Statewide IOU Coordination

Data Center Optimization is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however best practices will be shared with the other IOUs as appropriate.

i. Program name: Data Center Optimization

ii. Program delivery mechanisms

Not applicable.

iii. Incentive levels

Not applicable.

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

Not applicable.

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program.

vi. Similar IOU and POU programs

This program is similar to the Data Center Energy Efficiency program.

b) Program delivery and coordination

i. Emerging Technologies program

Technologies used to better manage energy use for data centers are being introduced to keep pace with market demand. Increased emphasis on demonstrating the energy savings potential for these technologies is required to ensure the program specifies and installs equipment that can be readily adopted by the market. The program will work through SCE's program management team to influence the evaluation of appropriate emerging technologies.

ii. Codes and Standards program

Changes to Codes and Standards will be studied for application in data centers. Suggestions for changes in codes and standards will be offered as appropriate.

iii. WE&T efforts

The program will provide informal training to data center operators on energy efficiency best practices, and refer them to the Building Operator Certification program if appropriate. Data center operators are typically hesitant to change the way their data centers operate, and instead focus on maintaining operating continuity as any disruptions to their operation can be very costly. By demonstrating that energy efficiency measures can be implemented while still

Nonresidential: Data Center Optimization

maintaining operational safety and reliability, the program aims to transform the mindset of this industry.

iv. Program-specific marketing and outreach efforts

The program will develop a geographic plan to document marketing progress inside SCE's service territory. Account Representatives will be notified of initial customer contact and achievement of major program milestones.

Direct marketing efforts include marketing to a list of potential customers, contacting customers directly through email, letters, personal telephone calls, and in-person presentations at the customer's site. The program's marketing efforts will be aggressive in its early months, and use relationships with Silicon Valley high-tech companies.

v. Non-energy activities of program

The program will provide the necessary project management assistance in the completion of data virtualization projects.

vi. Non-IOU programs

The program will participate in industry forums, meetings, and conferences intended to advance technologies for this market segment.

vii. CEC work on PIER

Although not a particular focus for the program, the Data Center Optimization Program will seek applications of cutting-edge process control and refining technologies including any such technologies that are advocated by the PIER program.

viii. CEC work on Codes and Standards

No specific linkages with CEC Codes and Standards work are envisioned for this program.

ix. Non-utility market initiatives

No specific non-utility initiatives are envisioned for this program.

c) Best Practices

The program promotes:

- "Best practices" for data center energy efficiency, as defined by the Lawrence Berkeley National Laboratory (LBNL);
- Facility benchmarking according to the Green Grid's³ protocols;
- High-tech approaches and solutions to server consolidation and virtualization; and
- Proven cooling control and optimization measures in a modular, easy-to-use program.

³ The Green Grid is a global consortium dedicated to developing and promoting energy efficiency for data centers and information service delivery.

Nonresidential: Data Center Optimization

Data center power, cooling, and “green IT” can apply to a wide range of technologies and projects. The Data Center Optimization program represents and delivers a program model that improves the relationship between the different facets and not only helps the data center customer prioritize their energy efficiency projects, but facilitates project implementation and rewards customers for it.

d) Innovation

The program delivers emerging technologies and data center-specific best practices for this energy-intensive market segment. The program combines new and existing technologies for maximum consumer appeal and benefit. The program will be neutral to virtualization software and hardware delivering energy efficiency. The program will work with authorized resellers and distribution companies with market experience.

e) Integrated/coordinated Demand Side Management

Data Center Optimization is an Innovative Design for Energy Efficiency Activities (IDEEA) program that SCE has identified as a potential energy efficiency/demand response coordinated offering (per A.08-07-021, Exhibit SCE-6). Coordinated program activities may include integrated EE/DR audits, and linkage to not only energy efficiency incentives, but DR (TA/TI) incentives, as well.

f) Integration across resource types (energy, water, air quality, etc.)

There is no direct linkage across resource types.

g) Pilots

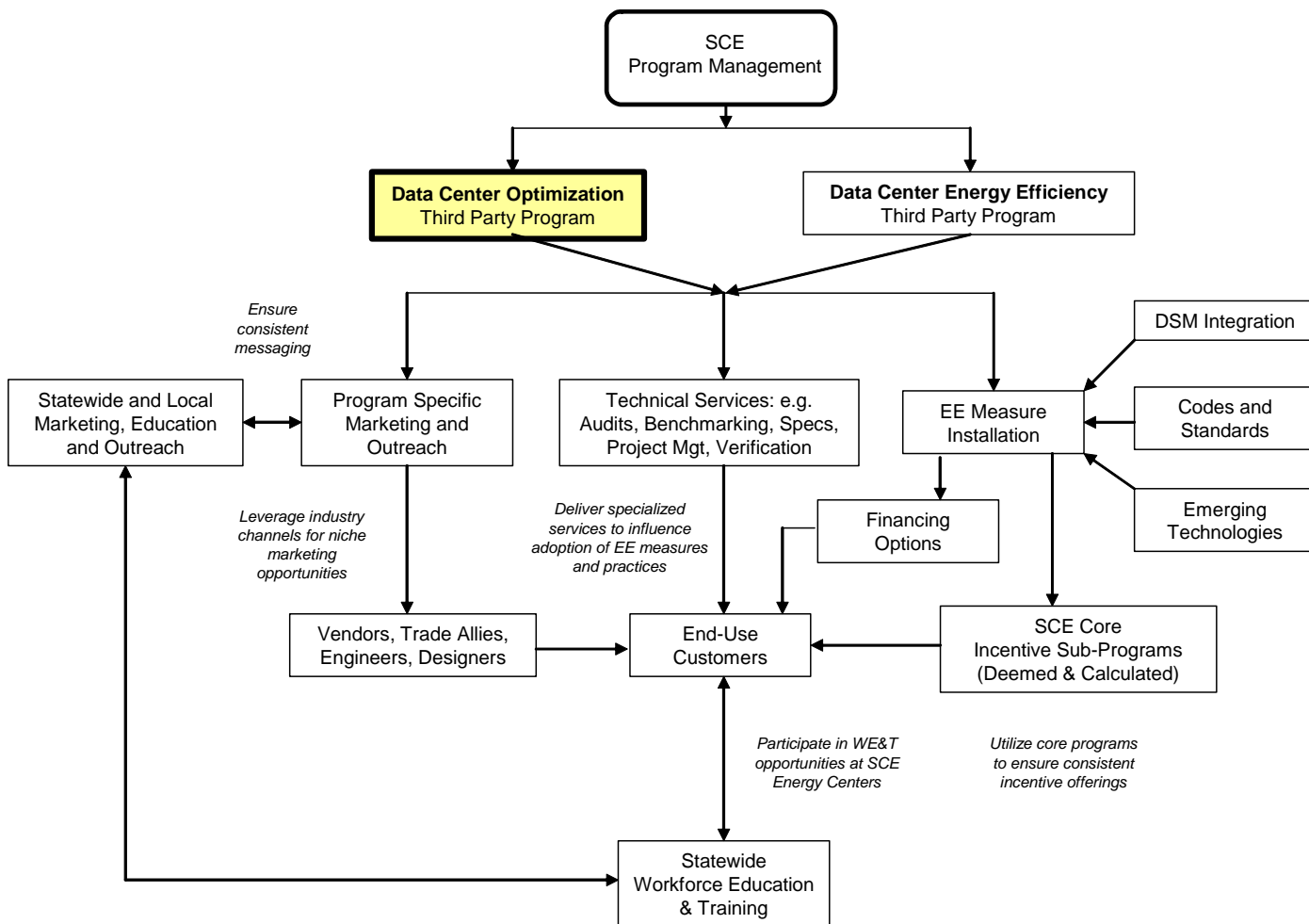
There are no pilot programs anticipated for this program.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

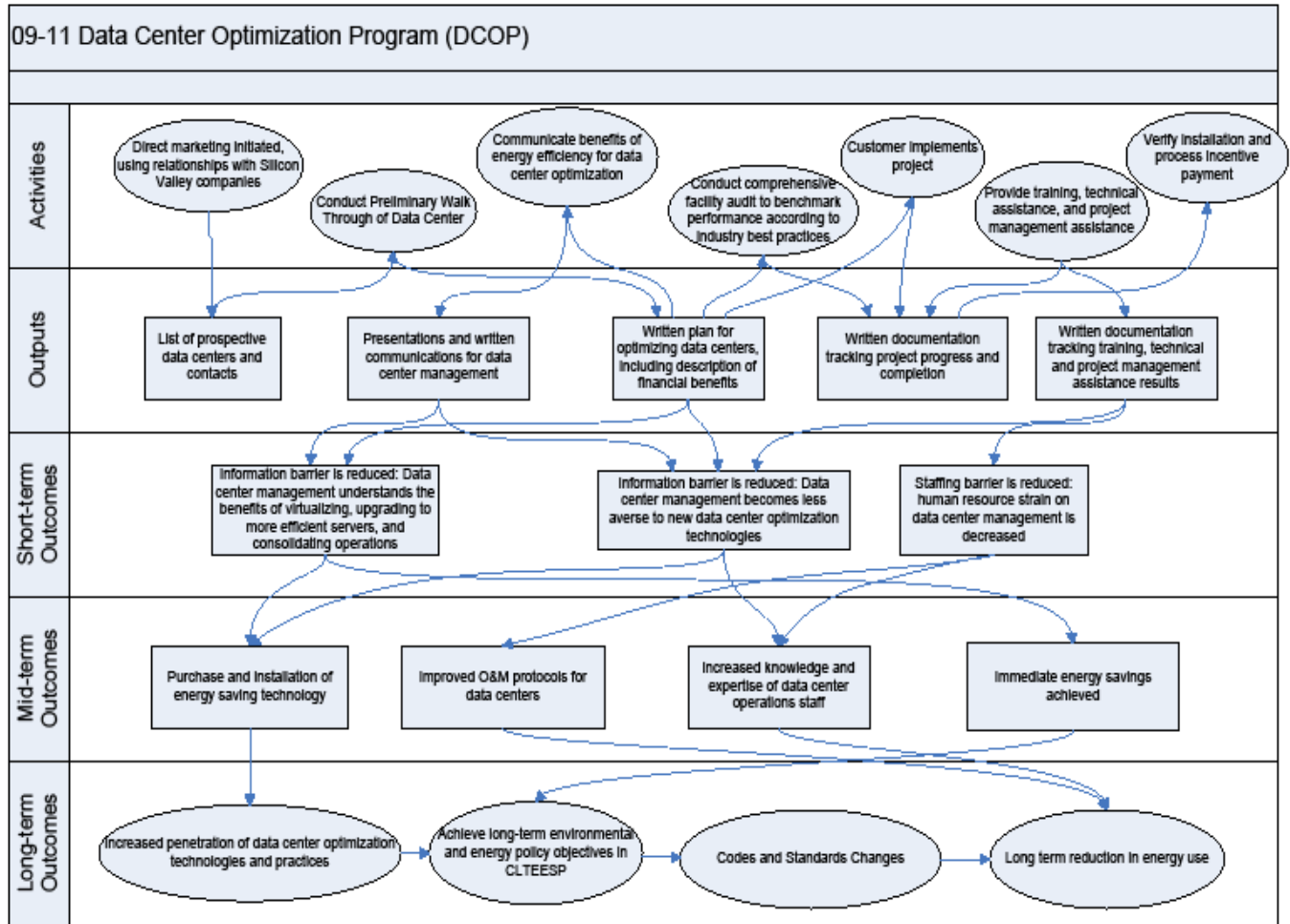
Nonresidential: Data Center Optimization

7. Diagram of Program



Nonresidential: Data Center Optimization

8. Program Logic Model



12

Nonresidential: Lodging EE Program

1. **Program Name:** Lodging EE Program
Program ID: SCE-TP-012
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-012	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Lodging EE Program	\$ 781,252	\$ 9,000	\$ 8,035,748		\$ 8,826,000
	TOTAL:	\$ 781,252	\$ 9,000	\$ 8,035,748	\$ -	\$ 8,826,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-012	Lodging EE Program	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Lodging EE Program	28,516,027	7,072	-
	TOTAL	28,516,027	7,072	-

4. Program Description

a) Describe program

The Lodging EE Program (LEEP) is a comprehensive energy efficiency retrofit program that delivers multi-measure retrofits and retrocommissioning (RCx) to small, medium and large lodging facilities. Target facilities include existing hotels and motels as well as spas and resorts, especially those with central plants and in-house laundry service.

The program will feature:

- An energy audit covering energy efficiency opportunities;
- Direct installation of no-cost/low-cost measures on small properties;
- Technical assistance, including specifications review, procurement assistance and project management;

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Lodging EE Program

- Post-installation inspection to verify performance;
- Financial assistance coordination and processing with SCE; and
- Customer satisfaction surveys and resolution.

b) List measures

Measures will include:

- Comprehensive lighting and controls retrofits (exterior, common areas and guest rooms);
- Retrocommissioning (RCx);
- Dual speed pool pumps with electronic controls;
- Package AC replacement, PTAC and package terminal heat pump (PTHP) replacement;
- Vending machine controls;
- Efficient ice machines with peak shifting controls;
- In-room PTAC energy management systems (EMS); and
- Room key card HVAC and lighting controls.

Behavioral measures will include:

- Turn off ornamental lighting and some signage;
- Turn off fountains and swimming pool pumps;
- Turn off other lighting such as hallway lighting, display lighting;
- Delay laundry processes;
- Turn off ice machines;
- Raise cooling thermostat settings;
- Use daylight to turn off all unneeded lighting;
- Reduce use of elevators or escalators (the down escalator and some elevators); and
- Delay use of battery chargers.

Financial incentives from SCE will be based on deemed and calculated energy savings consistent with SCE's other programs.

c) List non-incentive customer services

Non-incentive customer services include:

- Energy audits of energy efficiency and demand management opportunities;
- Benchmarking against similar properties;
- Technical assistance;
- Financial planning to combine less cost-effective measures with more expensive capital measures;
- Coordination with water agencies, and where possible, integration of water conservation measures in addition to energy efficiency upgrades;
- Encouragement of ENERGY STAR[®] participation by qualifying properties. and
- Recognition of participants through statewide outreach efforts such as Flex Your Power.

Nonresidential: Lodging EE Program

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The participating sites will generally consist of facilities with equipment nearing the end of its useful life where the building owner is already responsible for the equipment replacement costs. Some buildings considering HVAC retrofitting or efficiency upgrades face the dilemma of trading off between consuming a higher proportion of their capital budget on higher efficiency and more expensive equipment, versus consuming a higher proportion of their operating budgets with inferior, less expensive equipment. These replacement measures lower building operating costs, which result in an increased value of the building (net operating income increases when operating expenses decrease), as well as an increased marketability of the building to the leasing market (tenants are interested in minimizing their monthly base rent and the ongoing operating expense costs throughout their lease).

Nonresidential: Lodging EE Program

For many of the organizations in this market sector, the principal market barrier is the lack of sufficient capital and the burdensome process of raising additional capital to engage in energy efficiency upgrades for their facilities. The combination of efficient HVAC equipment replacement, appropriately tailoring the marketing message, financing, incentives, and offsetting revenue streams from avoided cost will provide a powerful mechanism to overcome this barrier.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	28	55	55

e) Advancing Strategic Plan goals and objectives

The program advances several elements of the Strategic Plan's commercial strategy, such as providing innovative financial tools and investigating other funding support. This is accomplished through the program's primary delivery mechanism which includes a tightly-integrated energy audit and financing mechanism. This program structure drives the installation of energy efficiency measures for an otherwise completely first-cost limited market. The program is an innovative combination of market actor-partners and financial tools.

6. Program Implementation

a) Statewide IOU Coordination

The Lodging EE Program is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Lodging EE Program

ii. Program delivery mechanisms

Not applicable to this program

iii. Incentive levels

Not applicable to this program

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

Not applicable to this program

Nonresidential: Lodging EE Program

- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable**

Not applicable to this program

- vi. Similar IOU and POU programs**

Not applicable to this program

b) Program delivery and coordination

- i. Emerging Technologies program**

Not applicable to this program

- ii. Codes and Standards program**

This program will not coordinate with utility Codes and Standards efforts, per se. However, it will work to incorporate applicable updates into program delivery, as appropriate.

- iii. WE&T efforts**

Not applicable to this program

- iv. Program-specific marketing and outreach efforts (provide budget)**

The program will achieve its market penetration objectives by using such practices as:

- Partnering with such trade associations as the California Hotel and Lodging Association and Asian American Hotel Owners Association;
- Building on current relationships with officials of chain hotels and motels;
- One-to-one marketing by contractor with customer through telephone and personal meetings;
- Conducting seminars for energy managers and property owners and managers;
- Providing program marketing materials including brochures, flyers, and case studies;
- Encouraging word-of-mouth marketing between property managers;
- Participating in conferences and trade associations; and
- Coordinating with core programs of SCE for possible joint marketing activities, including distribution of marketing materials, joint presentations to target audiences, and periodic referrals via email.

- v. Non-energy activities of program**

Not applicable to this program

- vi. Non-IOU Programs**

Not applicable to this program

- vii. CEC work on PIER**

Not applicable to this program

Nonresidential: Lodging EE Program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

The program brings the funding sources of a third-party financing model to a market where lack of capital has traditionally been a significant barrier to the upgrading of capital equipment. These programs by design are comprehensive and encompass as many energy efficiency measures as are cost-effective.

d) Innovation

Innovations for this market segment include:

- Taking a more market-based approach rather than a technology-based approach;
- Providing more comprehensive solutions, including both energy and water efficiency;
- Bundling newer low-cost technologies with more expensive ones for a more cost-effective package; and
- Promoting energy efficiency and demand response including distributed generation.

e) Integrated/coordinated Demand Side Management

IDSM activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response Program, and Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and Customer Generation Programs). However, the IOUs have identified IDSM as an important priority and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc)

Not applicable to this program

g) Pilots

Not applicable to this program

h) EM&V

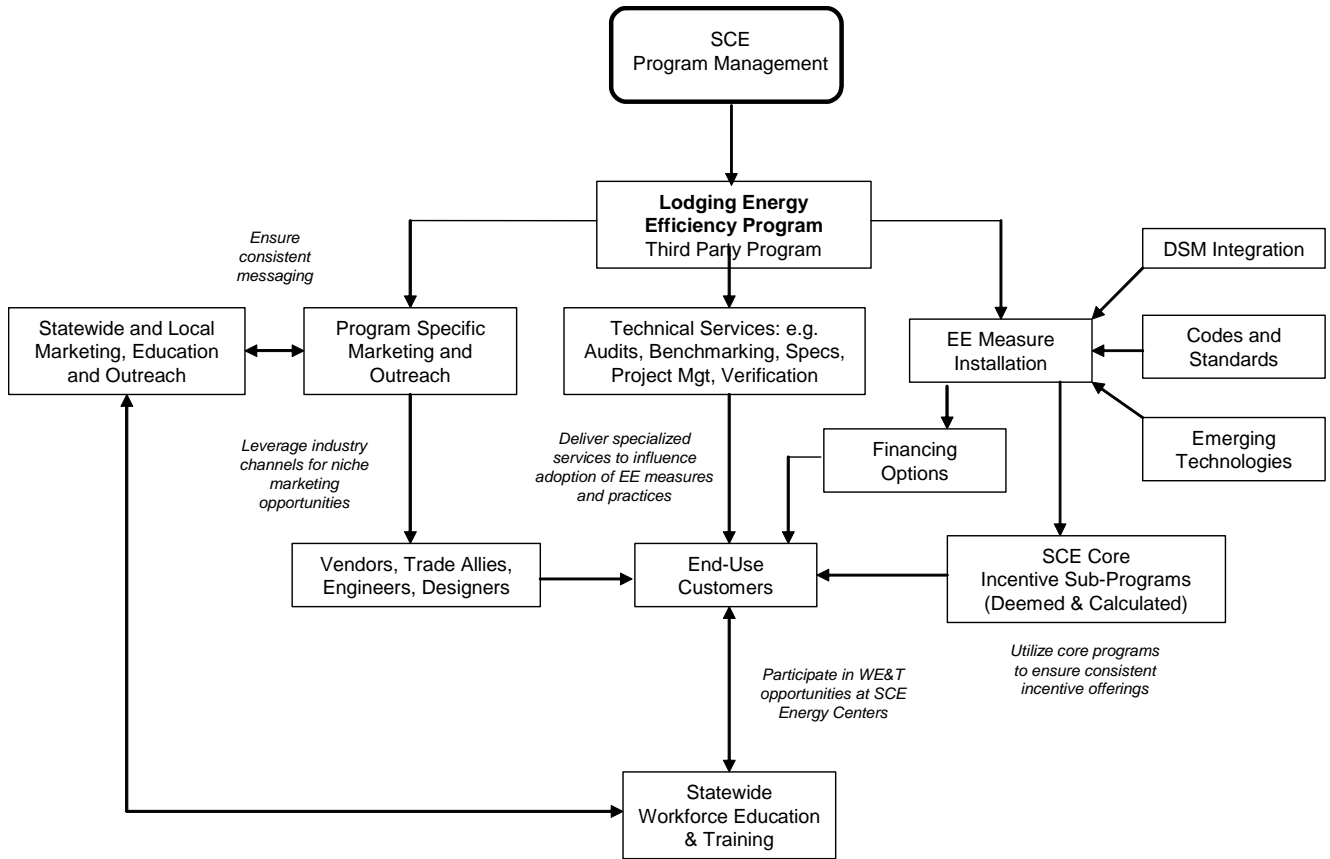
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be

Nonresidential: Lodging EE Program

developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

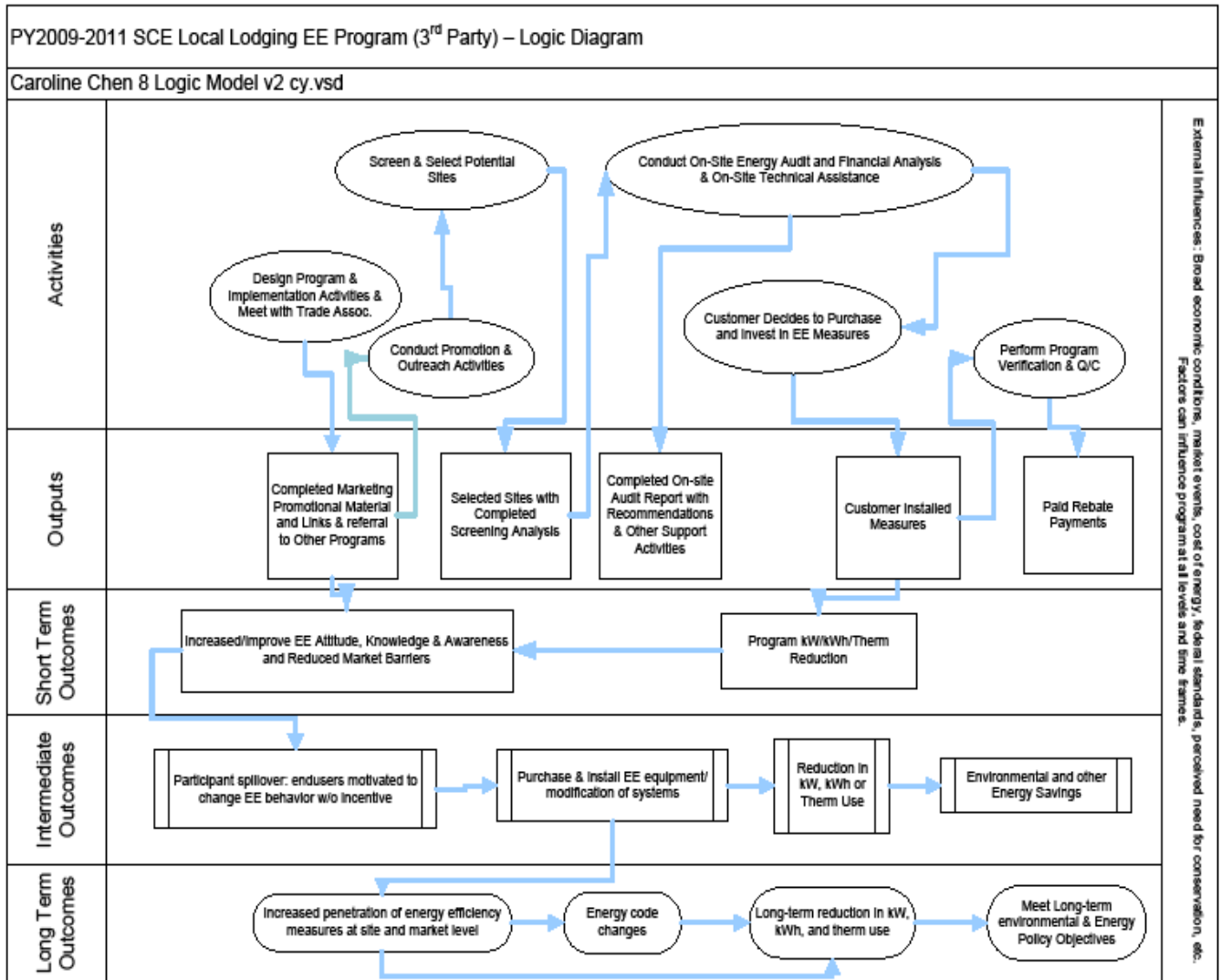
Nonresidential: Lodging EE Program

7. Diagram of Program



Nonresidential: Lodging EE Program

8. Program Logic Model



13

Nonresidential: Food & Kindred Products

1. **Program Name:** Food & Kindred Products
Program ID: SCE-TP-013
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-013 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Food & Kindred Products	\$ 668,097	\$ 243,439	\$ 6,779,463		\$ 7,691,000
	TOTAL:	\$ 668,097	\$ 243,439	\$ 6,779,463	\$ -	\$ 7,691,000

3. Projected Program Gross Impacts Table (by calendar year)

Table 2

SCE-TP-013	Food & Kindred Products	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Food & Kindred Products	32,864,000	4,509	-
	TOTAL	32,864,000	4,509	-

4. Program Description

a) Describe program

The Food & Kindred Products program plans to deliver energy savings and demand reduction by offering facility audits, design and technical assistance, and incentives for the installation of energy efficiency measures to qualifying customers served by SCE. The program targets facility owners in the Food & Kindred Products industry, ranging from small food companies to large food companies. The customers represent a broad spectrum of food producers, from bread and breakfast cereals to starch and sugar producers.

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Food & Kindred Products

b) List measures

Program measures by end-use include:

AC&R:

- Electric Chiller or AC Replacement;
- Refrigeration System Upgrade; and
- Cooling Tower Replacement.

Passive Cooling/AC:

- Cooling Tower Upgrade;
- Free Cooling;
- AC&R Controls (electric);
- Auxiliary Systems Upgrade; and
- Pipe, Duct, Tank Insulation (electric).

Air Comp:

- Air Compressor & Vacuum Controls;
- Air System Pressure Reduction;
- Air Compressor Demand-side Retrofit; and
- Air Compressor & Vacuum Replacement.

Process:

- Process Improvement (electric); and
- Water Recycling (electric).

Motors:

- Premium Efficiency Motors.

Pumping:

- Hydraulic Pumps & Drives;
- VSDs on Pumps; and
- VSDs on Fans.

Lighting:

- Comprehensive Lighting.

c) List non-incentive customer services

The program provides non-incentive customer services, including:

- Comprehensive on-site audits to identify opportunities for energy savings, and demand savings;
- Design and technical assistance to help customers with engineering, procurement and project support;
- Post-installation inspection to help verify and measure performance;
- Financial incentive coordination to help defray up-front costs of implementation;
- SCE services referrals to rate evaluations and demand response programs; and
- Coordination with industry associations to promote energy efficiency improvements through trusted sources and encourage market-transforming practices among equipment vendors and purchasers.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The main barriers to implementing energy efficiency projects, in addition to financial viability, are time, expertise, and capital availability constraints within the company.

The program is designed to overcome these constraints:

Time and Expertise Constraints for Facility Personnel: Facility engineers and maintenance personnel, who are typically given the task of finding cost-cutting projects, are often extremely busy just keeping the plant operating. In addition, facility personnel may not have the expertise to calculate the expected energy savings in a manner that meets the criteria necessary for corporate approval of the proposed projects. The hands-on approach to the program overcomes this potential barrier by supplying high-level business professionals and engineers who provide expert technical and installation support to the customer throughout the entire process. The program will prepare all documentation required by the company to make a decision

Nonresidential: Food & Kindred Products

about the proposed project. The key element is the Project Study Report, which is prepared at no cost to the customer.

Capital Availability: The energy efficiency and productivity enhancement projects stimulated by the program compete against all other capital investment opportunities. The financial incentive offered by the program makes each energy efficiency investment more attractive. In addition, the Project Study Reports identify non-energy benefits of each project (e.g., production efficiency, product quality, non-energy operation and maintenance costs, personnel costs) as well as potential greenhouse gas (GHG) credits, so that all of the benefits of the project are considered in the company's investment decision. The program will provide project financial data in the format desired by the company, with clear specification of each of the financial criteria (such as payback, internal rate of return, net present value) used by the company. Where capital availability is a constraint, the program facilitates the process of obtaining project financing.

Project Installation Time Constraints: A continual source of concern on the part of industrial sector energy efficiency program administrators is the time required to install a project. Customers' desire results from their investments in energy efficiency programs, and would like installations to be completed as soon after the project is committed as possible. The program's turn-key approach is designed to move each project through the program process as quickly as possible, with minimum effort on the part of the customer. The program provides support services designed to facilitate project installation (e.g., providing a list of vendors or contractors, assisting with evaluating bids, ensuring purchase orders match the energy efficiency equipment proposed in the project study, securing financing, and overseeing installation).

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	23	27	17

e) Advancing Strategic Plan goals and objectives

The program supports the Strategic Plan. Specifically, the program supports all strategies and goals detailed in Industrial Sector, Section 4:

- *Goal 1: Support California industry's adoption of energy efficiency by integrating energy efficiency savings with achievement of GHG goals and other resource goals.*
- *Goal 2: Build market value and demand for continuous improvement in industrial energy efficiency through branding and certification.*
- *Goal 3: Provide centralized technical and public policy guidance for California industrial energy and resource efficiency.*

Nonresidential: Food & Kindred Products

In accordance with the Strategic Plan, this program advances energy efficiency by:

- Integrating approaches to better maximize savings and minimize lost opportunities;
- Facilitating benchmarking, tracking and scoring of data for customers to make better educated decisions;
- Developing proper messaging and selecting proper communication channels to successfully communicate the program's offerings and their value;
- Offering financing solutions;
- Promoting advances in equipment efficiency and operation through process improvements;
- Documenting continuous improvement opportunities; and
- Identifying the most promising technologies for multiple solutions, both for energy efficiency, GHG mitigation, and water efficiency purposes.

6. Program Implementation

a) Statewide IOU Coordination

The Food & Kindred Products program is a local program managed in SCE's service territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Food & Kindred Products

ii. Program delivery mechanisms

Not applicable.

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans

Not applicable

v. IOU Program Interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable

b) Program Delivery and Coordination

i. Emerging Technologies program

The Food & Kindred Products program will monitor technologies in the Emerging Technologies program and encourage customers to apply these technologies and/or new technology applications, where possible, to achieve energy efficiency savings. Promising technologies include:

- CO2 indirect cooling: This technology uses phase-change CO2 as a heat exchange medium to reduce the quantity of hazardous ammonia,

Nonresidential: Food & Kindred Products

accommodate the phase-out of R-22 refrigerant, and deliver greater energy efficiency, and

- Variable speed screw compressors: This technology uses better compressors so customers can replace older equipment instead of rebuilding older compressors. The program will provide effective analysis and channels to promote, demonstrate, and deliver open drive ammonia screw compressors up to 700 HP with variable speed control and variable compression ratios.

ii. Codes and Standards program

The program will not coordinate with statewide IOU Codes & Standards efforts, per se, but will strive to incorporate applicable updates to codes in program delivery.

iii. WE&T efforts

Not applicable to this program

iv. Program-specific marketing and outreach efforts

The program will achieve its market penetration objectives by using such practices as:

- One-to-one marketing with customer;
- Contractor meetings with customers arranged by SCE;
- Seminars for plant managers and corporate decision makers;
- Program marketing materials including brochures, flyers, and case studies;
- Encourage word-of-mouth marketing between plant managers;
- Participation at conferences and trade associations;
- Coordination with other SCE programs for possible joint marketing activities include: distribution of marketing materials, joint presentation to target audience, and periodic referrals via email;
- Website where potential participants can find out more information about the program and link to other IOU programs; and
- Conducting no obligation energy analyses of plant opportunities.

v. Non-energy activities of program

Not applicable to this program

vi. Non-IOU programs

Not applicable to this program

vii. CEC work on PIER

The program will leverage findings in applicable PIER studies and incorporate them into program offerings. For example, a PIER project is currently underway to study batch freezer fan operation in produce processing.

viii. CEC Work on codes and standards

Not applicable to this program

Nonresidential: Food & Kindred Products

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

Based on past program and industry experience, the contractor will

- Maintain current information on technological developments in the Food and Kindred Products industry;
- Combine knowledge of the industry in general, and of industry manufacturing plants in SCE service territory in particular; and
- Produce and regularly update a Food and Kindred Products Industry Assessment, a comprehensive, integrated summary of energy efficiency actions in the industry.

d) Innovation

The program will feature several innovations in marketing, program delivery, incentive design, and outreach. Examples of program innovations include:

- Offering detailed financial analysis for customers in addition to cost-benefit analyses in energy audits and project reports; and
- Establishing relationships with industry- and technology-specific experts, and integrating SCE contractors into a pool of technology and industry experts.

e) Integrated/coordinated Demand Side Management

IDSMD activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSMD as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSMD efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc.)

The program will extend recommendations to other resource types when opportunities exist (e.g., sustainable self-generation, water and waste water treatment and efficiency improvements, rate schedule analysis and modification suggestions, and/or operational process improvements).

g) Pilots

Not applicable to this program

h) EM&V

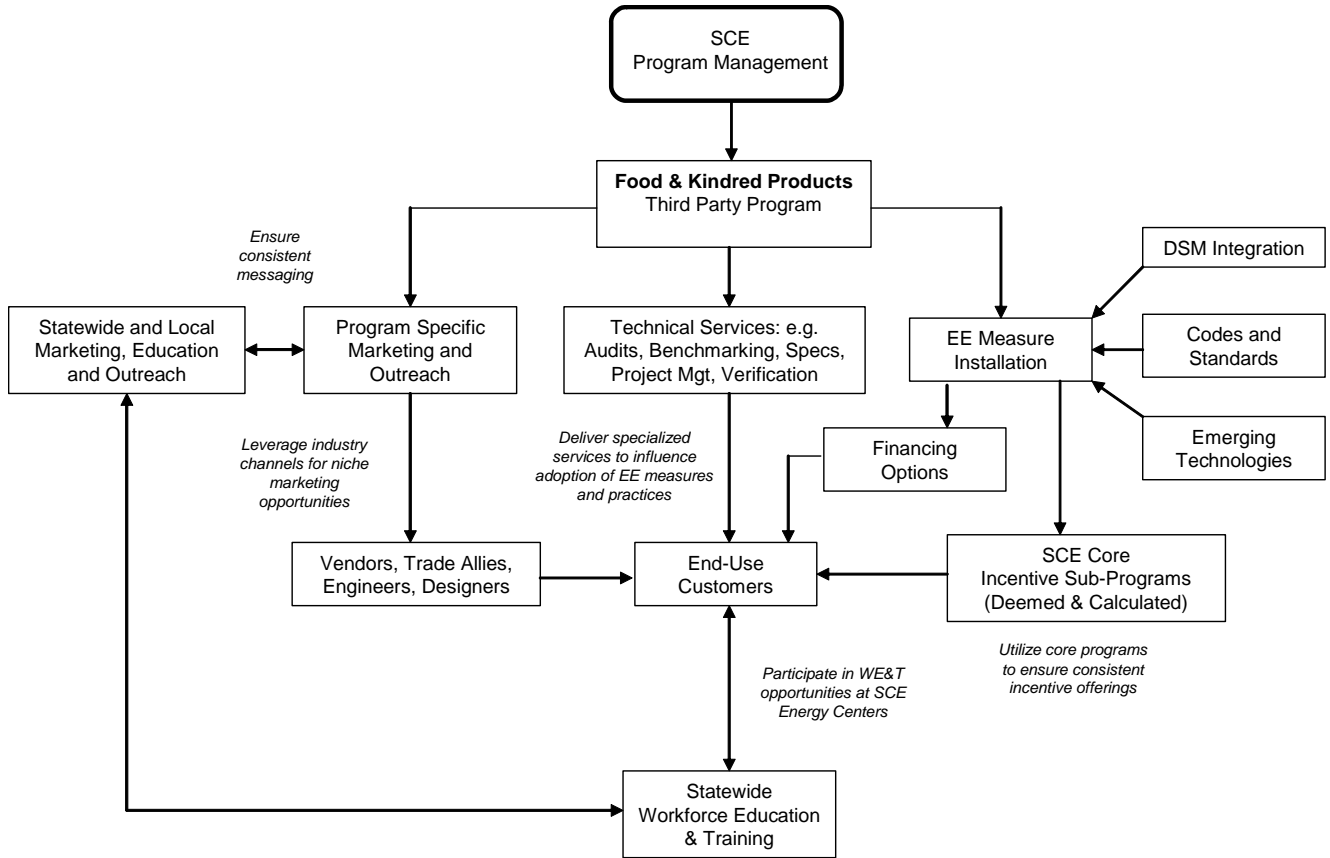
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans

Nonresidential: Food & Kindred Products

for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

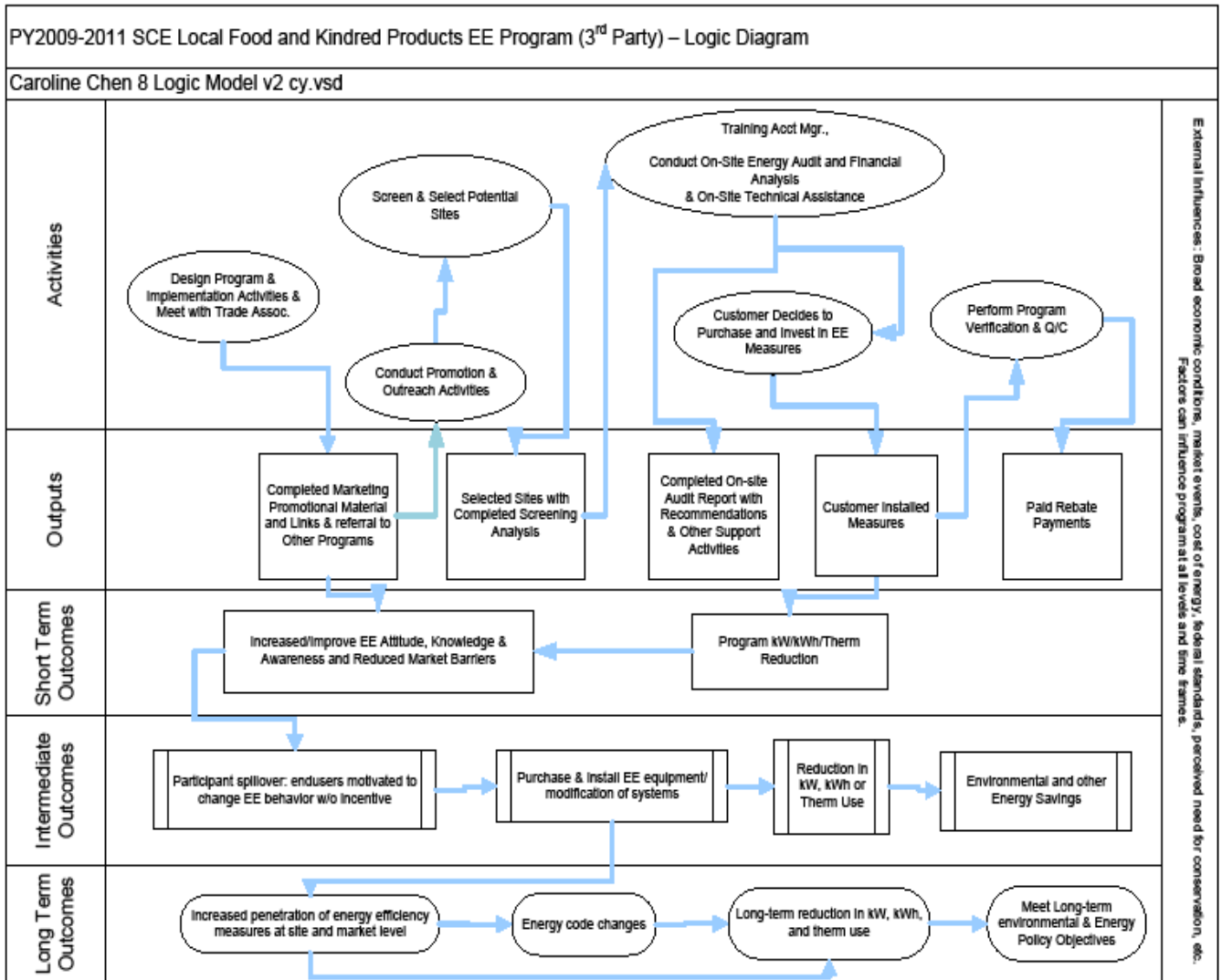
Nonresidential: Food & Kindred Products

7. Diagram of Program



Nonresidential: Food & Kindred Products

8. Program Logic Model



14

Nonresidential: Primary and Fabricated Metals

1. **Program Name:** Primary and Fabricated Metals
Program ID: SCE-TP-014
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-014 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Primary and Fabricated Metals	\$ 769,779	\$ 243,439	\$ 8,284,782		\$ 9,298,000
	TOTAL:	\$ 769,779	\$ 243,439	\$ 8,284,782	\$ -	\$ 9,298,000

3. Projected Program Gross Impacts Table– by calendar year

Table 2

SCE-TP-014	Primary and Fabricated Metals	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Primary and Fabricated Metals	39,816,000	5,121	-
	TOTAL	39,816,000	5,121	-

4. Program Description

a) Describe program

The Primary and Fabricated Metals program plans to deliver energy savings and demand reduction by offering facility audits, design and technical assistance, and incentives for the installation of energy efficiency measures to qualifying customers served by SCE. Target customers for the program include facilities in the primary and fabricated metals industry. There are many facilities in the primary and fabricated metals industry in SCE's service territory.

This program will conduct energy audits and project studies to show the total impacts of proposed projects in terms of energy efficiency, productivity, and environmental improvements to the customer. Services offered by the program include:

- Comprehensive on-site audits to identify opportunities for energy efficiency;

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title, targets, budget, uses a unique delivery or marketing approach not used across the entire program and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Primary and Fabricated Metals

- Design and technical assistance to help customers with engineering, procurement and project management;
- Post-installation inspection to help verify and measure performance;
- Financial incentives to help defray up-front costs of implementation;
- Referrals to other SCE services such as rate evaluations and demand response programs that can help reduce their energy bills; and
- Coordination with industry associations to promote energy efficiency improvements through trusted sources and encourage market-transforming practices among equipment vendors and purchasers.

b) List measures

The measures and associated end-uses are shown in the table below.

Measure	End Use
Chillers Replacement	HVAC
Free Cooling	HVAC
Heat recovery - adsorption/absorption chiller	HVAC
HVAC controls	HVAC
Pipe Insulation	HVAC
Chiller VSD	HVAC
Cooling Tower Replacement	HVAC
Air Compressor Pressure Reduction	Air Comp
Air Compressor Controls	Air Comp
Air Compressor Replacement	Air Comp
Air Compressor Demand-side Retrofit	Air Comp
Comprehensive Lighting	Lighting
Process Improvement	Process
VSDs on Fans	Process
Tank, HX Insulation	Process
Cooling Tower Upgrade	Process
VSDs on pumps	Pumping
Pump Optimization	Pumping
VSDs on Fans	Ventilation
Premium Efficiency Motor	Motors
Ceiling fans	Ventilation

Program financial incentives will be determined based on deemed and calculated incentive levels of SCE core programs. The energy analysis report will include a financially viable strategy for the customer, including steps to secure financing.

c) List non-incentive customer services

Non-incentive customer services are listed below:

- Energy analysis assessments and reports identifying cost-effective energy savings opportunities;;
- On-site technical assistance to enable installation of recommended equipment;

Nonresidential: Primary and Fabricated Metals

- Referrals to other SCE programs and services, including the Industrial Calculated Energy Efficiency, if applicable;
- Coordination with industry associations to promote energy efficiency improvements through trusted sources and encourage market-transforming practices among equipment vendors and purchasers; and
- Educational information about non-energy benefits associated with recommended measures, including promoting the understanding of AB 32 by relating the carbon reduction effects of energy efficiency programs to program participants.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The main barriers to implementing energy efficiency projects, in addition to financial viability, are time, expertise, and capital availability constraints within the company. The program is designed to overcome these constraints.

- Time and Expertise Constraints for Facility Personnel: Facility engineers and maintenance personnel, who are typically given the task of finding cost-cutting

Nonresidential: Primary and Fabricated Metals

projects, are often extremely busy just keeping the plant operating. In addition, facility personnel may not have the expertise to calculate the expected energy savings in a manner that meets the criteria necessary for corporate approval of the proposed projects. The program overcomes this potential barrier by supplying business professionals and engineers who provide expert technical and installation support to the customer throughout the entire process. The program will prepare all documentation required by the company to make a decision about the proposed project. The key element is the Project Study Report, which is prepared at no cost to the customer.

- **Capital Availability:** The energy efficiency and productivity enhancement projects stimulated by the program compete against all other capital investment opportunities. The financial incentive offered by the program makes each energy efficiency investment more attractive. In addition, the Project Study Reports identify non-energy benefits of each project (e.g., production efficiency, product quality, non-energy operation and maintenance costs, personnel costs) as well as potential greenhouse gas (GHG) emission reductions, so that all of the benefits of the project are considered in the company's investment decision. The program will provide project financial data in the format desired by the company, with clear specification of each of the financial criteria (such as payback, internal rate of return, net present value) used by the company. Where capital availability is a constraint, the program facilitates the process of obtaining project financing.
- **Project Installation Time Constraints:** A continual source of concern on the part of industrial sector energy efficiency program administrators is the time required to install a project. Customers' desire results from their investments in energy efficiency programs, and would like installations to be completed as soon after the project is committed as possible. The program's turn-key approach is designed to move each project through the program process as quickly as possible, with minimum effort on the part of the customer. The program provides support services designed to facilitate project installation.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	28	33	21

e) Advancing Strategic Plan goals and objectives

The program supports several of the Industrial goals identified in the Strategic Plan, including those set forth in Section four (Industrial Sector):

- **Goal 1:** Support California industry's adoption of energy efficiency by integrating energy efficiency savings with achievement of GHG goals and other resource goals.

Nonresidential: Primary and Fabricated Metals

- Goal 2: Build market value and demand for continuous improvement in industrial energy efficiency through branding and certification.
- Goal 3: Provide centralized technical and public policy guidance for California industrial energy and resource efficiency.

This program helps to achieve these goals by:

- Integrating approaches to better maximize savings and minimize lost opportunities;
- Benchmarking data for customers to make better educated decisions;
- Developing proper messaging and selecting proper communication channels to successfully communicate the program's offerings;
- Promoting advances in equipment efficiency and operation through process improvements;
- Identifying continuous improvement opportunities;
- Proposing flexible incentives to stimulate emerging technologies; and
- Identifying the most promising technologies for multiple solutions, including energy efficiency, greenhouse gas mitigation, and water efficiency.

6. Program Implementation

a) Statewide IOU Coordination

The Primary and Fabricated Metals program is a local program managed in SCE's service territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Primary and Fabricated Metals

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans

Not applicable

v. IOU Program Interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable

b) Program delivery and coordination

i. Emerging Technologies program

The program promotes several emergent technologies within this industrial process that may result in energy savings, including:

Nonresidential: Primary and Fabricated Metals

- Cupola Furnace Computer Process Modeling System – A cupola produces cast iron by melting scrap using energy generated from coke combustion. A computer simulation makes real-time corrections to the cupola operation and product composition to save fuel and generate more output per ton of scrap, increasing overall electrical efficiency; and
- Descaling Header Process Improvement – Descaling is the spraying of water from multiple nozzles on a common header. Usually, all spray nozzles are open regardless of slab width. By varying the number of operating nozzles based on slab width, the program achieves significant energy and demand savings from reduced pumping requirements.

ii. Codes and Standards program

All measures identified by the program for a customer will meet or exceed all applicable federal, state, and industry standards. Customized program measures will rely on adjusted engineering calculations supported by baselines predicated on industry standards and applicable Title 24² codes.

iii. WE&T efforts

Not applicable to this program.

iv. Program-specific marketing and outreach efforts

Multiple efforts will be undertaken, including:

- An informational pamphlet;
- A Q&A pamphlet highlighting the major components of the Primary and Fabricated Metal Manufacturing industry; and
- Program representatives from the contractor will promote the program at industry-specific trade shows.

v. Non-energy activities of program

Not applicable to this program

vi. Non-IOU programs

Not applicable to this program

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

² 2005 Building Energy Efficiency Standards, Effective through July 31, 2009.

Nonresidential: Primary and Fabricated Metals

The program implementation team's industry and energy efficiency program experience informs the program's design. The program will base its materials and procedures on documents used under the 2006-2008 SCE industrial program and similar programs offered at other utilities across the country. These lessons learned will be integrated, many of which align with the best practices identified in *Energy Efficiency Best Practices Project* reports (<http://www.eebestpractices.com/>).

d) Innovation

The program features several innovative energy efficiency tactics, including:

- A computer simulation that makes real-time corrections to the cupola furnace operation to save fuel and generate more output per ton of scrap, increasing overall electrical efficiency; and
- Conventional descaling that sprays water from multiple nozzles on a common header, using all spray nozzles regardless of slab width. The program can install equipment to adjust the number of nozzles based on slab width, reducing pumping requirements and energy use.

e) Integrated/coordinated Demand Side Management

IDSM activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSM as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc)

The program will encourage consideration of opportunities that benefit and enhance other resources, in addition to energy resources. For example, a fabricated metals customer may be able to reduce water consumption through varying the number of operating nozzles used in descaling. Descaling is the spraying of water from multiple nozzles on a common header. Usually, all spray nozzles are open regardless of slab width. By varying the number of operating nozzles based on slab width, a customer can cut pumping requirements.

g) Pilots

Not applicable to this program.

h) EM&V

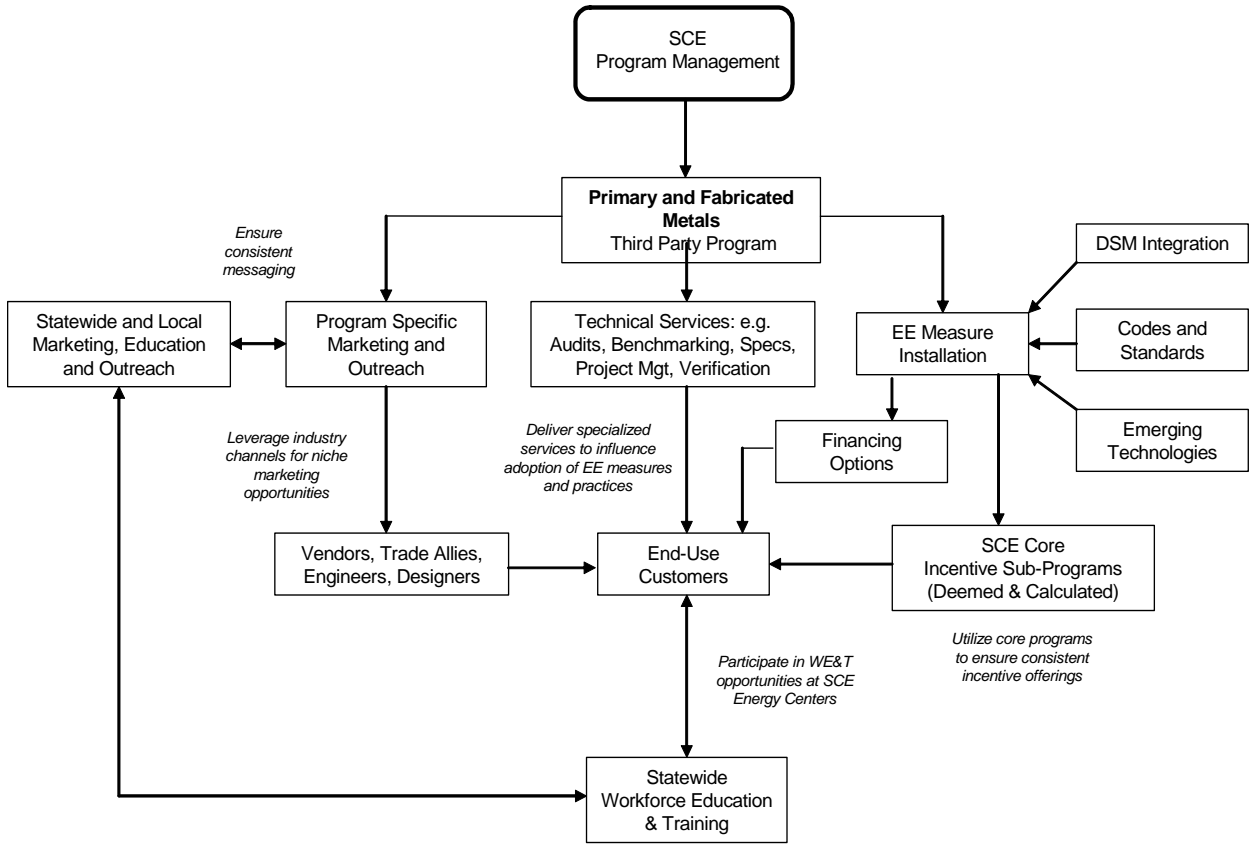
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans

Nonresidential: Primary and Fabricated Metals

for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

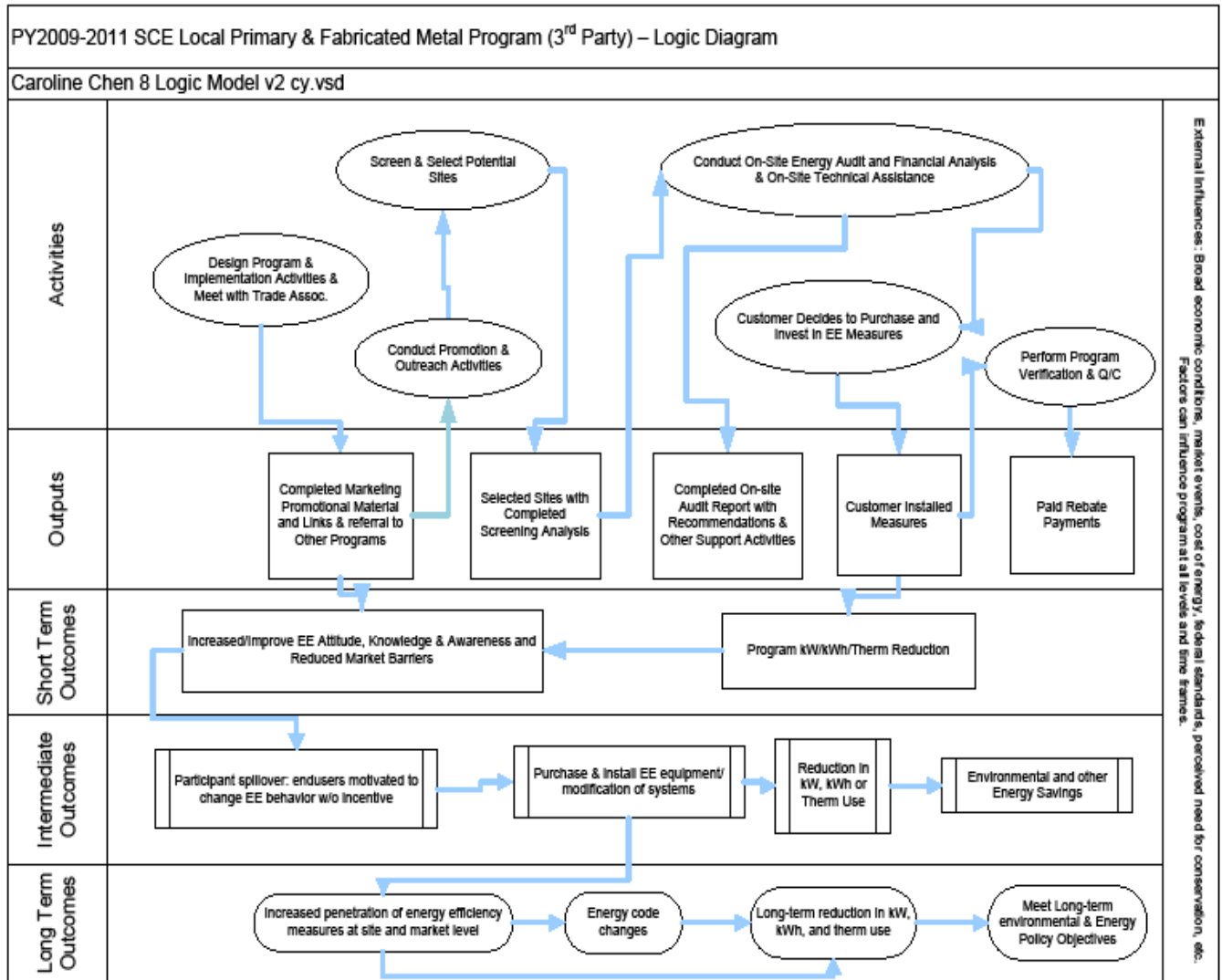
Nonresidential: Primary and Fabricated Metals

7. Diagram of Program



Nonresidential: Primary and Fabricated Metals

8. Program Logic Model



15

Nonresidential: Industrial Gases

1. **Program Name:** Industrial Gases
Program ID: SCE-TP-015
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-015	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Industrial Gases	\$ 307,106	\$ 129,300	\$ 2,992,595		\$ 3,429,000
	TOTAL:	\$ 307,106	\$ 129,300	\$ 2,992,595	\$ -	\$ 3,429,000

3. Projected Program Gross Impacts Table - by calendar year

Table 2

SCE-TP-015	Industrial Gases	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Industrial Gases	16,116,000	1,980	-
	TOTAL	16,116,000	1,980	-

4. Program Description

a) Describe program

Customers served through the Industrial Gases program are industrial gas manufacturing facilities located throughout SCE's service territory. Industrial gas is a group of gases that are commercially manufactured and sold for uses in other applications. These gases are mainly used in an industrial processes, such as steelmaking, oil refining, medical applications, fertilizer, semiconductors, etc.,. They may be both organic and inorganic, are produced by extraction from the air by a process of separation or are produced by chemical synthesis, and will take various forms such as compressed, liquid, or solid. Services provided to customers in this segment include:

- Evaluation of energy efficiency projects already considered by the customer, but not undertaken due to limited capital, extended payback periods, or a lack of internal staff to adequately evaluate the project;

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A "sub-program" of a program has a specific title, targets, budget, uses a unique delivery or marketing approach not used across the entire program and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Industrial Gases

- Performing comprehensive on-site audits to identify and prioritize potential energy efficiency projects;
- Performing individual Project Study Reports to refine and focus the results of energy audits;
- Performing financial analyses to assist customers in understanding and justifying project expenditures;
- Helping customers understand available incentives and assist them in completing the necessary paperwork;
- Providing installation support services to help the customer keep energy efficiency projects on schedule;
- Performing post-installation inspections to verify proper installation and refine energy savings calculations; and
- Executing project completion agreements and track payment of incentives.

b) List measures

Program measures include:

- Compressor Pressure Reduction;
- Compressor Controls;
- Compressor Replacement;
- Generic Process Improvement;
- Cooling Tower Replacement;
- VSDs on Pumps; and
- Pump Optimization.

c) List non-incentive customer services

- Comprehensive on-site audits to identify opportunities for energy savings, demand savings and demand response;
- Design and technical assistance to help customers with engineering, procurement and project management;
- Post-installation inspection to help verify and measure performance;
- Financial incentive coordination to help defray up-front costs of implementation;
- Referrals to rate evaluations and demand response programs that can help reduce their energy bills; and
- Coordination with industry associations to promote energy efficiency improvements through trusted sources and encourage market-transforming practices among equipment vendors and purchasers.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

Nonresidential: Industrial Gases

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The main barriers to implementing energy efficiency projects, in addition to financial viability, are time, expertise, and capital availability constraints within the company. The program is designed to overcome these constraints:

- **Time and Expertise Constraints for Facility Personnel:** Facility engineers and maintenance personnel, who are typically given the task of finding cost-cutting projects, are often extremely busy just keeping the plant operating. In addition, facility personnel may not have the expertise to calculate the expected energy savings in a manner that meets the criteria necessary for corporate approval of the proposed projects. The hands-on approach to the program overcomes this potential barrier by supplying high-level business professionals and engineers who provide expert technical and installation support to the customer throughout the entire process. The program will prepare all documentation required by the company to make a decision about the proposed project. The key element is the Project Study Report, which is prepared at no cost to the customer.
- **Capital Availability:** The energy efficiency and productivity enhancement projects stimulated by the program compete against all other capital investment opportunities. The financial incentive offered by the program makes each energy efficiency investment more attractive. In addition, the Project Study Report identifies non-energy benefits of each project as well as potential greenhouse gas GHG emissions reductions, so that all of the benefits of the project are considered in the company's investment decision. The program will provide project financial

Nonresidential: Industrial Gases

data in the format desired by the company, with clear specification of each of the financial criteria (such as payback, internal rate of return, net present value) used by the company. Where capital availability is a constraint, the program facilitates the process of obtaining project financing.

- **Project Installation Time Constraints:** A continual source of concern on the part of industrial sector energy efficiency program administrators is the time required to install a project. Customers desire results from their investments in energy efficiency programs, and would like installations to be completed as soon after the project is committed as possible. The program's turn-key approach is designed to move each project through the program process as quickly as possible, with minimum effort on the part of the customer. The program provides support services designed to facilitate project installation.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	12	13	9

e) Advancing Strategic Plan goals and objectives

This program supports the Strategic Plan. Specifically, the program supports all strategies and goals detailed in Industrial Sector, Section 4:

- *Goal 1: Support California industry's adoption of energy efficiency by integrating energy efficiency savings with achievement of GHG goals and other resource goals.*
- *Goal 2: Build market value and demand for continuous improvement in industrial energy efficiency through branding and certification.*
- *Goal 3: Provide centralized technical and public policy guidance for California industrial energy and resource efficiency.*

In accordance with the Strategic Plan, this program advances energy efficiency by:

- Integrating approaches to better maximize savings and minimize lost opportunities;
- Facilitating benchmarking, tracking and scoring of data for customers to make better educated decisions;
- Developing proper messaging and selecting proper communication channels to successfully communicate the program's offerings and their value;
- Promoting advances in equipment efficiency and operation through process improvements;
- Documenting continuous improvement opportunities;
- Proposing flexible incentives to stimulate emerging technologies; and

Nonresidential: Industrial Gases

- Identifying the most promising technologies for multiple solutions, for energy efficiency, GHG mitigation, and water efficiency purposes.

In addition, the program transfers experiences designing and implementing successful energy efficiency projects to other companies facing similar challenges. The program will continue to build a portfolio of energy efficiency and demand reduction opportunities in the industry, and tailor each opportunity to the unique needs of each plant.

6. Program Implementation

a) Statewide IOU Coordination

The program is a local effort managed in SCE's territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Industrial Gases

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans

Not applicable

v. IOU Program Interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

This program will be coordinated with SCE's other energy efficiency offerings to ensure consistency of incentives and program marketing.

b) Program delivery and coordination

The program maintains relationships with industry- and technology-specific experts in each of the industrial and commercial sectors. One of the key elements is integrating contractors preferred by participating SCE customers into a pool of technology and industry experts. Subcontractors will provide expertise in the industrial gas industry, including such areas as air separation processes and liquefied industrial gases, compressors and process cooling.

i. Emerging Technologies program

The program has numerous emerging technologies and applies existing technologies in new ways to achieve energy efficiency savings for customers.

Nonresidential: Industrial Gases

Promising technologies in this sector include existing air separation systems with multiple after coolers and moisture removal equipment in series. These shell and tube heat exchangers add considerable pressure drop within the process.

ii. Codes and Standards program

Not applicable to this program

iii. WE&T efforts

Not applicable to this program

iv. Program-specific marketing and outreach efforts

The program uses several specific marketing components to gain customer interest, implement projects, and deliver energy savings. Methods will include a presentation to introduce the program to customers, and program-specific pamphlets describing the opportunities for and benefits of energy efficiency.

v. Non-energy activities of program

Not applicable to this program

vi. Non-IOU programs

Not applicable to this program

vii. CEC work on PIER

The program will leverage findings in applicable PIER studies and incorporate them into program offerings. For example, a PIER project is currently underway to study batch freezer fan operation in produce processing and could potentially have a link to industrial gas applications.

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

The program implementation team's industry and energy efficiency program experience informs the program's design. The program will base its materials and procedures on documents used under the 2006-2008 SCE's industrial energy efficiency programs and similar programs offered at other utilities across the country. These lessons learned will be integrated, many of which align with the best practices identified in *Energy Efficiency Best Practices Project* reports (<http://www.eebestpractices.com/>).

d) Innovation

The program developed multiple innovations in marketing, program delivery, incentive design, and outreach on the SCE industrial energy efficiency programs and other energy efficiency programs nationwide. These innovations have achieved

Nonresidential: Industrial Gases

reliable savings and meet energy efficiency goals even during a time of stabilized energy costs and limited capital expenditures. Program innovations have become even more effective in today's environment of higher energy costs and increased capital expenditures. Examples that will apply under this program include:

- Increased customer participation per unit of program cost – In addition to cost-benefit analyses included in energy audits and project reports, the program offers detailed financial analysis support for customers to achieve corporate approval of proposed projects. Financial analyses are a cost-effective method of increasing the percentage of potential energy efficiency projects that achieve approval and are implemented.
- Emerging technologies or new technology combinations and applications - The program has numerous emerging technologies and applies existing technologies in new ways to achieve energy efficiency savings for customers. Promising technologies in this sector include existing air separation systems with multiple after coolers and moisture removal equipment in series. These shell and tube heat exchangers add considerable pressure drop within the process.
- A dual service after cooler can provide both cooling and moisture removal with a significant reduction in the pressure drop over the system. In some systems, the discharge pressure can be reduced by 5 to 6 psig which often equates to approximately 3%. Given the typical air flows (100,000 lb/hr), the savings are significant despite the relatively low percentage of savings.

e) Integrated/coordinated Demand Side Management

IDSMD activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSMD as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSMD efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc.)

Program delivery may include demand response opportunities such as sustainable self-generation (e.g., solar, bio-mass, wind), water and waste water treatment and efficiency improvements, rate schedule analysis and modification suggestions, and operational process improvements.

g) Pilots

Not applicable to this program

h) EM&V

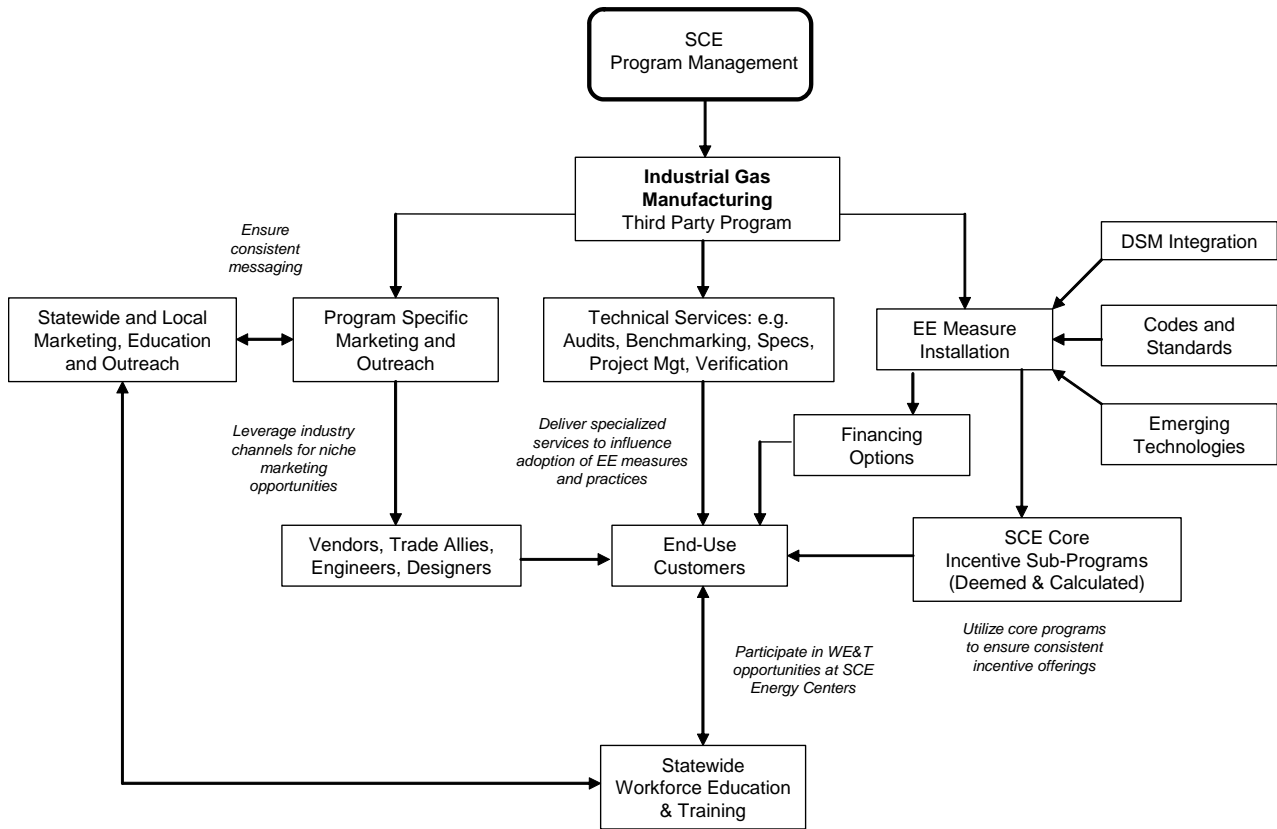
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans

Nonresidential: Industrial Gases

are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

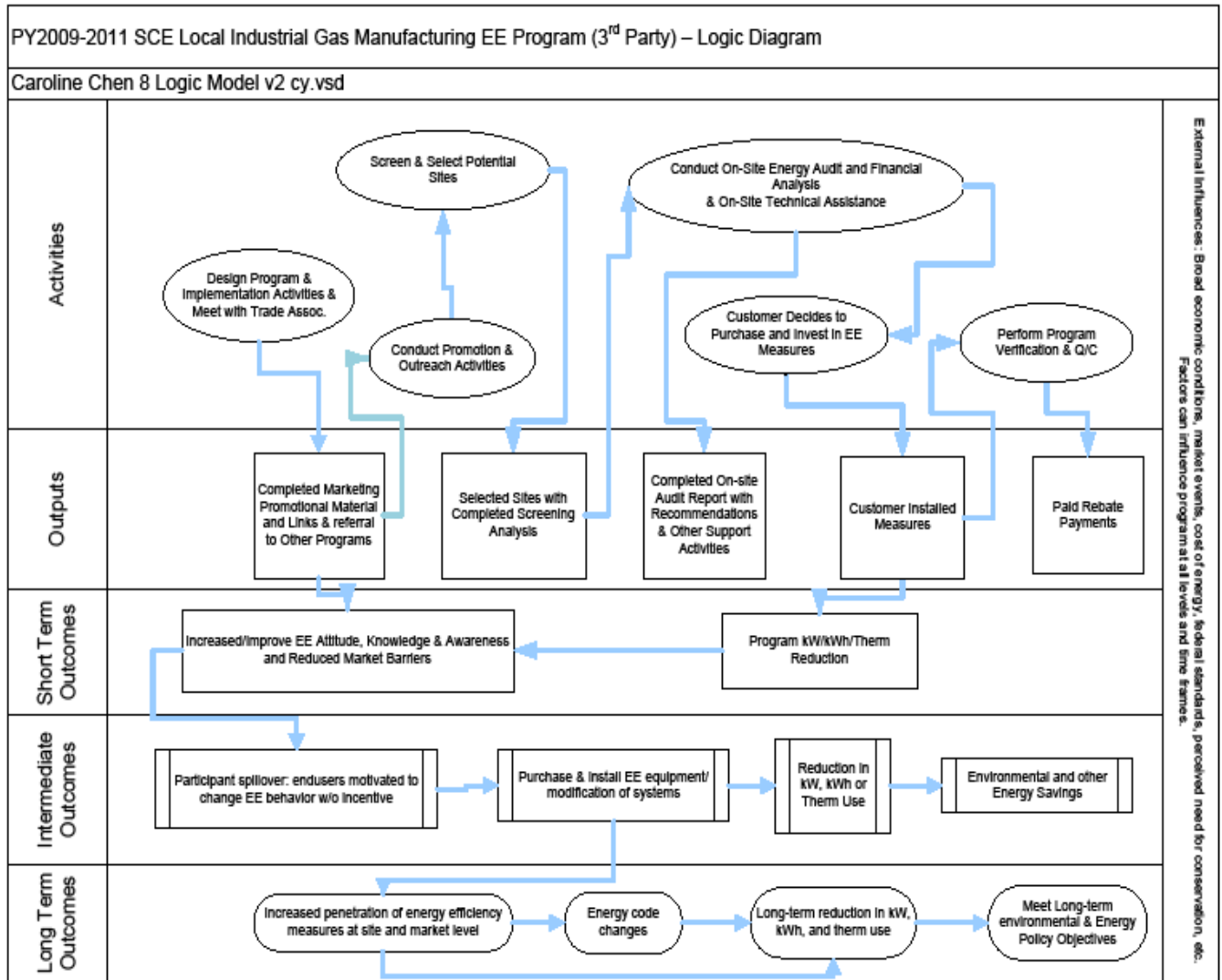
Nonresidential: Industrial Gases

7. Diagram of Program



Nonresidential: Industrial Gases

8. Program Logic Model



16

Nonresidential: Non-Metallic Minerals and Products

1. **Program Name:** Non-Metallic Minerals and Products
Program ID: SCE-TP-016
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-016	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Nonmetallic Minerals and Products	\$ 570,491	\$ 243,439	\$ 5,350,069		\$ 6,164,000
	TOTAL:	\$ 570,491	\$ 243,439	\$ 5,350,069	\$ -	\$ 6,164,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-016	Nonmetallic Minerals and Products	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Nonmetallic Minerals and Products	43,482,088	4,719	-
	TOTAL	43,482,088	4,719	-

4. Program Description

a) Describe program

The Non-Metallic Minerals and Products program provides energy efficiency and demand reduction services to cement production plants, primary cement distribution terminals, and large ready-mix plants throughout SCE's service territory. Cement plants are part of the classification of manufacturers producing non-metallic minerals and products. This also includes bricks, ceramics, glass, and glass products.

b) List measures

Measures covered in the program include:

- Variable-Frequency Drives (VFDs): This measure installs VFDs on fans.
- Continuous improvement process operational efficiency improvements: This measure implements a continuous improvement regimen at the facility.

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Non-Metallic Minerals and Products

- High bay fluorescent fixtures: This measure replaces existing high bay metal halide light fixtures with energy-efficient fluorescent high bay fixtures.
- High bay fluorescent fixture occupancy sensors: This measure adds occupancy sensors to some or all of the new energy-efficient fluorescent high bay fixtures installed in the previous measure.
- Replace existing air compressors: This measure replaces existing poor performing air compressors with new air compressors.
- Process efficiency, raw meal recirculation: This measure improves process efficiency by modifying the raw meal mill to reduce the air volume required to transport cement particles from the mill.
- Measure summary process efficiency, gamma neutron activation analyzer: This measure improves process efficiency by automating the analysis of the raw mix so that the plant has continuous knowledge of the constituents of the incoming raw meal to the kiln.

c) List non-incentive customer services

Non-incentive customer services include:

- Comprehensive on-site audits or scoping study to identify opportunities for energy savings, and demand savings;
- Technical assistance to help customers with engineering, procurement and project management;
- Post-installation inspection to help verify and measure performance; and
- Incentives to help defray up-front costs of implementation.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation

Nonresidential: Non-Metallic Minerals and Products

effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Customer and market barriers to energy efficiency are universal across industrial market segments. The barriers, which include navigating the customer decision-making process, customer capital allocation, limited customer resources (for evaluation and implementation), and a lack of knowledge regarding applicable utility incentives are all present in the cement industry. The program addresses these common issues to provide a solution to these challenges. To better determine how energy efficiency solutions may be pursued, the program involves customer decision-makers in the development process. This involvement provides useful opportunities to ascertain particular customer investment thresholds and capital allocation processes, in order to develop solutions that are meaningful and relevant from a customer's perspective. The program is positioned as a solution to customers having limited resources (for evaluation and implementation), and, most importantly, estimates how incentives and long-term energy savings can substantially contribute to the payback of their energy project investment. The customer and market barriers are best navigated up-front by communicating to the customer that the program is the solution for overcoming perceived customer and market barriers.

Unique to the cement production and distribution market segment are the long planning cycles and limited times for major retrofit activities. Cement plants' extremely high temperature kilns generally operate on a 24-hour basis, 7 days a week. There are planned shutdowns for routine maintenance that generally last only 10-14 days, typically scheduled once every 12 to 15 months. This is the only time that major projects relating to two of the largest energy-using elements of the cement production process, the kiln and the clinker cooler (running in tandem with the kiln) can be implemented. Therefore, an energy study and resulting project may take several years to get approved and implemented within the kiln outage cycles. A three-year program cycle and ongoing involvement in the cement industry will help overcome this long-lead-time barrier.

Another common barrier to maximum market penetration is in keeping the customer's interest, involvement, and momentum engaged during the development of the longer-term projects and the comprehensive approach. In order to overcome this barrier, comprehensive project development is targeted not to exceed 16 weeks and requires regular follow-up meetings with customers to track and support projects and budgeting planning processes. Evaluation of nearer-term opportunities will be

Nonresidential: Non-Metallic Minerals and Products

initiated early in the development process, including previously-identified capital projects and process improvements, VFD, compressed air, and lighting opportunities. This will develop a stream of opportunities to keep the end-use customer engaged and active in the development process.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	5,970	12,500	8,380

e) Advancing Strategic Plan goals and objectives

The program supports several of the Industrial goals identified in Section Four of the Strategic Plan:

- Goal 1: Support California industry's adoption of energy efficiency by integrating energy efficiency savings with achievement of GHG goals and other resource goals.
- Goal 3: Provide centralized technical and public policy guidance for California industrial energy and resource efficiency.

The program will advance these goals by:

- Providing customer education and information to educate plant operators on integrating energy efficiency into their production processes;
- Offering technical assistance to help customers identify appropriate efficiency and demand response measures;
- Providing customer incentives and financing options to help reduce the capital costs of achieving energy efficiency;
- Encouraging the integration of emerging technologies into production processes to achieve even greater energy efficiency; and
- Making the program information and results available for case studies and other documentation that can be used as part of an industrial best practices forum.

6. Program Implementation

a) Statewide IOU Coordination

This local program is managed in SCE's service territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

Nonresidential: Non-Metallic Minerals and Products

- i. Program name:** Non-Metallic and Minerals Products.
 - ii. Program delivery mechanisms**
Not applicable
 - iii. Incentive levels**
Not applicable
 - iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms**
Not applicable
 - v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable**
Not applicable to this program
 - vi. Similar IOU and POU programs**
This program is unique to SCE's service territory.
- b) Program delivery and coordination**
- i. Emerging Technologies program**
Not applicable to this program
 - ii. Codes and Standards program**
Not applicable
 - iii. WE&T efforts**
Not applicable to this program
 - iv. Program-specific marketing and outreach efforts**
The most effective path to the program's goals and results is through direct outreach to qualified customers at a targeted level.
 - v. Non-energy activities of program**
Not applicable to this program
 - vi. Non-IOU Programs**
Not applicable to this program
 - vii. CEC work on PIER**
Not applicable to this program
 - viii. CEC work on Codes and Standards**
Not applicable to this program

Nonresidential: Non-Metallic Minerals and Products

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

The program utilizes a comprehensive, plant-wide, process-driven approach to perform comprehensive scoping studies and identify improvement opportunities through monitoring and targeting. The most complex scoping studies will be conducted by experts in fields that include, but are not limited to, cement industry chemistry; cement industry processes (especially high temperature processes); and chemical, mechanical and electrical engineering, chilled water systems, material transport, compressed air, lighting, and continuous improvement processes.

d) Innovation

The comprehensive approach of the scoping study, including identifying the monitoring and targeting opportunities, is the most innovative aspect of the program. The scoping study approach in SCE's service territory has yielded substantial energy saving opportunities (> 50 million kWh) in the cement production and distribution markets. Scoping studies have identified process measure innovations and energy management program opportunities that would not have been evident in narrower, equipment-based programs.

e) Integrated/coordinated Demand Side Management

IDSM activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response Program, and Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and Customer Generation Programs). However, the IOUs have identified IDSM as an important priority and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc)

Not applicable to this program

g) Pilots

Not applicable to this program

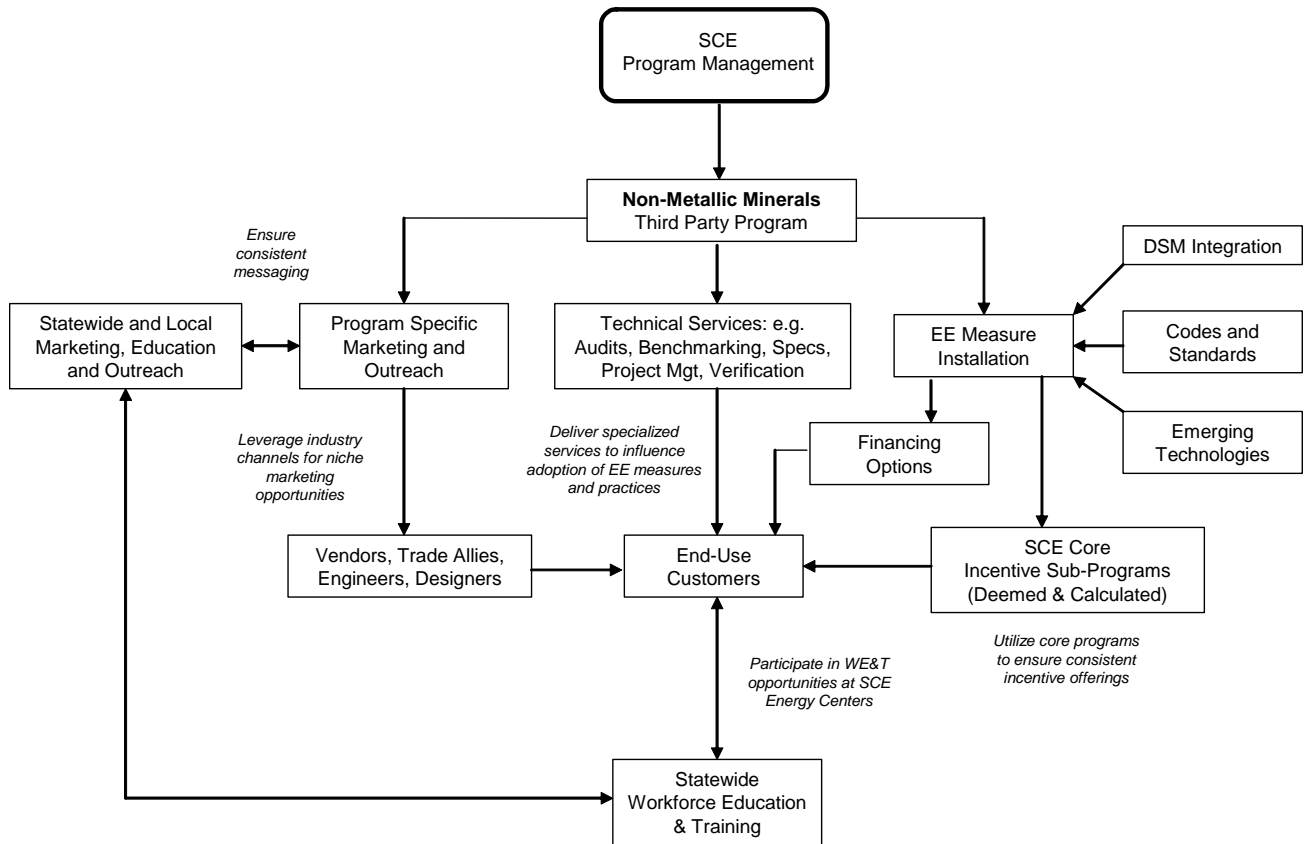
Nonresidential: Non-Metallic Minerals and Products

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

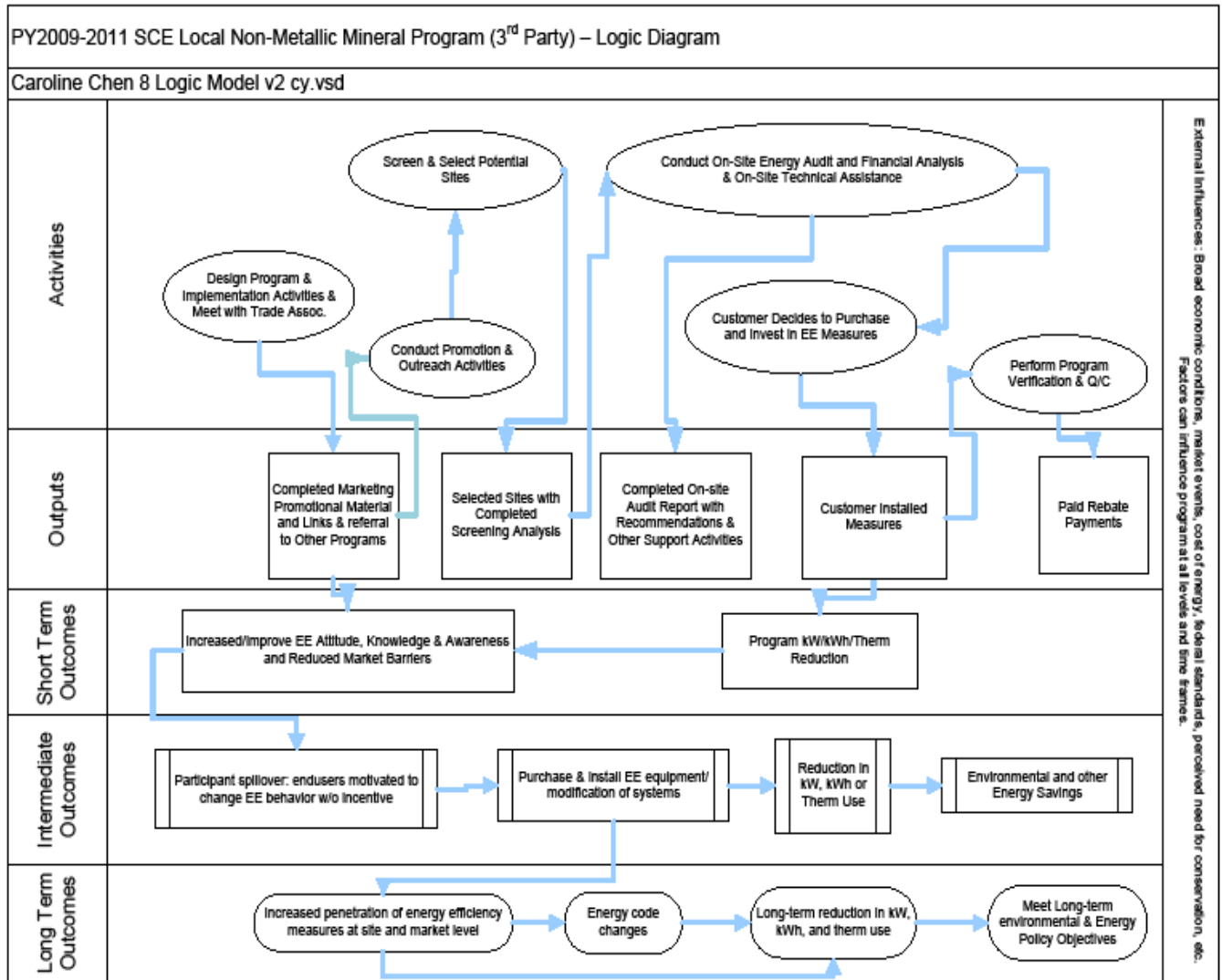
Nonresidential: Non-Metallic Minerals and Products

7. Diagram of Program



Nonresidential: Non-Metallic Minerals and Products

8. Program Logic Model



17

Nonresidential: Comprehensive Chemical Products

1. **Program Name:** Comprehensive Chemical Products
Program ID: SCE-TP-017
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-017 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Comprehensive Chemical Products	\$ 626,131	\$ 243,439	\$ 6,159,430		\$ 7,029,000
	TOTAL:	\$ 626,131	\$ 243,439	\$ 6,159,430	\$ -	\$ 7,029,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-017	Comprehensive Chemical Products	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Comprehensive Chemical Products	24,142,400	3,193	-
	TOTAL	24,142,400	3,193	-

4. Program Description

a) Describe program

The Comprehensive Chemical Products program addresses industrial customers in the chemical processing industry, and offers a wide full range of energy efficiency opportunities from low-cost improvements to entire system upgrades to participants. The program is centered on a comprehensive approach to energy savings and permanent demand reduction. The program offers the following:

- Targeted and comprehensive on-site audits to identify energy savings opportunities;
- Design assistance to help customers understand and best achieve energy and water savings;
- Incentives for a varied portfolio of electric measures to help defray up-front costs of installing the equipment;

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title, targets, budget, uses a unique delivery or marketing approach not used across the entire program and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Comprehensive Chemical Products

- Water-savings benefits and inclusion of measures in the portfolio that provide both water and energy savings;
- Referrals to other SCE services, such as rate evaluations and demand response (DR) programs, that can help reduce customers' energy bills; and
- Coordination with industry associations to promote energy efficiency improvements through trusted sources and encourage market-transforming practices among equipment vendors and purchasers.

While similar to the Chemical Products Efficiency program, having two programs allows better diversification of measures and promotes knowledge sharing that would advance both programs.

b) List measures

The program will offer both itemized measures and custom measures. Energy and demand reductions will be achieved by implementing efficiency upgrades in the following end-use categories:

- Motors;
- Drives;
- Process optimization (primarily compressed air and pumping);
- Fans;
- Lighting; and
- Space cooling.

c) List non-incentive customer services

Non-incentive customer services include:

- Targeted and comprehensive facility audits;
- Project description with recommendations for equipment installation;
- Estimated electricity savings resulting from project;
- Design and technical assistance (includes equipment specifications);
- Project cost estimation;
- Installation support, installation inspection;
- Non-electric program related benefits such as CO₂ emissions, natural gas, and water savings; and
- Customer satisfaction survey.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a

Nonresidential: Comprehensive Chemical Products

result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Chemical producers in California face a dynamic set of technical and economic constraints. While decision-makers in this segment are technologically adept and capable of identifying energy savings, historical precedent has shown that they have not responded to conventional opportunities. The following table lists the market segment priority barriers and program design elements designed to mitigate them:

Priority Barriers	Program Design Elements
Technical assistance: Limited resources, demanding production targets, managers and staff are occupied meeting their internal obligations, few resources for activities seen as peripheral	<ul style="list-style-type: none"> • Show linkage of recommended efficiency projects to achieving primary manufacturing goals • Provide audits at no cost • Provide convenient, time efficient training on equipment selection
Customer incentives: Equipment upgrades are evaluated on a “return-on-investment” (ROI) basis	<ul style="list-style-type: none"> • Structure projects that not only meet ROI requirements, but also require little internal resources from the chemical producers • Promote sizeable opportunities to increase production or to decrease costs, ensure savings are large enough to compel participation • Assist customers to identify additional sources of financing (include natural gas, water, CEC financing)
Emerging technologies: Chemical producers are unwilling to risk shut-down caused by unproven processes and equipment and are wary of biased advice from third parties	<ul style="list-style-type: none"> • Promote proven commercially available and documented measures • Establish market credibility through client referrals, trade allies and regional organizations

Nonresidential: Comprehensive Chemical Products

Priority Barriers	Program Design Elements
	<ul style="list-style-type: none"> • Deliver manufacturer-neutral equipment recommendations • Build on repeat projects and peer-to-peer referrals • Drive collaboration through innovation

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	29	44	72

e) Advancing Strategic Plan goals and objectives

The program takes steps towards advancing the Strategic Plan's goals below:

Goal 1: Support the Strategic Plan's goal of industry's adoption of energy efficiency by integrating energy efficiency savings with achievement of greenhouse gas (GHG) goals and other resource goals

Strategy 1-1: Develop coordinated energy and resource management program for CA's industrial sector, to enhance energy use.

The program supports Strategy 1-1 because it is specifically designed to broaden "utility program incentives from the current focus on energy efficiency projects to include efficient processes (defined as documented, measurable evidence of energy management resulting in improved energy efficiency via projects, process and operational improvements)."² The majority of program saving impacts are from such process improvements.

In addition, the program will integrate the adoption of energy efficiency measures with achieving GHG reduction goals, as described below in Section 6.b.v, Non-energy activities of program. The program will promote the California Air Resources Board's (CARB) Guidance and Protocols for Businesses to Facilitate Greenhouse Gas Missions Reductions.³

Finally, reducing fresh-water use and reducing the volume of water discharged needing treatment are key concerns for the chemical products sector. Consistent with Strategy 1-1 to provide coordinated energy and resource management, the program will advance water efficiency measures that also reduce energy use and attendant GHG emissions (see section 6.f., integration across resource types).

² California Long Term Energy Efficiency Strategic Plan Industrial Sector Section 4.5 Implementation Plan, Goal 1, page 47.

³ Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions, California Environmental Protection Agency, Air Resources Board September 2007 Table 2 Greenhouse Gas Reduction Strategies.

Nonresidential: Comprehensive Chemical Products

Goal 2: Build market value and demand for continuous improvement in industrial efficiency through branding and certification

Strategy 2-5: Implement ME&O program to educate industry and consumers

By employing key chemical products sector membership associations as engagement channels the program supports the Marketing, Education and Outreach (ME&O) Task Force and SCE to achieve Strategy 2-5 Near Term (2009-2011) action step, “Form industry collaboration mechanisms.” The program plans to include these important organizations in its implementation: American Institute of Chemical Engineers, American Chemistry Council and Chemical Industry Council of California.

6. Program Implementation

a) Statewide IOU Coordination

The Comprehensive Chemical Products program is a local program managed in SCE’s service territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Comprehensive Chemical Products

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable

vi. Similar IOU and POU programs

Not applicable

b) Program delivery and coordination

The program will recruit customers to enroll in the program through implementation of the Marketing Plan (see section 6.b.iv., program-specific marketing and outreach efforts). The objective is to screen customers to determine their suitability for participation and likely opportunities to achieve energy savings under the program. If opportunities exist for energy savings, customers will be asked to execute a program agreement to receive the following services.

Nonresidential: Comprehensive Chemical Products

- A targeted or comprehensive facility audit;
- Design and/or technical assistance to present the portfolio of measures available under the program, to help customers understand how equipment modifications can save energy, and to address key considerations such as fresh and waste water reduction, safety and environmental compliance, and productivity; and
- Referral to other SCE offerings, including DR programs, other complementary energy efficiency programs, and the rate department to assess applicability of alternative rates.

Participants that execute a program agreement will receive a Project Description Report that includes the following information:

- Project description with recommendations for equipment installation;
- Estimated project installation cost;
- Equipment specifications;
- Estimated electricity savings resulting from project;
- Non-electric program-related benefits such as CO₂ emissions, natural gas; and water savings
- Steps the customer needs to take to implement the project and obtain the program incentive.

Following delivery of the “Project Description Report,” the program will present an “Installation Agreement” to the customer that identifies the measures selected. The required customer signatures are obtained on the “Installation Agreement” and submitted to SCE. If the potential project requires pre-installation metering to support the baseline conditions, the contractor will conduct the metering.

During the equipment installation phase of an engagement, the program will offer both itemized measures (with deemed savings, consistent with deemed programs) and custom measures (with calculated savings, consistent with calculated offerings). Upon approval of the specific measures in the project, the customer will be authorized to proceed with the equipment installation under the program guidelines. As necessary and appropriate, the program will work directly with the customer and/or equipment vendor to ensure proper selection of equipment and installation.

i. Emerging Technologies program

Consistent with the ET program, the industry-tailored approach supports the objective of increasing demand for available new technologies and contributes to chemical product sector market transformation by overcoming market barriers. The program focuses on technical opportunities for savings, both in the form of emerging technologies and new combinations of existing technologies. Technical innovation will be enhanced by close working relationships with industry trade associations such as the American Institute of Chemical Engineers (AIChE), the American Chemistry Council (ACC) and the Chemical Industry Council of California (CICC) and vendors of efficiency-enabling technology. Potential technology areas of interest in common with ET are data center flow management and lab variable air volume systems.

Nonresidential: Comprehensive Chemical Products

ii. Codes and Standards program

Not applicable to this program

iii. WE&T efforts

Not applicable to this program

iv. Program-specific marketing and outreach efforts

The program will be directed to SCE customers engaged in producing chemical and allied products, including the following industry groups:

- Basic chemicals (excluding industrial gases);
- Resin, synthetic rubber, and artificial synthetic fibers and filaments;
- Pesticide, fertilizer, and other agricultural chemicals;
- Pharmaceutical and medicine;
- Paint, coating, and adhesives;
- Soap, cleaning compound, and toilet preparation; and
- Other chemical products.

The program will use several methods of focused marketing to promote the program, including face-to-face contact with equipment vendors, trade associations, and directly with customers; direct mail, inserts in trade publications, and via web access. The marketing materials listed below will be designed to increase awareness and participation and to explain the energy and non-energy benefits of the program:

- Brochure with general information about the program, application procedures, and benefits;
- Letters and inserts for targeted mailings and e-mail campaigns to customers and vendors;
- Newsletter articles, fact sheets, and case studies for inclusion in industry publications; and
- Webpage for integration with SCE's website, with access to all information for customers and dealers about the program benefits and application requirements.

v. Non-energy activities of program

Water Savings: Reducing fresh-water use and reducing the volume of water discharge needing treatment are key concerns of the chemical products sector. Many of the energy savings measures to be implemented through this program also help customers use water more efficiently. Improvements to major systems such as steam generation, cooling, sour water stripping and desalting offer significant energy and water efficiency gains. The program will identify these synergies, as well as additional opportunities that the customer can pursue outside of the program. A sample of water efficiency measures for chemical facilities includes:

- Utilize plant wastewater effluent as cooling water make-up;
- Reuse stripped sour water as desalter wash-water;

Nonresidential: Comprehensive Chemical Products

- Minimize boiler and cooling tower blow-down; and
- Improve steam condensate recovery.

vi. Non-IOU programs

Not applicable

vii. CEC work on PIER

The program will direct customers to CEC PIER reports and resources, including those addressing energy-efficient processes that reduce the cost and energy consumption associated with the treatment and disposal of industrial waste streams.

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

The program will coordinate with leading chemical products sector membership associations (see section 6.b.i, Emerging Technologies program), such as the AIChE, ACC and AICC. Additionally, the program will assist customers in complying with international standards (see section 6.b.vi., Non-IOU Programs).

c) Best Practices

The contractor is expected to employ a systems approach to identifying projects, proven effective through several previous industrial programs. The contractor will understand that chemical manufacturing facilities must also address non-electricity resource concerns, such as saving natural gas and water, and reducing CO₂ and other harmful emissions. In addition to delivering increasingly comprehensive energy savings, this process will also help address other areas of concern to both industry and SCE: demand response opportunities, water and wastewater management, renewable generation, and greenhouse gas emissions. Program marketing materials and messages will emphasize both energy and non-energy benefits and allow “one-stop shopping” and convenience for this important market segment.

d) Innovation

Program innovations to overcome identified market barriers include:

- A range of both comprehensive and targeted audits provides the flexibility to tailor initial project size and scope promoting customer comfort and reducing market barriers; Marketing and implementation strategies encourage sequential projects to establish credibility and customer trust to pursue additional projects; and
- Delineating non-energy savings benefits in recommendations will leverage natural gas and water conservation programs and the growing market driver CO₂ reduction.

Nonresidential: Comprehensive Chemical Products

e) Integrated/coordinated Demand Side Management

IDS_M activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDS_M as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDS_M efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc)

Program integration of energy, water and air quality has been stressed as a program design elements throughout this document.

g) Pilots

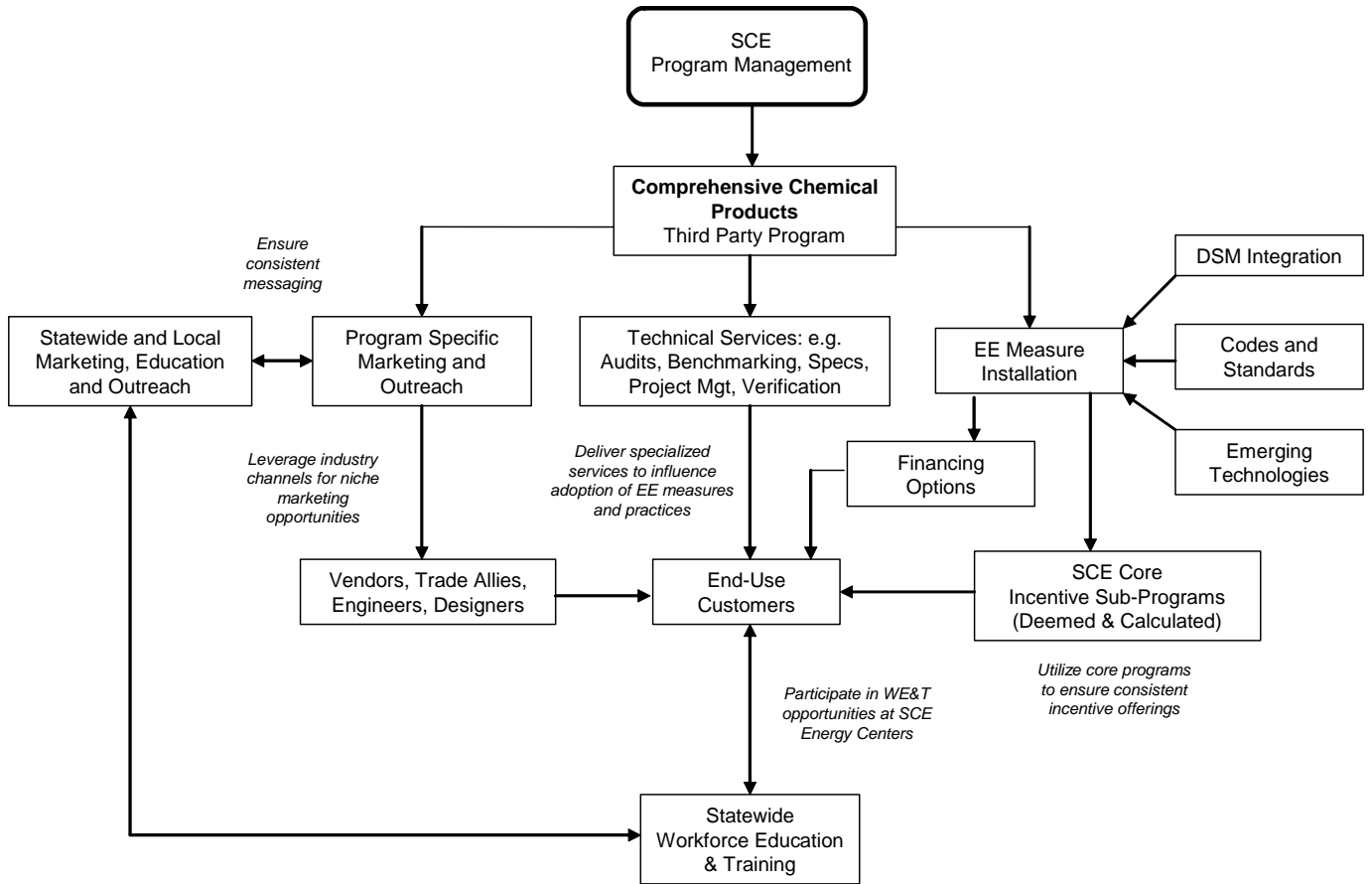
Not applicable to this program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

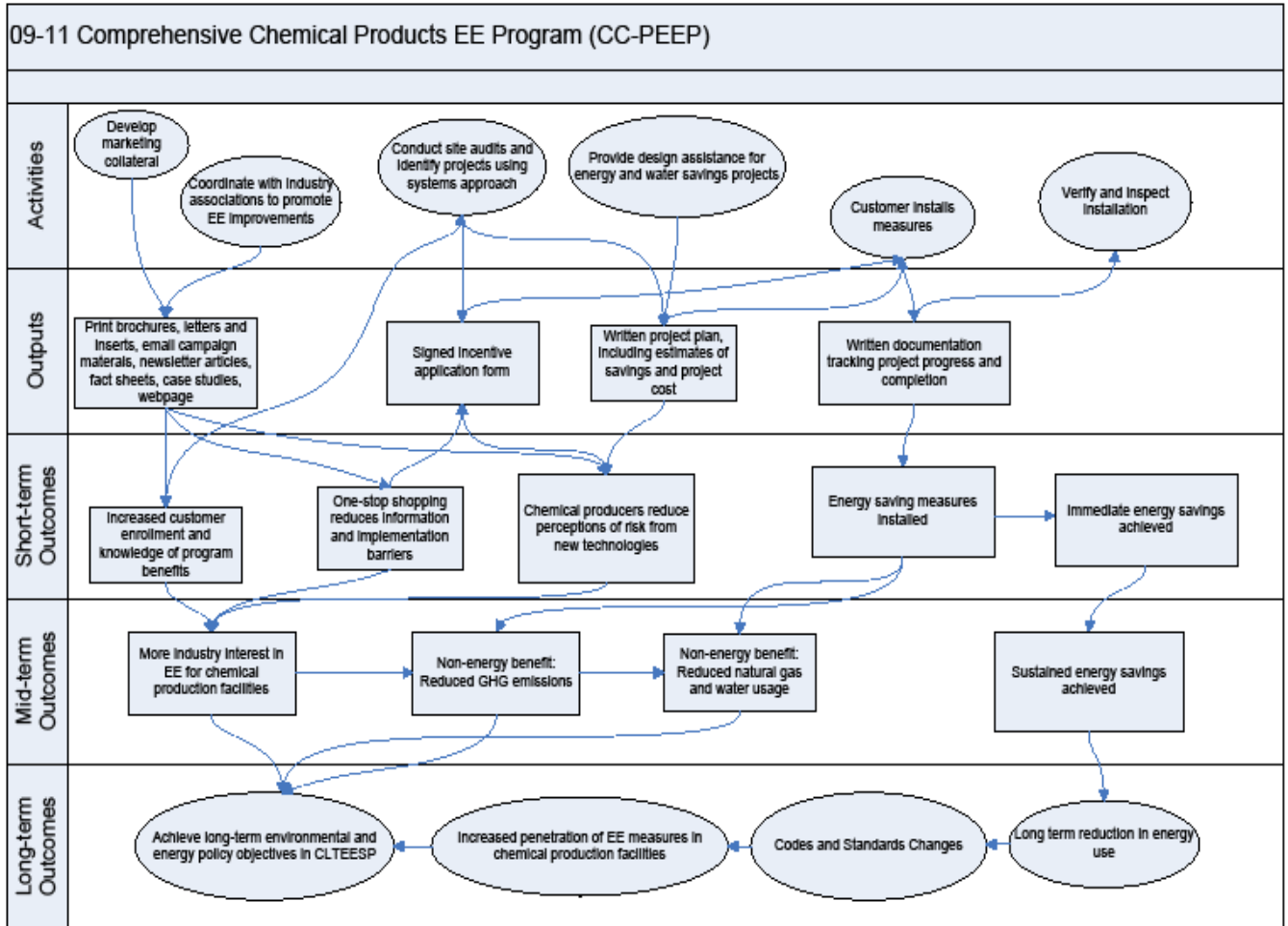
Nonresidential: Comprehensive Chemical Products

7. Diagram of Program



Nonresidential: Comprehensive Chemical Products

8. Program Logic Model



18

Nonresidential: Chemical Products Efficiency Program

1. **Program Name:** Chemical Products Efficiency Program
Program ID: SCE-TP-018
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-018	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Chemical Products Efficiency Program	\$ 479,011	\$ 258,599	\$ 3,986,389		\$ 4,724,000
	TOTAL:	\$ 479,011	\$ 258,599	\$ 3,986,389	\$ -	\$ 4,724,000

3. Projected Program Gross Impacts Table - by calendar year

Table 2

SCE-TP-018	Chemical Products Efficiency Program	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Chemical Products Efficiency Program	20,811,608	2,448	-
	TOTAL	20,811,608	2,448	-

4. Program Description

a) Describe program

The Chemical Products Efficiency Program (CPEP) helps industrial chemical production customers achieve long-term, cost-effective electrical energy savings by promoting comprehensive retrofits and new construction projects for all industrial processes and process support systems. The program:

- Identifies candidate project managers to coordinate identification and implementation of the energy efficiency projects;
- Analyzes potential energy efficiency projects. Projects with the most savings potential and economic advantage receive further engineering evaluation and implementation;
- Assists in project design and project management;

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Chemical Products Efficiency Program

- Provides direct incentives for implementation of energy efficiency projects and assist with assessing financing options; and
- Educates the industry through developing industry-specific case studies and a library of feasible energy efficiency projects.

The program is similar to another third party program (the Comprehensive Chemical Products Efficiency Program) targeting the chemical industry, which helps insure that all industry facilities and measures will be included.

b) List measures

The program delivers consistent energy savings through promoting traditional energy efficiency measures with proven savings reliability. The program also features modern production improvement measures for permanent system efficiency improvements.

Traditional Energy Efficiency Measures	Process Improvement Measures
Motors	Process Integration
Pumps	Improved Process Controls
Fans	Compressed Air System Optimization
Variable Frequency Drives	Pump and Fan System Optimization Recommissioning of Systems

c) List non-incentive customer services

Non-incentive customer services include providing:

- Assistance with completing applications and questionnaires;
- Information on other programs administered by SCE;
- Project design assistance and project management;
- Verification of installed savings;
- Survey of chemical facilities and provide preliminary scoping studies;
- Detailed technical audits to identify and recommend projects
- Post-installation inspections;
- Industry education through development of industry-specific case studies and a library of feasible energy efficiency projects;
- Marketing efforts to out-of-state corporate decision makers to promote industry-wide awareness and market transformation; and
- Customer service assistance by providing training for SCE assigned account managers.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

Nonresidential: Chemical Products Efficiency Program

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Chemical producers are a large, energy-intensive group of SCE customers. The industry has significant potential energy savings in primary and secondary chemical production processes. Because of market barriers, this industry is not apt to regularly participate in energy efficiency programs. The table below lists priority barriers and program design elements to mitigate them:

Priority Barriers	Program Design Elements
Emerging technologies: Perceptions of unproven reliability for new technologies.	Promotes innovative technology applications; demonstrate availability of reliable technologies by showcasing successful projects.
Education and information: Lack of understanding of the chemical production process by energy efficiency professionals.	Utilizes engineers with chemical production expertise who talk the same language as the process engineers to increase customer confidence and participation in the auditing services.
Customer incentives: Lack of capital investment for high up-front costs.	Provides direct incentives for implementation of energy efficiency projects and assist with assessing financing options.
Technical assistance: Narrow windows of opportunity	Provides extensive technical assistance for project development/design to meet windows

Nonresidential: Chemical Products Efficiency Program

for project installation. Long lead times for project development and installation; lack of available on-site staff.	of opportunity. Efficiency projects are coordinated with scheduled maintenance.
--	---

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	6,320	6,320	12,640

e) Advancing Strategic Plan goals and objectives

This program takes steps toward advancing the Strategic Plan’s goals below:

Goal 1: Support California industry’s adoption of energy efficiency by integrating energy efficiency savings with achievement of greenhouse gas (GHG) goals and other resource goals.

Strategy 1.1: Develop coordinated energy and resource management program for CA’s industrial sector, to enhance energy use.

The program will “broaden utility program incentives from the current focus on energy efficiency projects to include efficient processes (defined as documented, measurable evidence of energy management resulting in improved energy efficiency via projects, process, and operational improvements).” The majority of program saving impacts are from such process improvements.

The program merges the adoption of energy efficiency measures with achieving GHG reduction goals as described below in section 6.b.v. The program will promote the California Air Resource Board (CARB) Guidance and Protocols for Businesses to Facilitate Greenhouse Gas Missions Reductions.

Goal 3: Provide centralized technical and public policy guidance for California industrial energy and resource efficiency.

Strategy 3-1: Compile technical and resource management regulatory materials into centralized assistance repository.

The program supports the near-term action step of inventorying existing sources for technical and regulatory assistance for industrial energy efficiency and other environmental resource targets. The program will educate the industry through development of industry-specific case studies and a library of feasible energy efficiency projects.

Nonresidential: Chemical Products Efficiency Program

6. Program Implementation

a) Statewide IOU Coordination

The Chemical Products Energy Efficiency Program is a third-party program managed in SCE's service territory.

i. Program name: Chemical Products Efficiency Program

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable to this program

b) Program delivery and coordination

The program will recruit program customers through implementation of its marketing and outreach plan (see Section 6.b.iv., below). Customer enrollment will involve the recruitment and auditing of prospective program participants. After the contractor and the customer identify energy efficiency measures for technical review, the customer signs an Incentive Application Form to enroll in the program.

The detailed energy audit results are used to write a program implementation plan for a Project Implementation Agreement. The agreement details the measures selected for implementation, estimated energy savings and demand reductions, and provisions to verify savings impacts following project implementation.

The detailed energy audit results are used to write a program implementation plan for a Project Implementation Agreement. The agreement details the measures selected for implementation, estimated energy savings and demand reductions, and provisions to verify savings impacts following project implementation.

The detailed energy audit results are used to write a program implementation plan for a Project Implementation Agreement. The agreement details the measures selected for implementation, estimated energy savings and demand reductions, and provisions to verify savings impacts following project implementation.

Nonresidential: Chemical Products Efficiency Program

After installing an energy efficiency project, the customer submits an Installation Report for the completed project to verify the installation is inspected to ensure that it was done correctly and will deliver the expected energy savings. Post-installation inspection data collection includes photographic documentation, monitoring, and use of standard industry practice engineering calculations. The Measurement and Verification (M&V) Report includes post-installation inspection results and verified energy savings.

After completing the post-installation inspection, the M&V Report is submitted for approval to start the completed project's incentive payment process.

i. Emerging Technologies program

The program's industry-tailored approach supports the objectives of increasing demand for available new technologies and contributes to chemical sector market transformation by overcoming market barriers. The program focuses on technical opportunities for savings, from both emerging technologies and new combinations of existing technologies. Potential technology areas of interest in common with ET are data center flow management and lab VAV systems.

ii. Codes and Standards program

Not applicable to this program

iii. WE&T efforts

Not applicable to this program

iv. Program-specific marketing and outreach efforts

The program primarily focuses on chemical production facilities throughout SCE's service territory. This market segment's NAICS prefix is 325². The program contractor promotes the program's benefits to potential customers through:

- Conducting one-on-one meetings with customers;
- Conducting joint walk-through energy audits with the customers' engineers;
- Holding workshops or seminars for groups of chemical producers;
- Developing marketing literature to support the one-on-one communication and workshops; and
- Engaging support for energy efficiency initiatives at the corporate level, gaining support by linking projects to carbon-credit-driven and corporate social responsibility programs.

Marketing materials to support in-person marketing and to educate customers about the program and its benefits will include:

- Program brochure;
- Case studies of successful projects;

² North American Industry Classification System (NAICS), 2007 NAICS Definition, Sector 31-33—Manufacturing, 325 Chemical Manufacturing.

Nonresidential: Chemical Products Efficiency Program

- Website-based program information;
- Presentations for professional and stakeholder organizations;
- Customer electronic newsletter;
- Targeted advertising; and
- Trade show signage and collateral.

v. Non-energy activities of program

The program will promote energy efficiency as a means to reduce costs and increase production, but also to reduce GHG emissions.

vi. Non-IOU programs

Not applicable to this program

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

The program plans to coordinate with leading chemical products sector membership associations, including the American Institute of Chemical Engineers (AIChE), the American Chemistry Council (ACC), and the Association of Independent Corrugated Converters (AICC).

c) Best Practices

Because of rising electricity costs and stringent environmental regulations, chemical producers are considering energy efficiency measures to reduce operating costs and to comply with carbon footprint and emission reduction legislation. The program will allow SCE to realize additional cost-effective energy savings from this largely untapped industry by addressing key barriers as discussed earlier.

d) Innovation

The program promotes innovative technology applications to potential customers.

e) Integrated/coordinated Demand Side Management

IDSM activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSM as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

Nonresidential: Chemical Products Efficiency Program

f) Integration across resource types (energy, water, air quality, etc.)

Not applicable to this program

g) Pilots

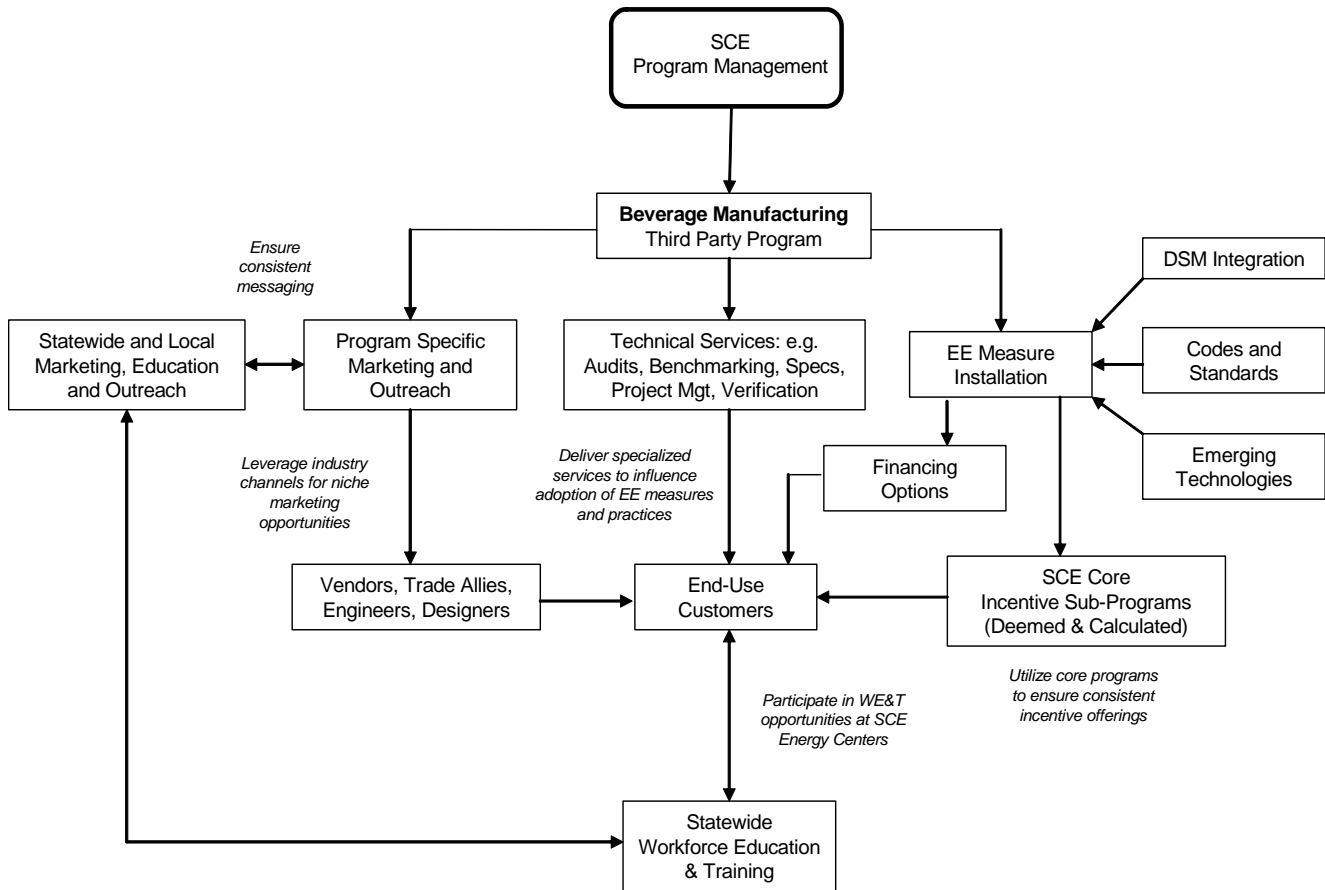
Not applicable to this program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

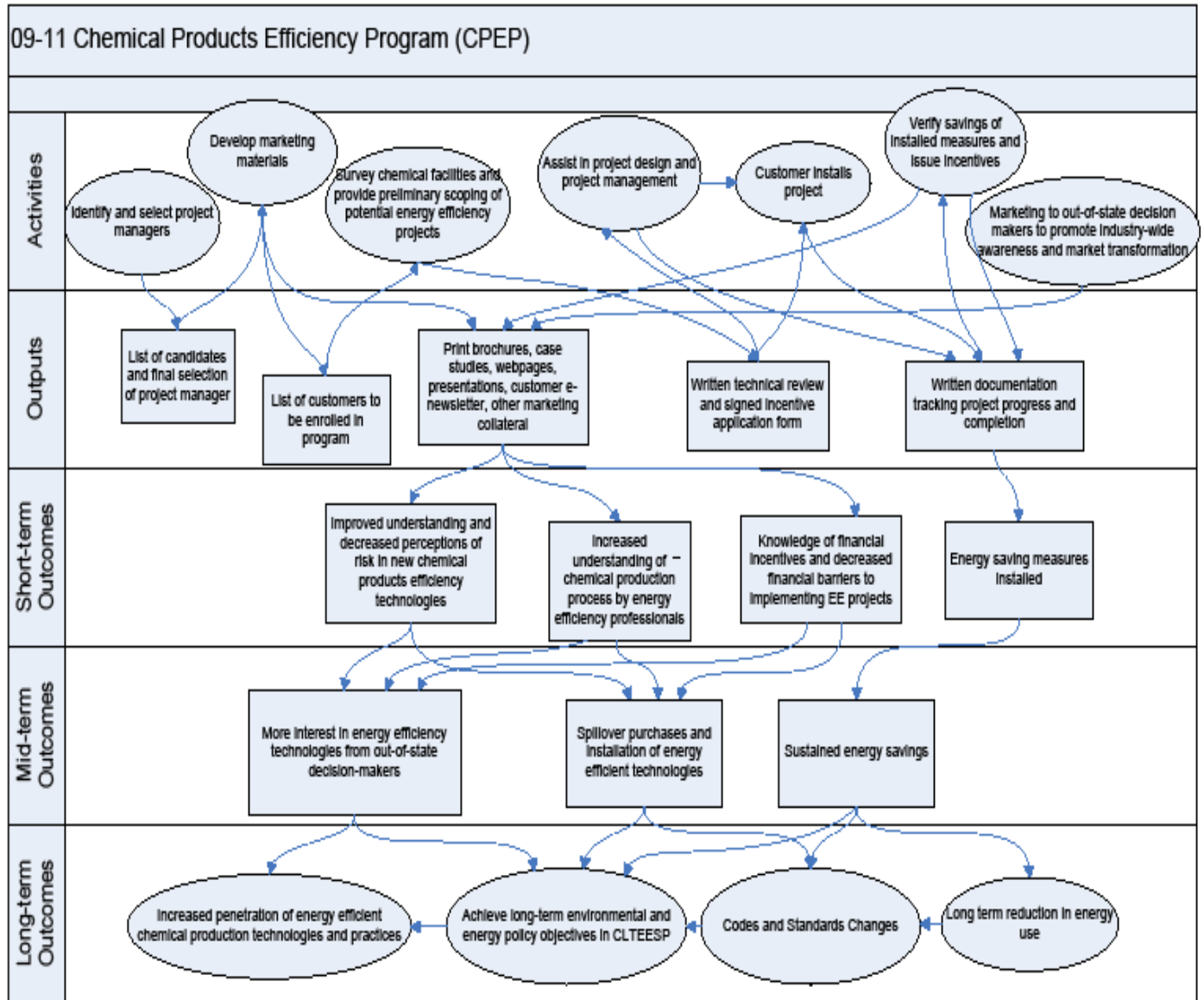
Nonresidential: Chemical Products Efficiency Program

7. Diagram of Program



Nonresidential: Chemical Products Efficiency Program

8. Program Logic Model



19

Nonresidential: Comprehensive Petroleum Refining

1. **Program Name:** Comprehensive Petroleum Refining
Program ID: SCE-TP-019
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-019 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Comprehensive Petroleum Refining	\$ 327,447	\$ 144,460	\$ 3,276,094		\$ 3,748,000
	TOTAL:	\$ 327,447	\$ 144,460	\$ 3,276,094	\$ -	\$ 3,748,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-019	Comprehensive Petroleum Refining	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Comprehensive Petroleum Refining	13,884,250	1,880	-
	TOTAL	13,884,250	1,880	-

4. Program Description

a) Describe program

The Comprehensive Petroleum Refining program (CPR) targets all the major petroleum refineries in SCE's service territory to produce long-term, cost-effective electrical energy savings. The program achieves this goal by implementing a comprehensive set of calculated and deemed approaches to address every major electric operation within the oil refining industry.

CPR is one of three SCE third-party programs that provide a comprehensive targeted program delivery approach to the petroleum industry. In comparison with the other two programs (see Program Implementation Plans for the Refinery Energy Efficiency Program and Oil Production Program), CPR focuses on the entire facility and not just

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Comprehensive Petroleum Refining

process loads. There are merits in having three third-party programs focused on the refining industry due to the challenges and complexities of the industry.

b) List measures

The program will offer a comprehensive set of calculated savings and itemized measures to address every major electric operation within the petroleum refining industry, including:

- **Motors:** A variety of calculated and itemized measures apply to this end use, from installing premium efficiency motors under the deemed incentive offering, to facility-specific calculated measures that optimize the sizing of motors to match the intended process horsepower requirements.
- **Drives:** This addresses a variety of calculated measures that cover the energy savings potential from installing adjustable speed and variable voltage control drives on motors, pumps, and other rotating machinery.
- **Process Optimization:** This calculated approach covers the energy savings potential from improving production processes by installing more efficient equipment and controls. For the target market segment this most notably includes improvements to compressed air systems and to customized pumping systems.
- **Fans:** This end use category covers a wide variety of fan designs and applications. Whether the process utilizes a high pressure centrifugal fan or a low pressure axial design, the program will identify opportunities for system improvements. This could include the size and design of the fan itself, as well as the ducting and damper system, the drive motor, and the control system.
- **Lighting:** Through the proposed program, customers will be encouraged to pursue both deemed and calculated lighting measures.
- **Space Cooling:** Within the target market segment, unique opportunities will be pursued to optimize the design and performance of space cooling systems. This is typically not considered an important energy end use by customers since it does not affect production. However, as part of the comprehensive facility review even periphery system energy savings opportunities will be identified.

Financial incentives for these measures will be based on the Deemed and Calculated Sub-program rates as described in SCE's core Industrial Energy Efficiency Program.

c) List non-incentive customer services

Integral to the program will be the completion of site assessments and reports to identify savings opportunities and provide recommendations to program participants, along with technical assistance to support the installation of the recommended equipment.

- **Targeted and Comprehensive Facility Audits** — CPR performs audits related to all aspects of petroleum refining operations to identify energy efficiency, demand reduction, and demand response opportunities. While it is important to consider the various systems in tandem to assess opportunities, experience suggests that starting with targeted audits of specific aspects of a facility's operation is more effective in generating actual projects. Initial targeted audits will be conducted and comprehensive audits will be performed as appropriate.

Nonresidential: Comprehensive Petroleum Refining

- Design and Technical Assistance — CPR will provide hands-on, on-site assistance to program candidates to enable projects to develop and reach completion. The program's success in bringing projects to completion is increased by working directly with customers and their vendors to help formulate the equipment or system design and specifications. This strategy encourages and enables customers to install recommended measures.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

CPR has been designed to mitigate the following measure implementation barriers for the petroleum refining market segment:

- Lack of Information and transaction costs: The program provides audits at no cost to customers, training with all actors influential in equipment selection, and information on measure energy and non-energy benefits.

Nonresidential: Comprehensive Petroleum Refining

- **Hassle or transaction costs:** The hands-on approach provides customers and vendors with technical and administrative assistance to expedite equipment selection and the incentive qualification process.
- **Performance uncertainties:** The program offers proven, commercially available, and documented measures to the target market facilities. Even as such, many end users find the legitimate claims of equipment vendors to be too good to be true with regard to process improvement. This program will educate customers and ensure they are comfortable and confident with savings opportunities.
- **Financial barriers:** Refineries look for large opportunities to increase production or to decrease costs. The program’s comprehensive approach to site assessments will identify significant energy savings opportunities to encourage program participation. CPR will also assist customers identify additional sources of financing, which could potentially include water conservation incentives.
- **Asymmetric information and opportunism:** Equipment recommendations will be manufacturer-neutral.
- **Organizational practices:** The strategy fits the culture of purchase decision making in this market, engaging customers and influential equipment vendors and working with customers’ schedules.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	10	15	24

e) Advancing Strategic Plan goals and objectives

SCE awarded contracts with third party implementers before the CPUC’s California Long Term Energy Efficiency Strategic Plan (“Strategic Plan”) was adopted. As such, SCE will continue work with third-party implementers – including the renegotiation of program scope – to undertake initiatives of the Strategic Plan upon the CPUC’s approval of programs.

As currently designed, CPR supports the following Strategic Plan goals identified for the industrial market segment:

- *Goal 1: Support California industry’s adoption of energy efficiency by integrating energy efficiency savings with achievement of GHG goals and other resource goals.*

The targeted approach offered by this program provides the opportunity to significantly increase the deep energy savings and resulting GHG reductions.

- *Goal 3: Provide centralized technical and public policy guidance for California industrial energy and resource efficiency.*

Nonresidential: Comprehensive Petroleum Refining

The results of the program can be used to inform case studies and other informational materials for use in an industrial knowledge base that will facilitate adoption into future best practices.

6. Program Implementation

a) Statewide IOU Coordination

Comprehensive Petroleum Refining is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however best practices will be shared with the other IOUs as appropriate.

i. **Program name:** Comprehensive Petroleum Refining

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms

Not applicable to this program

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable.

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable

b) Program delivery and coordination

i. Emerging Technologies program

The program will introduce innovative technology applications – such as power refining process optimization – that are applicable to this highly specialized industry. The program expects to demonstrate the availability of reliable technologies to the industry by showcasing successful projects.

ii. Codes and Standards program

All of the measures to be implemented as part of CPR will exceed the efficiency standards of equipment installed as is current practice in the petroleum refining industry. Where applicable, this program will coordinate with SCE's Codes and Standards initiatives.

The following technologies/measures will be aligned with, and meet minimum standards within their respective industrial rating indices:

Nonresidential: Comprehensive Petroleum Refining

Process Equipment: All processing equipment installed will meet minimum regulatory requirements including the applicable requirements of the American Petroleum Institute (API), the National Fire Protection Association (NFPA), the National Electrical Manufacturer's Association (NEMA), the International Electromechanical Commission (IEC), the American Society of Mechanical Engineers (ASME), the Air Movement and Control Association (AMCA), and other standards that may apply by other organizations. Savings for process equipment will be calculated on a project-by-project basis using accepted engineering principles and will be supported by appropriate work papers.

Motors and Drives: All motors and drives installed will meet minimum regulatory requirements including the applicable requirements of UL, NFPA, NEMA, IEC, the European Conformance Standard (CE), and other standards that may apply by other organizations. Savings for motors and drives in custom projects will be calculated on a project-by-project basis using accepted engineering principles and will be supported by appropriate work papers.

Space Cooling: Cooling equipment installed will meet minimum regulatory requirements including the applicable requirements of UL, NFPA, NEMA, IEC, TEMA, ASME, AMCA, ASHRAE, the American Refrigeration Institute (ARI), the International Institute of Ammonia Refrigeration (IIAR), the Cooling Tower Institute (CTI), and other standards that may apply by other organizations. Savings for cooling equipment in custom projects will be calculated on a project-by-project basis using accepted engineering principles, and will be supported by appropriate work papers.

Lighting: The minimum energy efficiency rating levels for lighting measures will follow the exact specifications required by Title 24 and SCE in other nonresidential programs.

iii. WE&T efforts

No specific linkages with Statewide Workforce Education and Training efforts are planned for this program.

iv. Program-specific marketing and outreach efforts

The program will use several methods of focused marketing to promote CPR among customers, including face-to-face contact with equipment vendors, trade associations and customers, direct mail, inserts in trade publications and via web access. The marketing plan is designed to educate market players about the bottom-line benefits of identifying and installing energy efficiency measures and about technical and financial assistance available through the CPR and other SCE programs. Examples of marketing materials include:

- Brochure with general information about the program, application procedures, and benefits;
- Letters and inserts for targeted mailings and email campaigns to customers and vendors;

Nonresidential: Comprehensive Petroleum Refining

- Newsletter articles, fact sheets and case studies for inclusion in industry publications such as technical presentations at local API meetings, published papers for the Petroleum Technology Transfer Council, advertised programs within the California Independent Petroleum Association conference proceedings, and for exhibiting at the Society of Petroleum Engineers annual conference; and
- Website or webpage for integration with SCE's website providing access for customers and dealers about program information, benefits and application requirements.

v. Non-energy activities of program

While the program goals are for energy savings and demand reduction, there is significant potential for water savings through the recommendation of industry and process specific recommendations. These water related improvements may offer additional embedded energy savings potential resulting from the reduced need for fresh water pumped to the facility and for wastewater released from the facility. The program will identify water savings benefits associated with energy efficiency measures. A sample of water efficiency measures for refineries includes:

- Utilize plant wastewater effluent as cooling water make-up;
- Reuse stripped sour water as desalter washwater;
- Minimize boiler and cooling tower blowdown; and
- Improve steam condensate recovery.

vi. Non-IOU programs

The program will provide information to program participants about non-IOU programs which may help them achieve additional energy benefits. The information may come from federal agencies, state agencies, industry associations and other sources.

vii. CEC work on PIER

Although not a particular focus for the program, REEP will seek applications of cutting-edge process control and refining technologies including any such technologies that are advocated by the PIER program.

viii. CEC work on Codes and Standards

No specific linkages with CEC Codes and Standards work are envisioned for this program.

ix. Non-utility market initiatives

The program will actively pursue non-utility market initiatives that allow qualifying customers to adopt new technologies at reduced cost.

c) Best Practices

Targeted niche programs such as CPR that focus on one particular customer segment have traditionally yielded successful energy efficiency and demand response projects.

Nonresidential: Comprehensive Petroleum Refining

These types of programs are actively managed using experienced personnel from the targeted industry who are in a position to scope out customer projects that deliver substantial energy and demand savings.

d) Innovation

Working with local organizations with programs promoting energy efficiency often leads to additional opportunities to attract customers to this program. Local organizations that promote energy efficiency include the Ventura County Regional Energy Alliance, Southern California Association of Governments, and the California Manufacturers and Technology Association, to name a few. These relationships provide the ability to integrate parallel energy efficiency programs to encourage cross-pollination of customers. In addition, actively participating in industry associations such as American Petroleum Institute, the Society of Petroleum Engineers, and the Western States Petroleum Association will help enable the program to reach all eligible customers within the petroleum refining segment.

e) Integrated/coordinated Demand Side Management

IDSM activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSM as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc.)

CPR recognizes that petroleum refineries must also address non-electricity resource concerns such as saving water and reducing CO₂ and other emissions. The program will provide information on GHG emission reductions associated with energy savings. In addition, there is significant potential for water savings through industry and process specific recommendations. These improvements may offer additional embedded energy savings potential resulting from the reduced need for fresh water pumped to the facility and from wastewater released from the facility.

g) Pilots

There are no pilot programs anticipated for this third-party program.

h) EM&V

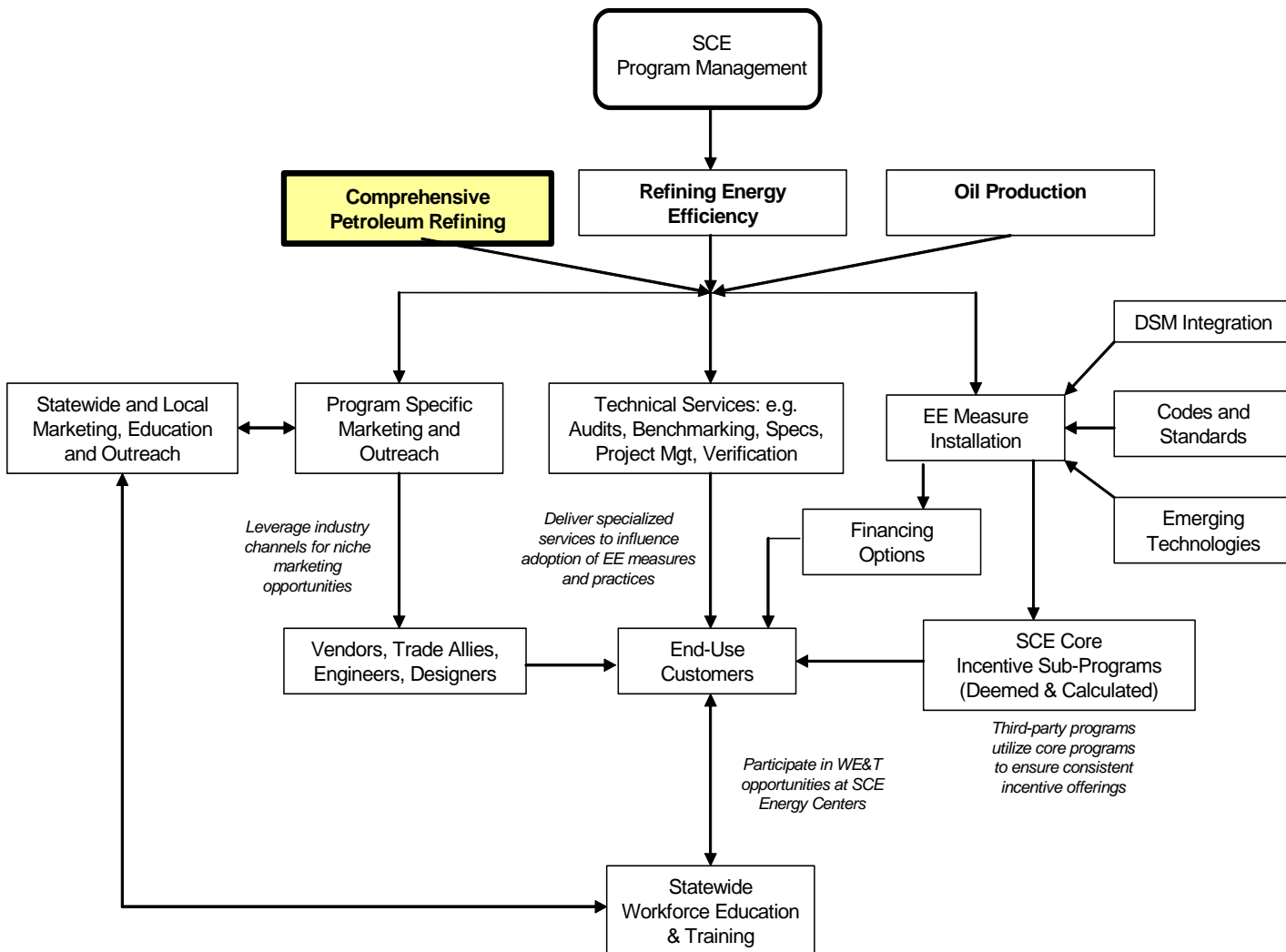
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be

Nonresidential: Comprehensive Petroleum Refining

developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

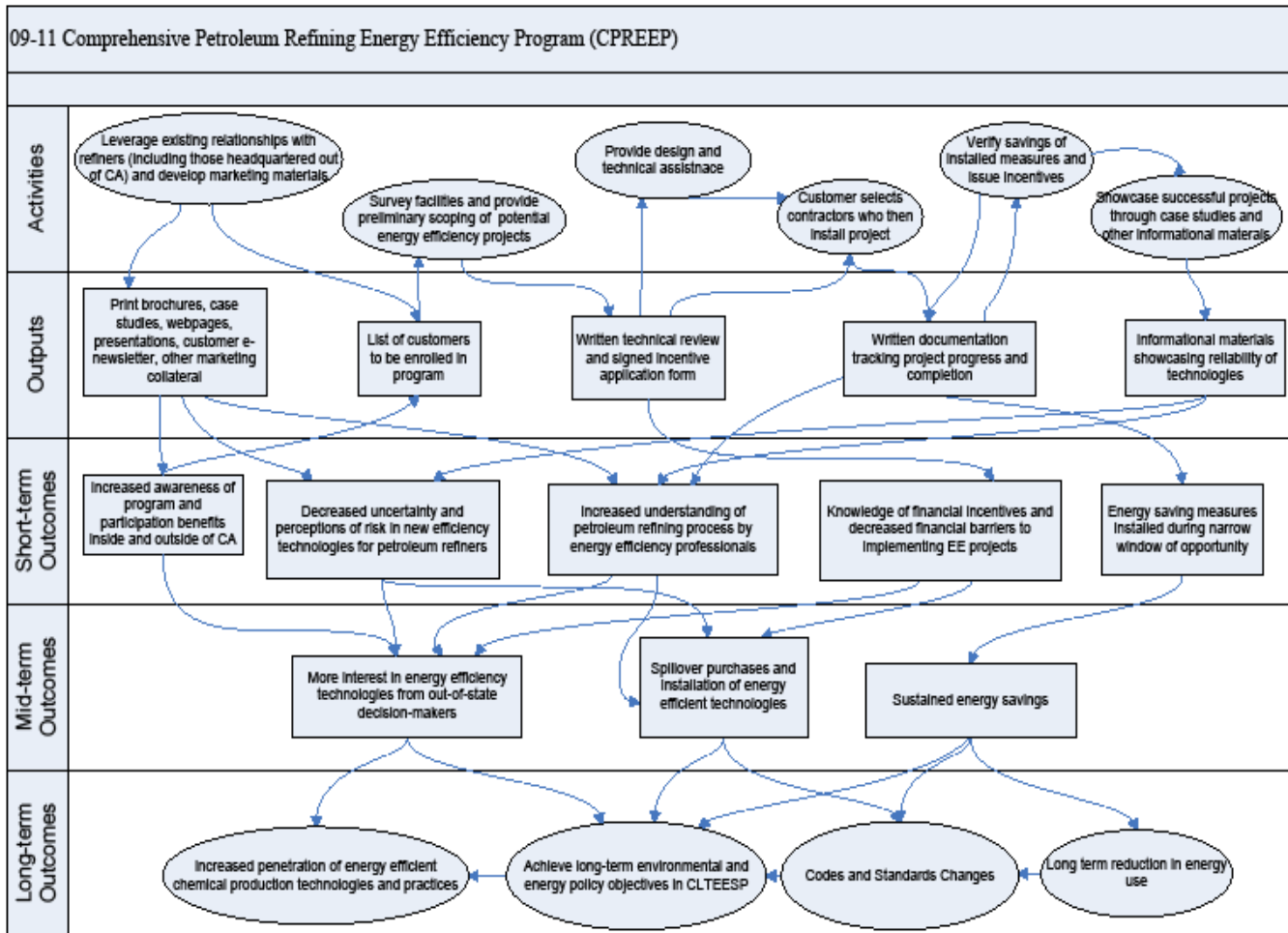
Nonresidential: Comprehensive Petroleum Refining

7. Diagram of Program



Nonresidential: Comprehensive Petroleum Refining

8. Program Logic Model



20

Nonresidential: Oil Production

1. **Program Name:** Oil Production
Program ID: SCE-TP-020
Program Type: Third party

2. Projected Program Budget Table Table 1¹

SCE-TP-020 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Oil Production	\$ 480,873	\$ 258,599	\$ 4,005,528		\$ 4,745,000
	TOTAL:	\$ 480,873	\$ 258,599	\$ 4,005,528	\$ -	\$ 4,745,000

3. Projected Program Gross Impacts Table (by calendar year) Table 2

SCE-TP-020	Oil Production	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Oil Production	14,489,467	1,654	-
	TOTAL	14,489,467	1,654	-

4. Program Description

a) Describe program

The Oil Production (OP) program targets oil production facilities in SCE's service territory with the goal of producing long-term, cost-effective electrical energy savings. The target market consists of independent oil producers and their production wells to replace existing motor and pumping systems with more efficient systems.

The OP program is one of several local programs that provide a comprehensive targeted program delivery approach to the petroleum industry. In comparison with the other two programs (see the PIPs for the Refining Energy Efficiency Program and the Comprehensive Petroleum Refining program), the OP program focuses specifically on retrofitting the pumping systems used at oil field wells. There are merits in having three programs focused on the refining industry due to the challenges and complexities of the industry, as well as the opportunity to leverage diverse experiences and existing relationships within the industry.

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

U: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Oil Production

b) List measures

The program uses a “systems approach” to optimizing motor-driven processes in order to capture much greater savings than is possible by simply replacing components with more efficient alternatives. Target measures include:

- Conversion of outdated well pumping systems;
- Well pumping optimization through pump-off controllers;
- Other motor controllers;
- Proper sizing of motors and pumps;
- Specification of premium efficient motors;
- Variable frequency drives and controllers;
- Water reduction technologies;
- Load balancing on rod pumps; and
- Splitting water injection systems into high pressure and low pressure systems.

Financial incentives for these measures will be based on the Deemed and Calculated sub-program rates as described in SCE’s core Industrial PIP.

c) List non-incentive customer services

The OP program is a one-stop turnkey program that will provide direct marketing, technical assessment (auditing), energy engineering, design advice and program administration. Non-incentive services include:

- Comprehensive on-site audits to identify opportunities for energy savings and demand response;
- Design and technical assistance to help customers with engineering, procurement and project management;
- Post-installation inspection to help verify and measure performance;
- Referrals to other SCE services such as rate evaluations and demand response programs that can help reduce energy bills; and
- Estimates of greenhouse gas (GHG) reductions associated with energy efficiency improvements.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE’s statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE’s Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

Nonresidential: Oil Production

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The program design contains a full range of features that address the following market barriers:

- **Lack of information and high transaction costs**: The program provides both audits at no cost to customers and information on measure energy and non-energy benefits.
- **“Hassle” barrier**: The hands-on approach provides customers and vendors with technical and administrative assistance to expedite equipment selection and the incentive qualification process.
- **Performance uncertainties**: The program offers proven, commercially available, and documented measures to the target market facilities. Even so, many end users find the legitimate claims of equipment vendors to be "too good to be true" with regard to process improvement. The program will utilize its connections and market credibility to educate customers and to ensure they are comfortable and confident with savings opportunities.
- **Financial barriers**: Refineries look for large opportunities to increase production or to decrease costs. The program will leverage SCE's core Industrial Energy Efficiency Program to provide both deemed and calculated incentives that reduce the installed cost of the efficient pumping system.
- **Asymmetric information and opportunism**: Equipment recommendations will be manufacturer-neutral.
- **Alignment with organizational practices**: The strategy fits the culture of purchase decision-making in this market, engaging customers and influential equipment vendors and working with customers' schedules.

Nonresidential: Oil Production

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Wells	73	73	73

e) Advancing Strategic Plan goals and objectives

SCE negotiated contracts with potential implementers before the CPUC's California Long Term Energy Efficiency Strategic Plan (Strategic Plan) was adopted. As such, SCE will continue working with third-party implementers — including the renegotiation of program scope — to undertake initiatives of the Strategic Plan upon the CPUC's approval of the programs.

The OP program addresses a key energy-intensive market and seeks to achieve energy savings by improving pumping system efficiency at oil wells. There are approximately 12,000 wells in SCE territory, of which 45 percent are operating inefficiently. There is a need for ongoing incentives in this market and continued work with decision makers to achieve sustainable long-term energy savings.

6. Program Implementation

The OP program is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

a) Statewide IOU Coordination

i. Program name: Oil Production

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans e.g., research, target audience, collateral, and delivery mechanisms.

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

Nonresidential: Oil Production

vi. Similar IOU and POU programs

Not applicable to this program

b) Program delivery and coordination

i. Emerging Technologies program

No specific linkages with CEC Codes and Standards work are envisioned for this program. However, SCE's program management staff is regularly briefed on emerging technologies and will work with the program implementation contractor to integrate relevant emerging technologies as appropriate.

ii. Codes and Standards program

The energy efficiency measures incentivized by the program are required to meet applicable equipment minimum efficiency standards, including the minimum National Electrical Manufacturers Association (NEMA) motor efficiencies. Refineries will be responsible for specifying equipment and measures to meet applicable installation standards, such as the American Petroleum Institute (API) standards. Information sharing between the program implementation contractor and SCE's Codes and Standards program will be facilitated by SCE's program management team as required to ensure program success.

iii. WE&T efforts

No specific linkages with statewide Workforce Education and Training efforts are planned for this program.

iv. Program-specific marketing and outreach efforts

The OP program has developed a systematic recruitment and marketing plan to educate, inform, and recruit oil producers. The program will conduct outreach activities to advertise the program and will use a simple three-step approach to recruit producers: initial phone contact to develop relationship and determine interest, an e-mail follow-up with educational material, and if necessary, a site visit to explore potential energy efficiency projects.

v. Non-energy activities of program

The OP program is a complete turnkey program to facilitate the improvement of existing pumping systems into more efficient systems. To accomplish this, the program will provide project scoping, technical audits, incentive application assistance, equipment installation, post-installation audit, and incentive payments. No other activities are currently planned.

vi. Non-IOU programs

The program will provide information to program participants about non-IOU programs which may help them achieve additional energy benefits.

Nonresidential: Oil Production

vii. CEC work on PIER

Although not a particular focus of the OP program, the OP program will seek applications of cutting-edge process control and refining technologies including any such technologies that are advocated by the PIER program.

viii. CEC work on Codes and Standards

No specific linkages with CEC Codes and Standards work are envisioned for this program.

ix. Non-utility market initiatives

The program does not plan to participate in other non-utility initiatives.

c) Best Practices

This program was originally offered in the 2006-2008 program cycle through SCE's IDEEA program. The transition from an IDEEA program to a mainstream program offering demonstrates a best practice that can be replicated with other IDEEA programs. The program intends to document its previous success and provide case study information. A focus of one such case study will be the program's training and outreach plan that targets independent oil producers to promote ongoing interest and participation in the program to help ensure sustainability. Training and outreach will play an important role in long-term effectiveness. The plan will feature seminars and workshops to provide information on the use of best practices and case studies. Descriptions of these best practices and case studies will be made available through the program's marketing materials and website.

d) Innovation

A program implementation innovation is the adoption of a "systems approach" to optimizing motor-driven processes in order to capture much greater energy savings than is possible by simply replacing components with more efficient alternatives.

e) Integrated/coordinated Demand Side Management

IDSMD activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response Program, and Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Programs). However, the IOUs have identified IDSMD as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSMD efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc.)

Among the possible proposed actions for reducing overall energy use and integration of other resource types is the adoption of water reduction technologies and splitting water injection systems into high-pressure and low-pressure systems. The program

Nonresidential: Oil Production

will provide information on GHG emission reductions associated with energy savings.

g) Pilots

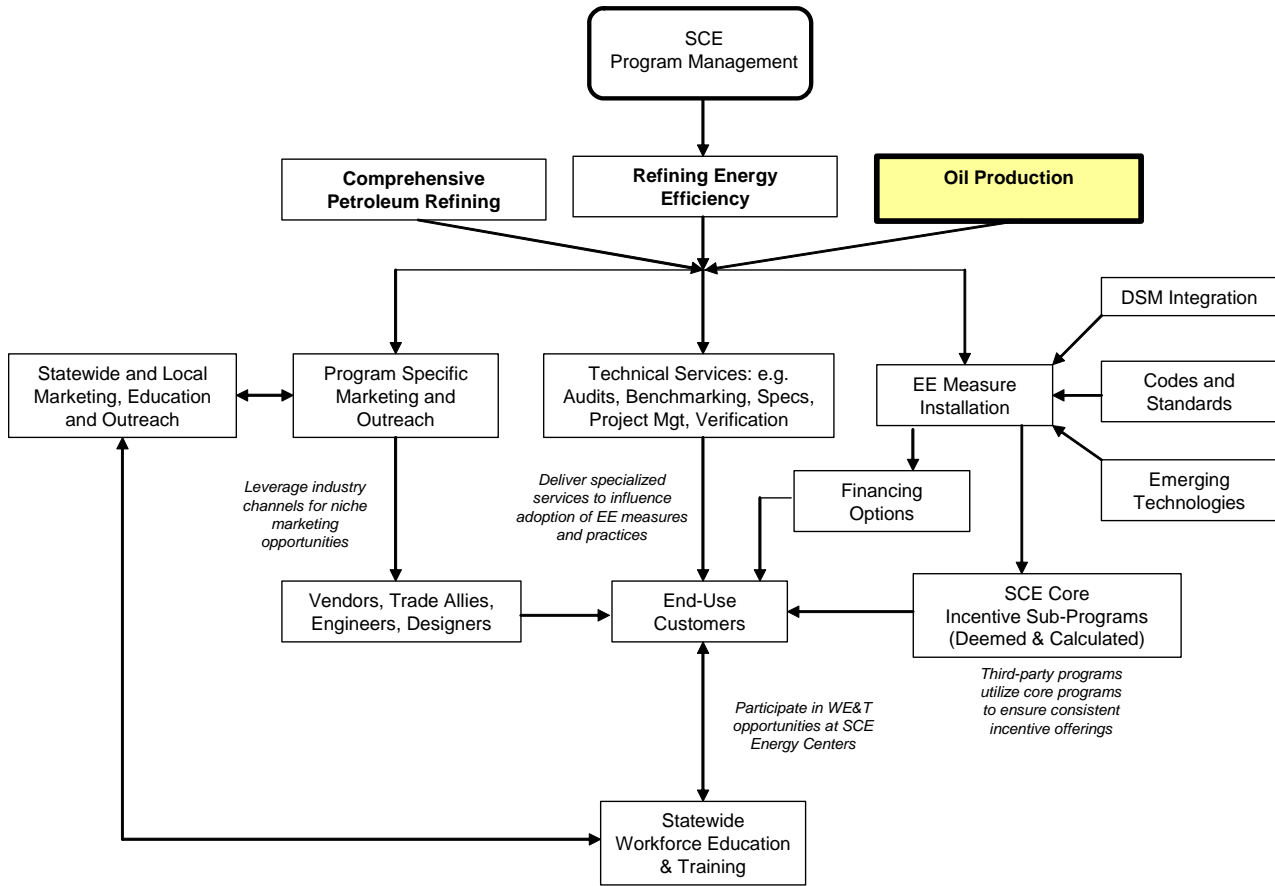
There are no pilot programs anticipated for this third-party program.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

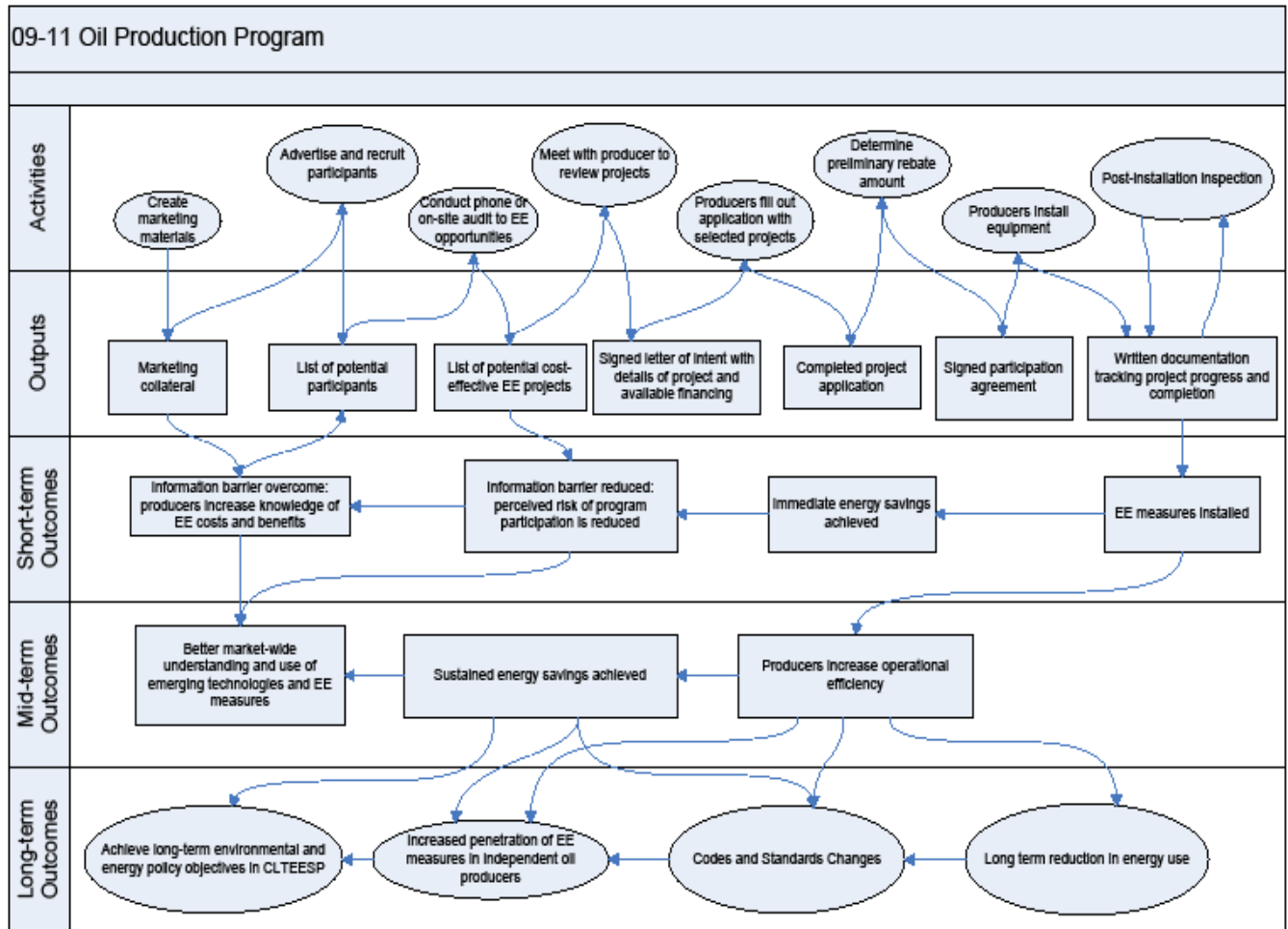
Nonresidential: Oil Production

7. Diagram of Program



Nonresidential: Oil Production

8. Program Logic Model



21

Nonresidential: Refinery Energy Efficiency Program

1. **Program Name:** Refinery Energy Efficiency Program
Program ID: SCE-TP-021
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-021	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Refinery Energy Efficiency Program	\$ 327,447	\$ 144,460	\$ 3,276,094		\$ 3,748,000
	TOTAL:	\$ 327,447	\$ 144,460	\$ 3,276,094	\$ -	\$ 3,748,000

3. Projected Program Gross Impacts Table (by calendar year)

Table 2

SCE-TP-021	Refinery Energy Efficiency Program	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Refinery Energy Efficiency Program	20,456,284	2,404	-
	TOTAL	20,456,284	2,404	-

4. Program Description

a) Describe program

The Refinery Energy Efficiency Program (REEP) targets all the major petroleum refineries in SCE's service territory. The purpose of the program is to provide services to achieve long-term, cost-effective electrical energy savings and demand management in the petroleum industry. The program will target both new and existing facilities and include comprehensive re-commissioning.

REEP is one of three local efforts that provide a comprehensive targeted program delivery approach to the petroleum industry. In comparison with the other two programs (see PIPs for the Comprehensive Petroleum Refining and Oil Production programs), REEP focuses almost exclusively on the refining process. (However, in

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Refinery Energy Efficiency Program

order to avoid lost opportunities, any spillover projects identified that affect ancillary buildings and facilities are referred to SCE's core programs for completion.) There are merits in having three programs focused on the refining industry due to its challenges and complexities, as well as the opportunity to leverage existing relationships that third-party implementation contractors have within the industry.

b) List measures

The program targets industrial measures; however, the program is likely to create spillover for non-industrial projects such as lighting and HVAC retrofits for refinery office buildings. The primary measures targeted for this program are all weather independent, that is, there is little to no variance in energy performance related to weather patterns. All incentives provided through the program will be consistent with those offered by SCE's other Industrial Energy Efficiency program efforts.

The six systems where studies have shown cost effective energy savings for petroleum refining facilities are:

- **Motor Upgrades** – Study and identify opportunities to replace standard efficiency motors with premium efficiency motors. This measure results in electrical energy savings (kWh) and peak period demand reductions (kW) from increased motor efficiency.
- **Compressed Air System Upgrades** – Study and identify deficiencies in existing compressed air systems. The propose program will seek both re-commissioning and retrofit opportunities to optimize the compressed air system, which will result in electrical energy savings (kWh) and peak period demand reductions (kW).
- **Pump Upgrades** – Study and identify deficiencies in existing pump systems. The propose program will seek both re-commissioning and retrofit opportunities to improve the pump system efficiency by installing adjustable speed drives (ASD), impeller trimming, and pump control measures, which will result in electrical energy savings (kWh) and peak period demand reductions (kW).
- **Fan Upgrades** – Study and identify deficiencies in existing fan systems. The proposed program will seek both re-commissioning and retrofit opportunities to improve the fan system efficiency by installing ASD, proper sizing, and air flow control measures, which will result in electrical energy savings (kWh) and peak period demand reductions (kW).
- **Process Optimization and Controls** –The propose program will seek both re-commissioning and retrofit opportunities to improve the process efficiency by installing new process, cutting-edge controls, and optimization strategies.
- **Power Recovery Turbines** –Identify opportunities to install power recovery turbines to replace the pressure expansion valves. This measure recovers wasted energy in the pressure letdown process and delivers direct shaft horsepower to offset pumping or other process energy.

c) List non-incentive customer services

REEP is a one-stop turnkey program that will provide direct marketing, technical assessment (auditing), energy engineering, and design advice plus program administration.

Nonresidential: Refinery Energy Efficiency Program

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The refining industry is one of the largest energy users in SCE's service territory. While the industry is critical for the health and stability of the California economy and has contributed significantly to the Public Goods Charge (PGC) fund, it has been largely under-represented in recent years' energy conservation and demand-side management (DSM) program participation. Market barriers for refineries to participate in DSM include:

- Lack of standards and proven reliability for new technologies in petroleum refining;
- Lack of understanding of the refining process by energy efficiency professionals;
- Lack of capital for investment, high up-front costs;
- Short window of opportunity for installations (project can only be installed during scheduled maintenance shutdowns, typically for period of one to three weeks);
- Long lead time for project development and installation; and
- Lack of available on site staff.

Nonresidential: Refinery Energy Efficiency Program

The program is designed to break down the following market barriers associated with this under-served market.

The REEP will utilize engineers with refining expertise during the project identification and investigation phases. Having refining experts who talk the same language as the refinery engineers will increase the refinery confidence in the program and thus increase participation in the auditing services. Refining experts understand the refining processes and are more able to identify inefficiencies in the refineries.

The REEP will introduce innovative technology applications (power recovery turbines and refining process optimization) applicable to a highly specialized industry. The availability of reliable technologies to the industry will be demonstrated by showcasing successful projects.

The REEP will provide extensive support and assistance for project development/design to help ensure that windows of opportunities for installation will not be missed. Instead of waiting for potential participants to identify and submit applications to take advantage of passive “standard offer” programs features, this innovative proactive program delivery method aims to specifically address barriers associated with short-staffing of refining plants and limited shut-down time.

The REEP will utilize its existing relationships with refiners to market the program. This will allow the program to quickly gain access to the more effective customer contacts.

The REEP’s collaborative marketing efforts aimed at out-of-state corporate decision makers will promote industry-wide awareness and market transformation. Furthermore, the development and maintenance of an information library or technical database for successful projects and case studies will help to increase awareness within the industry.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	4,470	4,470	8,940

e) Advancing Strategic Plan goals and objectives

SCE- awarded contracts with third party implementers before the CPUC's California Long Term Energy Efficiency Strategic Plan (Strategic Plan) was adopted. As such, SCE will work with third-party implementers – including the re-negotiation of

Nonresidential: Refinery Energy Efficiency Program

program scope – to undertake initiatives of the Strategic Plan upon the CPUC's approval of programs.

As currently designed, REEP supports the following Strategic Plan goals identified for the Industrial market segment:

- *Goal 1: Support California industry's adoption of energy efficiency by integrating energy efficiency savings with achievement of GHG goals and other resource goals.*

The targeted approach offered by the REEP program provides the opportunity to significantly increase deep energy savings and resulting GHG reductions.

- *Goal 3: Provide centralized technical and public policy guidance for California industrial energy and resource efficiency.*

The results of the program can be used to inform case studies and other informational materials for use in an industrial knowledge base that will facilitate adoption into future best practices.

6. Program Implementation

a) Statewide IOU Coordination

Not applicable, as the REEP is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Refining Energy Efficiency Program (REEP)

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans e.g., research, target audience, collateral, and delivery mechanisms

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable to this program

Nonresidential: Refinery Energy Efficiency Program

b) Program Delivery and Coordination

i. Emerging Technologies program

The REEP will introduce innovative technology applications – such as power recovery turbines and refining process optimization – that are applicable to this highly specialized industry. The program expects to demonstrate the availability of reliable technologies to the industry by showcasing successful projects.

ii. Codes and Standards program

The energy efficiency measures incentivized by the program are required to meet the applicable equipment minimum efficiency standards including the minimum National Electrical Manufacturers Association (NEMA) motor efficiencies. Refineries will be responsible for specifying equipment and measures to meet the applicable installation standards such as the American Petroleum Institute (API) standards. Knowledge and information sharing between REEP and SCE's Codes and Standards program will be facilitated by SCE's Program Management team as required to help ensure program success.

iii. WE&T efforts

No specific linkages with statewide Workforce Education and Training efforts are planned for this program.

iv. Program-specific marketing and outreach efforts

Refinery customers require highly customized marketing and frequent one-on-one interactions. In most refineries, there is an energy efficiency project champion with the power to move energy efficiency projects forward. The success of REEP is dependent on developing long-lasting relationships with these champions who remain instrumental throughout the project implementation process. The REEP will communicate program benefits to all potential participants through the following activities:

- Conducting one-on-one meetings with customers;
- Conducting joint walk-through energy audits with the customers' engineers, if needed;
- Holding workshops or seminars for groups of refiners;
- Developing marketing literature to support the one-on-one communication and workshops; and
- Engaging support for energy efficiency initiatives at the corporate level, where it is sometimes possible to gain support by linking energy efficiency projects to carbon-credit-driven and corporate social responsibility programs.

An array of materials will be developed to support this in-person marketing and education process. Such materials may include:

- A program brochure;
- Case studies of successful projects;
- Website-based program information;
- Presentations for professional and stakeholder organizations;
- Customer electronic newsletter;

Nonresidential: Refinery Energy Efficiency Program

- Targeted advertising; and
- Trade show signage and collateral.

These marketing materials will contain both economic and technical details about the program offerings. Examples of successful projects can serve to highlight the savings in both dollars and energy that can be derived from energy efficiency projects. As the program progresses, early projects may be used as the basis for additional case studies and updated marketing materials.

v. Non-energy activities of program

The refineries expect to implement additional process upgrades to meet current environmental requirements and prepare to comply with California AB 32. Actively involvement in carbon management and auditing of GHG emissions of large customers will be undertaken under AB 32. Any process improvement measure installed in the refineries that also reduces energy intensity (kWh per unit of production) will produce permanent energy savings because the refineries must operate the new processes to comply with the regulations.

vi. Non-IOU programs

The REEP will provide information to program participants about non-IOU programs to help them achieve additional energy benefits. The information may come from federal agencies, state agencies, industry associations and other sources.

vii. CEC work on PIER

Although not a particular focus for the program, REEP will seek applications of cutting-edge process control and refining technologies including any such technologies that are advocated by the PIER program.

viii. CEC work on Codes and Standards

No specific linkages with CEC Codes and Standards work are envisioned for this program.

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

Targeted niche programs that focus on one particular customer segment program have traditionally yielded successful energy efficiency and demand response projects. These types of programs are actively managed using experienced personnel from the targeted industry who are in a position to scope out customer projects that deliver substantial energy and demand savings.

d) Innovation

The program will seek to identify project champions at participating refineries. Based on the implementation contractor's previous experience, this has enabled

Nonresidential: Refinery Energy Efficiency Program

implementation of nearly twenty major successful REEP projects comprising hundreds of measure installations. The customized refinery program has been demonstrably successful in managing some of the particular issues that arise when developing projects with large and specialized customers such as refineries.

e) Integrated/coordinated Demand Side Management

IDSM activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSM as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc)

The refineries expect to implement additional process upgrades to meet current environmental requirements and to prepare for compliance with California AB 32. The program will be actively involved in carbon management and auditing of GHG emissions of large customers as required under AB-32. The program is in a position to integrate carbon management and energy efficiency. To assist in this process, the implementation contractor will use its considerable expertise in carbon management to document customer's carbon footprint and facilitate their participating in carbon registration, carbon trading, and monetizing carbon credits as appropriate

g) Pilots

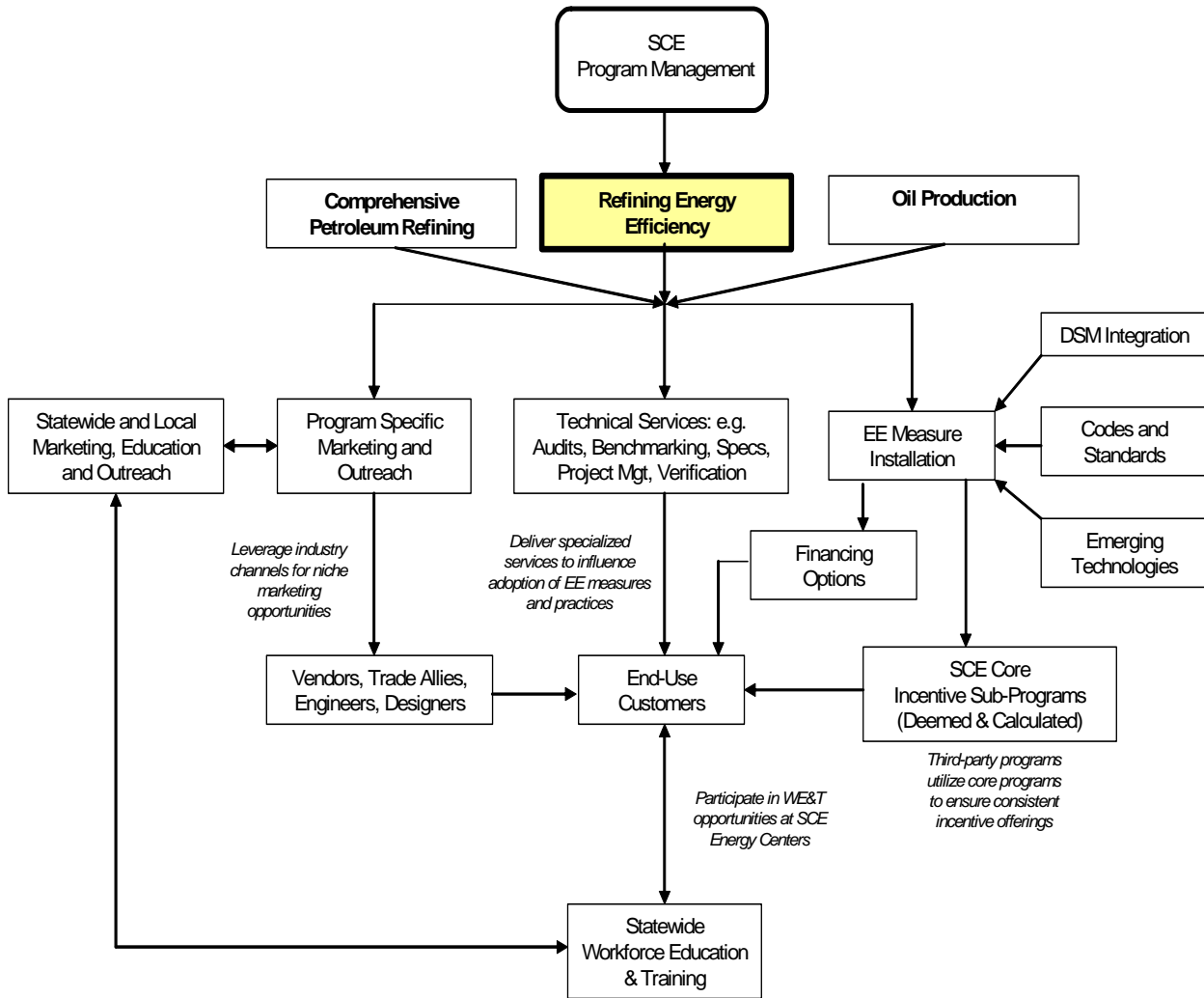
There are no pilot programs anticipated for this program.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

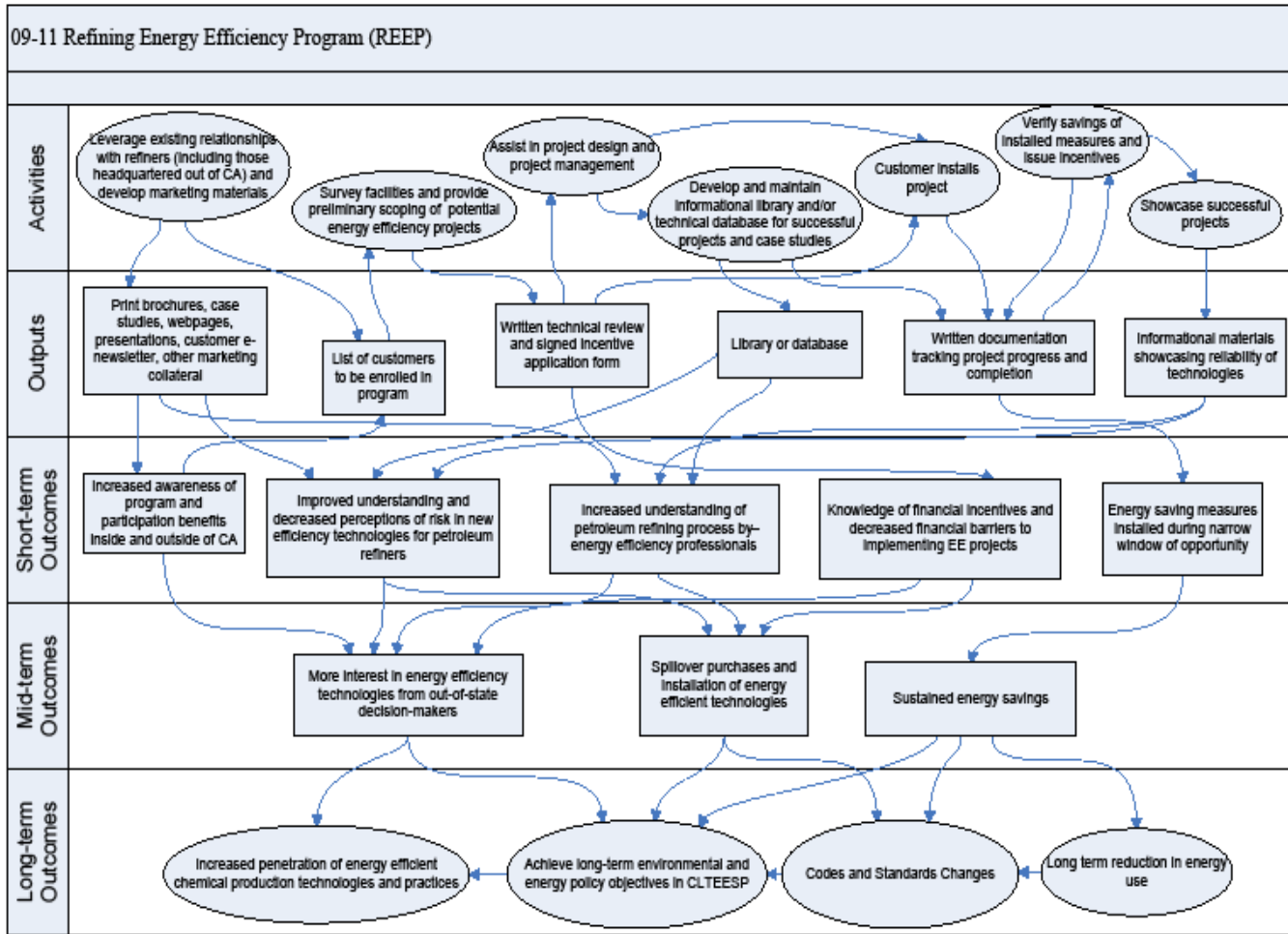
Nonresidential: Refinery Energy Efficiency Program

7. Diagram of Program



Nonresidential: Refinery Energy Efficiency Program

8. Program Logic Model



22

Nonresidential: High Performance Hospitals

1. **Program Name:** High Performance Hospitals
Program ID: SCE-TP-022
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-022	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	High Performance Hospitals	\$ 339,987	\$ 6,000	\$ 2,692,014		\$ 3,038,000
	TOTAL:	\$ 339,987	\$ 6,000	\$ 2,692,014	\$ -	\$ 3,038,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-022	High Performance Hospitals	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	High Performance Hospitals	18,135,453	2,381	-
	TOTAL	18,135,453	2,381	-

4. Program Description

a) Describe program

The High Performance Hospitals (HPH) program will be offered to midsize and large hospitals with energy use of more than 18,000,000 kWh/year. Target customers include existing private hospitals and public hospitals, including government hospitals. Smaller hospitals may be included depending on the specific opportunities that exist for delivering energy savings. Eligible facilities include hospital buildings, administration buildings, service buildings and central plants.

Program services include:

- Comprehensive energy audits covering all key end-uses and measures for energy efficiency;

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: High Performance Hospitals

- Analysis for opportunities in demand management and demand response, including self-generation;
- Technical assistance, including support for measures specification, procurement and project management;
- Retrocommissioning for large space conditioning systems;
- Post-installation inspection to verify performance;
- Workforce training and education of facility staff;
- Incentives coordination with programs of SCE;
- Availability of third party financing; and
- Customer satisfaction surveys and resolution.

This program is one of two separate, but similar, efforts directed at the healthcare industry (see Healthcare EE Program for a description of SCE's other local program). This program targets large hospitals with a comprehensive central plant retrocommissioning service.

b) List measures

Key measures will include those associated with central cooling plants and HVAC systems (more specifically small, medium and large space cooling and ventilation/pumps end-uses). Other measures will be considered, including lighting and self-generation.

c) List non-incentive customer services

Non-incentive customer services include:

- Marketing and outreach through existing relationships to identify customers;
- Energy Solutions cost/benefit site survey;
- Energy Solutions installation and implementation;
- Access to metered data and performance of Integrated Energy Audit; and
- Project installation and quality control.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

Nonresidential: High Performance Hospitals

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The Strategic Plan lists several categories of market transformation tools to overcome barriers to increased energy efficiency. The tools include:

- Customer incentives to overcome financial barriers;
- Codes and standards to displace the barrier of cheaper inefficient products and lax installation practices;
- Information and education to overcome the barrier of lack of customer awareness and understanding; and
- Technical assistance to overcome the lack of professional expertise among customers.

The table below shows the specific program design features to overcome the barriers.

Market Transformation Tools to Overcome Barriers	Program Design Features to Overcome Barriers
Customer Incentives	Rebates from SCE for capital items; third party financing
Codes and Standards	Recommended measures comply with OSHPD requirements
Education and Information	Program marketing materials, case studies, seminars, websites
Technical Assistance	Energy audits, benchmarking, equipment specification, procurement assistance, retrocommissioning, project management assistance, performance verification

Nonresidential: High Performance Hospitals

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	2	14	3

e) Advancing Strategic Plan goals and objectives

The program supports the Strategic Plan as described below.

Section 3, Commercial Sector

Goal 2: 50 percent of existing buildings will be retrofitted to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

Strategy 2.5: Develop tools and strategies to use information and behavioral changes, commissioning, and training to reduce energy consumption in commercial buildings.

The program provides central plant retrocommissioning services that provide the customer with accurate information about their energy use through improved operational strategies, preventative maintenance, equipment replacement/repair, and continuous performance monitoring and analysis. This information can be used by the customer to their manage energy use effectively.

6. Program Implementation

a) Statewide IOU Coordination

This is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however best practices will be shared with the other IOUs as appropriate.

i. Program name: High Performance Hospitals Program

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms

Not applicable

Nonresidential: High Performance Hospitals

- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable**

Not applicable to this program

- vi. Similar IOU and POU programs**

Not applicable to this program

b) Program delivery and coordination

i. Emerging Technologies program

This program is not directly connected to Emerging Technology efforts.

ii. Codes and Standards program

In the course of analysis and design projects, the program will be required to maintain code compliance with regulatory agencies or State or local government departments. For example, hospital design work requires the review and approval of the California's Office of Statewide Health and Planning (OSHPD) when needed and the State Fire Marshall. Project drawings and specifications are sent to each reviewing agency for review and comment. Review comments are then incorporated into the drawings and specifications and submitted the revised documents and check set for approval. The program will work with Codes and Standards efforts to encourage compliance.

iii. WE&T efforts

Not applicable to this program

iv. Program-specific marketing and outreach efforts

The program will achieve its market penetration objectives by using such practices as:

- One-to-one marketing by contractor with customer through telephone and personal meetings;
- Seminars for facility managers and hospital administrators;
- Program marketing materials including brochures, flyers, and case studies;
- Encourage word-of-mouth marketing between hospital administrators;
- Participation at conferences and trade associations;
- Coordination with SCE's other EE programs for possible joint marketing activities. Activities may include: distribution of marketing materials, joint presentation to target audience, and periodic referrals via email;
- Program website;
- Build partnerships with the VHA, a large network of community-owned hospitals;
- Build relationships with Hospital Energy Services, which serve the VHA;
- Build on existing contractor relationships with sister companies in mechanical contracting and building controls; and
- Incorporate proven building commissioning systems.

Nonresidential: High Performance Hospitals

v. Non-energy activities of program

Not applicable to this program

vi. Non-IOU programs

Not applicable to this program

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

A key feature of the program is a retrocommissioning tool that will provide actual performance data in real-time to the facility operators. This will enable them to adjust equipment operations immediately and enhance energy efficiency. The tool is designed to identify equipment performance issues as they occur and immediately recommend best practice strategies to optimize performance.

The data gained from the installation will allow the program engineers to perform accurate integrated energy audits to identify energy efficiency, demand response, and distributed generation measures. Many of the relevant capital measures, once implemented, can then be monitored through a tracking tool to ensure persistence of savings.

d) Innovation

The contractor will offer a turn-key delivery mechanism using its affiliated companies in mechanical contracting and controls contracting.

e) Integrated/coordinated Demand Side Management

IDSM activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSM as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

Nonresidential: High Performance Hospitals

f) Integration across resource types (energy, water, air quality, etc.)

The program will provide estimates on greenhouse gas emission reductions associated with energy savings. Furthermore, the program will remain sensitive to other resource types by flagging recommended energy saving measures with meaningful impacts on other resources. To assist with implementing the California Global Warming Solutions Act of 2006 (AB 32), the program will provide facility staff with the publication *Guidance and Protocols for Businesses to Facilitate Greenhouse Gas Emissions Reductions*.²

g) Pilots

Not applicable to this program

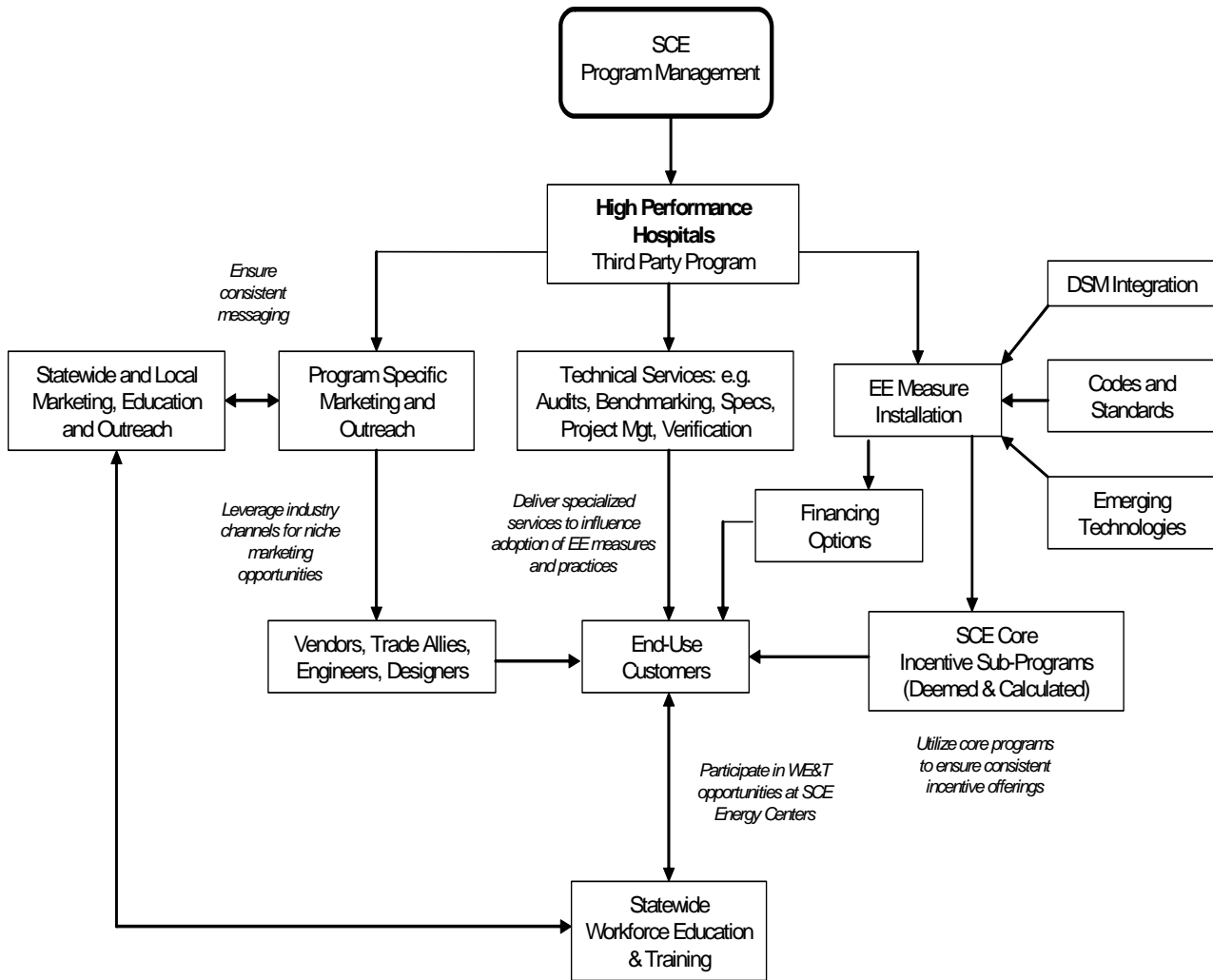
h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

² Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions, California Environmental Protection Agency, Air Resources Board September 2007 Table 2 Greenhouse Gas Reduction Strategies.

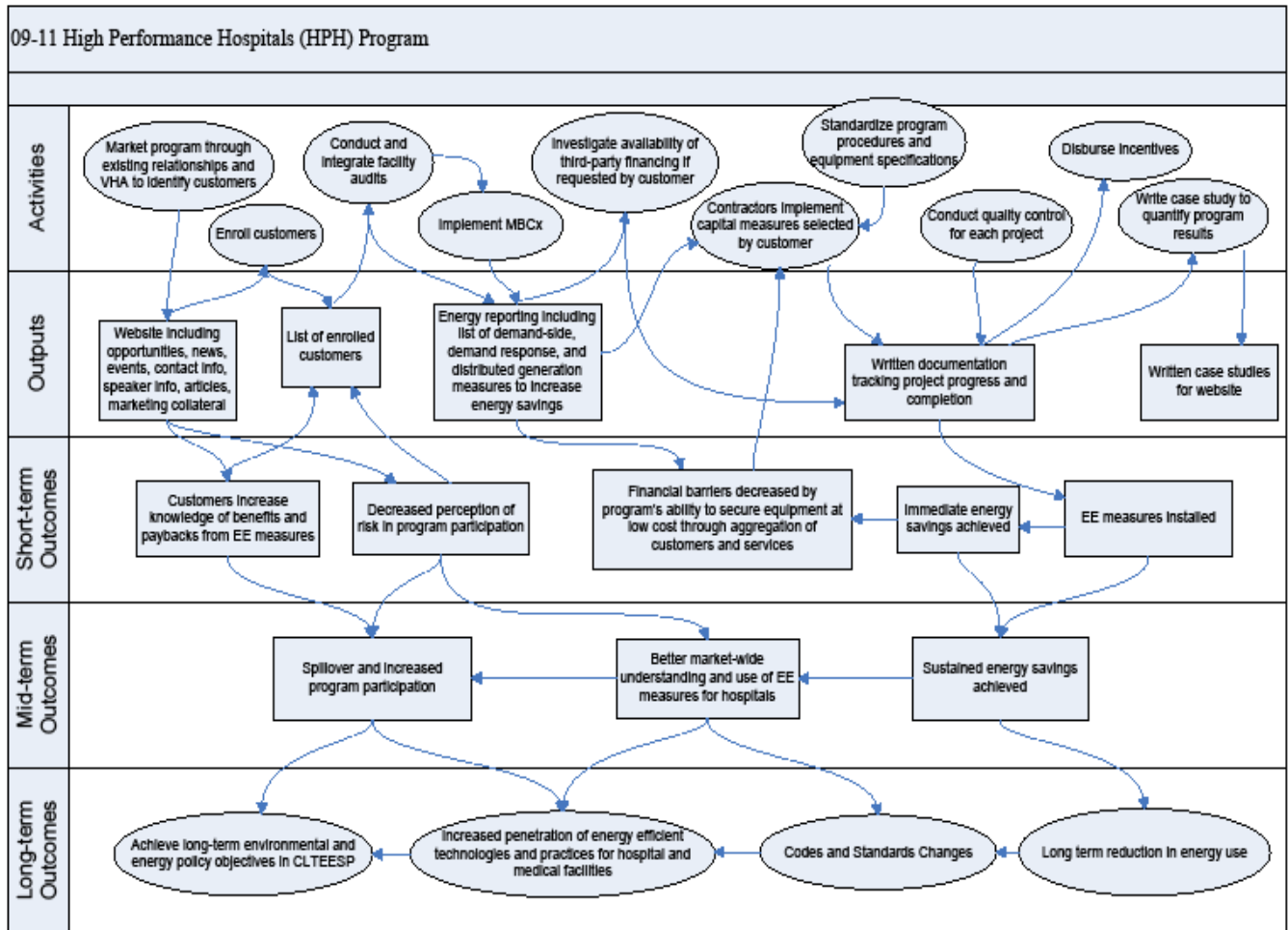
Nonresidential: High Performance Hospitals

7. Diagram of Program



Nonresidential: High Performance Hospitals

8. Program Logic Model



23

Nonresidential: Cool Schools

1. **Program Name:** Cool Schools
Program ID: SCE-TP-023
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-023 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Cool Schools	\$ 736,147	\$ 9,000	\$ 7,369,853		\$ 8,115,000
	TOTAL:	\$ 736,147	\$ 9,000	\$ 7,369,853	\$ -	\$ 8,115,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-023	Cool Schools	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Cool Schools	64,800,337	23,877	-
	TOTAL	64,800,337	23,877	-

4. Program Description

a) Describe program

The target customers for the Cool Schools program are both public and private schools serviced by aging HVAC equipment. Incentives from SCE and financing from Energy Conservation Assistance Accounts (ECAA) from the California Energy Commission (CEC) are expected to stimulate significant participation by the schools. To identify the best candidates for program participation, a school HVAC database will be developed in cooperation with the California School Board Association. School districts and facilities prioritized through the database will be offered free HVAC surveys. Participating schools will receive a detailed energy audit and related report including recommended actions.

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here.

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Cool Schools

b) List measures

Measures included in this program include:

- Evaporative pre-coolers on make-up air intakes;
- Chillier upgrading to models that contain variable speed drives;
- Lighting;
- Energy management systems and controls; and
- Variable speed motors.

c) List non-incentive customer services

Non-incentive customer services include:

- Database of HVAC equipment for participating school districts;
- Energy audits detailing measures, costs and savings;
- Involvement of the California School Board Association;
- Involvement of the CEC and the ECAA program; and
- Availability of the HVAC database after conclusion of this program to help schools independently develop long-term replacement plans.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Nonresidential: Cool Schools

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The Strategic Plan lists five categories of market transformation tools that will be incorporated into this program to help overcome barriers to increased energy efficiency. The tools include:

- Customer incentives to overcome financial barriers;
- Codes and standards to displace the barrier of cheaper inefficient products and lax installation practices;
- Information and education to overcome the barrier of lack of customer awareness and understanding;
- Technical assistance to overcome the lack of professional expertise among customers; and
- Emerging technology to overcome the barrier of resistance to adopting new technologies.

Figure 1 below summarizes the categories of market transformation tools and the specific program design features to help overcome the barriers.

Figure 1

Market Transformation Tools to Overcome Barriers	Program Design Features to Overcome Barriers
Customer Incentives	Rebates from SCE; financing from ECAA
Codes and Standards	Database to help lower the threshold at which upgrades are adopted
Education and Information	Program information and technical information presented through multiple forms of media and marketing practices
Technical Assistance	Energy audits and project management assistance
Emerging Technologies	Research institutions' independent review of new technologies to facilitate workpaper and DEER additions

Nonresidential: Cool Schools

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	80	160	160

e) Advancing Strategic Plan goals and objectives

The program supports the California Long-term Energy Efficiency Strategic Plan as described below.

Near Term Action Step	Program Activity
Investigate other funding support that might be offered (Commercial Goals 1-5)	Collaborate with CEC's ECAA program
Identify new or improved tools and strategies,...presentation of economic, comfort and productivity cases (Commercial Goals 2-6)	Audit will be in format compatible with rapid processing of ECAA applications

6. Program Implementation

a) Statewide IOU Coordination

The Cool Schools program is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however best practices will be shared with the other IOUs as appropriate.

i. Program name: Cool Schools

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable to this program

Nonresidential: Cool Schools

b) Program delivery and coordination

i. Emerging Technologies program

The program would allow for research institutions (e.g., SCE's Refrigeration and Thermal Test Center and/or the Western Cooling Efficiency Center at UC Davis) to give independent evaluations of new energy efficiency measures (EEMs). After independent certification and (at SCE's sole discretion) upon review of a Work Paper prepared by the applicant, new technologies rated in the DEER format could be implemented in the program in advance of their actual adoption into DEER or Title 24. This would allow new technologies to be implemented at an accelerated rate and reduce unnecessary incubation of technologies waiting for the 3-year DEER/Title 24 cycle. This may save viable technologies whose sponsors lack the resources to wait for the ordinary 3-year cycle. This "Open Door to Innovation" element, being program-based, peer-reviewed, and subject to SCE approval, offers a unique opportunity for new technologies.

ii. Codes and Standards program

Not applicable to this program

iii. WE&T efforts

Not applicable to this program

iv. Program-specific marketing and outreach efforts

A multifaceted media campaign will be used to promote the Cool Schools Program to the K-12 public schools segment. The program will develop, produce, and have available for deployment appropriate marketing materials in a variety of different media to support the rapid and complete implementation of the program. In keeping with best practices for campaigns of this type, funds within the marketing budget may be shifted from one media category to another as market conditions become apparent. This flexibility will allow the program to better meet its goals, including "spillover" referrals to core SCE energy efficiency programs.

Other marketing materials will include developing a Cool Schools Program website for program information and customer applications, direct mail pieces and e-mail broadcasts, and articles for organizational newspapers. Person-to-person marketing will include attending CSBA regional meetings, making telephone calls to school facilities' personnel to gauge and generate interest in the program, and providing a program-specific toll-free telephone number.

v. Non-energy activities of program

Not applicable to this program

vi. Non-IOU programs

The program is designed to integrate with other local and statewide programs, such as:

Nonresidential: Cool Schools

- **Green Schools**: Efficiency projects adopted by districts under this program provide an excellent opportunity to educate staff, students, and the community at large about the opportunities for energy conservation and peak demand reduction at the local level. Schools which are given audits will be a suitable candidate for SCE's Green Schools Program. The Cool Schools Program can facilitate the entry of the successful Green Schools Program into each site that the Cool Schools Program team visits. This will increase the penetration of the Green Schools Program at no cost to the Cool Schools Program.
- **ECAA**: The ECAA program provides low-cost, easy-to-obtain financing that also offers peer review of projects at very little cost to the Cool Schools Program. In return, Cool Schools provides substantial awareness of ECAA. The ECAA funding available, with potentially positive cash flows, will be an educational focus as the California School Board Association (CSBA) communicates with its member boards and county administrators. Even without the unique program advantages of paying incentives and funding audits, the change in ECAA funding, allowing for the up-front positive cash flow on EEMs instead of avoided-cost neutrally funding marginal EEM improvement, will be very beneficial to schools.

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

SCE expects to contract the program to a third party organization experienced in educational energy services performance. A key feature of the program will be the HVAC database developed in concert with the CSBA. Although data may have already been gathered by district facilities managers, the program will ensure universal coverage by serial number, equipment type, and equipment age. These data serve the districts and the program in several important ways. They will function as one of the two main tools for determining where audits will occur, the second tool being self-reporting from schools. This database will not only help select the best candidates for audits, but will also be of continuing benefit to the school districts in scheduling HVAC replacement after the program has run its course.

d) Innovation

The program expects to cultivate the communications channel potential that exists through the CSBA. By using this channel, the program will narrowly focus marketing efforts on ultimate decision-makers and reduce the cost of identifying candidates by opening the flow of information about school facilities. In addition to communicating with all potential participating consumers at once, partnering with CSBA provides

Nonresidential: Cool Schools

unique advantages in conveying the program's benefits in a timely, efficient, and contextual manner. The benefits of the program will be uniquely conveyed through existing, trustworthy communication channels between the CSBA and the boards.

Focusing on facilities where school boards have already recognized that equipment is at the end of its useful life will allow program incentive funds to be used toward the incremental marginal costs of upgrading to higher performing equipment instead of covering the entire cost of the equipment. These projects may have extended payback periods when compared to other energy efficiency upgrades, but ECAA funding of improvement over baseline removes this obstacle and may instead provide cash flow benefit.

The HVAC database will provide an objective candidate selection tool to work in conjunction with school self-reporting to help the program become fully subscribed.

The program will conduct thorough energy and equipment audits at each participating school to determine how best to improve energy performance. A custom computerized building energy model will be prepared for each potential site. By inventorying existing HVAC, controls, and lighting equipment currently in use at the site, the program will be able to ascertain potential opportunities for EEMs. The next step will be augmenting the initial assessment with quantitative data from a thorough review of the school's energy bills, revealing average and peak demand frequency and consumption. With data compiled and a needs assessment well-defined, the program will present state-of-the-art alternatives to the school with calculated estimates of savings in energy use from installation of the new equipment.

e) Integrated/coordinated Demand Side Management

IDSMD activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response Program, and Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Programs). However, the IOUs have identified IDSMD as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSMD efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc)

Not applicable to this program

g) Pilots

Not applicable to this program

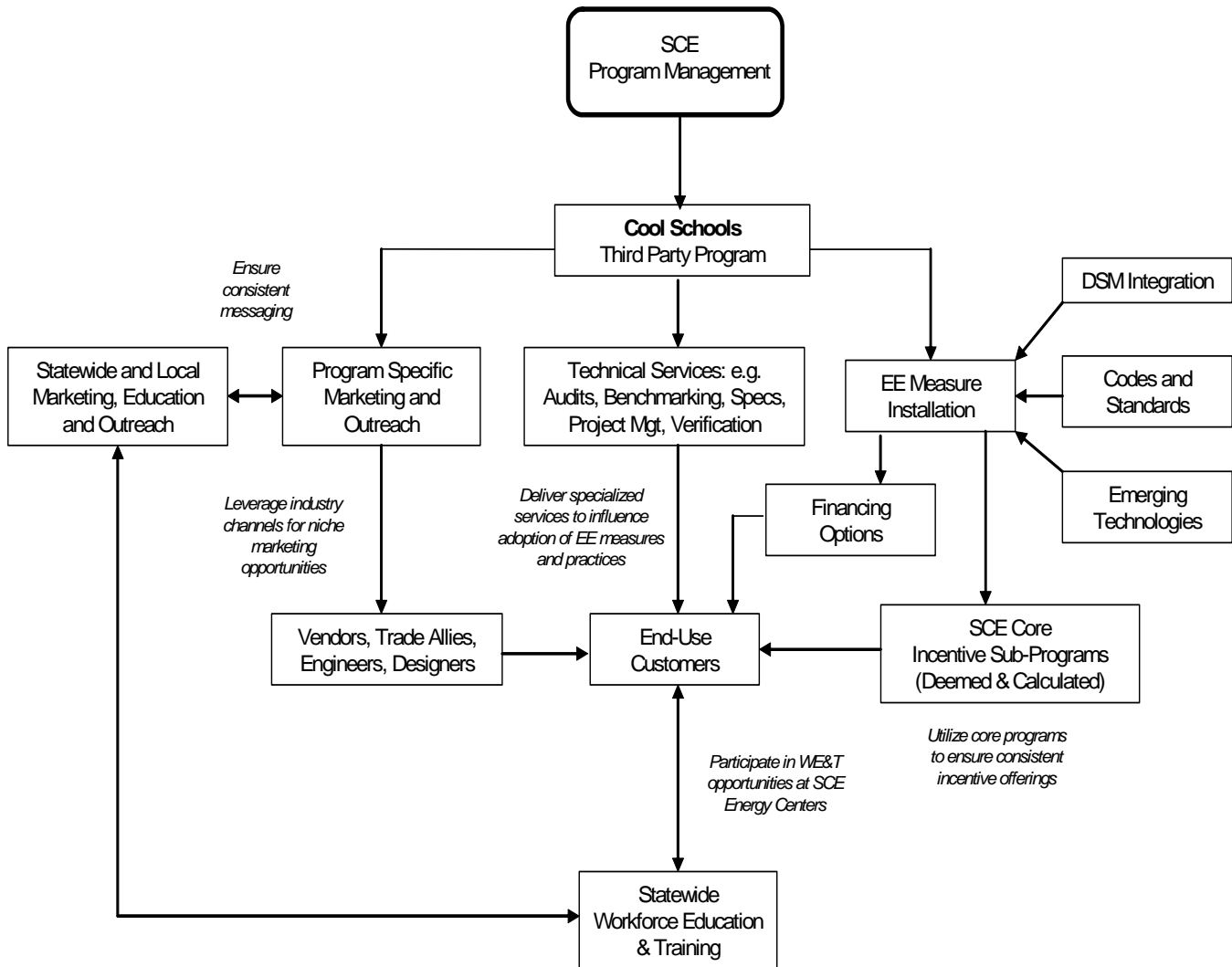
Nonresidential: Cool Schools

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

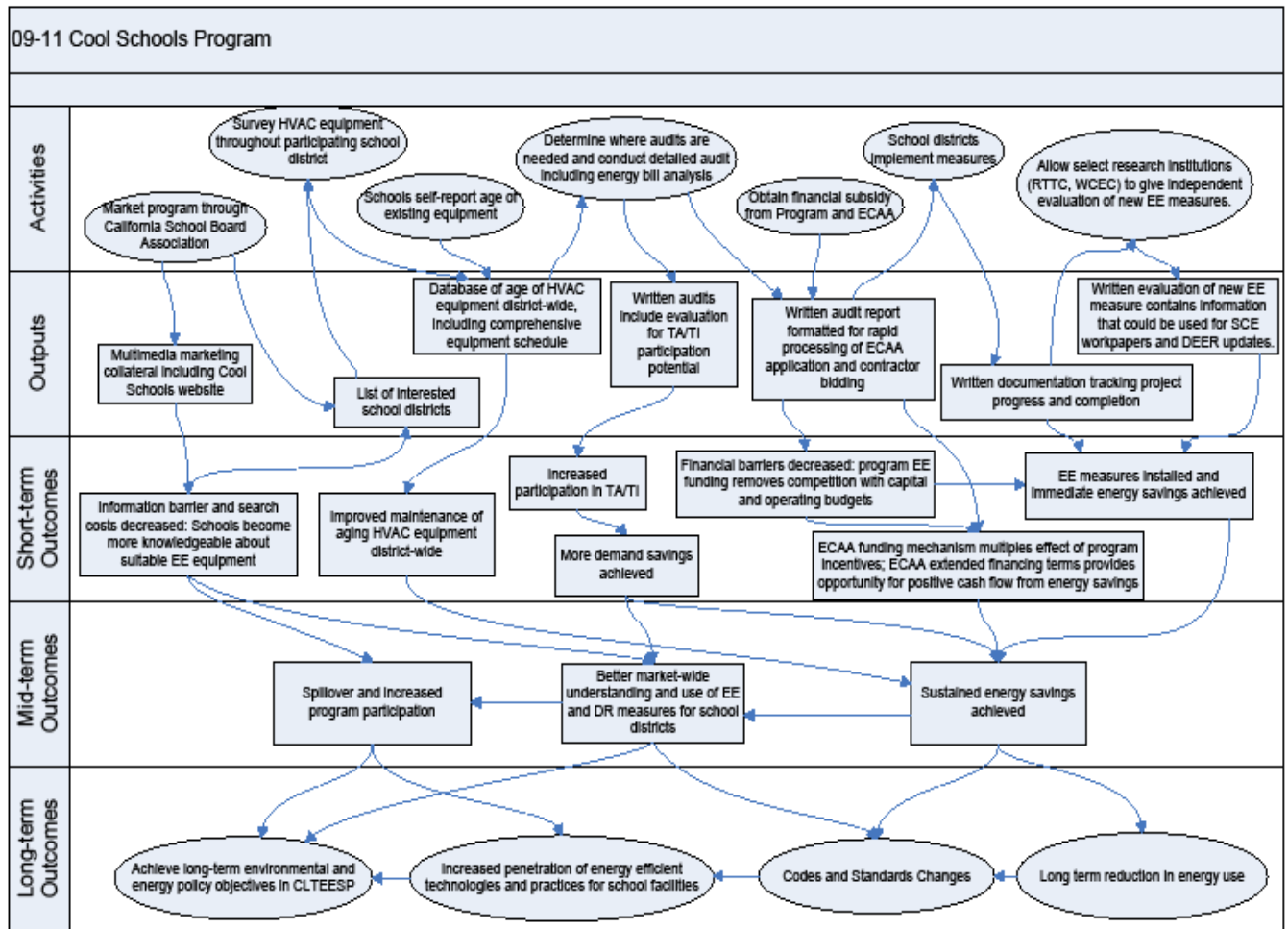
Nonresidential: Cool Schools

7. Diagram of Program



Nonresidential: Cool Schools

8. Program Logic Model



24

Nonresidential: Public Pre-Schools, Elementary Schools and High Schools

1. **Program Name:** Public Pre-Schools, Elementary Schools and High Schools
Program ID: SCE-TP-024
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-024	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Public Pre-Schools, Elementary Schools and High Schools	\$ 395,909	\$ 6,000	\$ 3,525,091		\$ 3,927,000
	TOTAL:	\$ 395,909	\$ 6,000	\$ 3,525,091	\$ -	\$ 3,927,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-024	Public Pre-Schools, Elementary Schools and High Schools	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Public Pre-Schools, Elementary Schools and High Schools	17,274,613	6,854	-
	TOTAL	17,274,613	6,854	-

4. Program Description

a) Describe program

Target customers include all public schools, including pre-schools, elementary schools, middle or junior high schools, and senior high schools. Existing facilities are targeted including administration and service buildings. All energy end-uses are targeted including measures typically funded by operating budgets, as well as measures typically funded by capital budgets. To reduce customer costs and encourage greater participation, SCE will provide financial incentives. The program will feature:

- An energy audit covering energy efficiency and demand response opportunities;
- Direct installation of no-cost/low-cost measures;
- Technical assistance for large capital measures, including specifications assembly, procurement assistance and installation overview;

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Public Pre-Schools, Elementary Schools and High Schools

- Retrocommissioning for large space conditioning systems;
- Post-installation inspection to verify performance;
- Funding assistance to identify sources and types of funding;
- Financial assistance coordination and processing; and
- Customer satisfaction surveys and problem resolution.

b) List measures

Measures will include the full range of no-cost/low-cost measures, such as:

- HVAC maintenance measures²:
 - Air filter replacement;
 - Refrigerant charge adjustments;
 - Condenser coil repairs;
 - Condenser and evaporator coil cleaning; and
 - Economizer repair.
- Lighting replacements, including compact fluorescent lamps and LED exit signs;
- Low-flow showerheads and faucet aerators;
- Plug load timers; and
- Vending machine controllers.

Retrofit measures needing more capital that will be eligible for incentives include:

- Demand control ventilation controls;
- Occupancy controlled thermostats;
- Boiler temperature controllers;
- Lighting motion and occupancy sensors;
- Daylighting sensors;
- High efficiency lighting; and
- High efficiency HVAC.

Financial incentives will be available in several forms, including:

- No charge for low-cost/no cost measures;
- Development of an investment strategy for retrofit capital items; and
- Incentives for retrofit capital items earned from SCE that will be based on Deemed incentives and Calculated incentives in core programs.

c) List non-incentive customer services

Non-incentive customer services include:

- Energy audits;
- Technical assistance;
- Benchmarking of energy use with other facilities;
- Demonstration project opportunities;
- Awards and recognition possibilities;

² HVAC maintenance measures delivered by this third-party program will be required to follow the requirements established by the Statewide Residential and Commercial HVAC Program. Refer to the Residential and Commercial HVAC Program and Sub-Program implementation plans for more information.

Nonresidential: Public Pre-Schools, Elementary Schools and High Schools

- Student and staff participation;
- Program newsletters and website;
- Analysis of greenhouse gas reductions associated with energy efficiency;
- Assistance in locating other funds for capital items from other private and public sources; and
- Development of an investment strategy for retrofit capital items.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Schools have funding requirements, budgeting schedules and measure implementation schedules that are different from those found in other non-residential segments. Given the current state of the economy in California, schools are especially restricted in both funding and resources. Without the assistance of a specific program that is tailored to address this market segment's specific needs and schedules, implementation of energy efficiency projects is anticipated to move at a very slow pace. Most educational institutions lack the resources to plan and execute energy-

Nonresidential: Public Pre-Schools, Elementary Schools and High Schools

efficiency projects internally or through third-party contracts. Therefore, availability of third-party programs sponsored by utilities is crucial to the development of energy efficiency projects in this customer segment. The program will aim to overcome these barriers by:

- Providing technical training and assistance to staff at the school facilities to help them maximize operational energy efficiency;
- Identifying low-cost/no-cost energy-efficiency measures through energy audits and retro-commissioning (for high schools), and provide free implementation for measures with short payback periods;
- Identifying capital-investment measures through energy audits, and working with school management to utilize funds made available by lower energy bills to implement these measures;
- Working closely with school administrators and facility managers to coordinate funding requests, allocations and all other planning steps necessary to complete installations;
- Providing assistance to secure external funding from loans or grants available from both public and private organizations;
- Coordinating with participating school districts to implement subsidized demonstration projects involving innovative technologies that can be easily replicated at other sites; and
- Providing technical and administrative assistance for project implementation, and providing financial incentives for successfully completed projects.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	45	72	63

e) Advancing Strategic Plan goals and objectives

The program supports following the Commercial sector goal #2 identified as follows in the Strategic Plan:

Goal 2: 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

This program will help to advance this goal by delivering customer education and information, providing technical assistance, installing low cost/no cost measures at no cost to the customer, providing additional incentives for measures that have a higher capital cost, and performing all HVAC maintenance in compliance with the quality

Nonresidential: Public Pre-Schools, Elementary Schools and High Schools

maintenance standards set by the Statewide Residential & Commercial HVAC Program.

6. Program Implementation

a) Statewide IOU Coordination

The Public Pre-Schools, Elementary Schools and High Schools program is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Public Pre-Schools, Elementary Schools and High Schools

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable to this program

b) Program delivery and coordination

i. Emerging Technologies program

The installation of demand ventilation control systems is expected to be a key measure in the program. This is a relatively unfamiliar technology with attractive applications in common areas with irregular occupancy such as gyms, multi-purpose-rooms, and cafeterias. Both gas and electricity savings come from reduced heating and cooling loads associated with higher outdoor air intake. The measure will reduce the outdoor air intake in proportion to the number of occupants.

The program will work with customers to demonstrate innovative energy-efficient technologies. To qualify for demonstration projects, the customer must intend to adopt the measure in the rest of its facilities, and the project must have the ability to be replicated elsewhere without a significant re-design or re-engineering effort. Priority will be given to facilities with multiple locations and/or technologies that are universally applicable to facilities in the region.

Nonresidential: Public Pre-Schools, Elementary Schools and High Schools

ii. Codes and Standards program

The program will coordinate with the Codes and Standards and the Collaborative for High Performance Schools (CHPS) programs to identify changes in minimum code and beyond-code standards that are being proposed and/or adopted for incorporation into the program.

Wherever applicable, Title 24 and Title 20 standards will be used as measure baselines, particularly where the use of new (2008 version) codes and standards as baseline equipment is mandatory.

iii. WE&T efforts

The program offers optional facility staff training. If the facility selects this option, facility staff will be invited to a field training session held at a nearby facility that provides an outline of how to maintain HVAC, refrigeration and lighting equipment in a proper manner. Highly trained specialists with extensive background in commercial equipment will provide the training. The frequency and duration of training will be determined at a later time based on demand.

iv. Program-specific marketing and outreach efforts

To successfully recruit facility managers and school administrators, a personalized one-to-one marketing approach is necessary as decision-makers at these facilities usually do not respond well to mass marketing approaches. The program staff has intimate knowledge of educational facilities and experience working with school administrators to communicate with decision makers and market the program. A combination of telephone calls and in-person meetings will be used as the primary recruitment method.

v. Non-energy activities of program

Not applicable to this program

vi. Non-IOU Programs

Not applicable to this program

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

The program delivery strategy is based on a re-evaluation of existing programs, historical successes, and the needs of the market sector. The resulting program component design uses a combination of proven and innovative approaches to

Nonresidential: Public Pre-Schools, Elementary Schools and High Schools

markets and delivery mechanisms that maximize energy savings opportunities, including CHPS. The program will be flexible enough to evaluate and adjust offerings based on successes and customer responses. In addition, the program will leverage the best practices resulting from the statewide efforts of the Residential and Commercial HVAC Program and incorporate these practices into the program design, in order to help ensure that HVAC maintenance measures are delivered in compliance with the necessary QM standards.

d) Innovation

Program innovations include:

- Standardization of the application of demand control ventilation;
- Identification of demand response opportunities while identifying energy efficiency opportunities;
- Development of a financial plan for the customer, featuring an agreement that no-cost/low-cost measures be installed for the customer at no charge, in exchange for the customer's commitment to installing certain retrofit capital measures; and
- Retrocommissioning that will entail the following innovative activities:
 - Collecting drawings, specifications, and other construction documents for a building, its existing energy systems, and associated Building Automation System (BAS) — also often referred to as Energy Management System (EMS), Energy Management and Control System (EMCS), or Direct Digital Control (DDC) System;
 - Developing a detailed schedule and scope of work for the retrocommissioning effort;
 - Interviewing the building engineer or other facility staff for information on occupancy, lighting, ventilation and equipment schedules, operational practices, preventative maintenance practices and schedules, and a number of other "human factors" that are associated with energy use at the building;
 - Inspecting equipment and systems for control settings, lighting levels, inventory of equipment, ventilation rates, building population, occupancy level, and other parameters;
 - Analyzing data gathered during the site visits and developing preliminary lists of potential enhancements to the systems for each building;
 - Preparing building-specific test plans based on the information collected in previous tasks;
 - Taking measurements to verify the performance of HVAC equipment;
 - Analyzing test data with the DOE-2 building energy analysis model;
 - Developing estimates of the cost of making each change or improvement being analyzed and calculate paybacks;
 - Preparing a commissioning report that summarizes the project, details all findings and recommendations, gives the present status for each item, and includes information on how to operate the buildings most effectively; and
 - Encouraging the facility to implement measures with payback of less than three years and to seriously consider all measures with payback of less than five years.

Nonresidential: Public Pre-Schools, Elementary Schools and High Schools

e) Integrated/coordinated Demand Side Management

IDSMS activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSMS as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSMS efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc.)

Not applicable to this program

g) Pilots

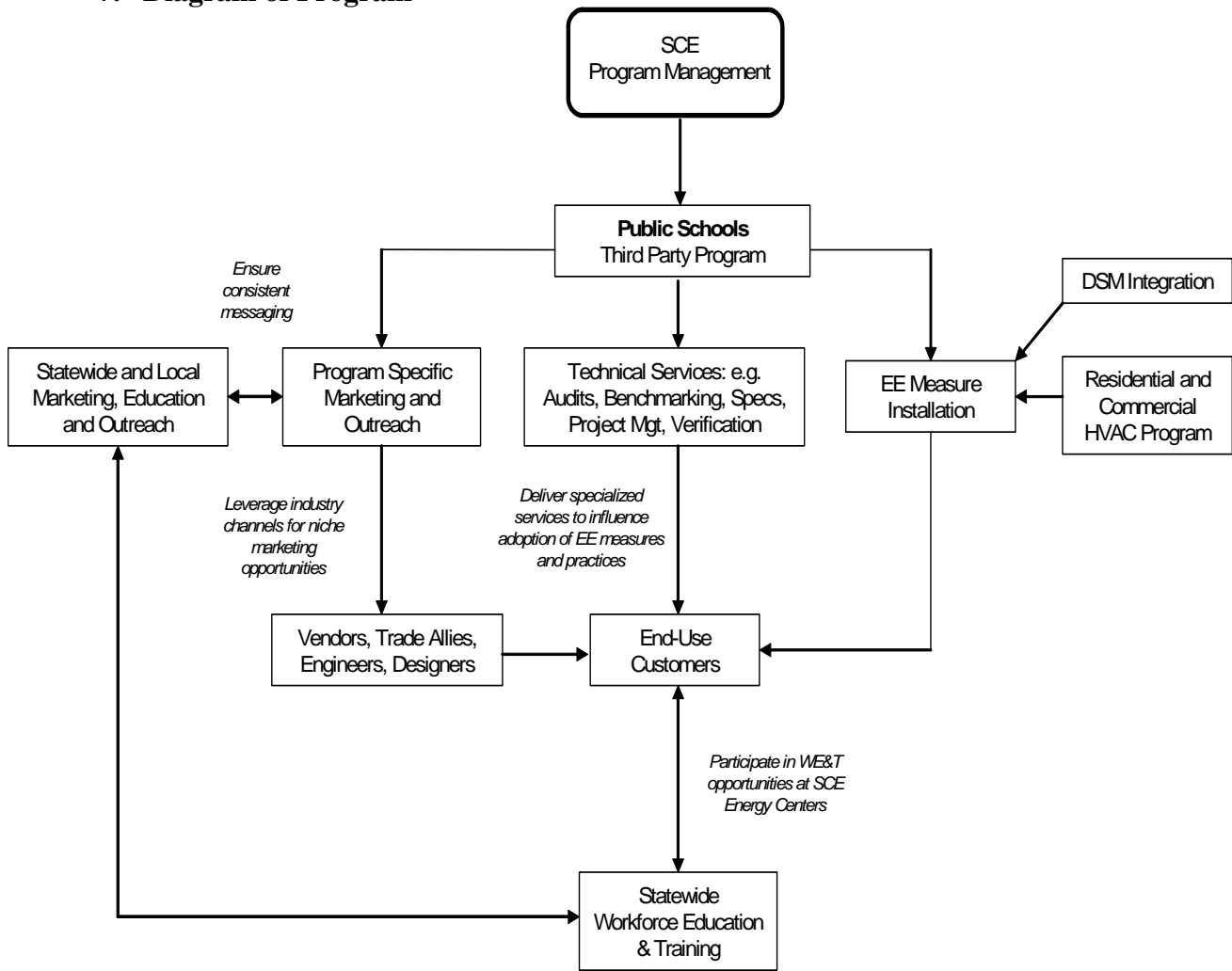
Not applicable to this program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

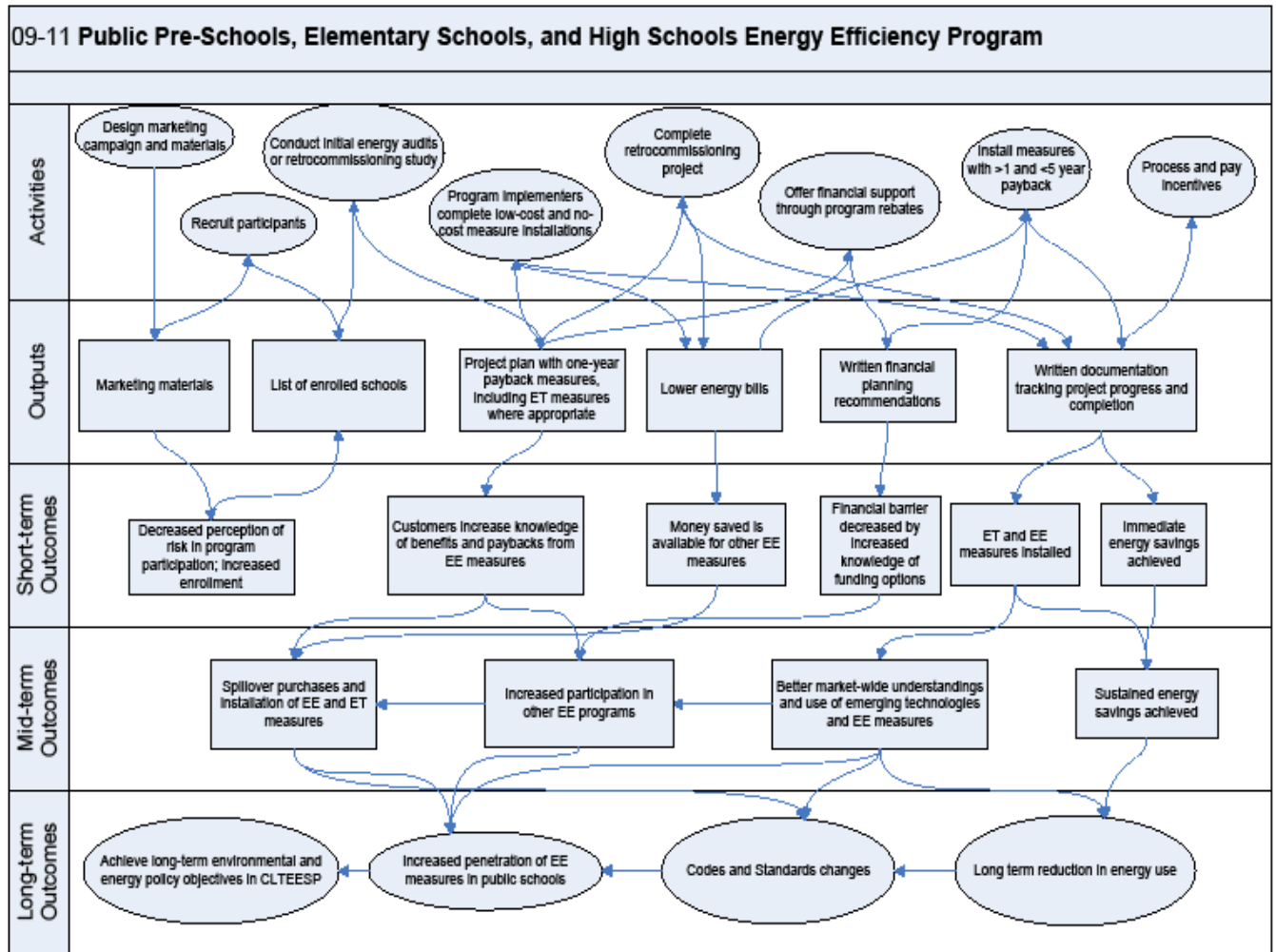
Nonresidential: Public Pre-Schools, Elementary Schools and High Schools

7. Diagram of Program



Nonresidential: Public Pre-Schools, Elementary Schools and High Schools

8. Program Logic Model



25

Nonresidential: Retail Energy Action Program

1. **Program Name:** Retail Energy Action Program
Program ID: SCE-TP-025
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-025 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Retail Energy Action Program	\$ 1,599,698	\$ 12,000	\$ 18,945,302		\$ 20,557,000
	TOTAL:	\$ 1,599,698	\$ 12,000	\$ 18,945,302	\$ -	\$ 20,557,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-025	Retail Energy Action Program	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Retail Energy Action Program	117,545,749	23,930	-
	TOTAL	117,545,749	23,930	-

4. Program Description

a) Describe program

The purpose of the Retail Energy Action Program (REAP) is to provide services that increase energy efficiency and demand management in retail facilities. Targeted customers will be owners of retail buildings, including tenant-occupied buildings. The program will be delivered through a coordinated effort with professional property managers and real estate companies.

The program will feature:

- An energy audit covering energy efficiency and demand management opportunities;
- A performance contract that includes specification, procurement and installation of recommended measures;

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Retail Energy Action Program

- Verification of performance;
- Financial incentives from SCE;
- Financing of remaining costs by the performance contractor to be repaid out of savings in energy bills; and
- Customer satisfaction surveys and resolution.

b) List measures

Target measures include:

- Chiller upgrades, including variable frequency drives;
- Rooftop package unit efficiency upgrades;
- Indirect evaporative cooling upgrades for makeup air; and
- Fluorescent lighting improvements.

Financial incentives will be available in several forms, including:

- Development of an investment strategy;
- Incentives from SCE based on deemed and calculated rates in core programs; and
- Integrated financing options from the performance contractor.

c) List non-incentive customer services

Non-incentive customer services include:

- Investment-grade energy audits and feasibility studies;
- Handling of measure specification and procurement;
- Coordination of measure installation; and
- Estimates of greenhouse gas reductions associated with energy efficiency.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation

Nonresidential: Retail Energy Action Program

effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Historically, gaining access to decision makers (building owners and/or managers), framing the message in an effective manner, and the possessing the ability to select an economically-viable suite of energy efficient measures (EEMs) on a site-by-site basis have all been significant barriers in the retail segment. More recently, lack of capital has become an increasingly large barrier. To overcome these barriers, the program combines technical and manufacturing expertise and partnerships with industry organizations that provide access to significant retail building ownership.

Additionally, the program's energy services company (ESCO) delivery mechanism combines project financing with turn-key contracting. This mechanism allows the implementation of EEMs on a no/low first cost basis overcoming capital constraint barriers. The avoided cost savings from the implemented EEMs is utilized to fully or partially pay for the implementation of the project. The avoided cost savings of the superior efficiency EEMs, when combined with SCE incentive payments, makes the cash flow of an ESCO contract more attractive than the cash flow associated with a simple replacement of the measures with baseline efficiency equipment.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	150	305	225

e) Advancing Strategic Plan goals and objectives

The program advances several elements of the Strategic Plan's commercial strategy such as providing innovative financial tools and investigating other funding support. This is accomplished through the program's primary delivery mechanism, the ESCO contracting model, featuring a tightly-integrated energy audit and financing mechanism. This program structure drives the installation of energy efficiency and demand responsive measures for an otherwise completely first-cost limited market. The program is an innovative combination of market actor-partners and financial tools that will out-perform other programs lacking any one of these integrated components.

Nonresidential: Retail Energy Action Program

6. Program Implementation

a) Statewide IOU Coordination

Not applicable, as the Retail Energy Action Program is a third-party program managed in SCE's territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Retail Energy Action Program

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable to this program

b) Program delivery and coordination

i. Emerging Technologies program

The REAP will allow approved research institutions to give independent, third-party evaluations of new, efficient technology improvements. After independent certification, new technologies with energy-efficiency features documented in the DEER format may be admitted to the program in advance of their adoption into the official DEER release or Title 24. This will allow new technologies to be implemented at an accelerated rate, reducing unnecessary waiting for the three-year DEER/Title 24 cycle. Not only will this decrease time-to-market, but it may save some technologies whose creators lack the resources to wait for the ordinary 3-year cycle.

ii. Codes and Standards program

The REAP will work with and monitor new activities in the Codes and Standards program to ensure that all changes are incorporated in recommendations in equipment upgrades to building owners.

iii. WE&T efforts

No specific linkages to WE&T are planned.

Nonresidential: Retail Energy Action Program

iv. Program-specific marketing and outreach efforts

The initial marketing campaign consists of: designing and printing of all hard-copy marketing materials (including direct mail pieces); e-mail broadcasts; preparing articles for newsletters; participating in organization meetings (including exhibitions in booth space and speaking at group break-out sessions); directing phone-call contacts; and establishing a program-specific toll-free number. In addition, a comprehensive retail building database and a program website will be developed and maintained during the duration of the program.

v. Non-energy activities of program

Not applicable to this program

vi. Non-IOU Programs

Not applicable to this program

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

The program brings the funding sources of the energy services company (ESCO) model to a market where lack of capital has traditionally been a significant barrier to the upgrading of capital equipment. ESCO programs by design are comprehensive and encompass as many energy efficiency measures as are cost-effective.

d) Innovation

The program will cooperate with research institutes to serve as an independent source for documenting performance of new technologies and thereby accelerate deployment in the retail sector.

e) Integrated/coordinated Demand Side Management

IDSM activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSM as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

Nonresidential: Retail Energy Action Program

f) Integration across resource types (energy, water, air quality, etc.)

Not applicable to this program

g) Pilots

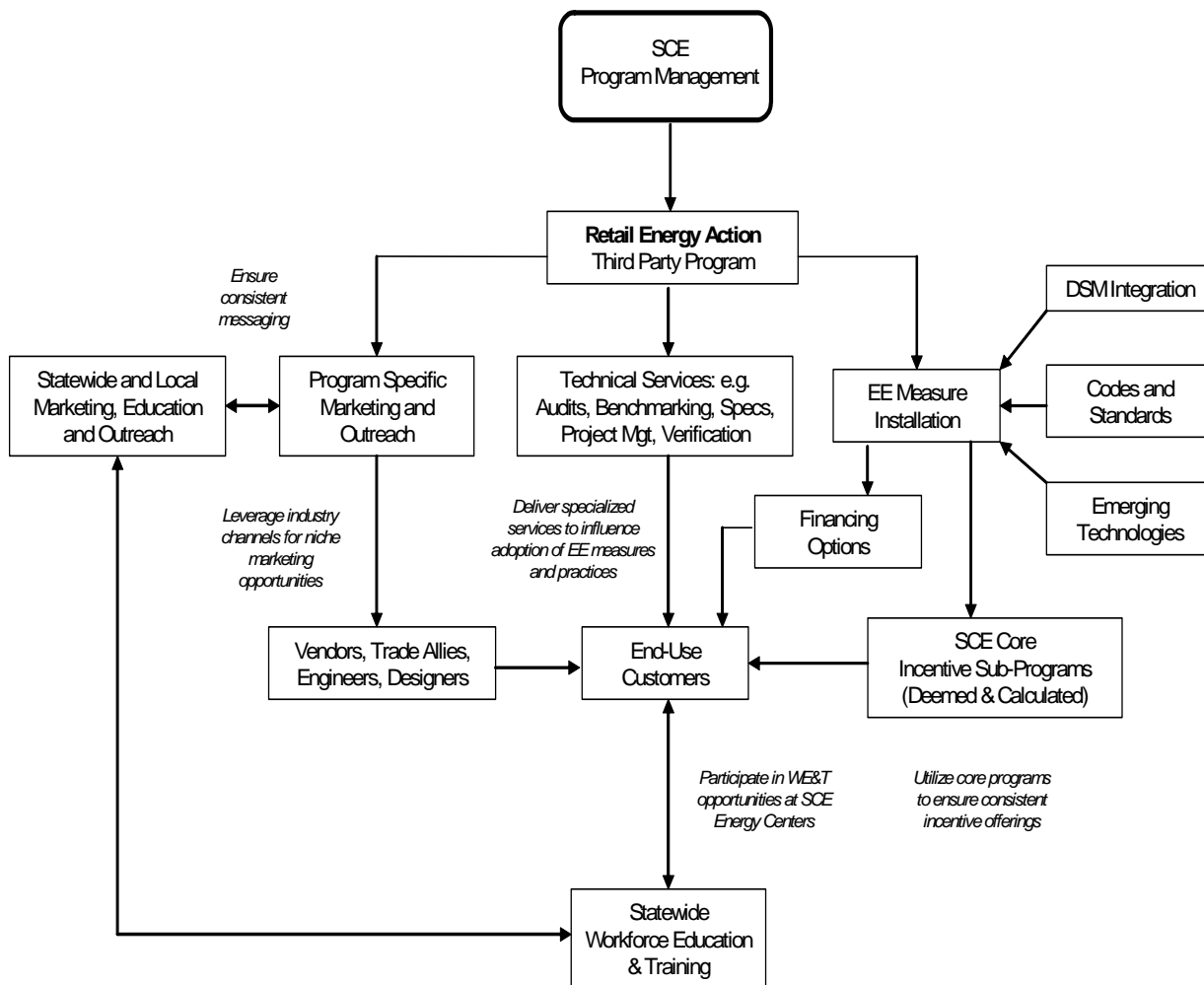
Not applicable to this program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

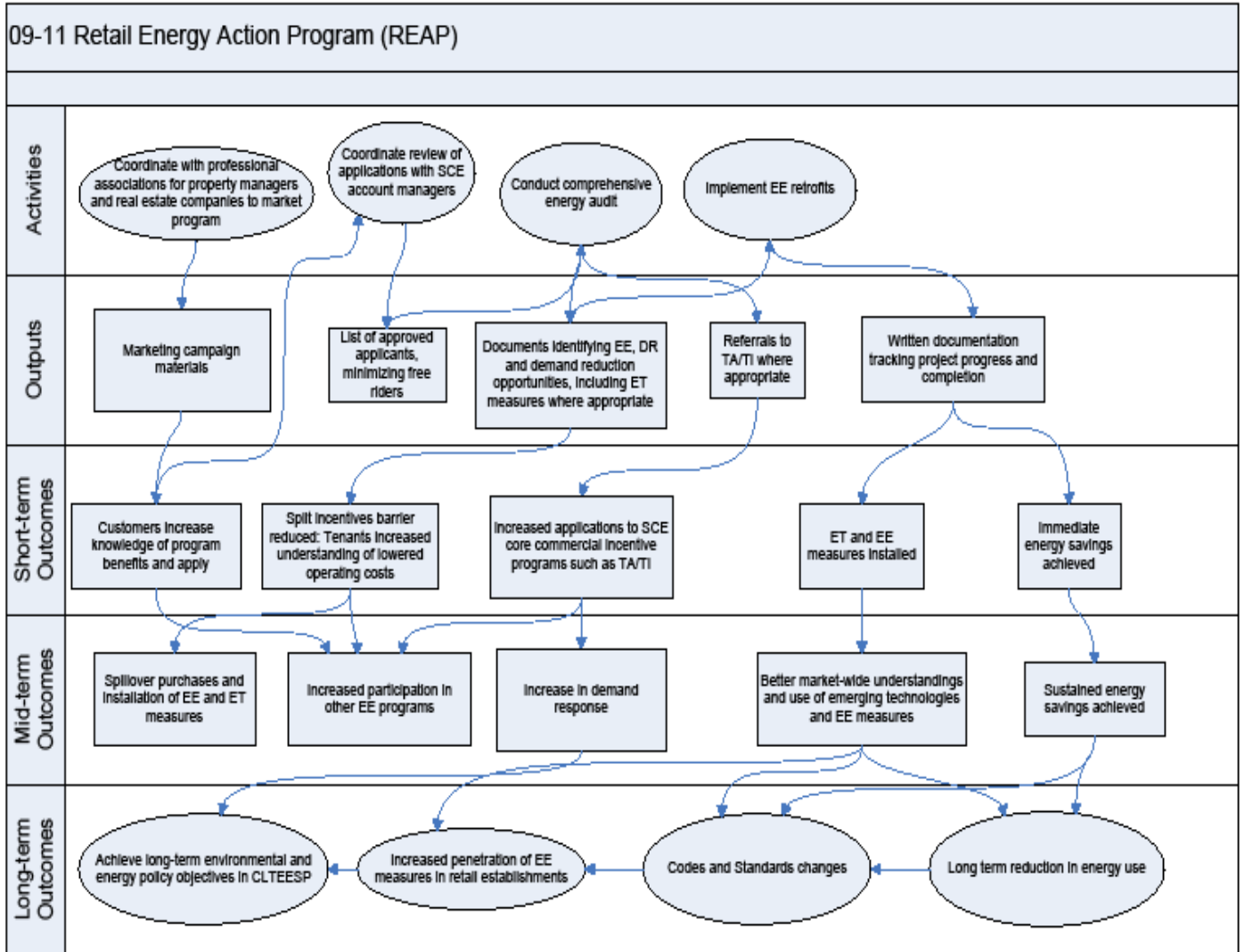
Nonresidential: Retail Energy Action Program

7. Diagram of Program



Nonresidential: Retail Energy Action Program

8. Program Logic Model



26

Nonresidential: Commercial Utility Building Efficiency

1. **Program Name:** Commercial Utility Building Efficiency
Program ID: SCE-TP-026
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-026 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Commercial Utility Building Efficiency	\$ 2,510,055	\$ 18,000	\$ 30,042,945		\$ 32,571,000
	TOTAL:	\$ 2,510,055	\$ 18,000	\$ 30,042,945	\$ -	\$ 32,571,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-026	Commercial Utility Building Efficiency	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Commercial Utility Building Efficiency	200,915,907	41,477	-
	TOTAL	200,915,907	41,477	-

4. Program Description

a) Describe program

The Commercial Utility Building Efficiency (CUBE) program targets existing commercial buildings, including large multi-story office buildings, large single-story office buildings, and small office buildings (95% large office, 5% small office). Many of these buildings have HVAC and energy management equipment approaching the end of its operational lifetime. The program expects to identify 1,300 candidate buildings from its research and marketing efforts.

The program reviews the building owner's monthly energy bills to identify average and peak demand frequency and consumption levels. Next, the program will conduct comprehensive energy and equipment audits at each candidate site to determine how best to mitigate poor building energy performance. From this review, the program gives the customer a needs assessment with well-defined, state-of-the-art alternatives,

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Commercial Utility Building Efficiency

including carefully calculated estimates of monthly energy use and cost savings resulting from installation of the new equipment.

Next, a custom computerized building energy model is prepared for each potential site. The model identifies existing HVAC, controls, and lighting equipment currently in use at the site, and the feasible energy savings opportunities from HVAC equipment and motor replacement, controls upgrades, and lighting retrofits.

After the customer reviews and approves the plan, the program's third-party contractor installs the accepted measures, including reliable and comprehensive energy efficiency technologies that achieve energy savings, demand reduction and associated pulled-through demand response.

b) List measures

Energy efficiency measures (EEMs) of primary interest include:

- HVAC equipment;
- Motors;
- Lighting; and
- Controls.

c) List non-incentive customer services

Non-incentive customer services include:

- Energy audits encompassing a broad range of technologies;
- Design assistance;
- Project management support; and
- Verification and measurement.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10

Nonresidential: Commercial Utility Building Efficiency

years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Historically, gaining access to decision makers (building owners and/or managers), framing an effective message, and possessing the ability to select an economically-viable suite of EEMs on a site-by-site basis have all been significant barriers in the retail segment. To overcome these barriers, the program combines technical and manufacturing expertise and alliances with industry organizations that provide access to significant retail building ownership. Additionally, the program's ESCO delivery mechanism combines project financing with turn-key contracting. This mechanism allows the implementation of EEMs on a no-cost or low-first-cost basis, overcoming capital constraint barriers. The avoided cost savings from the implemented EEMs are utilized to fully or partially pay for the implementation of the project. The avoided cost savings of the superior efficiency EEMs, when combined with SCE incentive payments, makes the cash flow of an ESCO contract more attractive than the cash flow associated with a simple replacement of the measures with baseline efficiency equipment.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	290	655	125

e) Advancing Strategic Plan goals and objectives

The program advances several elements of the Strategic Plan's commercial strategy, such as providing innovative financial tools and investigating other funding support. This is accomplished through the program's primary delivery mechanism, which is the ESCO contracting model with a tightly-integrated energy audit and financing mechanism. This program structure drives the installation of energy efficiency and demand response measures for an otherwise completely first-cost limited market. The program is an innovative combination of market actor-partners and financial tools that will outperform other programs lacking any one of these integrated components.

Nonresidential: Commercial Utility Building Efficiency

6. Program Implementation

a) Statewide IOU Coordination

The Commercial Utility and Building Efficiency program is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however best practices will be shared with the other IOUs as appropriate.

i. Program name: Commercial Utility Building Efficiency (CUBE)

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable to this program

b) Program delivery and coordination

The program will identify commercial buildings using HVAC equipment, motors, and lighting at near the end of their useful lives. It will also seek owners who lack the capital to cover the first cost of replacing this equipment. The program will partner with real estate management and asset management firms to identify commercial buildings with a historically low degree of energy efficiency measure penetration.

i. Emerging Technologies program

New energy efficiency technology that emerges from research institutions such as Western Cooling Efficiency Center (WCEC), Lawrence Berkeley National Laboratory, and Refrigeration and Thermal Test Center (RTTC) can be rapidly admitted into the program without needing to wait for the formal DEER update process. This can dramatically speed the penetration of emerging technologies into the marketplace.

Program engineers will be kept abreast of (and directed to consider) new technologies from the research sector as they are approved by SCE for integration into the program. These technologies include installing evaporative pre-coolers on make-up air intakes, upgrading chillers to models that contain variable speed drives, high-efficiency packaged rooftop equipment, integrated controls such as

Nonresidential: Commercial Utility Building Efficiency

demand-controlled ventilation and energy management systems, lighting system retrofits, and motor upgrades.

ii. Codes and Standards program

The program allows approved research institutions (for example, RTTC and WCEC) to give independent, third-party evaluations of new, efficient technology improvements. After independent certification, at SCE's discretion, new technologies with energy efficiency features documented in the DEER format could be admitted to the CUBE Program in advance of their actual adoption into the official DEER release or Title 24.

iii. WE&T efforts

Not applicable to this program

iv. Program-specific marketing and outreach efforts

The program will use these marketing and outreach channels:

- Private commercial building database (to be developed);
- Direct mail;
- E-mail broadcasts;
- Preparing articles for organizations' newsletters;
- Participating in organization meetings;
- Phone calls;
- Establishing program specific toll-free numbers; and
- Developing a program website.

v. Non-energy activities of program

Not applicable to this program

vi. Non-IOU programs

Not applicable to this program

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

The program implementation team's industry and energy efficiency program experience informs the program's design. Lessons learned align with many of the best practices identified in *Energy Efficiency Best Practices Project* reports (<http://www.eebestpractices.com/>). These include the following which help drive customer participation and implementation of EE measures:

Nonresidential: Commercial Utility Building Efficiency

- Using the ESCO contracting model allows the program to offer measures to customers for little to no up-front cost. This also allows the potential of a cash positive position for the customer as compared to installing standard efficiency equipment.
- Focusing on facilities where equipment is known by the customer to be near the end of its useful life, and where the customer has limited funds, allows program incentive funds to be used to offset the incremental marginal costs of upgrading to higher performance equipment during the replacement event.
- Partnering with real estate management and asset management firms allows the program to identify — and then target — commercial buildings with a historically low degree of energy efficiency measure penetration.

d) Innovation

The program will allow approved research institutions (for example, RTTC and WCEC) to give independent, third-party evaluations of new technology improvements. After independent certification, new technologies with features documented in the DEER format could be admitted to the CUBE Program before their actual adoption into the official DEER release or Title 24.

This allows new technologies to be implemented at an accelerated rate, reduce unnecessary incubation of technologies waiting for the 3-year DEER/Title 24 cycle. This decreases time-to-market, and assists some technologies whose creators lack the resources to wait for the ordinary 3-year cycle.

e) Integrated/coordinated Demand Side Management

IDSM activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response Program, and Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and Customer Generation Programs). However, the IOUs have identified IDSM as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc.)

Not applicable to this program

g) Pilots

Not applicable to this program

h) EM&V

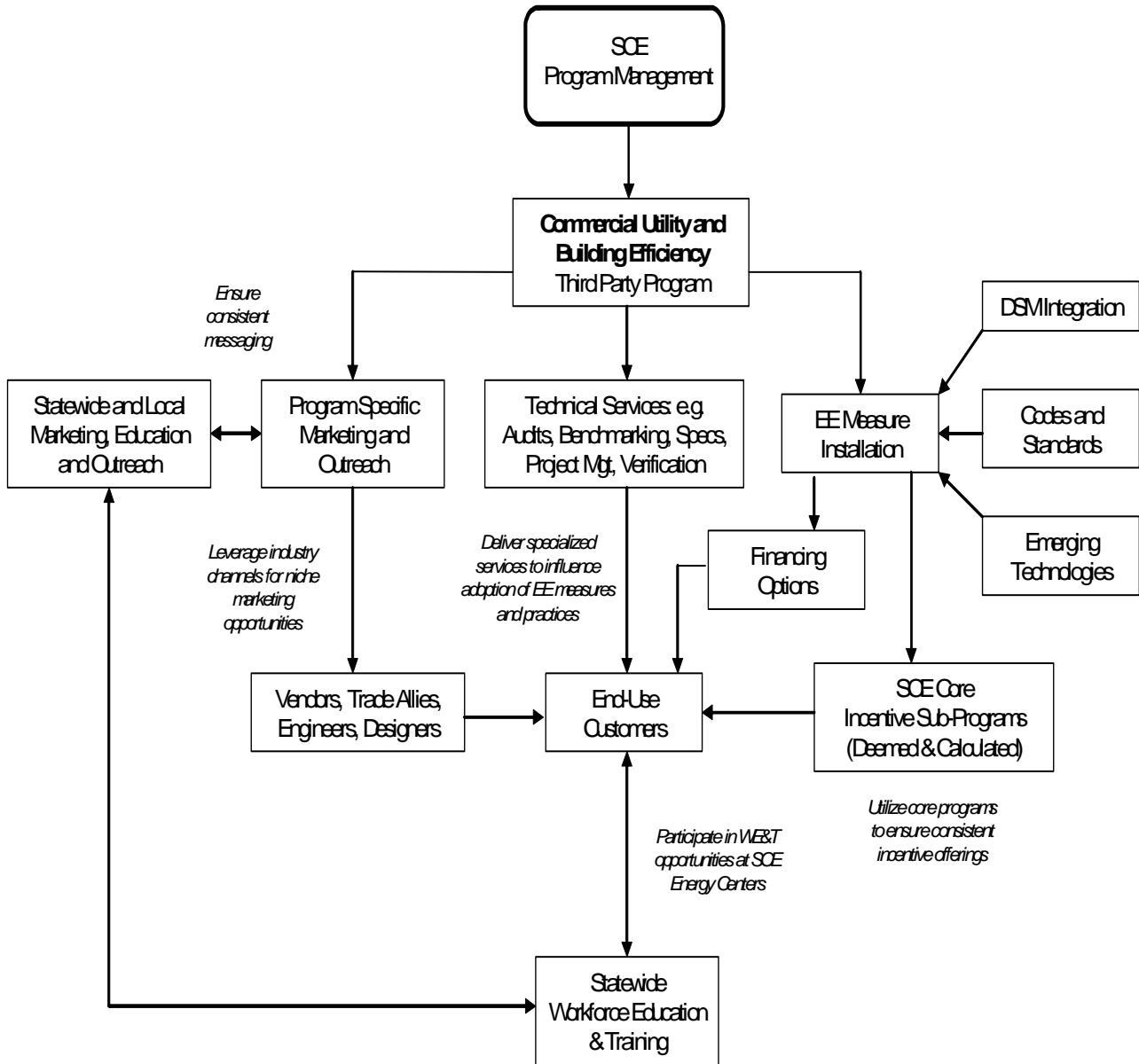
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies

Nonresidential: Commercial Utility Building Efficiency

within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

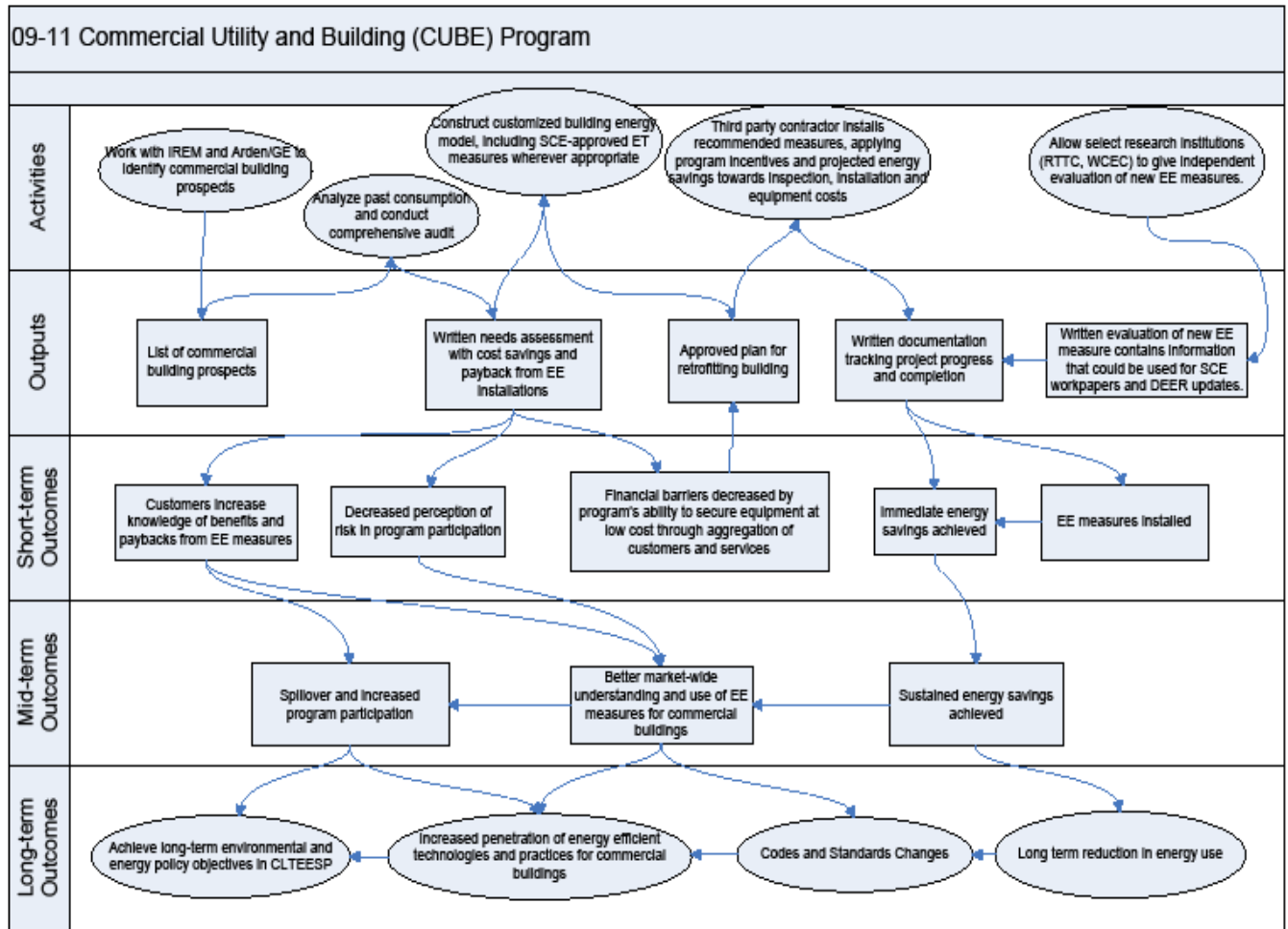
Nonresidential: Commercial Utility Building Efficiency

7. Diagram of Program



Nonresidential: Commercial Utility Building Efficiency

8. Program Logic Model



27

Nonresidential: Monitoring-Based Commissioning

1. **Program Name:** Monitoring-Based Commissioning
Program ID: SCE-TP-027
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-027 NON-RESIDENTIAL	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
	Monitoring-Based Commissioning	\$ 475,000	\$ -	\$ 6,490,000		\$ 6,965,000
	TOTAL:	\$ 475,000	\$ -	\$ 6,490,000	\$ -	\$ 6,965,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-027	Monitoring-Based Commissioning	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Monitoring-Based Commissioning	24,000,000	-	-
	TOTAL	24,000,000	-	-

4. Program Description

a) Describe program

The Monitoring-Based Commissioning (MBCx) program combines retrocommissioning and continuous commissioning activities with ongoing, technology-based monitoring to ensure persistent savings.

The California Long Term Energy Efficiency Strategic Plan (Strategic Plan) spells out a variety of strategies to address energy reduction in California for commercial buildings. In accordance with the Strategic Plan, this program advances comprehensive energy efficiency and integrated Demand-Side Management (IDSM) through the implementation of operations and maintenance services that provide ongoing remote monitoring and commissioning. MBCx is a rigorous persistence-focused retrocommissioning approach consistent with the Strategic Plan.

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Monitoring-Based Commissioning

The program targets customers that are eligible to participate in or are currently participating in SCE's Demand Response (DR) programs. The program will target a select group of existing commercial customers in the education, commercial property, or government sub-segment.

The program's objective is to help commercial customers: (1) gain information about energy use at their facilities, (2) participate in a comprehensive audit, (3) implement cost-effective measures with help from incentive funds, and (4) engage in an ongoing, monitoring-based commissioning process.

The program selects customers that are most likely to achieve the greatest savings and are able to fully participate in the program. After customers have enrolled, the program pays the cost of installing real-time operations and energy monitoring equipment (data loggers) at their sites. The data loggers interface with building controls and energy management systems (BMS/EMS). The data collected are used to track building operation and performance, and to create benchmarks for optimal building operations. Audits of participating facilities identify inefficient operations, as well as opportunities for system or capital upgrades that could lead to a cost-effective reduction in energy usage. After the audit, participating customers may receive incentives to offset some of the measures' costs.

Customers, SCE, and authorized third-parties will be able to access data results via PowerTrak's web-based interface. Program engineers will conduct a comprehensive audit (audit forms will be developed during the program ramp-up phase) of the customer site to uncover any areas of inefficiency and to provide recommendations about equipment and operational upgrades that could result in improved energy efficiency.

DR participants often gain a greater awareness of their overall energy situation as the result of upgrades to their building control systems or energy management systems (BCS/EMS). In many cases, new interval data recorders are installed at DR-participating facilities to measure that program's impact. In other cases, customers in the Technical Assistance/Technical Incentive (TA/TI) Program are eligible for the MBCx Program.

Note that the MBCx program is one of two monitoring-based commissioning programs in SCE's territory (the other being MBPCx). Due to the importance of commissioning in the achievement of the Strategic Plan, SCE is planning for two different monitoring-based commissioning programs to make sure that the retrocommissioning objectives are fully met and to ensure technology diversity and sharing between delivery teams. The primary difference between the two programs is that MBCx focuses exclusively on HVAC systems while MPBCx includes both HVAC and lighting systems. Both programs will be managed in coordination with SCE's Continuous Energy Improvement (CEI) Program and Non-Residential Audits, which also include retrocommissioning and benchmarking activities.

Nonresidential: Monitoring-Based Commissioning

b) List measures

Eligible measures include:

- General Fault Detection and Diagnostics (FDD) for the HVAC system;
- HVAC controls optimization;
- HVAC repairs; and
- HVAC system tune-up.

c) List non-incentive customer services

To help ensure persistency, the program will provide training to building operators on how to diagnose and troubleshoot deficiencies found through MBCx.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The program addresses the following barriers

- Lack of Customer Capital or Resources: The types of customers targeted by this program often lack adequate capital or resources to devote to energy efficiency.

Nonresidential: Monitoring-Based Commissioning

To help overcome this barrier, MBCx program participants do not have to make an initial capital outlay and they only need to commit a minimal amount of resource time. The customer receives systems upgrades and a comprehensive audit report that identifies many measures available at low or no cost, or that have a short payback time. Additionally, the program offers customers substantial incentives to implement measures that they would not otherwise be able to afford.

- **Reluctance to Install Equipment:** Experience shows that customers are sometimes reluctant to allow monitoring equipment to be installed on their premises. The program addresses this issue by ensuring that customers understand the terms and benefits of the program. If an issue arises in the post-enrollment period, the program will install the equipment on a temporary basis. After energy-efficiency savings are confirmed, it is anticipated that the equipment's value will be sufficient to convince the customer to approve its permanent installation.
- **Process Delays:** The MBCx Program deals with complex customer and measure issues that are beyond typical retrofits. The program has a process to screen customers before enrollment to help ensure that they understand the necessary time and resource commitment.

These commitments are not expected to be substantial, but lack of customer cooperation can derail an implementation or cause process delays.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	10	13	16

e) Advancing Strategic Plan goals and objectives

Building commissioning and retrocommissioning are specified as key steps to advance the goals and objectives of the Strategic Plan for existing buildings. This program will specifically address Strategic Plan strategies, programs and objectives as follows:

- The program serves as a step towards achieving the goal of Zero-Net Energy (ZNE) existing buildings by 2030;
- In the commercial sector, the program develops tools and strategies to use information and behavioral strategies, commissioning and training to reduce energy consumption in commercial buildings; and
- In the local government sector, the program retrocommissioning of existing local government buildings.

The program advances the following near term action steps:

- In the commercial sector, it strengthens tools and practices for building commissioning; and

Nonresidential: Monitoring-Based Commissioning

- In the local government sector, it will test commissioning programs on selected high-use buildings.

6. Program Implementation

a) Statewide IOU Coordination

MBCx is a local program in SCE's service territory but will be coordinated with SCE's Continuous Energy Improvement (CEI) program. The delivery mechanism, incentive level, marketing and outreach plans of this program will be similar to the retrocommissioning services provided through the statewide CEI program.

i. Program name: Monitoring-Based Commissioning

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable

vi. Similar IOU and POU programs

Not applicable

b) Program delivery and coordination

The program's third party contractor performs customer outreach efforts that focus on identifying the right customers for the program. Careful screening will determine that all prospective customers meet the program's eligibility requirements, and will help ensure that their facilities produce substantial energy savings. Screening requirements will include, but will not be limited to, an appropriate BCS/EMS system, adequate levels of staffing, and program buy-in from building owners and facilities staff. If the customer site passes inspection, customers will be allowed to enroll in the program.

As part of the enrollment process, the program requires customers to enter into an enrollment agreement. The enrollment agreement confirms that customers understand their responsibilities, are willing to dedicate internal resources to comply with program requirements, acknowledge that there will be some customer costs, and are willing to implement measures needed to obtain incentive funds.

Nonresidential: Monitoring-Based Commissioning

Program engineers will install temporary and permanent monitoring equipment at the customer's site. The PowerTrak[®] application is integrated with the site's interval data recorders and BCS/EMS systems that were installed as part of the ongoing DR Program. PowerTrak is an Internet-based energy management platform that can be monitored remotely. The program collects and stores meter data, along with building BCS/EMS data in PowerTrak. The program may integrate PowerTrak with other systems to capture additional data, including square footage, occupancy, building type, schedules, etc.

The customer, SCE, and authorized third-parties will be able to access data results via PowerTrak's web-based interface. Program engineers conduct a comprehensive audit of the customer site to uncover any areas of inefficiency and to provide recommendations about equipment and operational upgrades that could result in improved energy efficiency.

The program tracks and captures energy usage data before and after program implementation to provide baseline data that will assist with measurement and verification efforts of the implemented measures. The objective of this component is to help ensure that the energy savings realized through the program are persistent and to calculate the program's impact and incentive payments.

To the extent possible, the MBCx program will coordinate with other internal and external programs in the following manner:

i. Emerging Technologies program

The MBCx program will monitor technologies in IOU's Emerging Technologies program, especially those pertaining to building controls, and apply these technologies in customers' facilities where appropriate.

ii. Codes and Standards program

The MBCx program will monitor and consult with the Codes and Standards program, and apply any changes to Codes and Standards that are applicable to building commissioning and retrocommissioning.

iii. WE&T efforts

The MBCx program will provide building operators with information to troubleshoot and repair deficiencies found by the program. The program will also promote Building Operator Certification (BOC) to building operators at customers' sites.

iv. Program-specific marketing and outreach efforts

The MBCx program will be administered through SCE's CEI program. All marketing and outreach efforts will be coordinated through the CEI program.

Nonresidential: Monitoring-Based Commissioning

v. Non-energy activities of program

The MBCx program implementer will stay active within the nationwide commissioning community and foster relationships with other RCx providers to continuously improve program tools and strategies.

vi. Non-IOU programs

The MBCx program will work closely with the California Commissioning Collaborative and will become an active participant in this forum to continuously update and enhance program tools and services. Wherever feasible, the program will support investigative and research work performed by the CCC to further develop commissioning and building EM&V tools and strategies.

vii. CEC work on PIER

The MBCx program implementer will track and apply any studies coming out of PIER that are related to building commissioning and retrocommissioning. The CCC has been an avenue for PIER research work in the areas of Cx and RCx for its members. Program staff will actively participate in these projects where feasible, and apply lessons learned and findings of these studies to further enhance program offerings.

viii. CEC work on Codes and Standards

The MBCx program will monitor CEC work on codes and standards, and apply findings and outcomes wherever appropriate.

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

The MBCx approach evolved from conventional commissioning and retrocommissioning to address issues related to EM&V and savings persistence. These areas have been frequently identified as lacking in the delivery of retrocommissioning. The MBCx approach has been refined in the last few years through case studies and research projects sponsored by various entities including the CCC². The program incorporates the latest and best strategies and lessons learned from the sources above in the effort to capture real and persistent savings.

d) Innovation

The monitoring-based approach for retrocommissioning has not been applied previously in a utility-delivered program. Also, the program provides an opportunity to tie in demand response measures, an area that was not well integrated into previous RCx programs.

² California Commissioning Collaborative, *Guidelines for Verifying Existing Building Commissioning Project Savings*, 2008.

Nonresidential: Monitoring-Based Commissioning

e) Integrated/coordinated Demand Side Management

IDS_M activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOU's have identified IDS_M as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDS_M efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc)

No integration across resource types are planned at this time. However, the program will work actively with the California Commissioning Collaborative to identify opportunities of integrating water and air quality into retrocommissioning delivery.

g) Pilots

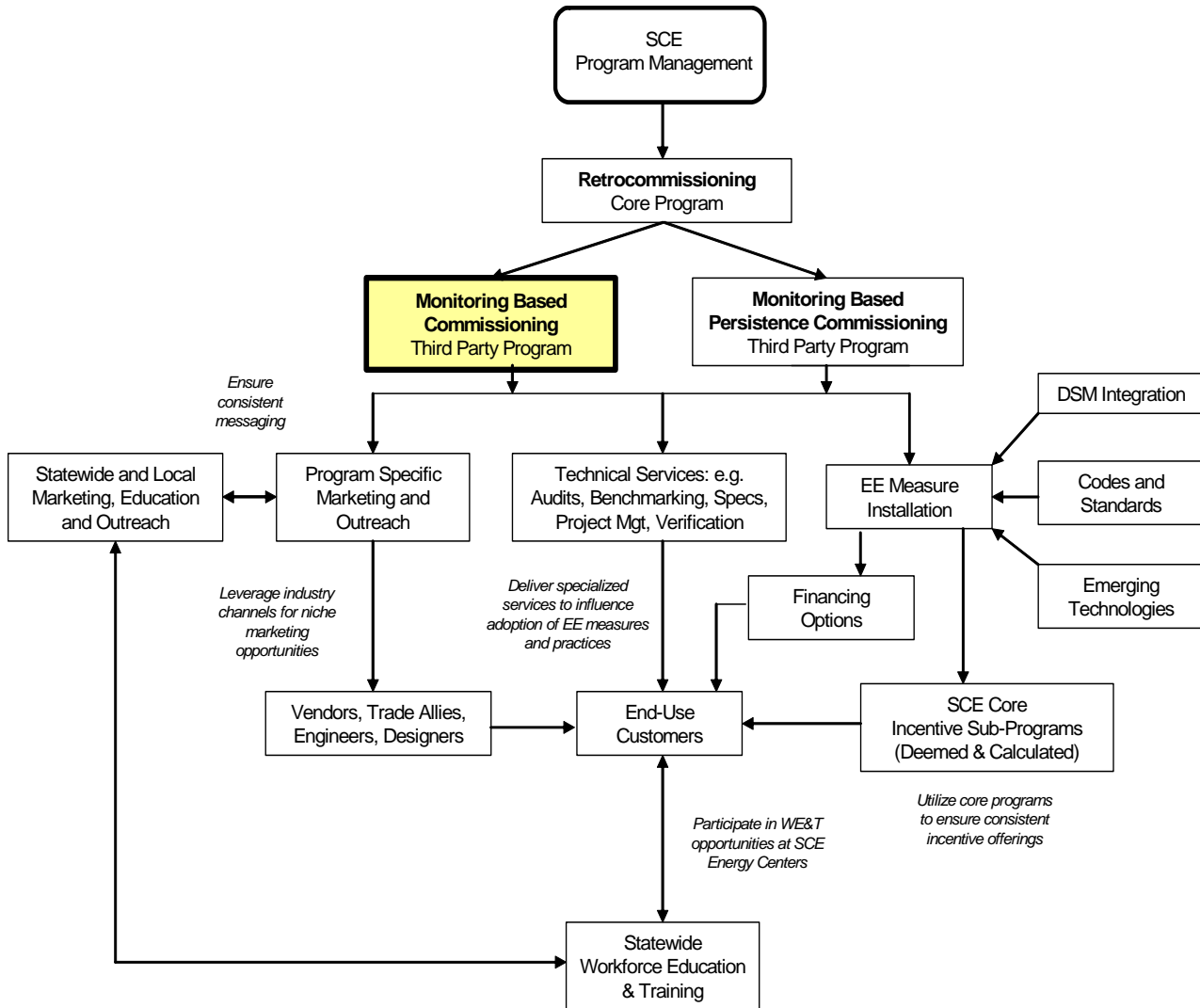
Not applicable to this program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

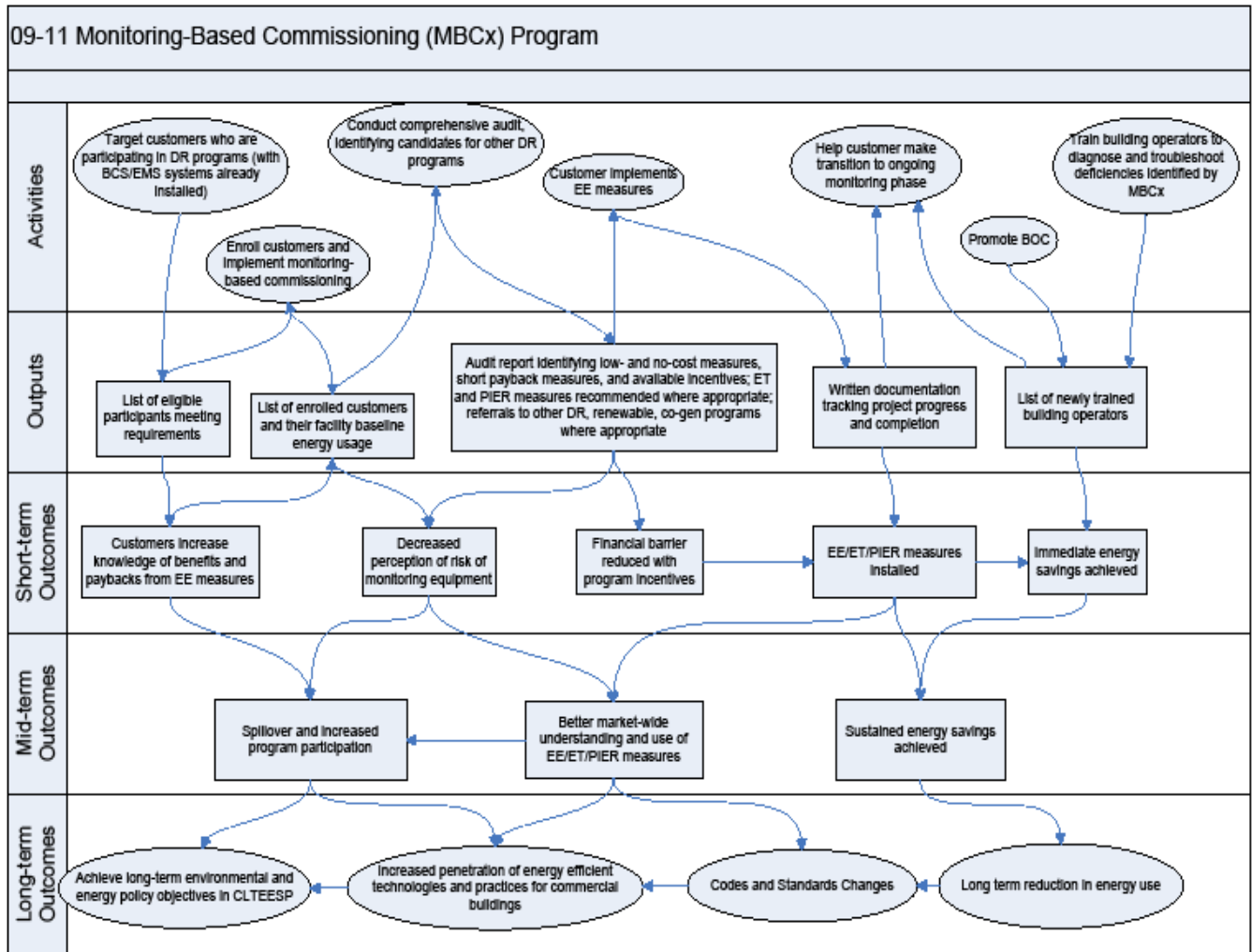
Nonresidential: Monitoring-Based Commissioning

7. Diagram of Program



Nonresidential: Monitoring-Based Commissioning

8. Program Logic Model



28

Nonresidential: Monitoring-Based Persistence Commissioning Program

1. **Program Name:** Monitoring-Based Persistence Commissioning Program
Program ID: SCE-TP-028
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-028	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Monitoring-Based Persistence Commissioning Program	\$ 160,328	\$ -	\$ 2,188,672		\$ 2,349,000
TOTAL:		\$ 160,328	\$ -	\$ 2,188,672	\$ -	\$ 2,349,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-028	Monitoring-Based Persistence Commissioning Program	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Monitoring-Based Persistence Commissioning Program	8,076,104	1,964	-
TOTAL		8,076,104	1,964	-

4. Program Description

a) Describe program

The Monitoring-Based Persistence Commissioning Program (MBPCx) will provide marketing, technical assistance, and financial incentives to customers for the implementation of traditional retrocommissioning (RCx) measures. It will also provide comprehensive energy-efficiency upgrades and retrofits for HVAC and lighting systems that result in energy savings.

The program will target facilities that have a modern Direct Digital Control (DDC) Building Automation System (BAS) and that are at least 100,000 square feet. These facilities may include office buildings, hotels, hospitals, shopping malls & retail, recreational facilities, military installations, and colleges & universities (except

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Monitoring-Based Persistence Commissioning Program

UC/CSU Partnership & Local Government Partnerships).² The program will complete comprehensive energy evaluations of all the facilities that are recruited into the program.

The California Long Term Energy Efficiency Strategic Plan (Strategic Plan) spells out a variety of strategies to address energy reduction in California for commercial buildings. In accordance with the Strategic Plan, this program advances comprehensive energy efficiency and integrated DSM (IDSM) through the implementation of operations and maintenance services that provide ongoing remote monitoring and commissioning (Cx).

MBPCx combines a comprehensive evaluation of HVAC and lighting and retrofit energy-saving opportunities with a rigorous persistence-focused retrocommissioning approach consistent with the Strategic Plan. This program pairs a traditional retrocommissioning approach with the use of a fault detection and diagnostic (FDD) software toolset to track the ongoing performance of HVAC systems, and facilitates the continuous reporting and correction of deviations from optimal performance.

Note that the MBPCx program is one of two monitoring-based commissioning programs in SCE's territory (the other being MBCx). Due to the importance of commissioning in the achievement of the Strategic Plan, SCE is planning for two different monitoring-based commissioning programs to make sure that the retrocommissioning objectives are fully met and to ensure technology diversity and sharing between delivery teams. The primary difference between the two programs is that MBPCx includes both HVAC and lighting systems in the retrocommissioning process while MBCx focuses exclusively on HVAC systems. Both programs will be managed in coordination with SCE's Continuous Energy Improvement (CEI) Program and Non-Residential Audits, which also include retrocommissioning and benchmarking activities.

b) List measures

Measures to be provided include:

- HVAC controls optimization;
- HVAC repairs;
- HVAC system tune-up; and
- Lighting system diagnostic, repair and optimization.

c) List non-incentive customer services

To help ensure persistence, the MBPCx program will provide training to building operators on how to diagnose and troubleshoot deficiencies. The program will also provide an assessment of demand response opportunities for the facility.

² Many of these customers fall under the umbrella of SCE's commercial customer segment that are targeted by many core and third party programs including the Management Affiliates Program and Leased Office Space Program. SCE manages these programs through its Commercial Segment Solutions group to ensure that customers are provided with the program solutions that meet their specific needs and interests.

Nonresidential: Monitoring-Based Persistence Commissioning Program

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The program addresses the following barriers:

Lack of Customer Capital or Resources: The types of customers targeted by this program often lack adequate capital and resources to devote to energy efficiency. Program participants do not have to make an initial capital outlay and they need only commit a minimal amount of time. In exchange, the customer receives systems upgrades and a comprehensive audit report that identifies many measures available at low or no cost or that have a short payback time. Additionally, the program offers customers substantial incentives to implement measures that they would not otherwise be able to afford.

Reluctance to Install Equipment: Experience shows that customers are sometimes reluctant to allow monitoring equipment to be installed on their premises. The program addresses this issue by helping to ensure that customers understand the benefits and terms of the program. If an issue arises in the post-enrollment period,

Nonresidential: Monitoring-Based Persistence Commissioning Program

the program will install the equipment on a temporary basis. After energy-efficiency savings are confirmed, it is anticipated that the equipment's value will be sufficient to convince the customer to approve its permanent installation.

Process Delays: The MBCx Program deals with complex customer and measure issues that are beyond typical retrofits. The program has a process to screen customers before enrollment to help ensure that they understand the necessary time and resource commitment. These commitments are not expected to be substantial, but lack of customer cooperation might derail an implementation or cause process delays.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	5	15	-

e) Advancing Strategic Plan Goals and Objectives

Commissioning and retrocommissioning of buildings are specified as key steps to advancing the goals and objectives of Strategic Plan for existing buildings.

This program will specifically address the following Strategic Plan strategies, programs and objectives:

- The program serves as a step towards achieving the goal of Zero-Net Energy (ZNE) existing buildings by 2030;
- In the commercial sector, the program develops tools and strategies to use information and behavioral strategies, commissioning and training to reduce energy consumption in commercial buildings; and
- In the local government sector, the program retrocommissions of existing local government buildings.

The program advances the following near term action steps:

- In the commercial sector, it strengthens tools and practices for building commissioning; and
- In the local government sector, it will test retrocommissioning programs on selected high-use buildings.

6. Program Implementation

a) Statewide IOU Coordination

Monitoring-Based Persistence Commissioning is a local program in SCE's territory that will be coordinated with SCE's Continuous Energy Improvement (CEI) program (see individual PIP for description). The delivery mechanism, incentive level, marketing and outreach plans of this program will be similar to the retrocommissioning services provided through the statewide CEI program.

Nonresidential: Monitoring-Based Persistence Commissioning Program

i. Program name: Monitoring-Based Persistence Commissioning Program

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable

b) Program delivery and coordination

To the extent possible, the MBPCx program will coordinate with other internal and external programs in the following manner:

i. Emerging Technologies program

The program will monitor technologies in IOU's Emerging Technologies program, especially those pertaining to building controls, and apply these technologies in customers' facilities where appropriate.

ii. Codes and Standards program

The program will monitor and consult with the Codes and Standards program, and apply any changes to Codes and Standards that are applicable to building commissioning and retrocommissioning.

iii. WE&T efforts

The program will provide building operators with information to troubleshoot and repair deficiencies found by the program. The program will also promote the Building Operator Certification (BOC) Program to building operators at customer's sites.

iv. Program-specific marketing and outreach efforts

All marketing and outreach efforts will be coordinated with the CEI Program.

Nonresidential: Monitoring-Based Persistence Commissioning Program

v. Non-energy activities of program

The program implementer will stay active within the nationwide commissioning community and foster relationships with other RCx providers to continuously improve program tools and strategies.

vi. Non-IOU programs

The program will work closely with the California Commissioning Collaborative and become an active participant in this forum to continuously update and enhance program tools and services. Wherever feasible, the program will support investigative and research work done by the CCC to further develop commissioning and building M&V tools and strategies.

vii. CEC work on PIER

The program will track and apply any studies coming out of PIER that are related to building commissioning and retrocommissioning. Program staff will actively participate in these projects where feasible, and apply lessons learned and findings of these studies to further enhance program offerings.

viii. CEC work on Codes and Standards

The program will monitor CEC work on codes and standards, and apply findings and outcomes wherever appropriate.

ix. Non-utility market initiatives

The program will pursue applicable non-utility market initiatives. Building RCx is still an evolving strategy and this program stands to benefit from other market initiatives nationwide, particularly those related to building M&V. On an annual basis, this program will be asked to research and assess emerging market initiatives in the industry and report the findings to SCE.

c) Best Practices

The MBPCx approach has evolved from conventional commissioning and retrocommissioning to address issues related to M&V and savings persistence. These areas have been frequently identified as lacking in the delivery of retrocommissioning. The MBPCx approach has been refined in the last few years through case studies and research projects sponsored by various entities including the CCC³. The program incorporates the latest and best strategies and lessons learned from the sources above in the effort to capture real and persistent savings.

Based on previous experience with MBPCx, the following elements have been identified as essential to achieve the proposed energy savings in a cost-effective manner:

- The program design incorporates successful elements from similar MBPCx programs and incorporates lessons learned by combining technical services and

³ California Commissioning Collaborative, *Guidelines for Verifying Existing Building Commissioning Project Savings*, 2008.

Nonresidential: Monitoring-Based Persistence Commissioning Program

assistance with an incentive structure aimed at ensuring that projects are implemented;

- Applications for site surveys and rebates will be accepted via an online interface to help facilitate accurate tracking of projects' energy savings progress in a timely manner - its database will be used in conjunction with reporting and invoicing to SCE; and
- The program will provide marketing, outreach and training activities on FDD toolsets and energy efficiency opportunities to building owners and operators, SCE staff, equipment vendors, contractors, and engineers. These activities will include focused marketing meetings, presentations, and technical seminars. Outreach activities will identify and pre-screen applicable sites and provide education and increased knowledge of the potential energy-efficiency measures, their benefits and economics.

d) Innovation

Monitoring-based retrocommissioning is an innovative approach in that it goes beyond conventional retrocommissioning and focuses on savings persistence.

e) Integrated/coordinated Demand Side Management

Monitoring-Based Persistence Commissioning is an Innovative Design for Energy Efficiency Activities (IDEEA) program that SCE has identified as a potential energy efficiency/demand response coordinated offering (per A.08-07-021, Exhibit SCE-6). Coordinated program activities may include integrated EE/DR audits, and linkage to not only energy efficiency incentives, but DR (TA/TI) incentives, as well.

f) Integration across resource types (energy, water, air quality, etc.)

No integration across resource types are planned at this time. However, the program will work actively with the CCC to identify opportunities of integrating water and air quality into retrocommissioning delivery.

g) Pilots

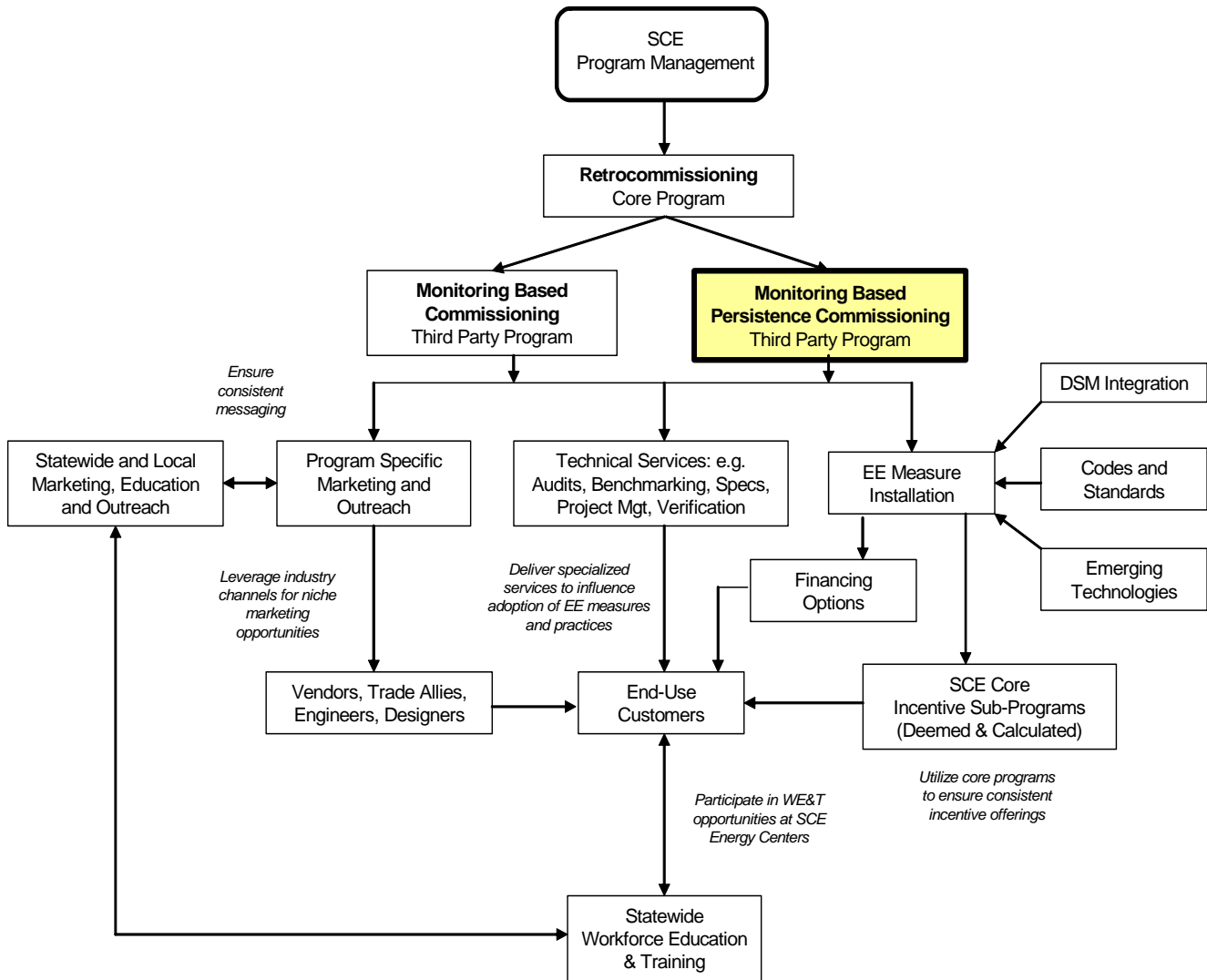
Not applicable to this program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

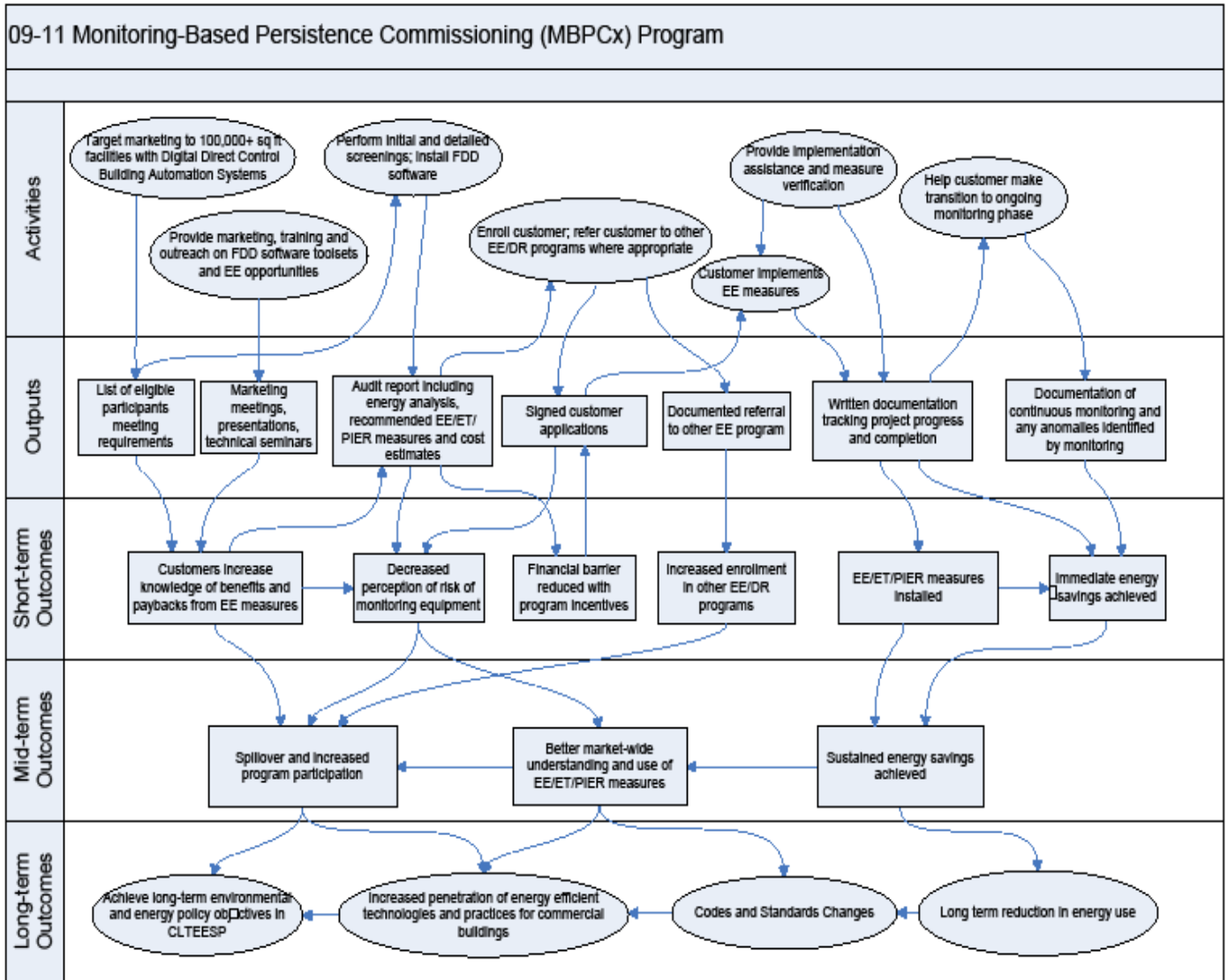
Nonresidential: Monitoring-Based Persistence Commissioning Program

7. Diagram of Program



Nonresidential: Monitoring-Based Persistence Commissioning Program

8. Program Logic Model



29

Nonresidential: Leased Office Space Retrofit Program

1. **Program Name:** Leased Office Space Retrofit Program
Program ID: SCE-TP-029
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-029	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Leased Office Space Retrofit Program	\$ 153,919	\$ -	\$ 2,100,081		\$ 2,254,000
	TOTAL:	\$ 153,919	\$ -	\$ 2,100,081	\$ -	\$ 2,254,000

3. Projected Program Gross Impacts Table (by calendar year)

Table 2

SCE-TP-029	Leased Office Space Retrofit Program	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Leased Office Space Retrofit Program	18,320,915	5,211	-
	TOTAL	18,320,915	5,211	-

4. Program Description

a) Describe program

The Leased Office Space Retrofit Program targets non-owner occupants of commercial office buildings, specifically medium and large office buildings in the Los Angeles basin (Climate Zones 6, 8, 9, and 10). The program features:

- Audits recommending energy efficiency opportunities;
- Financial analyses to help customers choose which measures to implement;
- Turn-key measure installation;
- Post-installation inspection to verify performance; and
- Customer satisfaction surveys and resolution.

This program is one of three separate, but similar, local programs directed at leased building spaces in SCE's territory (see the Sustainable Portfolios and Management

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Leased Office Space Retrofit Program

Affiliates Program Implementation Plans for descriptions of these other programs). The use of multiple programs and implementers allows for diversification of approaches to better serve customer needs and provide opportunities for knowledge sharing to improve program implementation and future program design.

b) List measures

Program measures include:

- Lighting: T12 to T8, incandescent to CFL, occupancy sensors, and exit signs;
- HVAC: Packaged AC units, variable speed drives (VSDs) for pumps and fans, and programmable thermostats;
- High efficiency motors;
- Energy management systems; and
- Virtualization computer load management software.

c) List non-incentive customer services

The program offers these non-incentive services to customers:

- Turn-key installations of program energy efficiency (EE) measures through pre-selected subcontractors;
- Owner and tenant cost sharing between owners and tenants to identify the most cost-effective EE measures and applying energy savings incentives to the total measure cost, and splitting any remaining costs evenly between them;
- Energy benchmarking and ENERGY STAR® recognition: the program contractor will assist building owners with benchmarking of a building as requested and submit the documentation for ENERGY STAR® recognition if the building qualifies;
- Greenhouse gas (GHG) analysis by estimating reductions to a building's carbon footprint based on its energy usage, including any reduction resulting from the installation of EE measures; and
- Identifying potential tax deductions eligible available under provisions of the Energy Policy Act of 2005.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

Nonresidential: Leased Office Space Retrofit Program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The proposed program involves implementing readily available energy efficiency measures in commercial office buildings. What sets this program apart is a marketing and implementation approach that is customized for this hard-to-reach market segment. The goal is to create relationships between the building owners and tenants, and to make the whole process as simple as possible for them. The key innovations of this program are:

- Turn-key Installation: Providing turn-key installations of program EE measures selected by the customer(s) using pre-selected subcontractors;
- Owner and Tenant Cost Sharing: Working with owners and tenants to identify the most cost-effective EE measures, identifying how the total cost of the EE measures is reduced by the energy savings incentives (either deemed rebates, or calculated incentives), and splitting the remaining costs evenly between them;
- Energy Benchmarking and ENERGY STAR Recognition: Assisting building owners with benchmarking of their buildings and submitting the documentation for ENERGY STAR Recognition if the building qualifies;
- Tax Deductions & ENERGY STAR Recognition: Providing the necessary information to help building owners qualify for federal tax deductions that can offset a significant amount of the retrofit project cost.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	31	62	-

Nonresidential: Leased Office Space Retrofit Program

e) Advancing Strategic Plan goals and objectives

The program supports the Strategic Plan, and specifically the goals and strategies set forth in Section 3 of the Commercial Sector as follows:

Goal 2: 50 percent of existing buildings will be retrofitted to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

Strategy 2-5: Develop tools and strategies to use information and behavioral changes, commissioning, and training to reduce energy consumption in commercial buildings.

Near term actions include:

- Identify new and improved tools and strategies that apply information and behavioral strategies, including presentation of economic, comfort and productivity cases to owners, occupants and appraisers;
- Strengthen tools and practices in building commissioning; and
- Strengthen Building Operator Certification (BOC) training for commissioning.

Strategy 2-6: Develop effective financial tools for EE improvements in existing buildings.

Near term actions include:

- Identifying tools, instruments and information necessary to attract capital to EE; and
- Exploring changes to standard lease terms to address perceived tenant/owner “split incentives” issue.

Strategy 2-7: Develop business models and supplier infrastructure to deliver integrated and comprehensive “one stop” energy management solutions.

Near term actions include:

- Exploring other mechanisms to reward comprehensive energy management retrofits more highly (for example, premium incentives for measured performance, local government permits, incentives, insurance discounts, etc.); and
- Initiating utility incentive pilots that test the viability of integrated demand side management (IDSMS) service delivery models (for example, ESCOs, aggregators, etc.)

The program will advance these Strategic Plan goals, strategies, and near-term actions through customer education and information, by offering technical assistance and facility benchmarking support, and by providing customer incentives and financing options.

Nonresidential: Leased Office Space Retrofit Program

6. Program Implementation

a) Statewide IOU Coordination

The Leased Office Space Retrofit Program is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however best practices will be shared with the other IOUs as appropriate.

i. Program name: Leased Office Space Retrofit Program

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g., research, target audience, collateral, delivery mechanisms.

Not applicable to this program

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable to this program

b) Program delivery and coordination

Program delivery and coordination will involve conducting marketing and outreach efforts, performing energy audits, identifying and enlisting qualified subcontractors, coordinating measure installations, verifying energy savings, and facilitating public recognition of the project and the involved parties.

The program contractor progresses through these stages:

- Identifying potential participants.
- Conducting a facility audit to collect all information needed to determine which potential measures are economically feasible based on their energy savings, demand reductions and costs, including benchmarking the site using the ENERGY STAR® Portfolio Manager™. (Beginning in 2010, California will require this benchmarking for any building that is either sold or leased. Therefore, this benchmarking will be a valuable asset to the building owner.) Energy savings for each measure will be calculated using the Standard Performance Contract (SPC) software.
- Discussing the audit findings with the customer, after which the customer will select the measures to be implemented, considering potential tax deductions and financing arrangements, and initiating a signed a contract between the participant and SCE.

Nonresidential: Leased Office Space Retrofit Program

- Scheduling the turn-key installation of the energy-efficient equipment by working with the participants to help ensure proper installation.
- Conducting an inspection to ensure that all measures have been installed and meet program requirements, initiating the ENERGY STAR® rating paperwork, and completing the tax deduction forms.

i. Emerging Technologies program

Not applicable to this program

ii. Codes and Standards program

Not applicable to this program

iii. WE&T efforts

Not applicable to this program

iv. Program-specific marketing and outreach efforts

A marketing plan will be developed for the design, production, and distribution of program promotional materials for building owners and tenants (e.g., program brochures), attendance at SCE-sponsored customer events and meetings, and participation in trade shows and conferences. The program is designed to target leased commercial buildings in climate zones 6, 8, 9 and 10. Success of the program requires outreach to two distinct parties: the tenant or party leasing the building and the party that owns the building. A primary strategy of the marketing and outreach effort will be to create and produce two brochures to promote the program. One will be used to attract building owners to participate in the program and will describe the program and the benefits of participation. The second brochure will be more focused on tenant benefits and explain how tenants can participate in the program.

v. Non-energy activities of program

Not applicable to this program

vi. Non-IOU programs

The program will coordinate with non-IOU organizations (e.g., the EPA ENERGY STAR® Recognition Program).

vii. CEC work on PIER

Not applicable to this program

viii. CEC Work on codes and standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

Nonresidential: Leased Office Space Retrofit Program

c) Best Practices

The program delivery strategy is based on an evaluation of existing programs, historical program successes, and market sector needs. The strategy is flexible to accommodate changes. The program component design uses a combination of proven and innovative approaches, and delivery mechanisms that maximize energy savings opportunities (e.g., energy system load management software).

d) Innovation

The key innovations of this program are:

- Turn-key installations;
- Cost sharing between owner and tenant; and
- On-bill financing.

e) Integrated/coordinated Demand Side Management

Leased Office Space is an Innovative Design for Energy Efficiency Activities (IDEEA) program that SCE has identified as a potential energy efficiency/demand response coordinated offering (per A.08-07-021, Exhibit SCE-6). Coordinated program activities may include integrated EE/DR audits, and linkage to not only energy efficiency incentives but also to DR (TA/TI) incentives.

f) Integration across resource types (energy, water, air quality, etc)

Not applicable to this program

g) Pilots

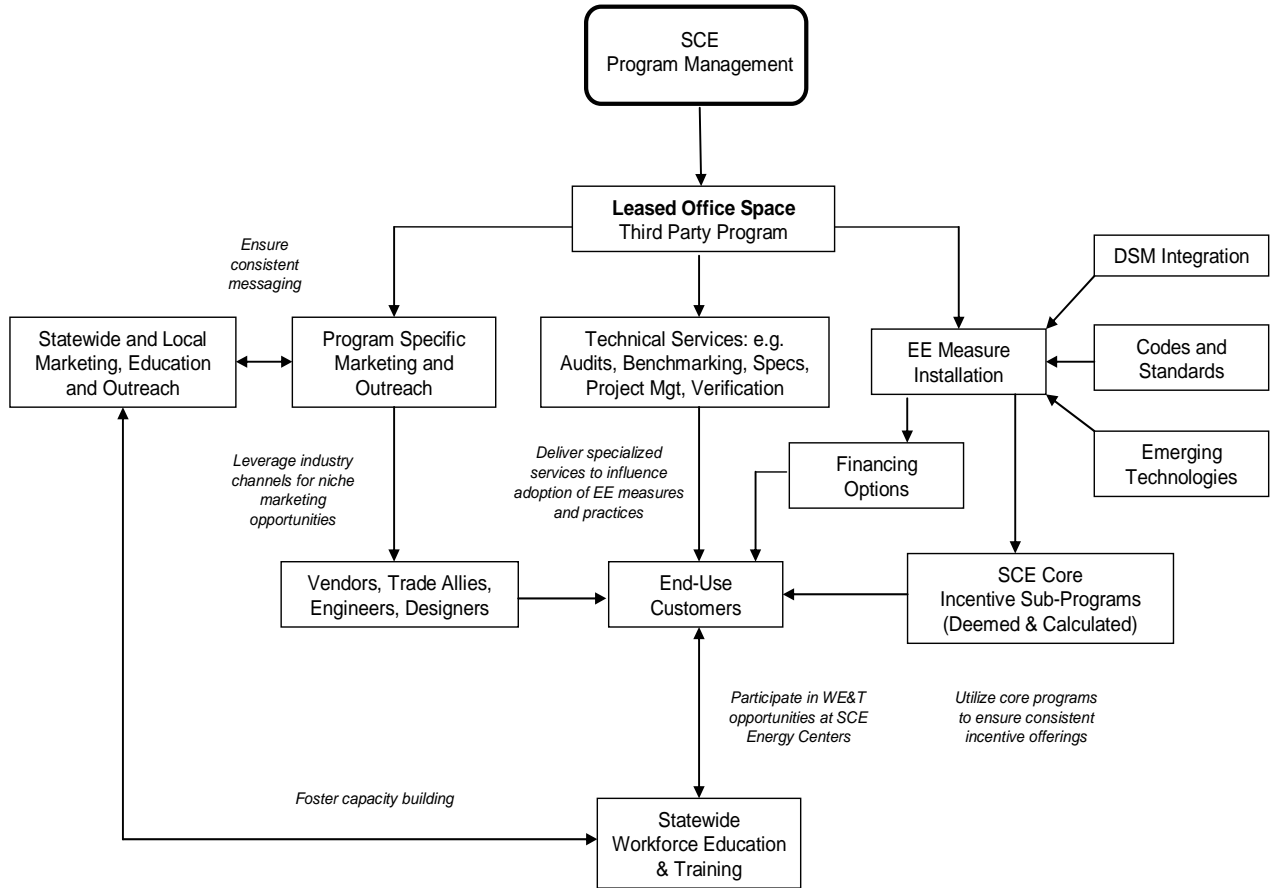
Not applicable to this program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

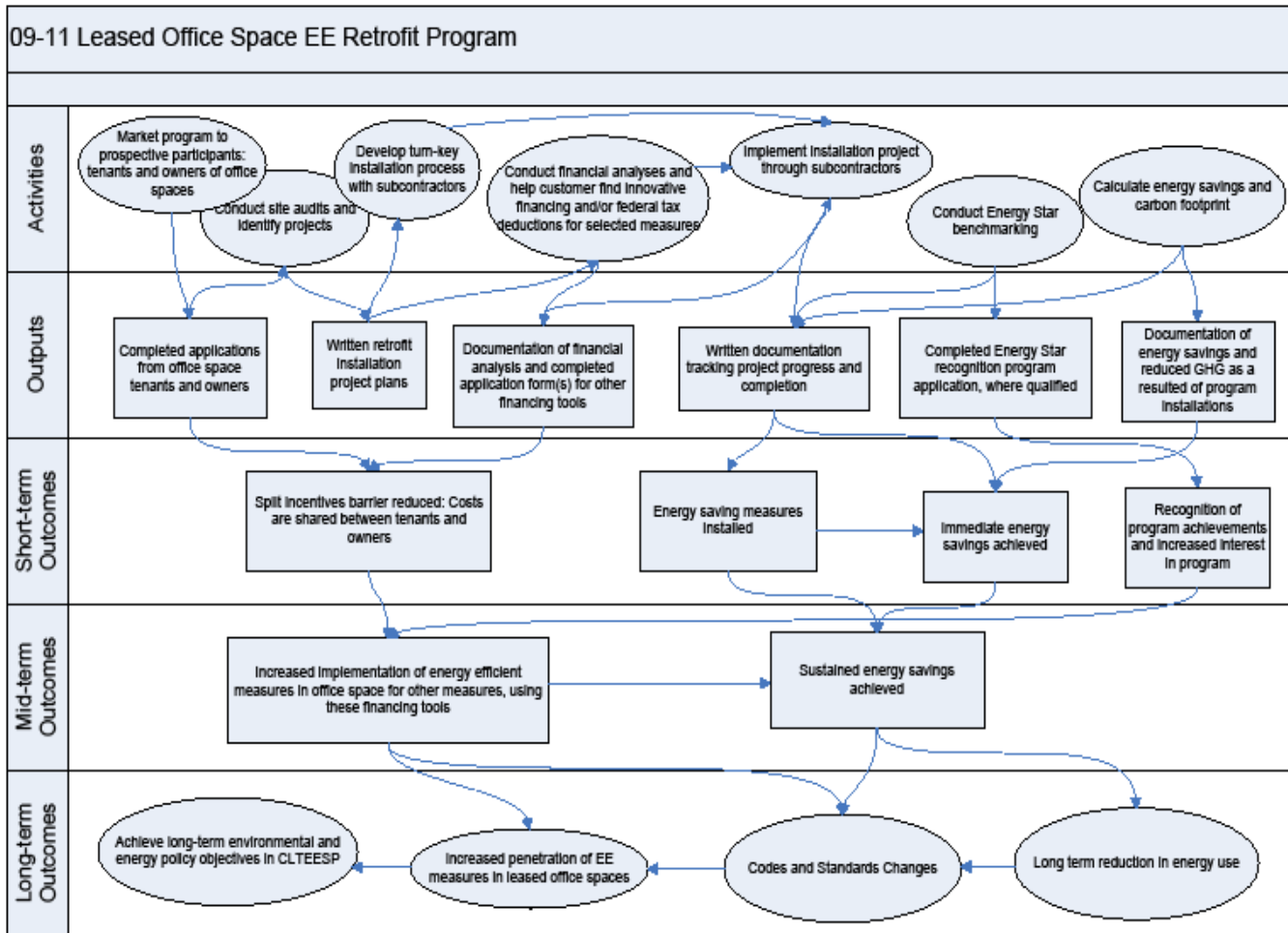
Nonresidential: Leased Office Space Retrofit Program

7. Diagram of Program



Nonresidential: Leased Office Space Retrofit Program

8. Program Logic Model



30

Nonresidential: Sustainable Portfolios

1. **Program Name:** Sustainable Portfolios
Program ID: SCE-TP-030
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-030	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Sustainable Portfolios	\$ 607,704	\$ 94,700	\$ 7,983,596		\$ 8,686,000
	TOTAL:	\$ 607,704	\$ 94,700	\$ 7,983,596	\$ -	\$ 8,686,000

3. Projected Program Gross Impacts Table - by calendar year

Table 2

SCE-TP-030	Sustainable Portfolios	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Sustainable Portfolios	36,157,427	14,311	-
	TOTAL	36,157,427	14,311	-

4. Program Description

a) Describe program

The purpose of the Sustainable Portfolios program is to achieve significant energy, water, waste, and greenhouse gas (GHG) reductions in the hard-to-reach market of leased commercial office space. Sustainable Portfolios seeks commitments from real estate owners, investors and major tenants to “green” their portfolios of leased commercial office space. Target facilities include leased Class A and Class B office space. Marketing efforts will focus on leased floor space of at least 100,000 square feet.

The program will feature:

- Comprehensive audits addressing opportunities for energy efficiency, water conservation, and waste management;

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Sustainable Portfolios

- Facility specific sustainable portfolio implementation plans with schedules and budgets;
- Technical assistance in implementing the plan;
- Post-implementation verification of performance;
- Financial incentives from SCE;
- Financial options to cover remaining implementation costs; and
- Assistance with revisions to equipment specifications in purchasing and to operations and maintenance policies to achieve sustainable practices

The program will proceed through the following key steps:

- Pre-launch planning that helps ensure that program elements are organized and properly communicated;
- Marketing and enrollment or outreach to potential property owners and tenant participants through a variety of outreach mechanisms, and enrolling them into the program and gaining a project commitment;
- Data gathering, benchmarking, and portfolio strategy development, including:
 - Meeting LEED-EB certification requirements for all properties;
 - Attaining ENERGY STAR[®] ratings of 90 or better; and
 - Implementing all energy and water measures with paybacks of 3.5 years or less (after incentives).
- Project prioritization and upgrade including:
 - Undertaking a comprehensive energy, water and waste audit of the targeted properties;
 - Developing a robust Sustainable Portfolio implementation plan, including a schedule and budget for facility upgrades that meet the portfolio goals and objectives;
 - Developing project financial plan(s), including projected capital and operating costs, financing terms, expected incentives, and projected cash flows;
 - Assisting program participants in implementing their Sustainable Portfolio plan;
 - “Commissioning” the improvements;
 - Distributing the incentives to participants in accordance with the agreed-to structure among owners and tenants; and
 - Documenting energy savings.
- Incorporate sustainability into operations, management and purchasing policies by:
 - Revising operations & maintenance policies and procedures to incorporate sustainability best practices;
 - Developing specifications and protocols for future green tenant improvements and equipment replacements;
 - Developing a methodology for tracking and reporting portfolio performance; and
 - Incorporating procedures for periodic re-evaluation of “portfolio greening” opportunities, including reviewing new cost-effective energy, water, and waste reduction technologies.

Nonresidential: Sustainable Portfolios

- Post-installation support for market-branding of Sustainable Portfolios. Sustainable Portfolios will assist participants in branding and marketing their building portfolios, where applicable, with ENERGY STAR® labeling.

This program is one of three separate, but similar, third-party programs directed at leased building space in SCE's territory (see Leased Office Space Retrofit Program and Management Affiliates Program individual PIPs for descriptions of these third-party programs). Using three implementers allows better diversification of measures and promotes knowledge sharing that would advance all programs.

b) List measures

Measures will include:

- Chiller Replacement - replace existing chillers with new high efficiency chillers;
- HVAC Retro-commissioning - change from constant air volume double-duct to variable air volume double-duct air handling systems, and implement air-side economizer cycles;
- Lighting systems upgrade – install new lighting systems, motion sensors;
- Motors – premium efficiency motors;
- New boilers;
- Landscape irrigation; and
- Waste generation and disposal.

c) List non-incentive customer services

The following are the non-incentive services that will be provided to the customers in this program:

- Providing engineering resources to conduct comprehensive audits;
- Developing the business case for going “green” including projected capital and operating costs and financial and non-financial benefits;
- Creating individual Sustainable Portfolio implementation plans, including schedules and budgets;
- Assisting program participants in implementing plans;
- Conducting post-implementation audits and acceptance testing;
- Analysis of GHG reductions associated with implementing the recommended measures;
- Providing a Green Leasing Toolkit that includes strategies recommended by real estate owners, tenants, and brokers for promoting, developing, and managing green leases; and
- Assistance with revisions to equipment specifications and to operating policies and procedures.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A,

Nonresidential: Sustainable Portfolios

3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

This program develops effective financing tools and additional investment incentives to deal with the issue of split-incentives in leased retail space. While the key to overcoming these barriers is offering participants the ability to finance upgrades within the framework of the triple net lease and attaining program participation commitment at the executive leadership level, the following activities will be undertaken:

- Addressing opportunities for savings that are generally within both the tenant's and the owner's areas of responsibility by encouraging them to work together in maximizing the environmental sustainability of the property. The result is to more effectively utilize revenues, operating costs, cash flows and market values for both parties.
- Benchmarking, goal setting, auditing, and periodically setting performance reviews goals, to comprehensively make the properties as green as possible and to help ensure continued savings.
- Pre-establishing financing mechanisms and structuring leasing arrangements to enable program participants to implement identified measures without the need to wait for normal capital budgeting cycles. Some projects can be self-funded within the context of the triple net lease.

Nonresidential: Sustainable Portfolios

- Sustaining the program’s offering by revising operations, management, and purchasing policies and practices to incorporate best practices into the day-to-day operations and management of the properties. For example, standard specifications for tenant improvements, minimum efficiency specifications for replaced equipment, and scheduled re-testing and commissioning of building systems will produce savings in future years and help identify opportunities in other properties.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Square Feet	3,050,000	6,100,000	6,100,000

e) Advancing Strategic Plan goals and objectives

The program supports the Strategic Plan goals as presented in Section 3 Commercial Sector. More specifically, the program supports:

Goal 2: 50 percent of existing buildings will be retrofitted to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

- *Strategy 2-5: Develop tools and strategies to use information and behavioral changes, commissioning, and training to reduce energy consumption in commercial buildings.*
Near-term actions include identifying new and improved tools and strategies that apply information and behavioral strategies, including presentation of economic, comfort and productivity cases to owners, occupants and appraisers.
- *Strategy 2-6: Develop effective financial tools for EE improvements in existing buildings.*
Near Term actions include identifying tools, instruments and information necessary to attract capital to EE.
- *Strategy 2-7: Develop business models and supplier infrastructure to deliver integrated and comprehensive “one stop” energy management solutions.*

The program will advance these goals, strategies and near term actions by benchmarking customer facilities, offering customer incentives and financing options designed to influence the installation of energy efficient equipment, delivering customer education and information that encourage sustainability, providing technical assistance, exceeding codes and standards, and deploying emerging technologies.

Nonresidential: Sustainable Portfolios

6. Program Implementation

a) Statewide IOU Coordination

The Sustainable Portfolios is a third-party program managed in SCE's territory. No coordination with other IOUs is expected for this program; however best practices will be shared with the other IOUs as appropriate.

i. Program name: Sustainable Portfolios

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable to this program

b) Program delivery and coordination

i. Emerging Technologies Program

Not applicable to this program

ii. Codes and Standards program

Not applicable to this program

iii. WE&T efforts

Not applicable to this program

iv. Program-specific marketing and outreach efforts (provide budget)

Program-specific marketing and outreach efforts will include:

- One-to-one marketing by contractor with customer through telephone and personal meetings;
- Seminars for owners, managers and tenants of leased facilities;
- Program marketing materials including brochures, flyers, and case studies;
- Encourage word-of-mouth marketing with other owners, managers and tenants;

Nonresidential: Sustainable Portfolios

- Network with large owners, tenants and brokers, who are also members of industry organizations such as the Urban Land Institute, CoreNet Global, NAREIT and PREA, and industry services such as the CoStar Group;
- Recognition of early adopters;
- Coordination with core programs of SCE for possible joint marketing activities include: distribution of marketing materials, joint presentation to target audience, and periodic referrals via email; and
- Program website where potential participants can find out more information about the program. Links to other IOU programs will also be made available on the website

v. Non-energy activities of program

As part of the audit process, program staff will provide participants the results from system commissioning, including initial documentation not only for energy, but also water and waste savings, and estimated GHG emissions reductions.

vi. Non-IOU programs

The program will assist office building customers in meeting Leadership in Energy and Environmental Design for Existing Building (LEED-EB) certification and attaining ENERGY STAR® ratings of 90 or better.

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on codes and standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

A Green Leasing Pilot Program conducted by the California Sustainability Alliance (a.k.a. Alliance Partners), has shown that the choice to “Go Green” must be a conscious executive-level decision in order to get meaningful traction. Market experts participating in the Alliance Partners program concur that the route to market transformation is successful engagement of the largest and most influential owners and tenants in California. This marketing practice will be part of the program.

The program will use the Green Leasing toolkit. The toolkit includes strategies recommended by real estate owners, tenants, and brokers for promoting, developing, and managing green leases. It also addresses both real and perceived barriers, including split incentives.

d) Innovation

Program innovations include:

Nonresidential: Sustainable Portfolios

- Delivering increased customer participation per unit of program cost by leveraging a network of strong relationships with the executive leadership of targeted customers, very large owners, and users of leased commercial office space in California.
- Increasing spillover by tapping executive-level commitments to install sustainability and energy-efficiency practices as a permanent change in the management of their real estate portfolios.
- Engaging market leaders to collectively specify minimum green criteria to influence building owners and developers to meet these minimum standards, thereby precipitating market transformation.
- Creating market recognition and value for early adopters, thereby motivating others to adopt similar programs.
- Evaluating a building's green potential by analyzing not only its energy profile and savings potential, but also its water savings, GHG emissions, and waste/recycling potential.

e) Integrated/coordinated Demand Side Management

IDSMS activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSMS as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSMS efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc.)

This program will evaluate a building's green potential by analyzing not only its energy profile and savings potential, but also its water savings, GHG emissions, and waste/recycling potential.

g) Pilots

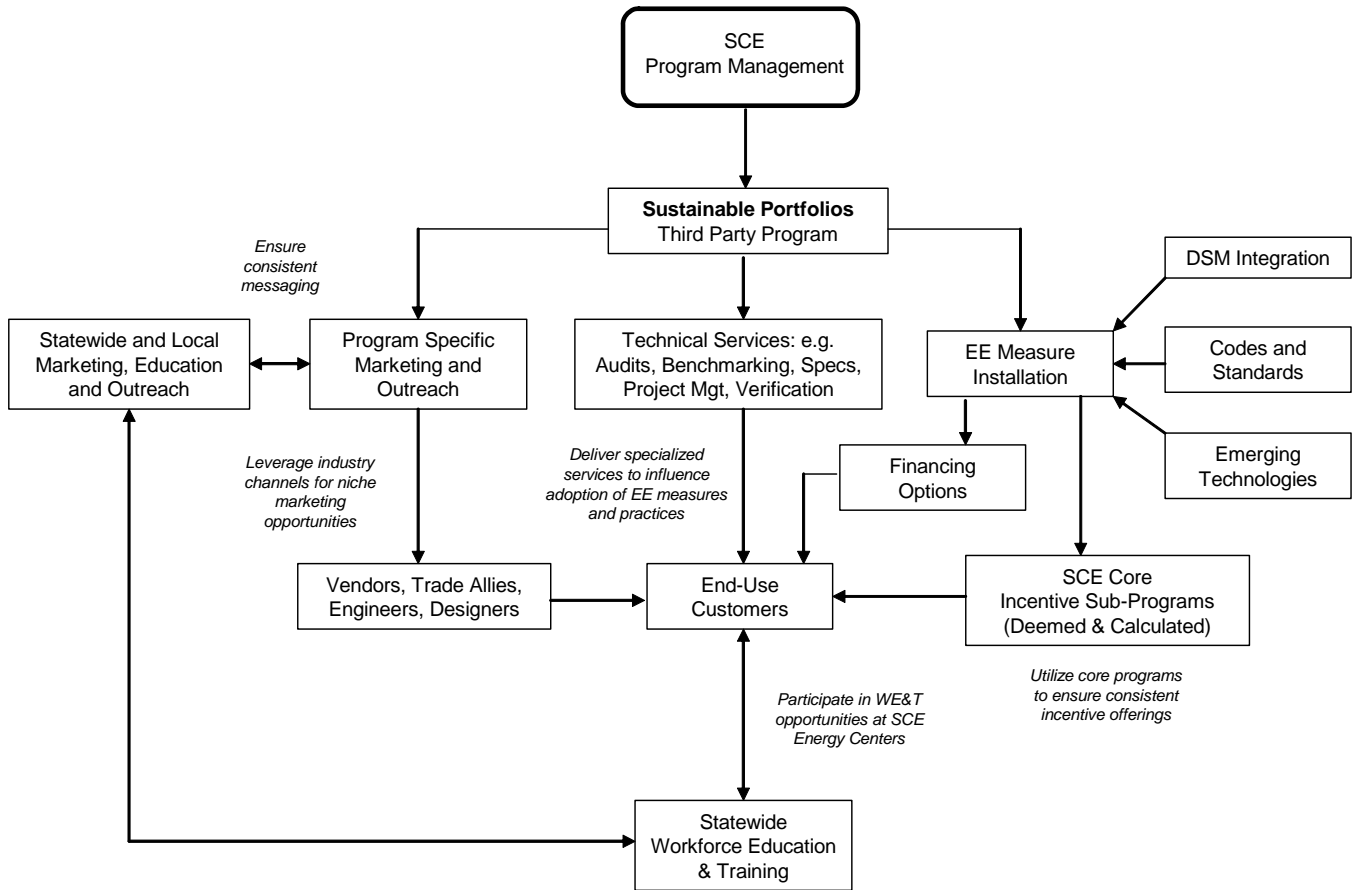
Not applicable to this program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

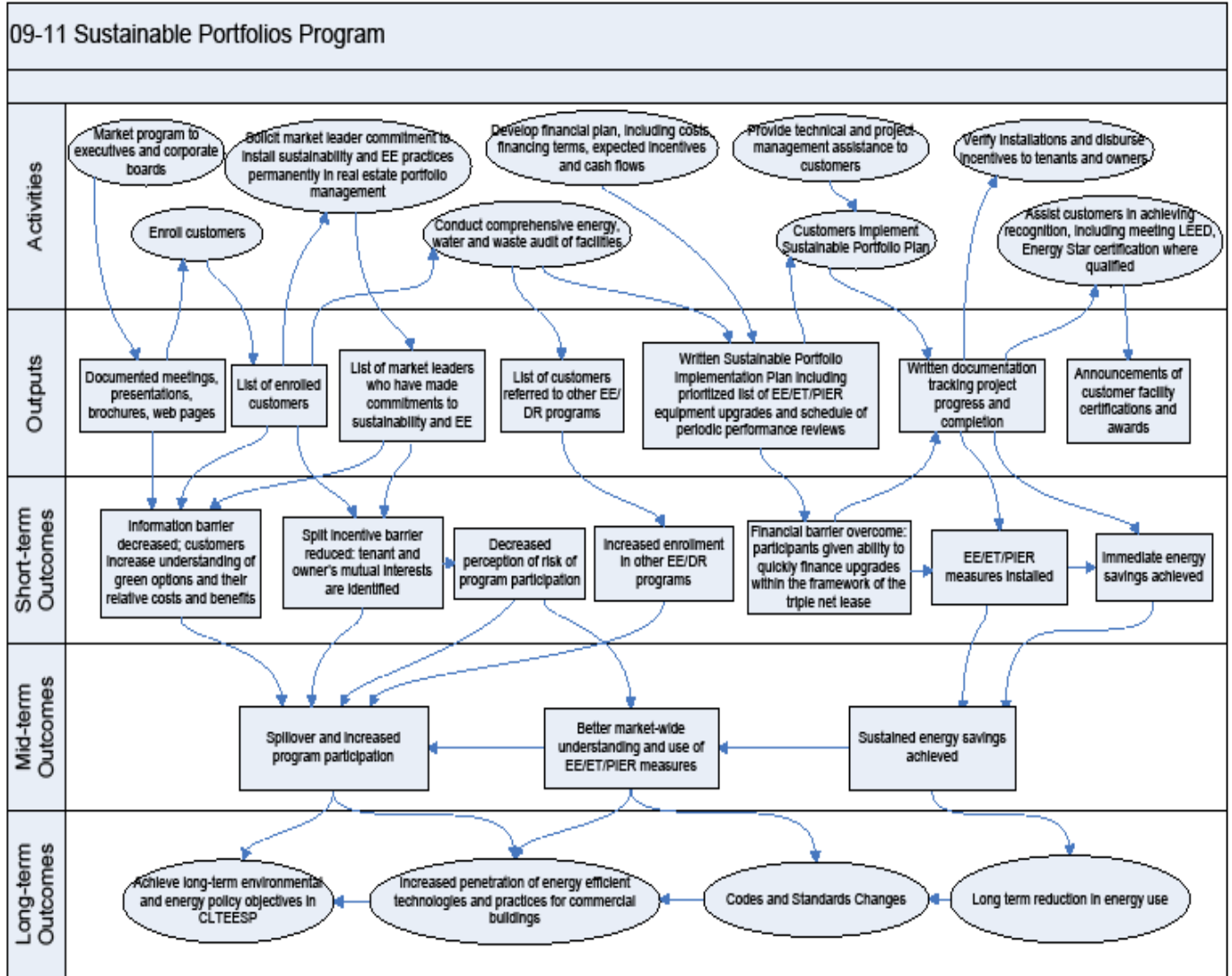
Nonresidential: Sustainable Portfolios

7. Diagram of Program



Nonresidential: Sustainable Portfolios

8. Program Logic Model



31

Nonresidential: Management Affiliates Program

1. **Program Name:** Management Affiliates Program
Program ID: SCE-TP-031
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-031	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Management Affiliates Program	\$ 686,000	\$ -	\$ 4,719,000		\$ 5,405,000
	TOTAL:	\$ 686,000	\$ -	\$ 4,719,000	\$ -	\$ 5,405,000

3. Projected Program Gross Impacts Table -by calendar year

Table 2

SCE-TP-031	Management Affiliates Program	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Management Affiliates Program	26,586,164	3,074	-
	TOTAL	26,586,164	3,074	-

4. Program Description

a) Describe program

The Management Affiliates Program (MAP) is an expansion of a 2007-2008 IDEEA program. It provides services to improve the energy efficiency of business buildings operated by property management companies (e.g., commercial office buildings and retail department stores). The program employs a comprehensive approach by promoting retrofits and other demand side management (DSM) alternatives (e.g., demand response (DR), renewable/distributed self-generation (DG), solar hot water heating, and water efficiency).

MAP also provides assistance to cities with specific energy efficiency program management requirements, collaborates with other organizations (e.g., joint power

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Management Affiliates Program

agencies and local governmental councils) and coordinates with SCE's local government partnerships.

This program is one of three separate but similar third-party programs directed at leased building space in SCE's territory (see Sustainable Portfolios and the Leased Office Space Retrofit Program for description of SCE's similar local programs). Having three programs with separate implementers provides diversification of program delivery approaches for a broader range of experiences and mechanisms to reach customers that can ultimately provide opportunities to improve program delivery and future implementation.

b) List measures

Program measures include:

- Daylight harvesting and dimming lighting ballast system;
- HVAC cycle manager for packaged HVACR;
- CO sensing system for garage exhaust fans;
- CO₂ sensing system for demand control ventilation;
- Turbocor oil-free compressor;
- Hotel key card energy control system;
- Pressure independent water flow control valve system; and
- Fan wall technology.

c) List non-incentive customer services

MAP will select a small number of well-recognized companies to receive audits and installations of a suite of emerging technologies at no cost to the customer. MAP will then publicize the installation results to industry leaders, management companies, and trade/energy publications. This will promote the adoption of new, highly efficient technologies in commercial buildings.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

Nonresidential: Management Affiliates Program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Two of the most significant barriers to implementing SCE energy efficiency programs in the commercial office building and retail market segments are split incentives and the lack of effective access to decision makers.

MAP works directly with the policy-making level of property management companies to identify energy efficiency opportunities and match them with SCE and third party vendor programs, including demand response. In the real estate market, internal growth (maximizing the value of buildings already in one's portfolio) is a much preferred strategy to external growth (increasing the size of the portfolio through new development or acquisition).

Another significant sector barrier is the lack of clear communication among stakeholders (e.g., between engineering and capital budgeting departments). Mismatched language prevents even the most compelling projects from getting deserved attention. Unknown or misunderstood goals can also stand in the way of financially attractive improvements to income properties.

MAP overcomes this barrier by gaining high-level and preferred direct access to decision-makers through participating management companies. MAP will provide detailed financial and technical analysis to property owners and property managers, thereby enhancing communications between facility planners and budget decision-makers.

The program will achieve market penetration through an aggressive marketing campaign to property management companies and their clients, and to community organizations.

MAP will also coordinate with SCE's Energy Leader Partnership program to deliver this program to local governments. These governments can adopt ordinances to implement California Air Resources Board (CARB) *Guidelines and Protocols for*

Nonresidential: Management Affiliates Program

Businesses to Facilitate GHG Reductions and support management companies in implementing energy efficiency activities promoted by MAP.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	37	37	37

e) Advancing Strategic Plan goals and objectives

MAP advances comprehensive energy efficiency by exploring and adopting practices that address the tenant/owner “split incentives” issue and training building operators. In accordance with the Strategic Plan, MAP will:

- Address the Strategic Plan’s approach to integrated DSM (IDS_M), create additional energy savings through inter-program referral and data sharing, and bundle DSM solutions across energy efficiency, DR, CSI, SCE’s AMI, and other IDS_M efforts;
- Advance comprehensive energy efficiency by exploring and adopting practices that address the tenant/owner “split incentives” issue and train building operators; and
- Take a broad series of actions toward zero net energy new commercial buildings and very low energy existing commercial buildings. MAP energizes market players and other stakeholders to focus on transformational approaches by promoting installations of high efficiency HVAC and lighting equipment, and other emerging technologies.

The program also supports education to enhance the public’s understanding of AB 32 by relating the carbon reduction effects of energy efficiency programs to program participants. By promoting and facilitating energy efficiency in the commercial sector, MAP also supports the voluntary portions of California’s Green Building Initiative (GBI). The GBI encourages commercial building owners to take aggressive action to reduce electricity usage by retrofitting, building, and operating the most energy and resource efficient buildings.

In accordance with the 2009-2011 near term initiatives outlined in the Strategic Plan, MAP will also:

- Encourage early adoption of new technologies in the commercial real estate sector by actively including emerging technologies in the lighting, HVAC and other areas;
- Help identify and develop information and behavioral tools and strategies to reduce energy consumption in commercial buildings. MAP will reach and present economic, comfort, and productivity information to high-level decision makers

Nonresidential: Management Affiliates Program

- serving to bridge a critical communication gap between commercial facility planners and budget decision makers;
- Identify and develop tools, instruments, and information necessary to attract capital to energy efficiency;
 - Use a network of property management companies and their clients as a forum for property owners and managers that will share and adopt energy efficiency best practices and emerging technologies in ultra-low and zero net energy (ZNE) commercial buildings; and
 - Support a campaign to recruit 100 local governments that promise to benchmark and retro-commission their buildings by 2012. MAP will provide assistance to cities with specific energy efficiency program management needs. The program will collaborate with other organizations (e.g., joint power agencies, local governmental councils, and SCE's local government partnerships).

6. Program Implementation

a) Statewide IOU Coordination

The Management Affiliates Program is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Management Affiliates Program

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable to this program

b) Program delivery and coordination

The MAP implementation plan includes program marketing, customer enrollment, installations, inspections, remedy installations, and customer satisfaction measures to property management companies and other participating organizations.

Nonresidential: Management Affiliates Program

MAP educates its participants about how the program works, outreach activities, and how to join. Participants discuss the program with their members or property managers, describe the available technologies, and complete a Technology Opportunity Identifier Form. The data collected through this form are crucial in identifying opportunities and creating an “opportunity report” for participants to share with their clients.

After the program secures interest from owners (e.g., participant clients and members), a detailed facility assessment is completed to identify and select all energy efficiency measures applicable to the customer. This facility assessment is the foundation of the customer’s proposal package, the Opportunity Report. The proposal will include a description of the proposed measures, energy savings, total installation cost, incentive amount, total customer cost of the project, simple payback, a financing option, estimated greenhouse gas (CO₂) reductions, and an Authorization to Proceed (ATP) form for each recommended project. To authorize and enroll in a project, the customer must sign the ATP form.

The program handles all financing arrangements and requirements for the customer. After enrolling the customer, the program will ensure that the appropriate supplier(s) enter into a contract with the customer. After receiving the signed contract, the program conducts a pre-installation inspection and provides a copy of the proposed Statement of Work and Contract to customer. The program generates a work order to authorize the appropriate subcontractors to perform the installation.

There will be a pre-installation inspection and installation plan. If the post-installation inspection confirms the completed work, the customer receives the incentive.

MAP coordinates all of its activities with the SCE accounts team members who work with the property managers and facility engineers.

i. Emerging Technologies program

Not applicable to this program

ii. Codes and Standards program

Not applicable to this program

iii. WE&T efforts

MAP will assist customers in education and training. Management companies are making their resources available for training and education of their property manager, staffs, and client base.

iv. Program-specific marketing and outreach efforts

MAP will conduct an aggressive marketing campaign directed at property management companies and their clients. It will also approach community organizations to help increase program awareness. The program will coordinate

Nonresidential: Management Affiliates Program

with SCE's local partnerships to deliver this program to local governments. Program marketing materials will be developed and delivered through participating property management companies and organizations (e.g., direct communications, email alerts, data gathering instruments such as the Technology Opportunity Identifier form, and content for newsletters).

v. Non-energy activities of program

As a non-resource program, MAP will serve as a liaison for SCE's energy efficiency programs by providing and facilitating contacts between commercial property owners, managers, and program staff.

vi. Non-IOU programs

MAP will provide information to program participants about non-IOU programs to help them achieve additional energy benefits as appropriate.

vii. CEC work on PIER

Not applicable to this program

viii. CEC work on Codes and Standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

MAP's marketing and delivery design provides access to key decision makers and helps overcome the split incentives barrier. It also promotes numerous best practices as defined in the Energy Efficiency Best Practices Project reports (<http://www.eebestpractices.com/>). These practices include:

- Understanding local market conditions;
- Conducting sufficient market research;
- Using target marketing strategies;
- Providing trade allies with training and resources;
- Keeping benefits quantifiable in economic terms; and
- Developing and disseminating case studies to highlight program projects.

d) Innovation

The key differentiating factor of MAP is its high policy-making level partnership with property management companies. Senior management in these companies will establish interest in program opportunities with the decision makers of their client companies. They will direct the activities of the property managers at their client sites to engage in the process to identify energy efficiency opportunities.

The focus on emerging technologies provides the program with a fresh approach and greatly broadens the potential applications for energy efficiency, especially for companies that have already completed most conventional type energy projects.

Nonresidential: Management Affiliates Program

MAP will focus on emerging technologies, combined with high-level partnerships, cost-effective financial incentives, and single-source process of working with customers. This will significantly expand the depth and breadth of energy efficiency potential for the commercial properties managed by property management companies. This combination of management company partnership, emerging technologies, and the single-source control with customers is an innovative structure that has not yet been attempted.

e) Integrated/coordinated Demand Side Management

IDSM activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSM as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc.)

Not applicable to this program

g) Pilots

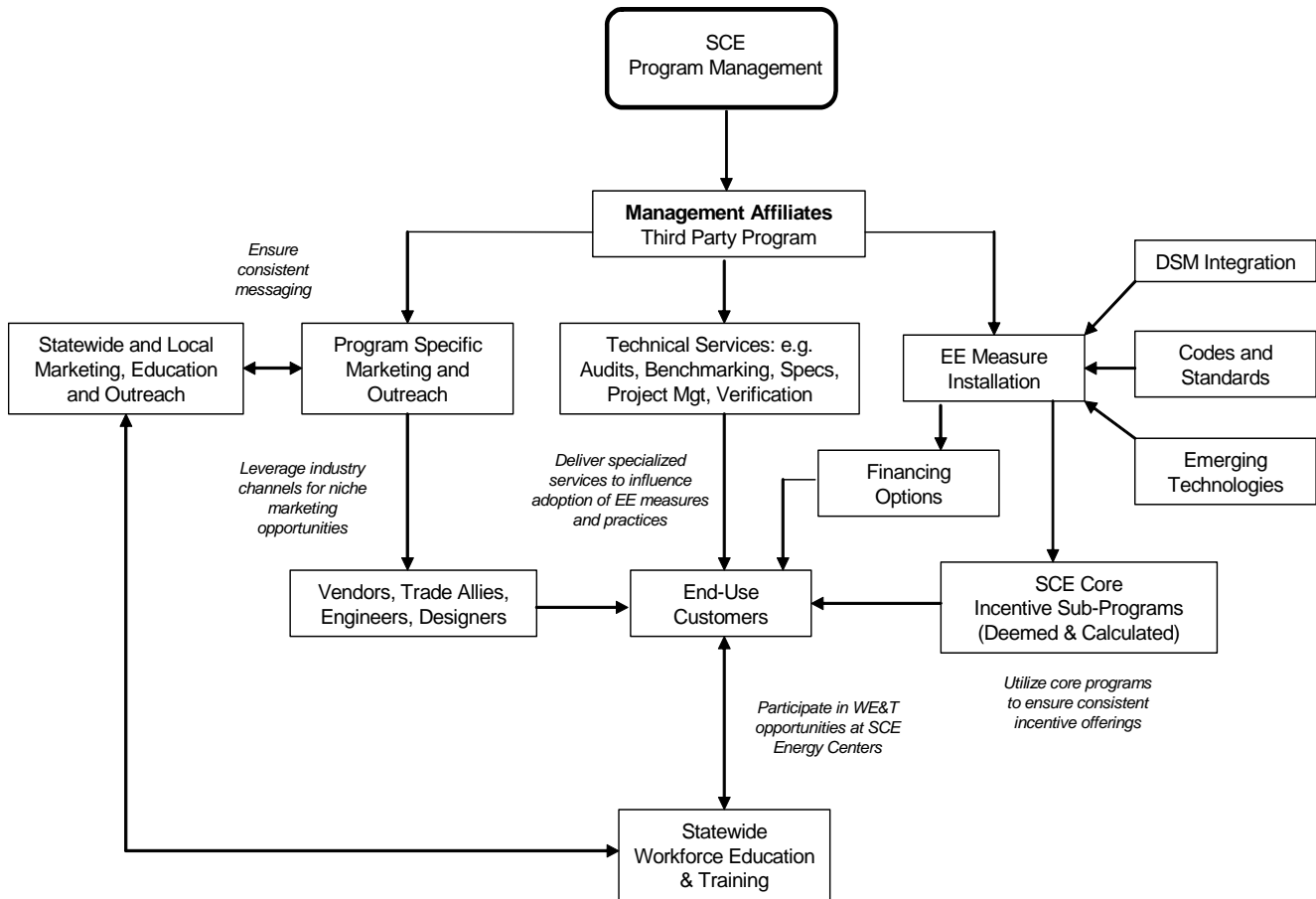
Not applicable to this program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

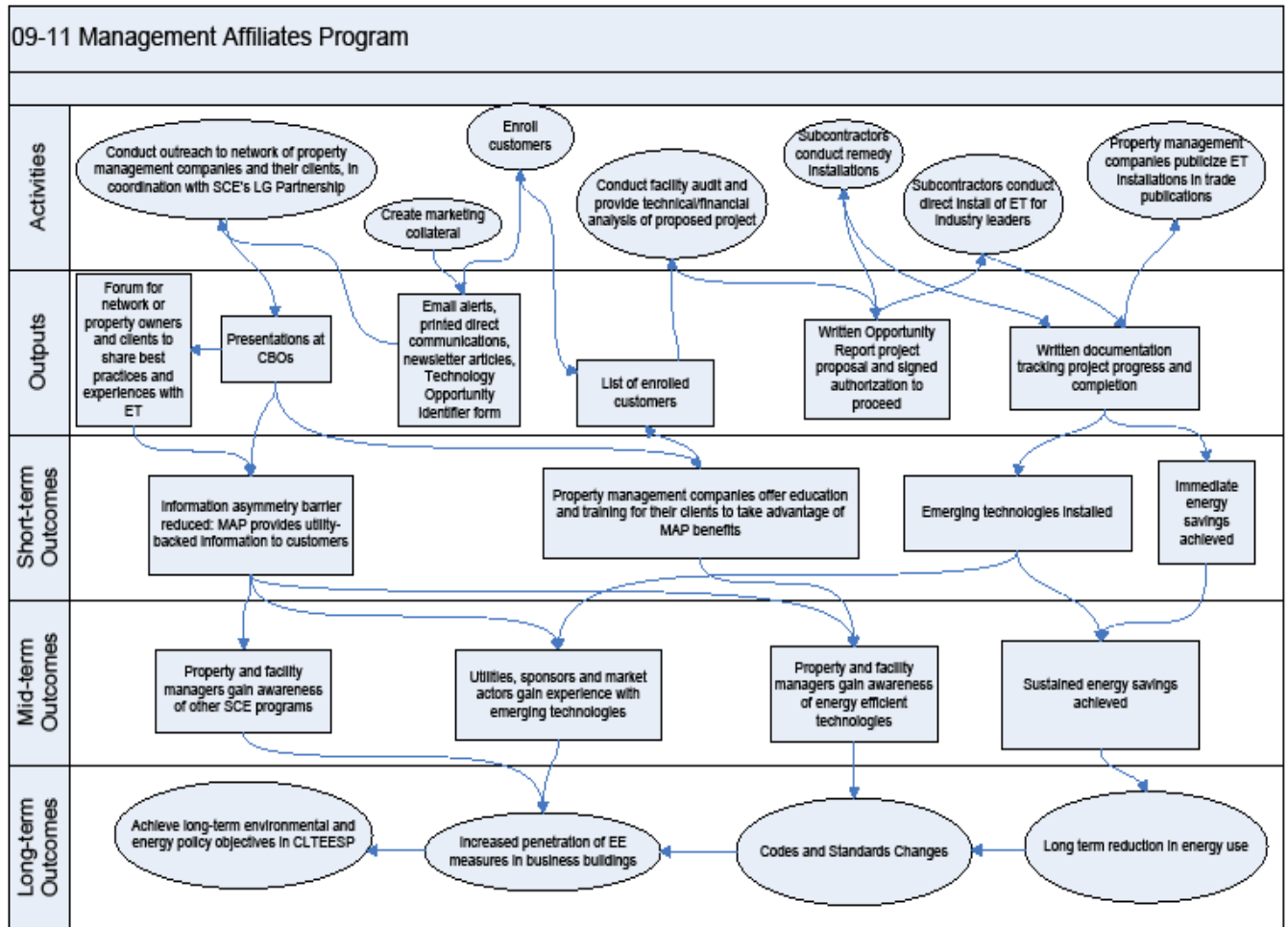
Nonresidential: Management Affiliates Program

7. Diagram of Program



Nonresidential: Management Affiliates Program

8. Program Logic Model



32

Nonresidential: Private College Campus Housing

1. **Program Name:** Private College Campus Housing
Program ID: SCE-TP-032
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-032	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
NON-RESIDENTIAL	Private College Campus Housing	\$ 313,000	\$ -	\$ 1,005,000		\$ 1,318,000
	TOTAL:	\$ 313,000	\$ -	\$ 1,005,000	\$ -	\$ 1,318,000

3. Projected Program Gross Impacts Table - by calendar year

Table 2

SCE-TP-032	Private College Campus Housing	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Private College Campus Housing	5,801,163	2,006	-
	TOTAL	5,801,163	2,006	-

4. Program Description

a) Describe program

The Private College Campus Housing program provides energy efficiency and demand management services to private college campus housing. The program targets both campus dormitories and off-campus buildings that house high densities of students and other young adults. Students living on campus as underclassmen often move off campus in their senior year, and therefore the inclusion of off-campus buildings can multiply program successes. The program features:

- Energy audits covering energy efficiency and demand management opportunities;
- Performance contracts that include specification, procurement and installation of recommended measures;
- SCE financial incentives;

¹ Definition of Table 1 Column Headings

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Nonresidential: Private College Campus Housing

- Financing of remaining costs by the performance contractor, to be repaid out of savings in energy bills;
- Involvement of students, faculty and administrative personnel; and
- Customer satisfaction surveys and resolution.

b) List measures

Program measures include:

- Lighting replacements (including compact fluorescent lamps);
- Replacing exit signs with light-emitting diodes (LEDs);
- Vending machine controllers;
- Lighting motion and occupancy sensors; and
- Low emissivity solar films.

The program offers incentives in several forms, including:

- Incentives from SCE based on deemed and calculated rates in core programs; and
- Performance contractor financing.

c) List non-incentive customer services

Non-incentive customer services include:

- Development of an investment strategy for retrofit capital items;
- Energy audits;
- Support services for measure specification and procurement;
- Coordination of measure installation; and
- Student and staff participation.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10

Nonresidential: Private College Campus Housing

years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

Energy efficiency has proven to be a viable method for colleges and universities to address budget shortfalls, and many have targeted main campus buildings (i.e., non-dormitory facilities such as libraries, laboratories, or classroom buildings) to realize significant expenditure reductions. Despite the fact that campus-housing facilities at private institutions are managed as part of the general campus facility operation, and not treated differently from non-housing buildings, campus housing remains untapped as a resource for energy savings and conservation. University of California, California State University, and IOU partnership activities do not focus on private colleges.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	4	5	7

e) Advancing Strategic Plan goals and objectives

The Strategic Plan details energy conservation goals and strategies which will be addressed by this program. Specifically, in Section 3 for the Commercial Sector the plan outlines:

Goal 2: 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

Strategy 2-5: Develop tools and strategies to use information and behavioral changes, commissioning, and training to reduce energy consumption in commercial buildings.

The program will advance comprehensive energy efficiency by offering technical training and assistance for installers, energy auditors, and building operators.

Nonresidential: Private College Campus Housing

Additionally, the program will implement operations and maintenance (O&M) measures.

The program will include a Green Residence Hall demonstration project to further educate students about energy efficiency. For customers enrolling in the Green Residence Hall demonstration project, in-kind donations of ENERGY STAR® and other energy efficiency products will be solicited through a host of local and/or regional technology partners (lighting and appliances). The program will coordinate with students and involve them through paid positions, volunteerships, and/or research projects related to the design, evaluation, and promotion of the demonstration space. For customers enrolling in the student energy auditing and CFL retrofit component, the program will recruit and train student energy auditors, oversee energy audits and analysis of recommended lighting upgrades, and facilitate student retrofits of screw-in CFLs.

6. Program Implementation

a) Statewide IOU Coordination

The Private College Campus Housing program is a local program managed in SCE's territory. No coordination with other IOUs is expected for this program; however, best practices will be shared with the other IOUs as appropriate.

i. Program name: Private College Campus Housing

ii. Program delivery mechanisms

Not applicable

iii. Incentive levels

Not applicable

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms

Not applicable

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program

vi. Similar IOU and POU programs

Not applicable to this program

b) Program delivery and coordination

i. Emerging Technologies program

Not applicable to this program

ii. Codes and Standards program

Not applicable to this program

Nonresidential: Private College Campus Housing

iii. WE&T efforts

Workforce education and training will include the involvement of students, faculty, and administration in program planning and implementation. Using the concept of the “Power of One,” those participating can take their education and training to other facilities, colleges, and universities. This will multiply the energy savings and support the education, training, and participation by individuals and institutions.

iv. Program-specific marketing and outreach efforts

Program marketing efforts will focus on raising customer awareness about the program benefits and enrolling qualified campuses. The program will include marketing materials needed for all marketing activities, including program brochures, presentations, press releases, trade journal articles, and others. General program marketing activities will include distributing marketing material and information private college campuses through direct mail, telemarketing and trade groups, and other associations.

v. Non-energy activities of program

The program promotes the unique feature of involving students, faculty and administration personnel in the implementation of the program to foster energy awareness.

vi. Non-IOU programs

Not applicable to this program

vii. CEC work on PIER

Not applicable to this program

viii. CEC Work on codes and standards

Not applicable to this program

ix. Non-utility market initiatives

Not applicable to this program

c) Best Practices

The Green Residence Hall demonstration project is a proven best practice that is used to educate students about energy efficiency. Similar student-based education programs have been offered through the Green Campus and the Green Schools programs. The Green Residence Hall Demonstration project utilizes in-kind donations of ENERGY STAR® and other energy efficient products to help reduce the project cost to the college. The program then coordinates with students and involves them through paid positions, volunteerships, and/or research projects related to the design, evaluation, and promotion of the demonstration space.

Nonresidential: Private College Campus Housing

d) Innovation

The program will operate in cooperation with students, faculty, and maintenance personnel. One program feature is to recruit students to install compact fluorescent lamps in place of incandescent lamps in dorm rooms.

The program expects to install efficiency technologies and exhort campuses to implement their own long-term programs simultaneously. College housing management will manage their energy usage by operating their facilities in a more environmentally friendly fashion. The program expects that similar programs will proliferate to campus administration and students in other campuses to double the effort of consultants for half the anticipated investment.

e) Integrated/coordinated Demand Side Management

IDSMS activities will be limited to encouraging the customer to participate in other DSM programs (*for example*, the Summer Discount Plan, Automated Demand Response Program, and Demand Bidding Program) and distributed generation programs (*for example*, the California Solar Initiative and the Customer Generation Programs). However, the IOUs have identified IDSMS as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSMS efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc.)

Not applicable to this program

g) Pilots

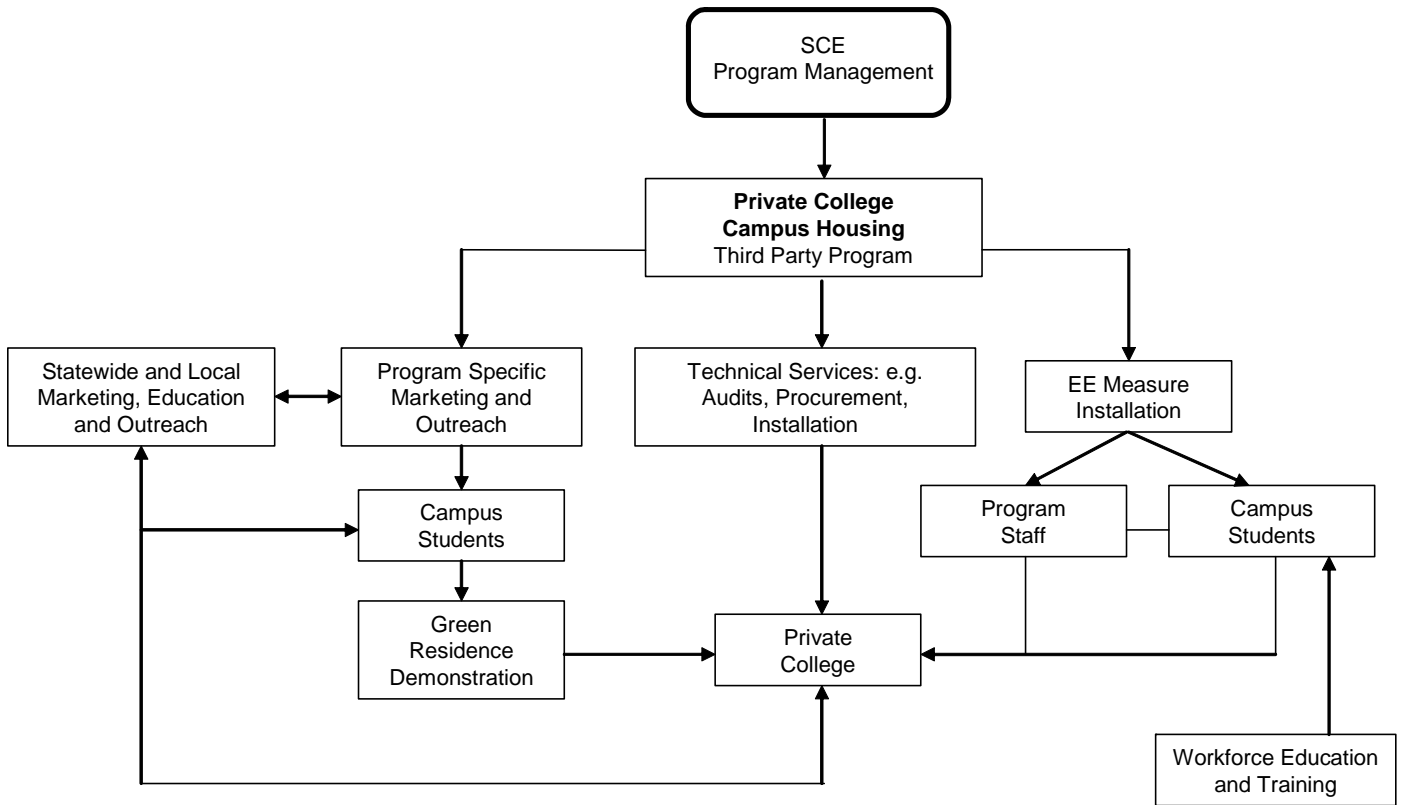
Not applicable to this program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

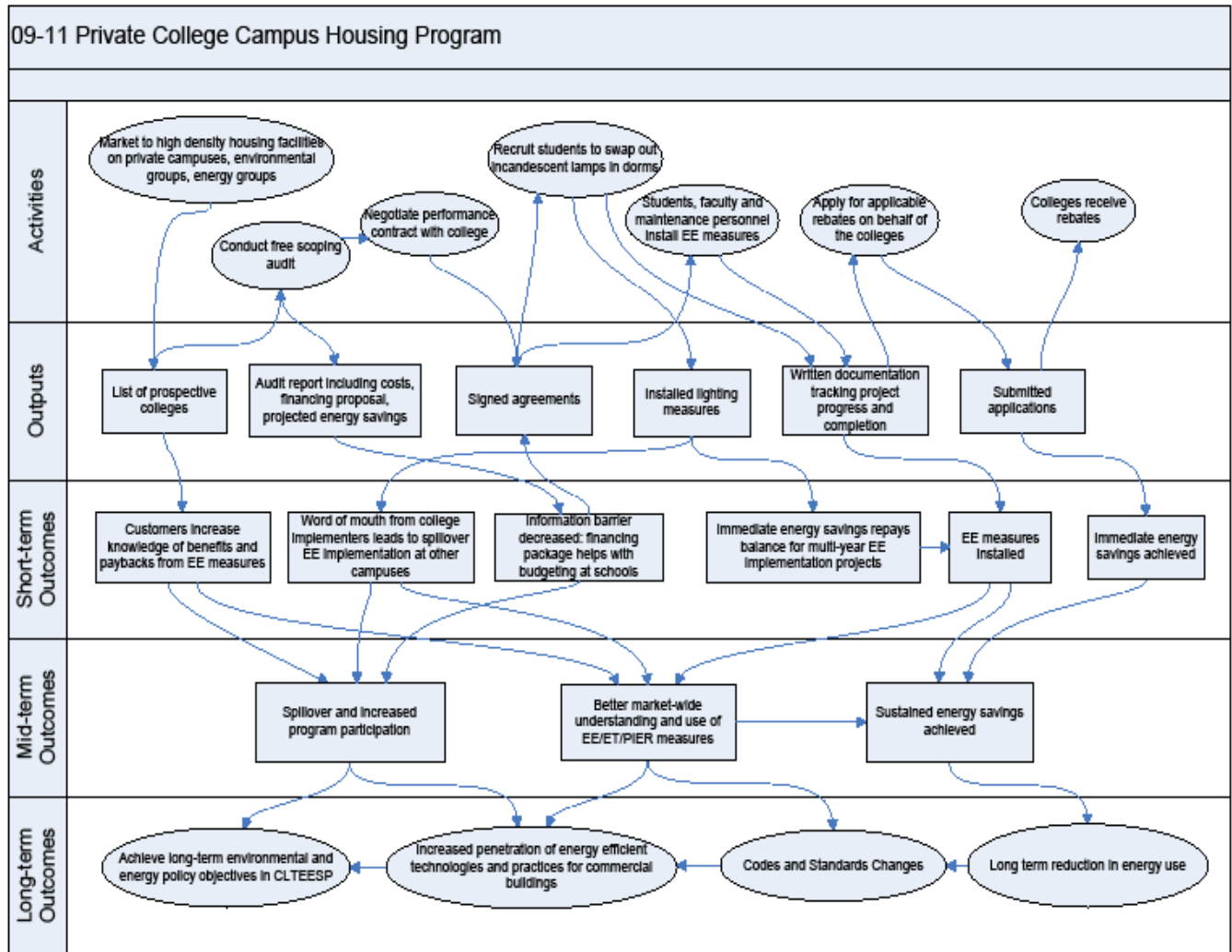
Nonresidential: Private College Campus Housing

7. Diagram of Program



Nonresidential: Private College Campus Housing

8. Program Logic Model



33

Crosscutting: Automatic Energy Review for Schools

1. **Program Name:** Automatic Energy Review for Schools
Program ID: SCE-TP-033
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-033	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
CROSSCUTTING	Automatic Energy Review for Schools	\$ 373,529	\$ 282,000	\$ 1,359,472		\$ 2,015,000
	TOTAL:	\$ 373,529	\$ 282,000	\$ 1,359,472	\$ -	\$ 2,015,000

3. Projected Program Gross Impacts Table — by calendar year

Table 2

SCE-TP-033	Automatic Energy Review for Schools	2009-11 EE Program Gross kWh Savings	2009-11 EE Program Gross kW Savings	2009-11 EE Program Gross Therm Savings
	Automatic Energy Review for Schools	2,900,732	650	-
	TOTAL	2,900,732	650	-

4. Program Description

a) Describe program

The Automatic Energy Review for Schools (AERS) program targets public schools in SCE's territory. New facilities are eligible, as well as existing facilities with substantial additions or repairs that require compliance with California's Title 24. Also eligible are related school facilities such as administration and service buildings. The program will increase the energy performance of new and modernized school buildings by utilizing the Department of State Architects (DSA) review and approval process. The program will work with DSA staff to flag and refer projects that just marginally exceed the state energy code. The projects will be referred to the automatic plan review technical assistance team of the consultant to SCE. The consultant team will review the project and coordinate with DSA to help identify potential energy-saving design modification opportunities. This will allow

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Crosscutting: Automatic Energy Review for Schools

intervention in the process where final changes to building project drawings normally occur.

The energy savings will be captured through a design review and revision process that evaluates the relative value of measures that are deemed cost-effective but are not yet in the current design.

The program is a continuation of a 2007-2008 Innovative Designs for Energy Efficient Activities (IDEEA) program by the same name.

b) List measures

The program will focus on the following measures:

- Install Variable Air Volume (VAV) systems with Variable Frequency Drive (VFD) on distribution fans;
- Install high efficiency (premium) T8 fluorescent lamps and ballasts;
- Install T8 fluorescent lamps and dimmable ballasts along with day lighting controls;
- Install high efficiency heat pumps (primary and secondary schools);
- Install lighting motion occupancy sensors (primary and secondary schools); and
- Install high efficiency packaged HVAC units.

Financial incentives will help defray, and potentially avoid, the incremental costs associated with the design assistance. This will include:

- Filing costs by the school district; and
- Additional plan review costs by DSA.

c) List non-incentive customer services

The program will include the following non-incentive customer services:

- Education on alternative designs to save energy;
- Information on applicable codes and standards;
- Analysis of design changes with associated incremental energy savings and implementation costs; and
- Information on availability of SCE core programs such as Savings By Design and Standard Performance Contracting.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a

Crosscutting: Automatic Energy Review for Schools

result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers:

Codes and Standards: The program intervenes in an already existing design process at a time when changes are likely to be considered and implemented. Many changes to initial design take place between the initial DSA submittal and the final DSA approval, most of which are not related to energy efficiency. Buildings not receiving design assistance from energy efficiency programs may not be optimized for energy efficiency. The program allows a late-stage intervention to ensure that the design is reviewed and optimized for energy efficiency.

Education and Information: Ideally, participation in Savings by Design (SBD) at the earliest stages of design is the most desirable and effective way to enact energy efficiency changes for new construction. However, some projects may not be enrolled in SBD due to lack of familiarity with the program or other reasons. Since it allows a comprehensive screening of all school new construction projects, including those missed by SBD, this program provides a good method of minimizing lost opportunities. Projects already receiving SBD assistance do not qualify for this program.

Technical Assistance: The program overcomes technical assistance barriers by providing school district a design review opportunity specifically intended to address any energy efficiency measures that were missed in the original design. Program staff will work closely with school district's design team and provide technical assistance to allow these changes to be incorporated. Without technical and financial assistance, many school districts are unwilling to make the changes on their own.

Crosscutting: Automatic Energy Review for Schools

Customer Incentives: The program overcomes the financial barriers to participation through its incentive structure which should dramatically reduce, if not totally offset, the incremental costs associated with additional design.

d) **Quantitative Program Targets:**

The targets provided herein are best estimates, but nonetheless are forecasts contingent on many factors.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Projects	12	14	14

e) **Advancing Strategic Plan goals and objectives:**

The program advances the following goals and objectives of the California Long-Term Energy Efficiency Strategic Plan (Strategic Plan):

Section 3: Commercial Sector.

Strategy 1-6: Develop a multi-pronged approach to advance the practice of integrated design. Near Term 2009-2011: Promote ID development via Title 24 codes/standards and market activities.

The program will:

- Advance zero net energy (ZNE) performance in new construction by promoting installations of HVAC and lighting equipment that will exceed existing building codes and standards;
- Serve as a forum for school administrators and planners to research, share and adopt energy efficiency best practices and emerging technologies on the path to ultra-low and ZNE public school buildings;
- Actively promote the Integrated Design approach by encouraging participation in Savings By Design for schools in early stages of planning; and
- Encourage early adoption of new technologies in public schools by actively including emerging technologies in areas such as lighting and HVAC as “pilot” projects in the design of new schools.

Section 7: Codes and Standards.

Strategy 1-5: Improve coordination of energy codes and standards with utility programs. Near Term 2009-2011: Develop and implement plan for enhanced coordination and integration of codes and standards with a full spectrum of EE market transformation.

The program will:

- Reduce lost opportunities by capturing energy efficiency improvements in designing school facilities through education, analysis, and promotion of utility programs containing technical assistance and financial incentives;
- Stimulate the installation of SEER 14 units in place of SEER 13 units; and

Crosscutting: Automatic Energy Review for Schools

- Coordinate with SCE's EE Codes & Standards Program for training, and to help ensure that the impacts of any code changes are incorporated into program design and implementation.

6. Program Implementation

a) Statewide IOU Coordination

As a local program in SCE's territory, no coordination with other IOUs is expected for this program.

i. Program name: Automatic Energy Review for Schools

ii. Program delivery mechanisms

Not applicable.

iii. Incentive levels

Not applicable.

iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

Not applicable.

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

Not applicable to this program.

vi. Similar IOU and POU programs

This program is unique to SCE territory.

b) Program delivery and coordination

The program will implement its marketing and promotion campaign by:

- Attending high profile industry events such as Coalition for Adequate School Housing (CASH) conferences, Collaborative for High Performance Schools (CHPS) events, American Institute of Architects (AIA) events, and events in other marketing venues;
- Hosting workshops in conjunction with DSA;
- Distributing marketing materials to potential school district facility management customers, as appropriate;
- Marketing the program directly to technical support firms and staff such as outside engineering sales reps and mechanical and electrical engineers; and
- Presenting the program directly to school districts to increase its visibility.

The marketing campaign will include lessons learned that will help educate others for future projects.

Crosscutting: Automatic Energy Review for Schools

Potential customers will be identified through DSA. The program will work with DSA to automate a referral system using a web service. When the program receives the DSA referral, the SCE contractor for the program sends a letter, along with a program brochure, to the architect of record and to the school district. The letter will indicate that the school's project is undergoing an energy efficiency review and will advise those with questions (or who wish to opt out of the program) to call or check information on the program website. The SCE contractor for the program will then perform a preliminary review to see if energy savings potential exists for the project. Subsequently, the contractor will contact the architect and the district to set up a meeting to report on the preliminary review, including recommended design changes and the potential energy savings. The meeting will include others important to the project success, such as the mechanical engineer, electrical engineer, and/or design or building contractor. A key topic of discussion will be the feasibility of making last-minute changes. CHPS guidelines will also be reviewed as applicable (<http://chps.net/manual/index.htm>)

After the customer agrees to some or all of the recommended design changes, the customer will execute the program terms with the SCE contractor for the program. Upon execution of the program agreement, the program contractor will refine the estimates, distribute product literature, generate a savings potential report, and provide sample schedules and specifications to the appropriate design team member. Drawings and schedules will be revised and submitted by the school district's design contractor to DSA for their normal energy-efficiency review and approval. Upon project approval from DSA, the customers will enter into a commitment agreement that, at a minimum, will include the following:

- Roles and responsibilities (customers, DSA, etc.);
- Measures to be installed;
- Timeline for implementation; and
- A copy of DSA's ECR-1 Form. This form is the vehicle that DSA plan reviewers use to document energy savings above code for their regional offices, the Energy Commission, and the Office of Public School Construction. It is issued once DSA has verified that the official construction plan set contains the features required per the performance runs to achieve the savings.

The project inspection process will use the existing DSA inspection process:

- DSA inspectors will be assigned to each construction site and will be responsible for making interim and final inspections at regular periodic intervals;
- The school construction contractor will be required to complete the acceptance tests outlined by DSA on the project;
- DSA inspectors will discover and remedy project installation issues, and will monitor installation quality;
- Inspection reports will be generated using Title 24-compatible forms; and
- The DSA inspectors will forward copies of these reports to the program.

The program will also independently inspect all sites where issues are discovered in order to assure that proper remedies are made.

Crosscutting: Automatic Energy Review for Schools

Upon execution of the commitment agreement the program will process customer incentives, which will be paid out in the following manner:

- Owner (typically the school district): the program will cover or equal the DSA filing fee; and
- DSA: the program will pay 100% of the DSA Energy Review Fee to offset the costs of the additional time for energy plan review.

For all customer issues discovered either through the survey feedback or other means of customer contact, AERS will track and pursue continuous improvements to promote complete customer satisfaction.

To the extent possible, AERS will coordinate with other internal and external programs, as listed below.

i. Emerging Technologies program

The program will promote the integration of emerging technologies into the designs of new schools where appropriate.

ii. Codes and Standards program

The program will work with and monitor new activities in the Codes and Standards program to ensure that applicable changes are communicated to building designers.

iii. WE&T efforts

The program will coordinate through Workforce Education and Training efforts, and more specifically Energy Design Resources, to educate school designers on specific design features and the latest emerging technologies that are applicable towards the design of ultra-low and zero-net energy school facilities. It will also encourage designers to incorporate proposed design features into the design template for future schools.

iv. Program-specific marketing and outreach efforts (provide budget)

The program will market through school districts in partnership with DSA by obtaining the list of schools in the DSA pipeline and contacting representatives of each school district.

v. Non-energy activities of program

The program will serve as a liaison for SCE's energy efficiency programs by providing and facilitating contacts between school district personnel and program staff.

vi. Non-IOU Programs

The program will coordinate with the CHPS Verified Program to assist schools in obtaining Proposition 1D funding for CHPS that may offset the costs of some equipment upgrades.

Crosscutting: Automatic Energy Review for Schools

vii. CEC work on PIER

The program will leverage findings in studies done by PIER and incorporate them into program offerings as appropriate. Where feasible, AERS will facilitate and/or coordinate new studies with the CEC and PIER to conduct any needed further investigation into products and technologies.

viii. CEC work on Codes and Standards

Not applicable to this program.

ix. Non-utility market initiatives

Not applicable to this program.

c) Best Practices

The program is designed to increase new schools' participation rate in SCE's energy efficiency programs. Due to time and budgetary constraints, or other issues, many schools decline to participate in SCE's core programs such as Savings By Design. While participation in Savings By Design is possible up to the point that the design is submitted to DSA for review, many schools and building designers consider that the window for participation in any energy efficiency programs is closed at the time of submittal. By partnering with DSA, the program allows schools to take one last look at incorporating affordable new energy efficiency technologies into their design. This procedure was created in response to a "lesson learned" in the Savings By Design Program.

d) Innovation

The program allows school designs to be modified and improved at the last possible opportunity. The unique partnership with the DSA makes this rare and valuable opportunity possible. This partnership represents a fresh take on the traditional program delivery mechanism that targets direct stakeholders.

e) Integrated/coordinated Demand Side Management

IDSM activities will be limited to encouraging the customer to participate in other DSM programs (for example, the Summer Discount Plan, Automated Demand Response, and the Demand Bidding Program) and distributed generation programs (for example, the California Solar Initiative and the Customer Generation Program). However, the IOUs have identified IDSM as an important priority, and as a result have proposed the establishment of a Statewide Integration Task Force (Task Force). The utility plans to monitor the progress of the other IDSM efforts and to work closely with the Task Force to identify comprehensive integration approaches that feed into the overall statewide strategy and to implement best practices as rapidly as practical.

f) Integration across resource types (energy, water, air quality, etc.)

Not applicable.

Crosscutting: Automatic Energy Review for Schools

g) Pilots

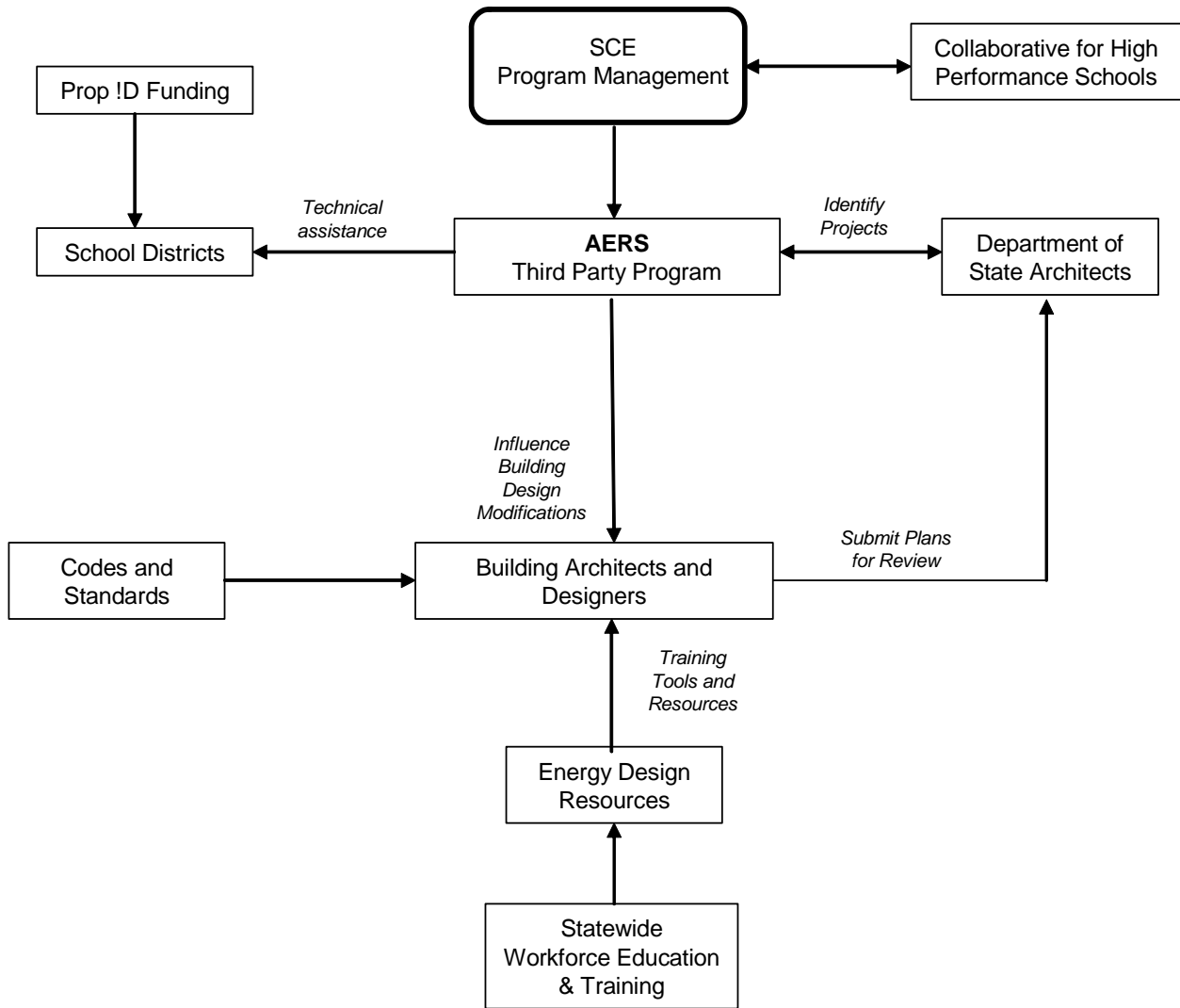
Where feasible, the program will incorporate emerging technologies into school designs as pilot projects.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

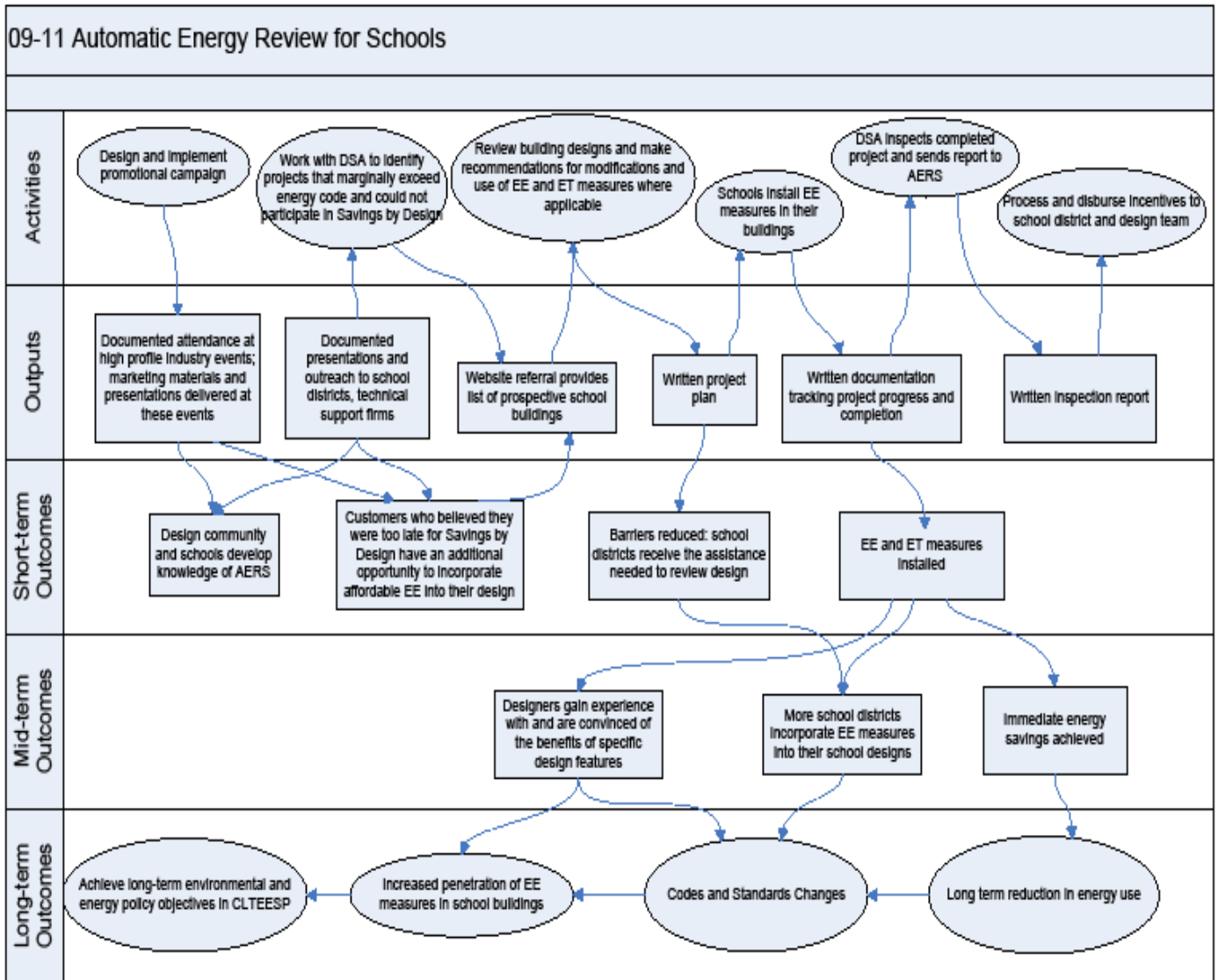
Crosscutting: Automatic Energy Review for Schools

7. Diagram of Program



Crosscutting: Automatic Energy Review for Schools

8. Program Logic Model



34

Crosscutting: Sustainable Communities

1. **Program Name:** Sustainable Communities
Program ID: SCE-TP-034
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-034	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
CROSSCUTTING						
	Sustainable Communities	\$ 2,936,733	\$ 1,001,700	\$ 10,315,567		\$ 14,254,000
	TOTAL:	\$ 2,936,733	\$ 1,001,700	\$ 10,315,567	\$ -	\$ 14,254,000

3. Projected Program Gross Impacts Table – by calendar year

Table 2 – Not applicable, as this is a non-resource program.

4. Program Description

a) Describe program

SCE has launched the innovative Sustainable Communities program (SC) as a pilot to encourage the inclusion of sustainable elements and energy-efficient features in campus projects, mixed-use complexes, residential new construction, multi-family and transit-oriented developments, and other projects whose scope exceeds traditional SCE programs. The SC provides customized technical assistance and routes projects through core offerings for financial incentives. The program began as a pilot in 2006 to encourage builders to use sustainable energy efficient building design and construction practices. The Sustainable Communities program supports the Strategic Plan by stimulating demand for lower energy, and eventually, zero net energy new homes and buildings.

b) List measures

In addition to the traditional energy measures of current utility programs, such as building shell, HVAC, and lighting and controls, the SC seeks to address sustainable development including building orientation and street platting, as well as energy

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Crosscutting: Sustainable Communities

savings related to water efficiency and other non-traditional energy saving measures. In short, SC offers all the measures found in Savings By Design (SBD) and California Advanced Homes (CAHP), as well as customized savings elements that will appear as calculated elements either in SBD or the Calculated Retrofit Approach (formerly SPC). In addition, the program will track its influence over those measures for which SCE cannot currently claim savings, such as water conservation, reductions in vehicle miles traveled, and the secondary energy benefits such as heat island reductions, on-site storm-water retention, and construction material waste diversion.

c) List non-incentive customer services

The following are examples of services that may be customized depending on specific project needs.

- **Policy development assistance:** Assist project owners with the development of green building/energy efficiency policies.
- **Team formation:** Assist project owners (or other key participants) with the development of request for qualifications or proposals and the selection of design team members to successfully deliver a green building project. Assist project owners with evaluation of qualifications of potential consultants.
- **Eco-charrettes:** Facilitate and/or formulate agendas for interdisciplinary design workshops (also known as eco-charrettes) to identify the project's green building goals and brainstorm potential green building measures. Attend eco-charrette as subject matter expert.
- **Design Assistance Options:**
 - **General team education:** Give presentations, review rating system options, determine big picture green building goals.
 - **Energy efficiency/green building recommendations:** Report on project-specific recommendations highlighting ways to incorporate energy efficiency, healthy materials, and other green building features into the unique needs of each project. Specific product recommendations cannot be provided.
 - **Energy modeling support:** Provide support and recommendations for Title 24 energy performance modeling to estimate actual building usage and give the project credit for energy efficiency measures that are difficult to model or uncommon.
 - **Plan and specification review:** Provide comments on the construction documents at various stages to give feedback on clarity of green building specifications.
 - **Green feature cost assessment:** Provide cost-benefit analyses or value engineering assistance to evaluate specific green building features under consideration for inclusion in the project.
- **Rating system documentation support:** Assess and identify project credit and certification goals, identify and assign LEED™ (Leadership in Energy and Environmental Design) or other rating system tasks to members of the design team, guide the team in LEED™ process and timing, and assist team in understanding and/or documenting credit achievement. However, this support will supplement — but not supplant — project team members' contractual

Crosscutting: Sustainable Communities

responsibility to provide project specifications, designs, calculations, modeling and other necessary services.

- **Commissioning support:** Support the commissioning process by providing advice on managing a commissioning project, preparing the Owner's Project Requirements, providing sample request for qualifications or proposals language, and design peer reviews. Does not include actual commissioning test procedures, testing oversight or reporting.

Design Assistance Agreement (DAA): Once the technical assistance plan has been developed, SC staff will draft a DAA. The DAA confirms program enrollment and documents the technical assistance plan for the project and will be executed between the Owner and SC.

The SC will assign a technical project lead as a central point of contact and to coordinate services, and will provide technical assistance as indicated in the DAA throughout the design and construction phases of the project. DAAs may be added to or modified over the project lifecycle, should the entire design or construction phases change significantly.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE's statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE's Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

The program lowers participant first costs through technical assistance and referral to core program incentives, minimizing information or search costs, and reducing the real or perceived risks associated with implementing green building and energy efficiency practices. The program specifically addresses the following key market barriers:

- Higher expenses. The financial incentive offered to projects is in the form of soft costs and technical support. For hard cost financial incentives, programs are routed to one of three core programs, depending on the type of project: SBD, CAHP, or SPC.
 - For projects pursuing LEED™, the program will refer them to core programs with incentives such as SBD. By buying down first costs (both real and contingency-based), the utility improves the return on investment of energy efficiency and sustainability measures.
 - In addition to these “referred” financial incentives, the program provides soft cost incentives in the form of technical assistance and assistance in design team integration, reducing costs otherwise incurred by the project owner.
 - Additional soft cost incentives include the benefits of reduced operating costs to hedge against rising energy costs and improve bottom-line performance. The program provides economic analyses to show developers and owners the increased property value, decreased maintenance costs, and potentially decreased liabilities associated with building green.
- Lack of customer information. Sustainable development is an emerging discipline with its own rules, terminology, and modes of analysis. Technical assistance assists motivated design teams in coming up to speed in this area. Information on policies, rebates, building strategies, team selection, and product resources are also provided through project consultations or more general trainings.
- Risk aversion. The owner’s primary concern is avoiding construction delays that impact the bottom line. The cost of new approaches, including commissioning, high performance modeling, measurement and verification, and innovative technologies must also include a contingency for schedule disruptions. The program provides support in the form of fact sheets, case studies, and examples from experienced program staff to boost the confidence of project teams new to sustainable design.
- Regulatory barriers. Existing building codes, infrastructure requirements, or permitting processes can create barriers to success. The program provides training and project consultations to practitioners and regulating bodies. In addition, program staff can research local code language that specifically allows relevant technologies, enlist practitioners who have overcome barriers previously to strategize methods, and obtain quotes from progressive code officials to address specific barriers facing participating projects.

Crosscutting: Sustainable Communities

- Local government barriers. The program provides training opportunities for members of municipal project teams. Targeted training may include green building program development, local ordinances, stakeholder workshops, and options for municipal incentive programs, such as accelerated permitting. The standard program financial incentives and technical assistance reduce the burden on already strained capital budgets for municipal green building projects

d) Quantitative Program Targets

The SC is seeking a variety of new construction project types committed to integrating a broad spectrum of both traditional and non-traditional energy saving measures. This variety includes diversity of project types, ownership types, and project sizes. Projects seeking only to incrementally improve energy efficiency will be directed to other programs, such as the Savings By Design or Residential New Construction.

The program will work towards achieving the following targets over the 2009 – 2011 program cycle. The proposed targets may be modified due to funding restrictions, especially for the 2009 bridge funding year. All targets are cumulative.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Document best practices and lessons learned	3	6	9
Increase overall program enrollment	8	16	24
Projects establish goals to meet ZNE goals	2	4	6

e) Advancing Strategic Plan goals and objectives

SC will work closely with the Zero Net Energy Homes (ZNEH) element of the California Advanced Home Sub-Program. ZNEH offers educational opportunities to builders, architects, and other residential construction stakeholders seeking knowledge about emerging technologies and new home design. The program encourages single- and multi-family architects and builders to design and construct dwelling units that exceed California Title 24 standards, reduce greenhouse gas emissions, and provide a healthier and less resource-intensive environment. To that end, the most cost-effective measure a builder can take is to design plans in an integrated way, considering energy efficiency and solar orientation while tailoring design to local climatic conditions. The ZNEH is designed to pilot technologies and approaches to realize the Big Bold zero net energy goals for commercial and residential new construction:²

² CPUC Decision 07-10-032, available at: http://www.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/74107.htm

Crosscutting: Sustainable Communities

- 100 percent of the non-residential new construction market will be net-zero by 2030; and
- 100 percent of the residential new construction market will be net-zero by 2020.

In addition to its close association with the ZNE homes element, SC will work closely with Emerging Technology and SBD to identify and where possible demonstrate technologies and approaches for ZNE commercial buildings.

The concerted efforts of many stakeholders, including the IOUs, will be necessary to make measurable progress towards the realization of the Big Bold Energy Efficiency Strategies and advanced market penetration of ZNE-related technologies and practices. SCE recognizes that the integration of DSM approaches and integrated design is important to achieving ZNE new construction. This can better be accomplished when the entire suite of DSM offerings is at the table (including demand response, emerging technology, electric transportation, low-income energy efficiency, energy efficiency, SmartConnect™/AMI, and distributed generation). Further, these offerings can only be maximally effective when they are part of an integrated design that ideally includes the Sustainable Communities intervention in the layout of streets and optimizing for solar orientation..

SC will contribute to the achievement of the 2011 milestones of the Strategic Plan, while laying the groundwork for the 2012-2014 program cycle to contribute to the 2020 milestones of the Strategic Plan.

6. Program Implementation

a) Statewide IOU Coordination

i. Program name: Sustainable Communities

ii. Program delivery mechanisms

The SC team will review interested projects and recommend those most likely to deliver on program goals. An important goal of SC is to reach community-scale development and to effectively contribute to projects as early as the conceptual design phase.

SCE will deliver this program through a combination of its existing delivery mechanisms for its core programs (SBD, CAHP), and dedicated implementers and program staff. Since the number of decision makers is relatively small, the resource needs to service all SC projects is small relative to the rest of the portfolio, although the effort expended on each one is substantially higher than either SBD or CAHP.

The basic process is as follows:

Qualify Projects: SCE will have the final determination on project eligibility, incentive levels, and scope of services offered. Since SCE is seeking a diversity of project types, the utility will reserve the right to decline or accept a project that otherwise meets the minimum eligibility requirements. However, any projects that

Crosscutting: Sustainable Communities

are not accepted into the program will be directed to the other SCE program(s) relevant for their project.

Intake Meeting & Technical Assistance (TA) Plan: SC staff will meet with the design team and the owner to determine the best strategies for achieving the project goals, and then will draft a TA plan.

Provide Technical Assistance: Once SC has decided to accept a project, field staff complete a customized TA plan, secure a Design Assistance Agreement (DAA), and provide ongoing technical assistance.

Hand off: As individual buildings near design development stage, projects will be routed to their relevant resource program. Other programs that may contribute to SC projects include:

- Savings By Design
- Residential New Construction
- California Solar Initiative
- New Solar Homes Partnership
- Self Generation Incentive Program
- Electric Transportation
- SmartConnect™
- Demand Response

iii. Incentive levels

As a non-resource program, SC will not provide hard cost financial incentives to participating projects. Hard cost incentives will be paid through one or more of the following:

- Savings By Design (non-residential new construction);
- California Advanced Homes (residential new construction); and/or
- Calculated Retrofit Approach (SPC, process load savings).

SC staff will coordinate with other programs to help streamline program participation, to integrate demand side management (DSM) services (demand response, energy efficiency, smart meter, distributed generation, emerging technologies, low-income EE, electric transportation) and to facilitate the most appropriate package of services.

iv. Marketing and outreach plans, e.g., research, target audience, collateral, delivery mechanisms.

The basic elements of the SC Marketing plan are:

- Reach out to the green community. Several projects in the 2006-2008 pilot had owners, architects, or engineers participating for the first time in a utility program. Historically, many green building projects have avoided utility energy efficiency programs. For some, it was simply lack of familiarity with the resources available; for others it was the assumption that utility requirements would hinder the project.
- Get involved early. As anticipated, the earlier the program got involved, the greater the scope of impact the program could have on the project. This includes affecting building siting, stacking or massing, and orientation. Early

Crosscutting: Sustainable Communities

involvement helps establish the utility's expertise and familiarity with the project team, creating opportunities for more interaction and influence.

- Provide Green building education for customer representatives and utility staff. Green building and sustainable design are hot topics. Projects participating in utility energy efficiency programs are beginning to incorporate sustainable design and to pursue LEED™, GreenPoint or other green building certification. Providing education and talking points to all utility staff members who may interact with customers and field questions on the program and/or green building will help provide a more integrated service offering and facilitate project referrals.

As SC is seeking mixed-use projects, it is likely that many participating projects will include more than one type of occupancy. SC is primarily targeting new construction; however, existing buildings may be considered.

In general, successful SC projects will:

- Commit to energy efficiency and energy usage reduction goals which are at least 20 percent lower than the 2005 Title 24 Energy Standards for commercial developments or 25 percent lower for single or multifamily developments;
- Be operational, or substantially complete by the end of 2015;
- Represent a diversity of project types, geography, and project site characteristics;
- Achieve LEED™ silver rating or equivalent level of green building practices, as is appropriate for project type; and
- Meet the objectives of the Governor's Green Building Executive Order S-20-04, where applicable

This program will support educationally focused efforts to enhance the public's understanding of AB32 by relating the carbon reduction effects of energy efficiency programs to program participants.

v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

SC will coordinate with local non-energy offerings such as the Metropolitan Water District and its member agencies and the South Coast Air Quality Management District mandates for air quality mitigation. As CARB's scoping plan for AB32 implementation takes shape and legislative actions such as SB375 affect regional planning, SC is working with the Southern California Association of Governments (SCAG) and its member cities to identify ways to partner together to encourage smart growth.

The SC is also working with the CEC on its NSHP initiative, its Smart Growth efforts and the green building standards in Title 24.

Crosscutting: Sustainable Communities

Similarly, SC is working with the partnerships to implement the new Energy Leader (ELP) model,³ which creates energy partnerships with local governments to support cities and their communities in achieving higher levels of installed energy savings. The ELP will by necessity focus primarily on existing building retrofits, but where local cities and counties have jurisdiction over planning decisions and “reach codes” for new construction, SC has a role to play in supporting those decisions that will result in the installation of green projects. SC has also been working with policy development modeling and agency coordination to realize the sustainability priorities of the city and developer.

Participating Projects will be required to pursue certification by a recognized green building rating system (e.g., LEEDTM) and to meet the objectives of the Governor’s Green Building Executive Order S-20-04.⁴

vi. Similar IOU and POU programs

SDG&E has a program called Sustainable Communities which is an element of their SBD program. This program is undergoing revision in 2009 – 2011 but has been primarily concerned with promoting LEEDTM for commercial development.

PG&E has its Zero Net Energy Pilots program, which includes the ZNE commercial and new homes pilots.

PG&E also has its Green Communities Program, an initiative of their Partnership programs, encouraging communities to take actions to monitor, report, and reduce their carbon emissions. This function is being supported at SCE by the Partnership Group through their Strategic Planning Sub-Program.

SCE has recently initiated a process evaluation effort regarding the SC, which including researching best practices and similar programs at other utilities. The process evaluation found no other programs attempting the scope of innovations of the SC.

b) Program delivery and coordination

i. Emerging Technologies program

In addition to its association with the ZNEH element of CAHP, SC will work closely with Emerging Technology, TRIO, and SBD to identify and where possible demonstrate technologies and approaches for ZNE commercial buildings.

To that end, the most cost-effective measure a builder can take is to design plans in an integrated way, considering energy efficiency and solar orientation while tailoring design to local climatic conditions.

³ The Energy Leader Partnership model was previously referred to as the “Affinity” model during the planning phase.

⁴ California Green Building Executive Order S-20-04 by Governor Schwarzenegger (December 15, 2004). [CPUC response to S-20-04 may be found at <http://docs.cpuc.ca.gov/Published/Rulings/42569.htm>].

Crosscutting: Sustainable Communities

ii. Codes and Standards program

As the Codes and Standards (C&S) program works closely with the CEC to prepare pre-approved “drop-in” reach codes for local communities, and develops the next generation of green building and EE standards, SC will be demonstrating many of these elements in the field, and working closely with Partnerships to implement them with our local governments.

The program provides training opportunities for members of local government project teams. Targeted training may include green building program development, local ordinances, stakeholder workshops, and options for municipal incentive programs, such as accelerated permitting. The standard program financial incentives and technical assistance reduce the burden on already strained capital budgets for municipal green building projects.

iii. WE&T efforts

There are four ways SC supports WE&T:

- Informal customer training of design teams in green building
- Formal trainings by SC staff through CTAC and AgTAC or presentations directly to interested design firms.
- Capacity building at local governments, and
- Self-directed efforts through the Energy Design Resources web site.

One of the biggest challenges ahead for green building is that the demand for experienced green building consultants is outpacing the current availability. As green building enters the mainstream, the design community needs to be trained in sustainable construction and moving sustainability from a niche practice to a core competency.

Sustainable development is an emerging discipline with its own rules, terminology, and modes of analysis. Technical assistance assists motivated design teams in coming up to speed in this area. Information on policies, rebates, building strategies, team selection, and product resources are also provided through project consultations and team development.

In addition to providing direct project assistance and training design teams on a project-by-project basis, SC plans to offer trainings to raise skills among those in the industry through its CTAC and AgTAC facilities and at local design firms through brown-bag “Lunch and Learn” events.

In its support of the Partnership program, the SC will seek to build capacity through training and curriculum development for government staff in green permitting, planning, and policy development.

Finally, SC intends to leverage the Energy Design Resources web site extensively and to use it to promulgate design briefs, case studies, and best practices that come out of the SC experience.

iv. Program-specific marketing and outreach efforts

The SC works closely with developers seeking assistance in the development of sustainable design and construction, green building practices and emerging technologies, as well as the planning professionals and local officials with whom they come in contact.

As such, SC marketing is closely targeted toward these select decision makers, providing them with timely, trusted support in circumstances of significant uncertainty and confidentiality.

The basic message is as follows: There are several trends pushing developers toward greater density, urban infill and mid-rise and high-rise construction. Aging baby boomers are looking to downsize their “empty nests.” This cohort sees denser living as a hedge against losing their ability to drive either for economic or health reasons, by moving to areas where they can meet their social and daily needs on foot. The cost of sprawl, transportation, water scarcity, and EIR (Environmental Impact Review) risks associated with green field development have made the economics of infill and Brownfield projects more favorable. The public’s desire to align their life style with “green” values is driving developers to meet this market’s need. The message is, “[The architecture is] new and it’s fresh and it’s urban. It doesn’t cost any more to do it right than it does to do it wrong.”⁵ Efficient building will encompass many things: efficient land use and transportation, efficient construction practices, efficient resource use, and, most importantly, efficient energy use.

IOU programs have traditionally been limited to energy efficiency, but the explosion of LEEDTM certification into the commercial building sector and the general, increased awareness of green in the marketplace have created market opportunities to pursue energy efficiency in the context of green. The market failure has been the emphasis upon materials and distributed generation at the expense of an integrated approach to energy efficiency.

The secret of sustainable development is that developers want to build dense mixed-use projects because there is more profit in it for them. The key to SC implementation is to identify the ways green development patterns fit the profit motive.

v. Non-energy activities of program

The SC seeks to expand the traditional focus of utility programs from energy efficiency to sustainable development, addressing commercial and residential construction practices that affect occupant health and environmental well-being. This includes energy use as well as non-traditional sources of energy savings, such as water efficiency.

vi. Non-IOU programs

Project will be required to pursue certification by a recognized green building

⁵ Dave Kosco, Director of Design, Bassenian/Lagoni Architects, *California Builder Magazine*, Jan/Feb 2008.

Crosscutting: Sustainable Communities

rating system (e.g., LEED™) and to meet the objectives of the Governor's Green Building Executive Order S-20-04.⁶ Multi-family projects will be required to pursue green building certification.

IOU programs have traditionally been limited to energy efficiency, but the explosion of LEED™ certification into the commercial building sector and the general, increased awareness of green in the marketplace have created market opportunities to pursue energy efficiency in the context of green. The market failure has been the emphasis upon materials and distributed generation at the expense of an integrated approach to energy efficiency.

vii. CEC work on PIER

SC will be looking for support from the Public Interest Energy Research efforts of the CEC to identify candidate technologies for rapid deployment in the field. As the Strategic Plan has made "end-to-end" technological development a priority, the SC will seek to influence PIER to pursue those technologies with the highest market potential in the near term.

viii. CEC work on Codes and Standards

As the Codes and Standards (C&S) program works closely with the CEC to prepare pre-approved "drop-in" reach codes for local communities, and develops the next generation of green building and EE standards, SC will be demonstrating many of these elements in the field, and working closely with Partnerships to implement them with our local governments.

ix. Non-utility market initiatives

The two major non-utility market drivers are green building certification and some form of carbon trading.

SC will require vertical projects to pursue certification by a recognized green building rating system (e.g., LEED™) and to meet the objectives of the Governor's Green Building Executive Order S-20-047. Very soon, the definition of class A office space will include LEED™ certification. Anything less will be subject to more churn, lower rents, and longer vacancies.

On the carbon side, depending on the outcome of the ARB's scoping plan for AB32 implementation, the value placed upon carbon may also render some of the more marginal carbon-reduction strategies more cost effective, further accelerating development toward green solutions.

c) Best Practices

The program will include best practices as developed previously:

⁶ California Green Building Executive Order S-20-04 by Governor Schwarzenegger (December 15, 2004). [CPUC response to S-20-04 may be found at <http://docs.cpuc.ca.gov/Published/Rulings/42569.htm>].

⁷ California Green Building Executive Order S-20-04 by Governor Schwarzenegger (December 15, 2004). [CPUC response to S-20-04 may be found at <http://docs.cpuc.ca.gov/Published/Rulings/42569.htm>].

Crosscutting: Sustainable Communities

- Make it easy to participate in multiple programs. Multiple utility programs are often applicable to an eligible project. Therefore, it is important to make the program processes as simple as possible for the project teams and to coordinate to minimize overlap or duplication of efforts. If customers are contacted independently by the utility, some give up in frustration at the lack of coordination. If multiple utility representatives are required, the program will communicate clearly to the customer the areas of responsibility, and provide a single primary point of contact whenever feasible.
- Get regular status updates. The 2006–2008 program was proactive in obtaining regular updates from project teams. Some project teams had difficulty recognizing how best to integrate utility expertise into the design process, since utility involvement at this scale is unfamiliar to most project teams. Regular contact helped to create opportunities for more interaction and influence, and to identify potential problems early. A few projects had to scale back on their scope as the real estate market cooled. This uncertainty made it more difficult for projects to prioritize sustainable features. Regular check-ins provided opportunities to educate project teams on how to continue incorporating energy efficiency and sustainable design features without increasing costs.
- Provide clear guidance on modeling requirements early. Project teams often struggle to navigate the different modeling requirements for California's Title 24 compliance, for LEED™ documentation, and for utility programs. This is particularly likely where the energy modeler has not worked on a project receiving utility incentives previously. It is useful for utility staff to anticipate questions and provide direction very early in the process to streamline modeling efforts.
- Take advantage of case studies, fact sheets, and sample documents. While each project is unique, many have similar questions. As has been documented through many other programs, case studies with concrete examples help communicate what is possible more effectively than high-level statements. Whenever feasible the program has developed standardized documents, such as sample specification sections, overview of LEED™ strategies, and sample tenant lease guidelines. These resource documents could be handed out "as is," or could be customized to meet the project needs more quickly.
- Tailor services to project teams needs. The level of technical assistance needed has varied widely by project type, complexity, and sophistication of the project team. This allowed the 2006 – 2008 program to target services where most needed and minimize overlap or duplication of efforts. As a guiding principle, the program sought to provide targeted support to supplement the expertise of the existing project team, rather than take over specific duties.
- Train the industry. One of the biggest challenges ahead for green building is that the demand for experienced green building consultants is outpacing the current availability. As green building enters the mainstream, the design community needs to be trained in sustainable construction and in doing so economically. In addition to providing direct project assistance and training design teams on a project-by-project basis, the utility plans to offer training to raise skills among those in the industry.

Crosscutting: Sustainable Communities

d) Innovation

The primary focus of SC is on integrated design. SC recognizes that critical to achieving zero net new construction is the integration of DSM approaches and truly integrated design. This can only be done when the entire suite of DSM offerings is at the table (electric transportation, demand response, energy efficiency, smart meters, low income energy efficiency, and distributed generation). Moreover, it requires not only the utility to unify its offerings, but the combined efforts of the CPUC, CEC, ARB, local and county governments, the Universities and National Laboratories, the lending institutions, the office of the Governor, Attorney General, and the creativity and dynamism of the private sector, to name but a few key stakeholders.

However, considering its focus on IDSM, and its integration of internal and external stakeholders, from the expansion beyond the “vertical” axis of building design to the “horizontal” axis of planning and development, from its pre-land entitlement intervention to its focus on regional planning, there is little in SC that is not in fact innovative.

e) Integrated/coordinated Demand Side Management

The Sustainable Communities program will coordinate with SCE’s LIEE, FERA, and CARE programs to identify and promote additional services, not offered in this program, to income-qualified dwelling units.

The goal is to inform builders of income-qualified programs for appliances that are available at no cost from LIEE. In turn, SCE seeks to make low-income customers aware of rebates available for appliances not offered through LIEE.

Partnerships will work closely with the Sustainable Communities Program to coordinate Peer-to-Peer support, infrastructure development, and capacity building with partnership cities. Services under consideration include:

- Providing opportunities for entry-level (valued partner) cities to learn from the best practices of more sophisticated cities (silver level and higher);
- Establishing recognition programs to motivate higher levels of commitment;
- Standardizing and simplifying tools for identifying candidate projects; and
- Building capacity through training and curriculum development for government staff.

SCE believes that such activities will yield a larger number of DSM projects, and that such projects will themselves be more comprehensive in scope. Moreover, the flexibility of the SC allows us to experiment with modes of program delivery which may not be cost-effective in the short term, but which promise significant potential in the longer term.

The IOUs will coordinate program efforts with the local utility integration teams and the Statewide Integration Task Force to identify successful integration approaches and offerings, potential pilot programs and metrics.

Crosscutting: Sustainable Communities

f) Integration across resource types (energy, water, air quality, etc.)

The package of services provided for a project will be customized as appropriate. Areas addressed may include project planning, siting, carbon impacts of transportation and planning design, building massing, energy efficiency, water efficiency, on-site power generation, commissioning, and maintenance planning.

As discussed in Section 6.b.v., above, SC will be working closely to integrate savings across resource types: energy, water, air quality, transportation and resource efficiency.

g) Pilots

SC will work closely with the Zero Net Energy Homes (ZNEH) element of the California Advanced Home Sub-Program.

ZNEH offers educational opportunities to builders, architects and other residential construction stakeholders seeking knowledge about emerging technologies and new home design. The program encourages single and multi-family architects and builders to design and construct dwelling units that exceed California's Title 24 standards, reduce greenhouse gas emissions, and provide a healthier and less resource-intensive environment. To that end, the most cost-effective measure a builder can take is to design plans in an integrated way, considering energy efficiency and solar orientation while tailoring design to local climatic conditions.

The ZNEH is designed to pilot technologies and approaches to realize the Big Bold zero net energy goals for commercial and residential new construction:⁸

- 100 percent of the non-residential new construction market will be net-zero by 2030; and
- 100 percent of the residential new construction market will be net-zero by 2020.

In addition to its close association with the ZNE element, SC will work closely with Emerging Technology and SBD to identify and where possible demonstrate technologies and approaches for ZNE commercial buildings.

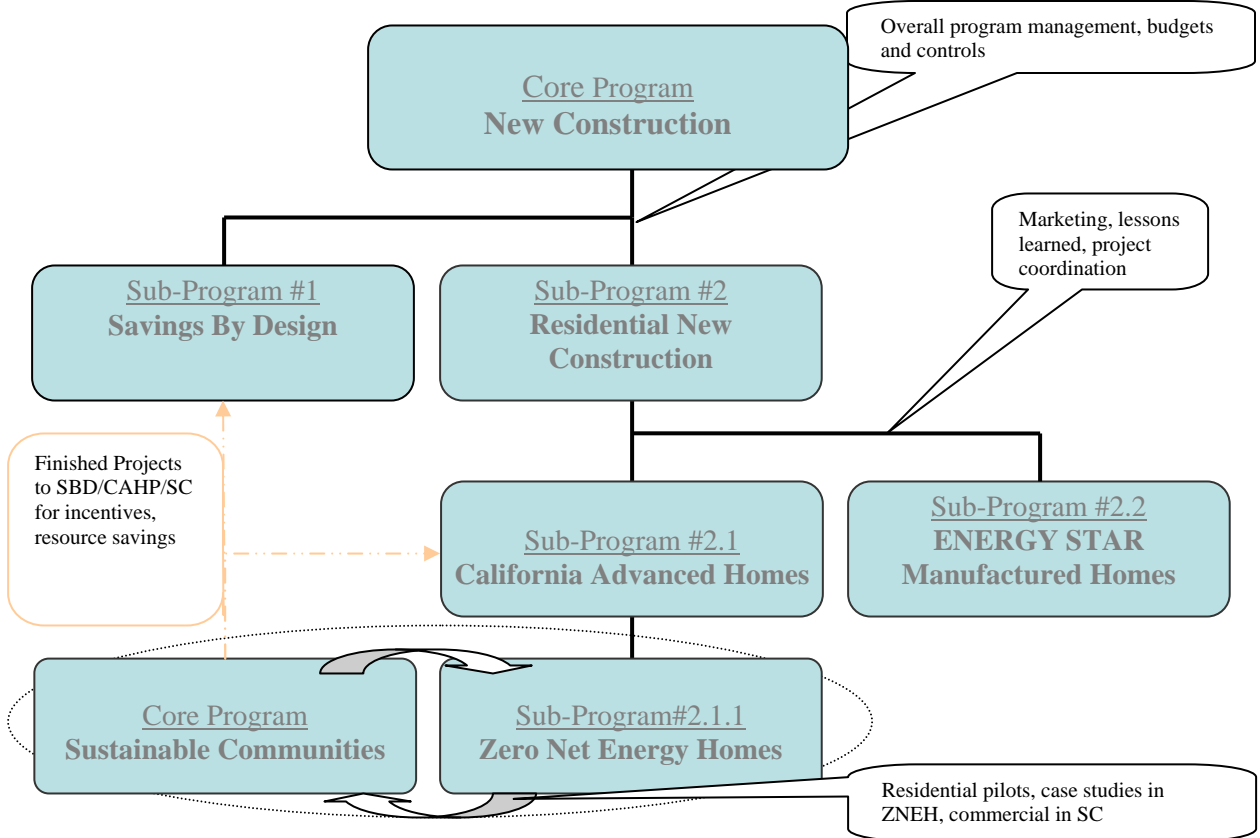
h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009 – 2011 after program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

⁸ CPUC Decision 07-10-032, available at: http://www.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/74107.htm

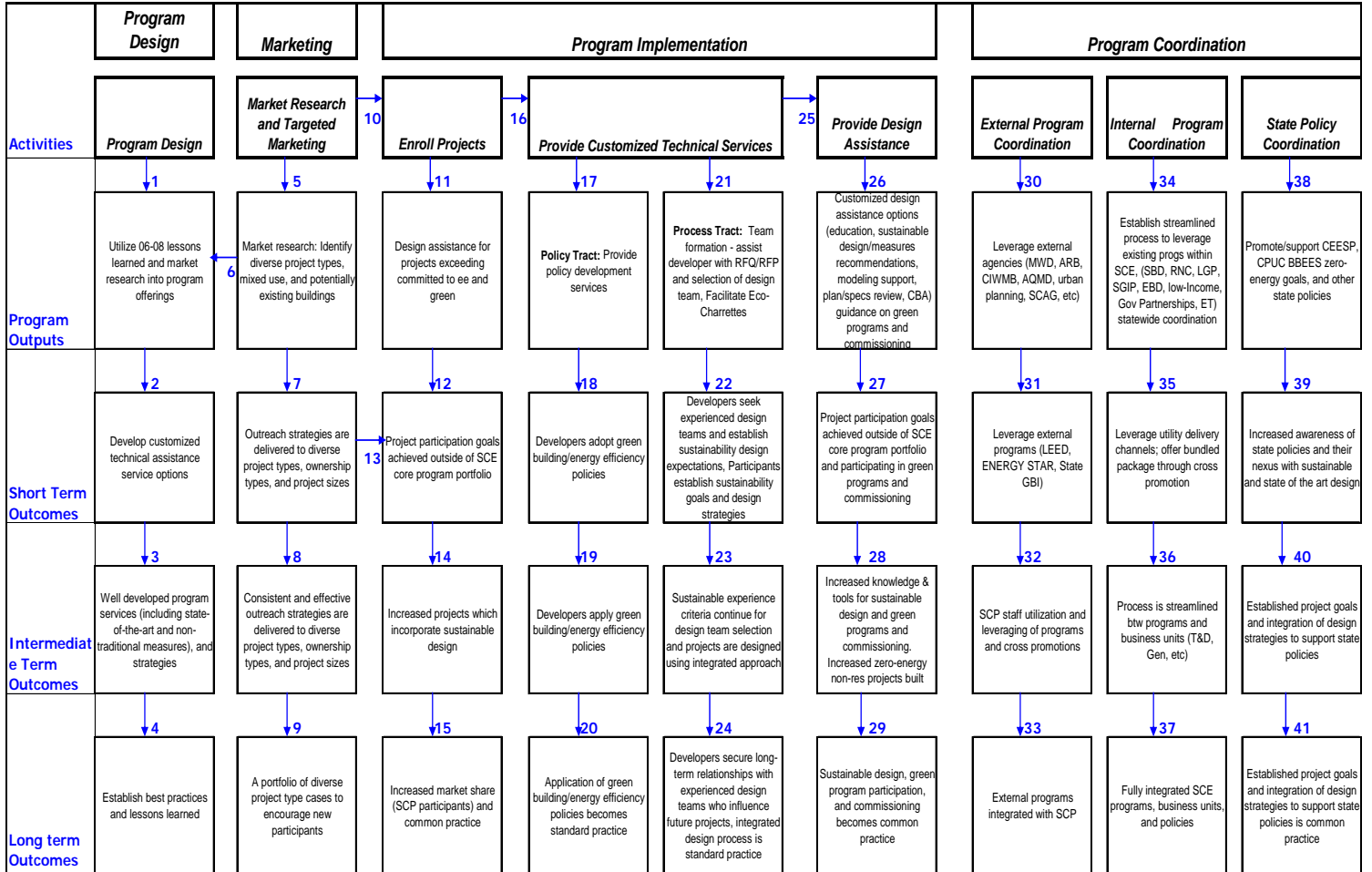
Crosscutting: Sustainable Communities

7. Diagram of Program



Crosscutting: Sustainable Communities

8. Program Logic Model



35

Crosscutting: Third Party Solicitations Program

1. **Program:** Third Party Solicitations Program
Program ID: SCE-TP-035
Program Type: Third party

2. Projected Program Budget Table

Table 1¹

SCE-TP-035	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Total Direct Implementation (Actual)	Integration Budget Allocated to other Programs (If Applicable)	Total Budget By Program (Actual)
CROSSCUTTING	Third Party Solicitations Program	\$ 3,648,772	\$ 450,000	\$ 50,467,714		\$ 54,566,486
	TOTAL:	\$ 3,648,772	\$ 450,000	\$ 50,467,714	\$ -	\$ 54,566,486

3. Projected Program Gross Impacts Table – by calendar year

Table 2

SCE-TP-035	Third Party Solicitations Program	2009-12 EE Program Gross kWh Savings	2009-12 EE Program Gross kW Savings	2009-12 EE Program Gross Therm Savings
	Third Party Solicitations Program	57,257,301	14,175	-
	TOTAL	57,257,301	14,175	-

4. Program Description

a) Describe program

The 2009-2011 Third Party Solicitations program will consist of a series of solicitations for energy efficiency program implementation, and professional services support work.

The solicitation process is a comprehensive and multi-faceted approach intended to draw from the skill, experience, and creativity of the energy efficiency community. The process is designed to help ascertain newer methods of program implementation or design for capturing cost-effective energy savings (kWh and therms) and associated peak demand reduction (kW) for both the short and long-term. The various solicitations may have various goals (e.g., IDEEA [Innovative Designs for EE

¹ Definition of Table 1 Column Headings:

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

Crosscutting: Third Party Solicitations Program

Activities], with no specific segment targeted; or Industrial Energy Efficiency, with specific targeted segments and innovative delivery methods; or Statewide [SW] General, with reliable program designs for EE activities but with no specific segment targeted; etc.)

For 2009-2011, a series of “flights” containing multiple solicitations were incorporated into the program design. The flight concept was adopted by the Statewide IOUs to spread proposal due dates over time and to allow bidders more time to respond to additional contracting opportunities. Solicitation planners anticipate additional flights throughout the program cycle as a result of changing market conditions, program implementer performance, and portfolio requirements.

In 2009-2011 the IDEEA solicitation will remain competitive and will now be offered year-round. This approach is consistent with the California Public Utilities Commission's (CPUC) direction to conduct a competitive bid “for the purpose of soliciting innovative ideas and proposals for improved portfolio performance.”²

b) List measures

There are no specific measures in the third party solicitation process. However, abstracts and proposals are encouraged to offer comprehensive measures relative to the industry or customer segment proposed.

c) List non-incentive customer services

The solicitation process, per se, does not have non-incentive customer services. However, the bidders’ abstracts and proposal responses will typically include marketing and outreach to customers, audits, economic evaluations, and incentive application assistance.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Market Transformation (MT) metrics discussion has been fully developed, cited, and presented within Sections 5a and 5b of SCE’s statewide and local Exhibits 3A, 3B and 4, and will not be repeated here. Refer to the corresponding discussion within SCE’s Exhibits for details.

In summary, considerable research supports the notion that MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 3 – Quantitative baseline metrics cannot be readily offered for this program

² D. 05-01-055, Section 5.2.1, p. 94.

Crosscutting: Third Party Solicitations Program

b) Market Transformation Information

Market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

By its nature, market transformation occurs as a result of numerous factors, and can not be directly attributed to all program efforts. Market transformation metrics cannot be readily offered for this program at present.

Table 4 – Market transformation metrics cannot be readily offered for this program

c) Program Design to Overcome Barriers

To counteract the tendency towards internal-only program design and methodology, SCE proposes to seek out interested organizations that have special knowledge and experience, or that have different links to SCE customers that promote installation, reduce market barriers, and use energy efficient options in innovative ways. Through well-advertised solicitations, SCE seeks organizations that may find ways to “mine” energy efficiency from targeted customer segments and/or promote a promising technology, and support existing programs – a strategy that actively minimizes lost opportunities.³

In addition to advertised solicitations, SCE currently manages a list of interested third parties containing approximately 2,500 email addresses. This list was derived from IOU stakeholders, CPUC service lists, and word-of-mouth. The list is continually expanded by cultivating contacts such as professional organizations, trade and business groups, vertical market publications, universities, and venture capitalists. To eliminate the situation where a bidder must maneuver through individual IOU websites to learn about solicitations and EE contracting opportunities, IOU action has expanded SCE’s online solicitation support Web portal: SCE’s Proposal Evaluation and Program Management Application (PEPMA) was converted into a Statewide portal. PEPMA allows the California IOUs (SCE, PG&E, So.Cal Gas, and SDG&E) to post their Request for Proposals (RFPs) to a single Internet address (<https://www.pepma-ca.com>). As a result, bidders may register, download RFPs from all California IOUs, and submit their proposals electronically at a single location. PEPMA also allows electronic access for proposal review by both IOU review teams and IOU Peer Review Groups (PRG). The PRGs’ use of PEPMA was enhanced to include a password-protected central library for all documents and correspondence.

In the future, PEPMA may be used to support solicitations that include demand response and solar end-use.

³ Energy Efficiency Policy Manual, Version 4.0, August 2008, p. 4.

Crosscutting: Third Party Solicitations Program

To facilitate consistent CPUC reporting, SCE is creating a database (MDx) used to store standard measure descriptions, measure names, energy savings, end use, etc., so that a unique measure code (cross referenced to a measure work paper) can be used to identify, track, and verify all third party program measures. The MDx measure code will eliminate the potential for assigning the same measure name to different measure codes and measure energy savings. It will utilize the existing data and data format of the DEER database. A primary method of measure validation is to use the MDx as part of the incentive and invoice approval process.

Technology developers have often failed due to lack of infrastructure, financial capital, social capital, and networking. Historically, the program abstracts that offered prototypes or technologies with less than full production were eliminated from scoring due to the product development time required to bring them into commercialization. By working with the Technology Resource Incubator Outreach (TRIO) program (see the Emerging Technologies Program Implementation Plan), SCE can now nurture technology developers with assistance from the emerging technology and program implementation groups.

Additionally, SCE will work with the technology developers to develop winning designs that capture energy savings in the marketplace. In this element SCE will train, nurture, and develop these technology start-ups and build a strong foundation for the technology to survive and begin showing energy savings. Successful programs will be integrated into the IDEEA program with the possibility of being mainstreamed into SCE's portfolio of proven, successful, and reliable energy efficiency programs.

d) Quantitative Program Targets

For future IDEEA solicitations, SCE anticipates the following number of programs selected for contract negotiation and eventual implementation.

Table 5

Item	2009-2010 IDEEA	2009-2011 SW General	2010-2011 IDEEA Future Solicitation Program (Estimated)
Target 1: # of Selected Programs	4	2	6

Crosscutting: Third Party Solicitations Program

Item	2009-2010 IDEEA	2009-2011 SW General	2010-2011 IDEEA Future Solicitation Program (Estimated)
<p>Target 2:</p> <p># of programs selected versus # of program continued as pilot, core or terminated</p> <p># of programs selected versus # of program terminated during program cycle</p> <p>(Measure both indicators on an annual basis and on a program cycle basis)</p>	<p>Establish baseline using 2006-2008 program results</p> <p>Trend 2009-2011 program cycle data against establish baseline for comparison</p> <p>If large deviation is observed, provide explanation</p>	<p>Same as 2009</p>	<p>Same as 2009</p>
<p>Target 3:</p> <p>Maintain high level of customer satisfaction during IDEEA solicitation and selection phase</p> <p>Maintain high level of customer satisfaction during pilot program implementation phase</p>	<p>Maintain 80% or higher customer satisfaction for all internal and external participants for each year</p>	<p>Repeat</p>	<p>Repeat</p>
<p>Target 4:</p> <p>Maintain program record accuracy during IDEEA solicitation and selection phase</p> <p>Maintain high level of program record accuracy during pilot program phase</p>	<p>Maintain 95% or high level of accuracy for 2009-2011 program cycle</p>	<p>Same as 2009</p>	<p>Same as 2009</p>

e) Advancing Strategic Plan goals and objectives

The third party solicitation program advances the strategic plan by:

- Encouraging and evaluating bidder's proposals for innovation (see Section 6.d., below);
- Encouraging bidders to propose DSM coordination and integration (see Section 6.e., below); and
- The development of four IDEEA pilot programs which integrate DSM activities (see Section 6.g., below).

6. Program Implementation

a) Statewide IOU Coordination

i. Program name: Third Party Solicitations Program

Crosscutting: Third Party Solicitations Program

ii. Program delivery mechanisms

In this program, Statewide IOU coordination is exemplified as follows:

- The definition of innovation was included throughout the solicitation process and a common definition was developed by the IOUs in conjunction with Statewide PRG groups.
- The SW General program included scoring criteria that evaluated the “reliability” of energy savings. This criterion was negotiated and agreed upon by the Statewide IOUs as a pre-requisite for selection. Bidders demonstrated a history of reliable energy savings as result of their program delivery mechanism or sufficient evidence justifying the “reliable” energy savings plan.
- The IOUs coordinated the many solicitation flight schedules and streamlined the bidding process by accepting proposals on the Statewide PEPMA Web portal. In addition, the IOUs used common scoring criteria (and score sheets) in their evaluations.
- The process for a general (open) versus targeted solicitation (two-stage versus one-stage) was agreed upon by the IOUs.

The following describes the solicitation steps.

Steps for a General Solicitation (Statewide and SCE’s IDEEA Program): A general or open solicitation asks the bidder to propose a program including the targeted customer, approach/methodology, and scope of work. This is in contrast to a targeted program where the target customer and scope of work are defined by SCE.

- **Solicitation (RFP announcement and release):** The beginning of this sealed bid process starts with an official notification of all known potential bidders. For a two-stage process, an abstract submission (Stage 1) and a full proposal submission (Stage 2) are required. RFPs' availability on PEPMA may be announced through marketing communications that can include mass emails, trade advertisement, and promotions.
- **Stage 1 allows the IOUs to review the essence of the proposed program before requiring bidders to submit full proposals.** The Statewide general solicitation emphasizes reliable energy savings and includes the option of submitting a proposal to all of the IOUs or to any IOU individually. SCE’s IDEEA solicitation allowed bidders to propose their own program design for SCE territory only, with an emphasis on innovation.
- **Stage 1, Abstract Submission and Evaluation:** Hard copies are submitted to the IOU procurement department. Soft copies are uploaded into PEPMA, which provides content and document submission completeness validation. PEPMA acts as a central repository, allowing IOU scoring teams to access and/or download the bidder’s proposals.
- **The Stage 1 abstract responses must follow a Statewide IOU format and must cover the proposed program’s target market, ways of achieving goals (energy savings, demand reduction, DSM, and solar end-use integration), technology offering(s), innovations, budget, and metrics of the proposed goals.** Selected

Crosscutting: Third Party Solicitations Program

Stage 1 bidders are notified of their selection and asked to develop a full proposal based on the abstract response.

- Stage 2, Proposal Submission and Evaluation: Hard copies are submitted to the IOU procurement department. Soft copies are uploaded into PEPMA, which provides content and document submission completeness validation.
- Stage 2 proposal evaluation follows the general procedures outlined above for Stage 1. The proposals are ranked from high to low based on scores for the Statewide agreed-upon score sheet and evaluation criteria. These rankings are presented to IOU management (portfolio managers) for determination of program suitability and portfolio fit. The Stage 2 technical review includes the review of measure work papers and the program's E3 calculator to determine cost-effectiveness.
- Because the SW General and SCE's IDEEA programs were the only two-stage solicitations, they were put into a common flight (Flight #1).
- The following Statewide general proposals were selected subject to negotiations from Flight #1 (see individual PIPs for more detail):
 - Sustainable Communities; and
 - Monitoring-Based Commissioning (MBCx).
- The following IDEEA proposals were selected subject to negotiations from Flight #1 (see individual PIPs for more detail):
 - Leased Office Space Retrofit Program;
 - Data Center Energy Efficiency;
 - Monitoring-Based Persistence Commissioning (MBPCx) Program; and
 - Data Center Optimization.

After review of SCE's selections by SCE's PRG, selected Stage 1 bidders will be notified of their eligibility to submit a detailed proposal based on the concepts of the abstract. Any proposal changes or suggested improvements are noted and are a condition for moving to Stage 2. In Stage 2, the bidders are required to submit a full proposal that includes detailed technical documentation (Work Papers and E3 calculator). The review process in Stage 2 is similar to Stage 1 and includes a review by the PRG.

Steps for a Statewide Targeted Solicitation: Flight #2 consisted of Statewide-targeted RFPs and was conducted as a single-stage solicitation. These program solicitations were coordinated with resource and non-resource program managers to develop the program scope. The Stage 1 screening process was not required in these solicitations, as the IOUs defined the program scope. The following Statewide targeted proposals were selected subject to negotiations from Flight #2 (see individual PIPs for more detail):

- Energy Star Manufactured Homes;
- Energy Efficiency for Entertainment Centers; and
- Private Schools and Colleges Program.

Local Targeted Solicitation #1: Flight #4 was a coordinated local targeted solicitation using a common Statewide schedule for RFP release dates, IOU-

Crosscutting: Third Party Solicitations Program

common bidder’s workshop and Q&A, etc. Individual IOU-targeted programs were selected subject to negotiations (see individual PIPs for more detail):

- California Advanced Homes;
- Private College Campus Housing Program; and
- Efficient Affordable Housing.

Local Targeted Solicitation #2: Flight #5 was launched by SCE in late April, 2008. The solicitation was primarily designed to support vertical market segments of the nonresidential portfolio through a local targeted solicitation. The targeted segments and programs selected for the Flight #5 solicitation are listed below:

- Industrial market segment;
- Agricultural and water systems market segment;
- Commercial and small business segment;
- Residential & Commercial HVAC Program;
- Public Pre-Schools, Elementary Schools, and High Schools;
- Government and Institutions segment;
- Comprehensive Mobile Home program;
- Community Language Efficiency Outreach (CLEO);
- Commercial Direct Install Program;
- Sustainable Communities; and
- Residential Quality Maintenance and Commercial Quality Maintenance Development program.

The proposal review process involves an extensive evaluation of each proposal based on specified evaluation criteria. Evaluation teams will typically consist of program manager(s), account executives, engineers, and consultants. This mix ensures a thorough and robust evaluation of all aspects of the proposal.

During the evaluation process, an engineering review will be done for the technical documentation which substantiates the proposed energy savings submitted with the proposal. The proposals are ranked from high to low and then presented to management (portfolio managers). The portfolio managers and review team will evaluate and discuss the strengths and weaknesses of each program proposal and how it may or may not coordinate with the overall portfolio.

The IOUs agreed upon a common set of evaluation criteria that was also reviewed by the Statewide PRGs. The criteria categories listed below will include sub-criteria, which will assist in the scoring of the responsive proposals.

2009-2011 Scoring Criteria - Statewide General (Resource Programs)	
	(Two-Stage RFP)
<u>Stage 1</u>	
Part 1: Abstract Responsiveness (Pass/Fail)	

Crosscutting: Third Party Solicitations Program

Part 2: Abstract Evaluation		
	A. Program Implementation and Feasibility	50%
	1. Feasibility	
	2. Portfolio Fit, fills gaps, complements portfolio	
	3. Comprehensiveness	
	4. Reliability of Savings	
	B. Cost Efficiency	30%
	C. Skill and Experience	20%
	Total	100%

Stage 2		
Part 1: Proposal Responsiveness (Pass/Fail)		
Part 2: Proposal Evaluation		
	A. Program Implementation and Feasibility	50%
	1. Feasibility	
	2. Portfolio Fit: Fills Gaps, Complements Portfolio	
	3. Comprehensiveness	
	4. Reliability of Savings	
	B. Cost Effectiveness	30%
	1. \$/net kWh	
	2. Levelized Cost	
	3. TRC	
	4. PAC	
	C. Skill and Experience	10%
	D. Supplier Diversity & Miscellaneous	10%
	Total	100%

2009-2011 Scoring Criteria – IDEEA (Resource Programs)		
(Two-Stage RFP)		
Stage 1		
Part 1: Abstract Responsiveness (Pass/Fail)		
Part 2: Abstract Evaluation		
	A. Program Implementation and Feasibility	50%
	1. Feasibility	
	2. Portfolio Fit, Fills Gaps, Complements Portfolio	
	3. Comprehensiveness	

Crosscutting: Third Party Solicitations Program

	4. Innovation	
	B. Cost Efficiency	30%
	C. Skill and Experience	20%
	Total	100%

Stage 2		
Part 1: Proposal Responsiveness (Pass/Fail)		
Part 2: Proposal Evaluation		
	A. Program Implementation and Feasibility	50%
	1. Feasibility	
	2. Portfolio Fit: Fills Gaps, Complements Portfolio	
	3. Comprehensiveness	
	4. Innovation	
	B. Cost Effectiveness	30%
	1. \$/net kWh	
	2. Levelized Cost	
	3. TRC	
	4. PAC	
	C. Skill and Experience	10%
	D. Supplier Diversity & Miscellaneous	10%
	Total	100%

2009-2011 Scoring Criteria - Targeted (Resource Programs)		
(One-Stage RFP)		
Part 1: Proposal Responsiveness (Pass/Fail)		
Part 2: Proposal Evaluation		
	A. Program Implementation and Feasibility	35%
	1. Feasibility	
	2. Comprehensiveness	
	3. Reliability of Savings	
	B. Cost Effectiveness	30%
	1. \$/net kWh	
	2. Levelized Cost	
	3. TRC	
	4. PAC	

Crosscutting: Third Party Solicitations Program

	C. Skill and Experience	25%
	D. Supplier Diversity & Miscellaneous	10%
	Total	100%

Implementation of the Selected Pilot Programs:

Following the rigorous process identified above,⁴ the selected projects are awarded a purchase order to start program implementation of the IDEEA pilot programs.⁵

The third party implementer will be required, through tasks in the purchase order, to perform simultaneous integrated energy efficiency and demand response audits, oversee and/or install the accepted measures, and process the incentive for both the energy efficiency and demand response components. The intent of these pilot programs is to make the DR/EE integration seamless to the customer and educate them on not only DR measures but DR programs that they can participate in during an event call. Through the Flight #1 selection process, the selected pilot for IDSM is identified in Section 6.g., below. Each of the pilot programs will have an assigned SCE program manager to assist the third party with implementation logistics, reporting requirements, and many other program start-up issues. The development of a full-program theory including a logic diagram, indicators, and metrics will be part of the start-up process. Once these pilot programs are "kick-started," the IDEEA program will consider them part of EE program management operations, subject to the same level of oversight and evaluation as any other EE portfolio program.

There are several different potential outcomes for each of these pilots:

- A successful pilot during the program cycle, and SCE opting to adopt it into the core programs portfolio; or
- A successful pilot during the program cycle, and SCE opting to continue it as pilot to collect more data; or
- A successful pilot during the program cycle, with SCE opting to continue it as a third party program; or
- The program not meeting objectives and not responding to corrective actions, resulting in its being terminated during the program cycle.

During the pilot program implementation phase, SCE and the third party may wish to modify the program or enhance implementation tactics to improve results. All those activities will be handled as part of the ongoing program implementation.

iii. Incentive levels

For the 2009-2011 newly solicited targeted programs (i.e., Industrial, Agriculture, Commercial, etc.), the IOUs required that programs offer consistent customer

⁴ See the Logic Model in Section 8, Part A, below.

⁵ See the Logic Model in Section 8, Part B, below.

Crosscutting: Third Party Solicitations Program

incentives throughout the state. These incentives were based on existing prescribed and calculated incentive programs.

iv. Marketing and outreach plans

The IOUs coordinate the outreach by combining contact lists and sources of leveraged outreach (e.g., professional organizations, trade and business groups, and vertical market publications). The list now contains over 2,500 bidder and leveraged outreach contacts.

In addition, the Third Party Solicitations program staff actively monitors new high-potential technologies by tracking the activities of the CEC PIER program, universities, and venture capitalist groups. SCE obtains additional third party program implementation candidates from national and Statewide organizations. There will also be more visibility to potential program offerings via print media and energy blog communications. Additional outreach will be conducted through coordination with SCE's TRIO program.

v. IOU program interactions

The program will consist of a series of solicitations for energy efficiency program implementation and professional services and program support work, and is not designed as a customer program.

vi. Similar IOU and POU programs

The program will consist of a series of solicitations for energy efficiency program implementation and professional services and program support work, and is not designed as a customer program.

b) Program delivery and coordination

i. Emerging Technologies program

The program will work with the TRIO program, an incubator program that nurtures new and innovative technologies.

ii. Codes and Standards program

Codes and standards impacts will be evaluated in the initial review of the technical documentation of the third party's proposal. In addition, during the implementation of the program, detailed technical documentation development is required and further evaluation of codes and standards impacts will be performed.

iii. WE&T efforts

One of the outcomes of the program's outreach will be to attract, educate and train third parties on the energy efficiency industry and to bring new companies and individual into the "Green" economy by participation in the delivery of SCE's IDEEA programs. In addition, the technology, methodology, and/or the implementer of successful programs may be selected for "mainstreaming" into SCE's portfolio of proven, reliable, and successful energy efficiency programs.

Crosscutting: Third Party Solicitations Program

iv. Program-specific marketing and outreach efforts

See Section 6.a.iv., above, for specific marketing and outreach efforts. SCE's budget for these activities includes advertising, printing, booklets, and brochures.

v. Non-energy activities of program

The program will consist of a series of solicitations for energy efficiency program implementation and professional services and program support work, and is not designed as a customer program.

vi. Non-IOU programs

The solicitation process does not deliver or implement programs in concert with other agency programs or actions.

vii. CEC work on PIER

The program will work with the TRIO program, an incubator program that nurtures new and innovative technologies.

viii. CEC work on Codes and Standards

Codes and standards impacts will be evaluated in the initial review of the technical documentation of the third party's proposal. In addition, during the implementation of the program, detailed technical documentation development is required and further evaluation of codes and standards impacts will be performed.

ix. Non-utility market initiatives

Third party bidders will be encouraged to submit innovative methods and approaches to the market. SCE encourages coordination with non-utility market initiatives (e.g., ENERGY STAR®, LEED⁶, Greenhouse Gas Initiatives [AB 32]⁷, benchmarking initiatives [AB 1103]⁸, etc.)

c) Best Practices

From the assessments conducted by EM&V and coordination with the PRG, the solicitation process has incorporated best practices and lessons learned from the 2006-2008 solicitation cycle. SCE's solicitation process has been adopted by PG&E and SDG&E for the 2009-2011 solicitation cycle. In addition, SCE emphasizes that third party implementers must incorporate best practices into their program design.

The following definition for best practices is included in the RFP: "The term 'Best Practice' refers to the business practices that, when compared to the other business practices that are used to address a similar business process, produces superior results. For more information regarding energy efficiency best practices please go to

⁶ The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.

⁷ California Global Warming Solutions Act of 2006.

⁸ AB 1103 - Building Energy Usage Disclosure.

Crosscutting: Third Party Solicitations Program

www.eebestpractices.com; otherwise, best practices from other industries are welcomed."

d) Innovation

The program planners believe that the marketplace is a fertile source of new and innovative ideas to enhance the overall energy efficiency program portfolio. SCE proposes to find, fund, and field test the best of these ideas from the marketplace and to provide the opportunity to "mainstream" them into the overall SCE portfolio of proven, successful, and reliable programs. The "365" element — new this cycle — allows ideas to be evaluated on a continual basis.

In addition, during the 2009-2011 solicitation process the IOUs and the Statewide PRG defined "innovation" in the following way:

- Delivering increased customer participation or installation of existing technologies per unit of program cost through cutting-edge, inventive recruiting techniques.
- Proactively seeking and developing emerging technologies for the market via a program designed to demonstrate the costs and benefits to opinion leaders and decision-makers (i.e., manufacturing and distribution channel members) and increase market penetration in the technology market.
- Seeking out and developing new combinations of existing and new technologies, control systems or software to dramatically increase the anticipated savings from each component of the system due to synergies between components, which may be implemented elsewhere but are currently not in use in California.
- Conceiving and delivering new methods to increase the likelihood of program spillover effects (i.e., customers looking for more efficiency opportunities beyond those offered by the program) to other technologies or sustainability options by providing customers with increased awareness of program options and benefits, feedback on savings and performance data, and cross-program coordination that provides for seamless, ease of use on the customer side.
- Establishing untapped relationships and channels (i.e., upstream processes such as manufacturing processes) to effectively target and generate support for energy-related change, leading to new outlets and greater economies of scale that increase permanent changes in the utilization of energy efficient products.

All 2009-2011 bidders were required to discuss how their programs were innovative and their proposals were scored accordingly, using established proposal evaluation criteria.

e) Integrated/coordinated Demand Side Management

The program conforms to the CPUC's directive that IOUs "integrate customer demand-side programs, such as energy efficiency, self generation, advanced metering, and demand response, in a coherent and efficient manner."⁹

⁹ D.07-10-032, dated October 18, 2007, p.5.

Crosscutting: Third Party Solicitations Program

The outcome will be increased coordination between demand side offerings, with the goal of minimizing lost opportunities and shaping the market to address coordination needs. SCE will score and review potential third party implementer proposals that have a DSM component. The 2009-2011 statement of work will include Technical Assistance/Technology Incentive (TA/TI) evaluation and support. Providing oversight and coordination in this manner will help minimize lost opportunities.

Through IDEEA 365, the program will continue to look for new ways of integrating EE/DR, SmartConnect,¹⁰ and cost-effective solar end use (e.g., solar-powered pool pumps), all consistent with the energy efficiency policy manual.

In addition, a pilot program for the four IDEEA programs will integrate energy efficiency and demand response activities into a single effort. See Section 6.g., below, for more information.

f) Integration across resource types (energy, water, air quality, etc.)

Through the implementation of programs selected through the Third Party Solicitations Program, customers will reduce overall energy consumption, which will have an inherent impact on air quality through emission reductions (CO₂ and NO_x reductions as indicated in the E3 calculator). SCE pays for incentives for energy reduction, but the IDEEA 365 program implementers will be encouraged to advise customers of their emission reductions.

g) Pilots

The following IDEEA proposals were selected from Flight #1 as pilots for IDSM integration because they focus on innovative approaches to design and delivery which includes demand response.¹¹ Additionally, since IDEEA programs have smaller budgets and a shorter implementation timeframe, the program evaluation is more manageable, and best practices learned through these pilots may influence future program design. The following IDEEA programs¹¹ have been identified as potential EE/DR coordination opportunities:

- Leased Office Space Retrofit Program;
- Data Center Energy Efficiency;
- Monitoring Based Persistence Commissioning (MBPCx) Program; and
- Data Center Optimization.

As indicated in Section 6.a.ii, above, under Program Implementation, the third party implementer will be required, through tasks in the purchase order, to perform simultaneous integrated energy efficiency and demand response audits, oversee and/or install the accepted measures, and process the incentive for both the energy efficiency and demand response components.

¹⁰ 07-07-026, Edison SmartConnect Deployment Funding and Cost Recovery, SCE-6, Section I.B., Page 2.

¹¹ See the individual PIPs for more program details.

Crosscutting: Third Party Solicitations Program

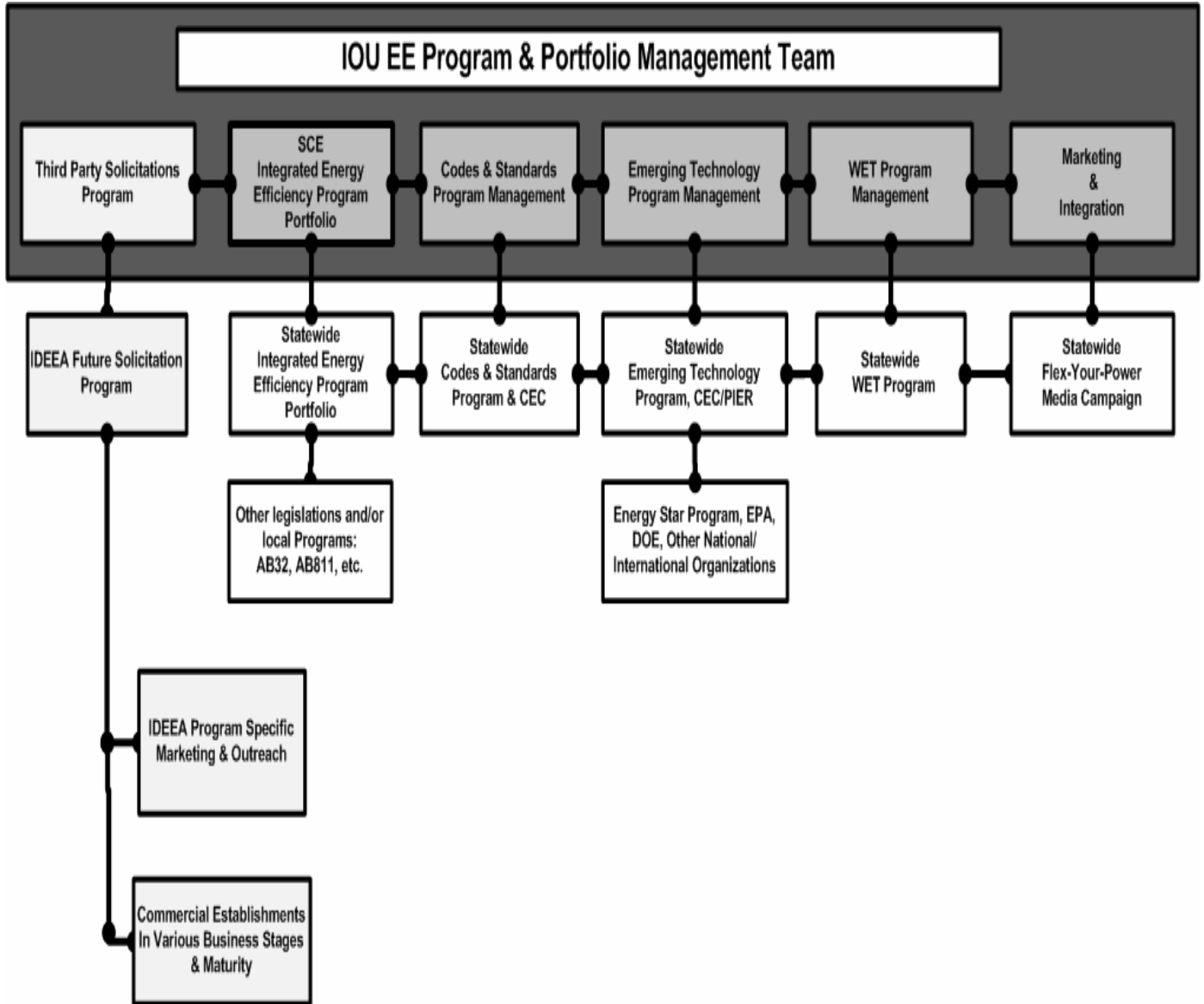
The intent of these pilot programs is to make the DR/EE integration seamless to the customer and educate them on not only DR measures but DR programs that they can participate in during an event call.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC, and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

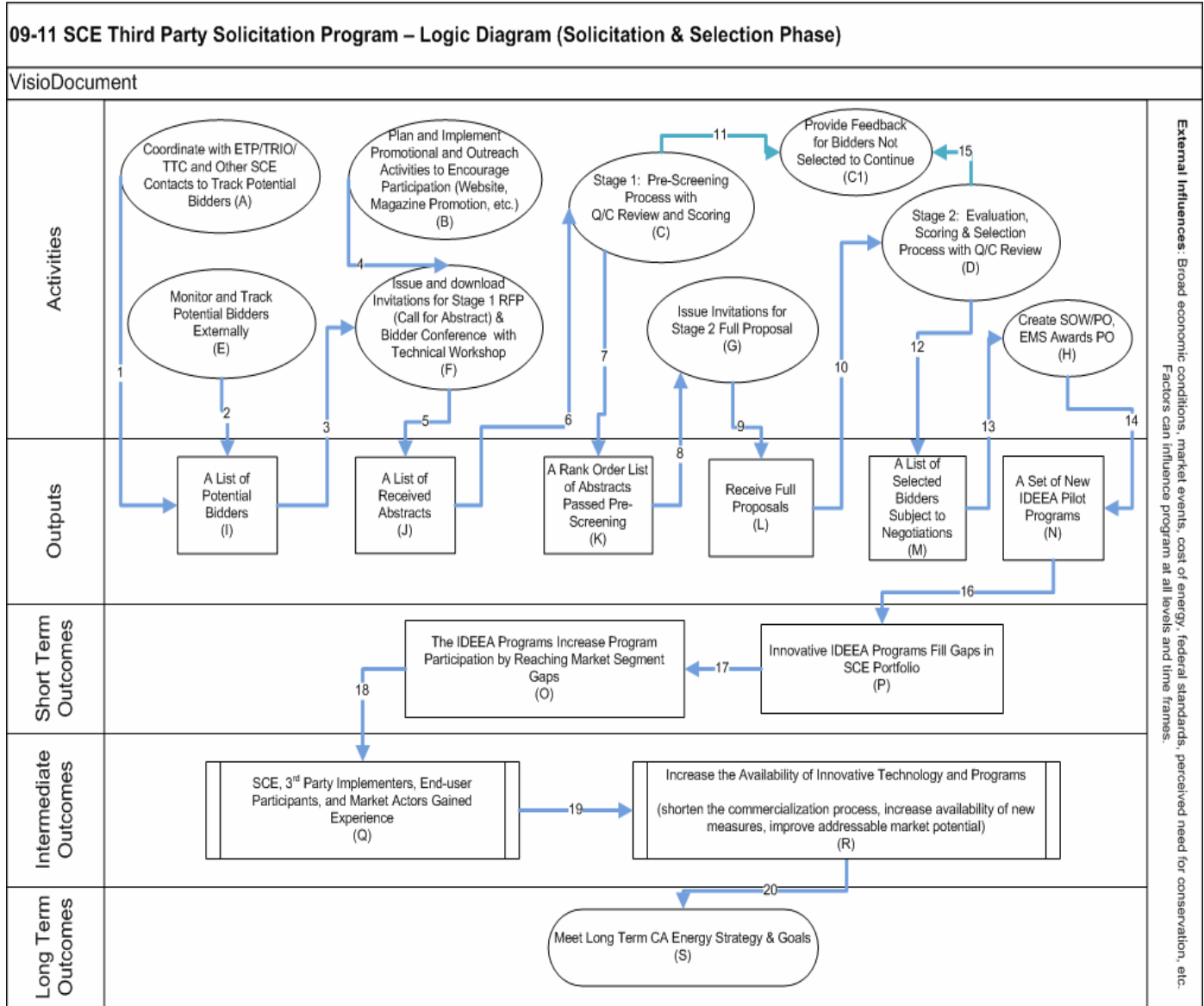
Crosscutting: Third Party Solicitations Program

7. Diagram of Program



Crosscutting: Third Party Solicitations Program

8. Logic Model (Part - A) – Solicitation & Selection Phase



Crosscutting: Third Party Solicitations Program

8. Logic Model (Part - B) – Pilot Program Phase

