2009-2011 Energy Efficiency Programs
Premium Efficiency Cooling
Program Implementation Plan

1) Program Name: Premium Efficiency Cooling
Program ID Number: TBD
Program type: Third-Party Program

2) Projected Program Budget Table

Table 1[1]

Program #	SDG&E 3rd Party - Non-Res HVAC Tune-up/Quality Installation	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Program - Commercial						
	3P-NRes01 - Non-Res HVAC Tune-up/Quality Installa	3,837,160	1,820,297	7,257,657	0	12,915,115
	TOTAL:	**3,837,160**	**1,820,297**	**7,257,657**	**0**	**12,915,115**

Final third party program budgets are subject to change based on Commission approval and final negotiations

These budget numbers are presented in Appendix C: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table

Table 2

Program #	SDG&E 3rd Party - Non-Res HVAC Tune-up/Quality Installation	2009-2011 Three-Year EE Program Gross kWh Savings	2009-2011 Three-Year EE Program Gross kW Savings	2009-2011 Three-Year EE Program Gross Therm Savings
Market Sector Program - Commercial				
	3P-NRes01 - Non-Res HVAC Tune-up/Quality Installa	45,427,582	18,217	-9,549
	TOTAL:	**45,427,582**	**18,217**	**-9,549**

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

[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.

2009-2011 Energy Efficiency Programs
Premium Efficiency Cooling
Program Implementation Plan

These savings values are presented in Appendix C: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Description

a) Describe program

The Nonresidential Heating, Ventilating, and Air Conditioning (HVAC) Tune-up Quality Installation Program ("Premium Efficiency Cooling Program") provides all eligible commercial customers in the San Diego Gas & Electric (SDG&E) service area with tools, information and financial rebates to encourage the purchase new high-efficiency HVAC equipment and maintenance of their existing Air Conditioner (A/C) systems at optimal efficiency.

Program objectives will include:

- Reducing barriers to program participation at the midstream and downstream levels,
- Engaging upstream market actors in coordinated marketing and information campaigns,
- Targeting high-yield commercial market segments with vertical marketing strategies that tap into well-established communication networks; and
- Changing contractor and technician practices to embrace improved technical processes and to build these with program support, into their normal operations.

At its core, the program's scope offers cross-cutting services and rebates to customers to promote quality maintenance and high-efficiency equipment choices. The Program will provide incentives for quality installation and quality maintenance services (up to 63.3 tons per circuit), as well as condenser coil cleaning, evaporator coil cleaning and economizer repairs. Equipment incentives will be available for direct expansion cooling systems (air-source heat pumps or A/C units, mini-split systems, and packaged or split-system units up to 63.3 tons) and evaporative coolers for early retirement, replacement on burnout and above-code installations in previously unconditioned spaces.

These services are delivered through an approach that integrates targeted, vertical marketing through existing distribution channels. This outreach strategy includes a strong emphasis on face-to-face customer contact, integrated with easy-to-use customer tools available on the program website, discounts, financial instruments, and rebates provided by program partners and participating contractors.

Contractor will manage and implement the program, track and report production and energy savings, provide uploads to the Subcontractor Management and Reporting Tool (SMART) system and execute marketing, outreach, training and quality assurance activities. Participating contractors will be given the option of using a participating Verification Service Provider (VSP) or meeting rigorous training and certification requirements through North American Technical Excellence (NATE) or Air Conditioning Contractors of America (ACCA) certification. In the VSP option, the VSPs, acting as program subcontractors, will

electronically capture and upload service data, and monitor incoming data for quality assurance. Contractor's Representatives will provide upstream program support and marketing assistance.

The Premium Efficiency Cooling Program's key elements include:

- Upstream incentives and collaborative marketing efforts, including negotiated program pricing available to participating contractors, coordinated mailings and telemarketing, and coordination with suppliers on direct sales to national accounts.
- Midstream training and certification in conjunction with available NATE, ACCA and ENERGY STAR training opportunities.
- Flex-incentives geared to allow customers to participate in the tune-up program at no charge or with little up-front cost, while rewarding contractors and/or distributors for quality and performance.
- Partnership with ENERGY STAR to promote technologies and practices consistent with the ENERGY STAR label.
- Adoption and promotion of industry standards and protocols as published by ENERGY STAR, Consortium for Energy Efficiency (CEE) and ACCA (as feasible and cost-effective) for equipment specifications, quality installation and maintenance.
- Downstream marketing and direct customer contact through established trade associations and communication channels.
- Direct downstream sales and midstream/upstream recruiting via program representatives.
- Downstream financial support through collaboration with Electric & Gas Industries Association (EGIA) to provide low-interest unsecured commercial equipment loans as these become available.
- Coordination with Company's On-Bill Financing program to provide no-interest, no down payment financing for eligible equipment.
- Rebates and point of purchase discounts for end-users delivered through contractors, distributors, or directly through the Program contact center.
- Technical assistance to contractors including training in Quality Installation (QI) and Quality Maintenance (QM) procedures, remedial training, user-friendly energy savings calculators, and quarterly training reviews.
- Technical assistance to customers through user-friendly energy savings calculators, information and tools available on the program website, and links to governmental and third-party information resources on selecting a contractor, calculating the benefits and simple payback periods for energy efficiency investments, and tips for improving energy efficiency.
- Telephone and e-mail support for contractors, program partners and participants through a toll-free telephone line and customer service center where trained

program representatives can take applications, provide program information, and respond to web inquiries.

- Multi-port website with secured portals for access by contractors and manufacturers, and a separate public portal for commercial customers.
- Verification of quality installation and tune-up activities through a combination of VSPs, field inspections and field training exercises.
- Detailed, experience-driven program theory and logic model based on recent program experience in the Company and Southern California Edison (SCE) service territories.

Specific measures addressed by this Program include:

- Air Conditioning units up to 759 kBtu/h
- Heat Pumps up to 759 kBtu/h
- Evaporative Coolers up to 759 kBtu/h
- Packaged Terminal AC units (all sizes)
- Packaged Terminal Heat Pumps (all sizes)
- Packaged Economizer units (up to 63.3 ton units)
- Refrigerant Charge testing (split and packaged units, test only)
- Refrigerant Charge Adjustment (split and packaged units)
- Condenser Coil Cleaning
- Evaporator Coil Cleaning
- Economizer Adjustment and/or Repair; and
- Split System Quality Installation (charge optimization on installation).

b) List measures

	Measure	Incentive per ton of cooling
1	Commercial AC <65k single phase split - Climate Zone 6, 7, or 8	$100
2	Commercial AC <65k single phase unitary - Climate Zone 6, 7, or 8	$100
3	Commercial AC <65k three phase split - Climate Zone 6, 7, or 8	$100
4	Commercial AC <65k three phase unitary - Climate Zone 6, 7, or 8	$100
5	Commercial AC 65k to 134k - Climate Zone 6, 7, or 8	$100
6	Commercial AC 135K to 239k - Climate Zone 6, 7, or 8	$75
7	Commercial AC 240k to 759k - Climate Zone 6, 7, or 8	$50
8	Commercial AC <65k single phase split ER - Climate Zone 6, 7, or 8	$200
9	Commercial AC <65k single phase unitary ER - Climate Zone 6, 7, or 8	$200
10	Commercial AC <65k three phase split ER - Climate Zone 6, 7, or 8	$200

2009-2011 Energy Efficiency Programs
Premium Efficiency Cooling
Program Implementation Plan

11	Commercial AC <65k three phase unitary ER - Climate Zone 6, 7, or 8	$200
12	Commercial AC 65k to 134k ER - Climate Zone 6, 7, or 8	$180
13	Commercial AC 135K to 239k ER - Climate Zone 6, 7, or 8	$180
14	Commercial AC 240k to 759k ER - Climate Zone 6, 7, or 8	$150
15	Commercial HP <65k single phase split - Climate Zone 6, 7, or 8	$100
16	Commercial HP <65k single phase unitary - Climate Zone 6, 7, or 8	$100
17	Commercial HP <65k three phase split - Climate Zone 6, 7, or 8	$100
18	Commercial HP <65k three phase unitary - Climate Zone 6, 7, or 8	$100
19	Commercial HP 65k to 134k - Climate Zone 6, 7, or 8	$100
20	Commercial HP 135K to 239k - Climate Zone 6, 7, or 8	$75
21	Commercial HP 240k to 759k - Climate Zone 6, 7, or 8	$50
22	Commercial HP <65k single phase split ER - Climate Zone 6, 7, or 8	$200
23	Commercial HP <65k single phase unitary ER - Climate Zone 6, 7, or 8	$200
24	Commercial HP <65k three phase split ER - Climate Zone 6, 7, or 8	$200
25	Commercial HP <65k three phase unitary ER - Climate Zone 6, 7, or 8	$200
26	Commercial HP 65k to 134k ER - Climate Zone 6, 7, or 8	$180
27	Commercial HP 135K to 239k ER - Climate Zone 6, 7, or 8	$180
28	Commercial HP 240k to 759k ER - Climate Zone 6, 7, or 8	$150
29	Packaged Terminal AC <7k - Climate Zone 6, 7, or 8	$125
30	Packaged Terminal AC 7-15k - Climate Zone 6, 7, or 8	$125
31	Packaged Terminal AC >15k - Climate Zone 6, 7, or 8	$125
32	Packaged Terminal HP <7k - Climate Zone 6, 7, or 8	$125
33	Packaged Terminal HP 7-15k - Climate Zone 6, 7, or 8	$125
34	Packaged Terminal HP >15k - Climate Zone 6, 7, or 8	$125
35	Packaged Terminal AC <7k ER - Climate Zone 6, 7, or 8	$150
36	Packaged Terminal AC 7-15k ER - Climate Zone 6, 7, or 8	$150
37	Packaged Terminal AC >15k ER - Climate Zone 6, 7, or 8	$150
38	Packaged Terminal HP <7k ER - Climate Zone 6, 7, or 8	$150
39	Packaged Terminal HP 7-15k ER - Climate Zone 6, 7, or 8	$150
40	Packaged Terminal HP >15k ER - Climate Zone 6, 7, or 8	$150
41	Commercial Evaporative Cooler <65k - Climate Zone 6, 7, or 8	$100
42	Commercial Evaporative Cooler >=65k - Climate Zone 6, 7, or 8	$100

2009-2011 Energy Efficiency Programs
Premium Efficiency Cooling
Program Implementation Plan

43	Commercial Evaporative Cooler <65k ER - Climate Zone 6, 7, or 8	$150
44	Commercial Evaporative Cooler >=65k ER - Climate Zone 6, 7, or 8	$150
45	Commercial Packaged Economizer Retrofit - Climate Zone 6, 7, or 8	$50
46	Commercial RCA test only - Climate Zone 6, 7, or 8	$9
47	Commercial RCA - Climate Zone 6, 7, or 8	$35
48	Commercial Condenser Coil Cleaning - Climate Zone 6, 7, or 8	$18
49	Commercial Evaporator Coil Cleaning - Climate Zone 6, 7, or 8	$12
50	Commercial Econ Repair - Community College - Climate Zone 6, 7, or 8	$20
51	Commercial Econ Repair - Secondary School - Climate Zone 6, 7, or 8	$20
52	Commercial Econ Repair - Hospital - Climate Zone 6, 7, or 8	$20
53	Commercial Econ Repair - Hotel (Guest Rooms) - Climate Zone 6, 7, or 8	$20
54	Commercial Econ Repair - Medical Clinic - Climate Zone 6, 7, or 8	$20
55	Commercial Econ Repair - Office – Large - Climate Zone 6, 7, or 8	$20
56	Commercial Econ Repair - Retail – 3 Story Large - Climate Zone 6, 7, or 8	$20
57	Commercial Split System QI - Climate Zone 6, 7, or 8	$40
58	Commercial AC <65k single phase split - Climate Zone 10, 14 or 15	$100
59	Commercial AC <65k single phase unitary - Climate Zone 10, 14 or 15	$100
60	Commercial AC <65k three phase split - Climate Zone 10, 14 or 15	$100
61	Commercial AC <65k three phase unitary - Climate Zone 10, 14 or 15	$100
62	Commercial AC 65k to 134k - Climate Zone 10, 14 or 15	$100
63	Commercial AC 135K to 239k - Climate Zone 10, 14 or 15	$75
64	Commercial AC 240k to 759k - Climate Zone 10, 14 or 15	$50
65	Commercial AC <65k single phase split ER - Climate Zone 10, 14 or 15	$200
66	Commercial AC <65k single phase unitary ER - Climate Zone 10, 14 or 15	$200
67	Commercial AC <65k three phase split ER - Climate Zone 10, 14 or 15	$200
68	Commercial AC <65k three phase unitary ER - Climate Zone 10, 14 or 15	$200
69	Commercial AC 65k to 134k ER - Climate Zone 10, 14 or 15	$180
70	Commercial AC 135K to 239k ER - Climate Zone 10, 14 or 15	$180
71	Commercial AC 240k to 759k ER - Climate Zone 10, 14 or 15	$150
72	Commercial HP <65k single phase split - Climate Zone 10, 14 or 15	$100
73	Commercial HP <65k single phase unitary - Climate Zone 10, 14 or 15	$100

2009-2011 Energy Efficiency Programs
Premium Efficiency Cooling
Program Implementation Plan

74	Commercial HP <65k three phase split - Climate Zone 10, 14 or 15	$100
75	Commercial HP <65k three phase unitary - Climate Zone 10, 14 or 15	$100
76	Commercial HP 65k to 134k - Climate Zone 10, 14 or 15	$100
77	Commercial HP 135K to 239k - Climate Zone 10, 14 or 15	$75
78	Commercial HP 240k to 759k - Climate Zone 10, 14 or 15	$50
79	Commercial HP <65k single phase split ER - Climate Zone 10, 14 or 15	$200
80	Commercial HP <65k single phase unitary ER - Climate Zone 10, 14 or 15	$200
81	Commercial HP <65k three phase split ER - Climate Zone 10, 14 or 15	$200
82	Commercial HP <65k three phase unitary ER - Climate Zone 10, 14 or 15	$200
83	Commercial HP 65k to 134k ER - Climate Zone 10, 14 or 15	$180
84	Commercial HP 135K to 239k ER - Climate Zone 10, 14 or 15	$180
85	Commercial HP 240k to 759k ER - Climate Zone 10, 14 or 15	$150
86	Packaged Terminal AC <7k - Climate Zone 10, 14 or 15	$125
87	Packaged Terminal AC 7-15k - Climate Zone 10, 14 or 15	$125
88	Packaged Terminal AC >15k - Climate Zone 10, 14 or 15	$125
89	Packaged Terminal HP <7k - Climate Zone 10, 14 or 15	$125
90	Packaged Terminal HP 7-15k - Climate Zone 10, 14 or 15	$125
91	Packaged Terminal HP >15k - Climate Zone 10, 14 or 15	$125
92	Packaged Terminal AC <7k ER - Climate Zone 10, 14 or 15	$150
93	Packaged Terminal AC 7-15k ER - Climate Zone 10, 14 or 15	$150
94	Packaged Terminal AC >15k ER - Climate Zone 10, 14 or 15	$150
95	Packaged Terminal HP <7k ER - Climate Zone 10, 14 or 15	$150
96	Packaged Terminal HP 7-15k ER - Climate Zone 10, 14 or 15	$150
97	Packaged Terminal HP >15k ER - Climate Zone 10, 14 or 15	$150
98	Commercial Evaporative Cooler <65k - Climate Zone 10, 14 or 15	$100
99	Commercial Evaporative Cooler >=65k - Climate Zone 10, 14 or 15	$100
100	Commercial Evaporative Cooler <65k ER - Climate Zone 10, 14 or 15	$150
101	Commercial Evaporative Cooler >=65k ER - Climate Zone 10, 14 or 15	$150
102	Commercial Packaged Economizer Retrofit - Climate Zone 10, 14 or 15	$50
103	Commercial RCA test only - Climate Zone 10, 14 or 15	$9
104	Commercial RCA - Climate Zone 10, 14 or 15	$35

105	Commercial Condenser Coil Cleaning - Climate Zone 10, 14 or 15	$18
106	Commercial Evaporator Coil Cleaning - Climate Zone 10, 14 or 15	$12
107	Commercial Econ Repair - Community College - Climate Zone 10, 14 or 15	$20
108	Commercial Econ Repair - Secondary School - Climate Zone 10, 14 or 15	$20
109	Commercial Econ Repair - Hospital - Climate Zone 10, 14 or 15	$20
110	Commercial Econ Repair - Hotel (Guest Rooms) - Climate Zone 10, 14 or 15	$20
111	Commercial Econ Repair - Medical Clinic - Climate Zone 10, 14 or 15	$20
112	Commercial Econ Repair - Office – Large - Climate Zone 10, 14 or 15	$20
113	Commercial Econ Repair - Retail – 3 Story Large - Climate Zone 10, 14 or 15	$20
114	Commercial Split System QI - Climate Zone 10, 14 or 15	$40
115	Inspections-Commercial - Climate Zone 6, 7, or 8	$0
116	Inspections-Commercial - Climate Zone 10, 14 or 15	$0

c) List non-incentive customer services

1. Technical assistance

- Participating contractors will receive training in QI and QM procedures, remedial training, user-friendly energy savings calculators, and quarterly training reviews.
- Customers will be offered user-friendly energy savings calculators, information and tools available on the program website, and links to governmental and third-party information resources on selecting a contractor, calculating the benefits and simple payback periods for energy efficiency investments, and tips for improving energy efficiency.
- Contractor will provide a multi-port website with secured portals for access by contractors and manufacturers, and a separate public portal for commercial customers.
- Training and quality assurance tools will include close monitoring of quality installation and tune-up activities through participating Verification Service Providers and/or program staff.
- Program participants and partners will have access to telephone and e-mail support through a toll-free telephone line and customer service center where trained program representatives can take applications, provide program information, and respond to web inquiries.

2. Sales support to HVAC contractors including cooperative marketing and direct outreach to promote sales of HVAC equipment and/or services in targeted market sectors.

3. Financing support through program partners will include low-interest financing as this becomes available for commercial HVAC purchases and coordination with Company's On-Bill Financing program for eligible equipment purchases.

4. Bulk pricing opportunities on hotel/motel HVAC equipment purchases arranged by the Program through participating manufacturers.

5. 100% inspections and delivery of cross-program information to commercial end-users who install new HVAC equipment. Participants will receive literature on other Company programs appropriate to their buildings including demand-response programs, specialty appliance or lighting programs, and other program literature or referral sign-up materials as provided by the utility.

6. Pre-inspections and on-site assistance with reservation forms to support customer participation on an as-needed basis.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and

administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

	Internal Market Transformation Planning Estimates		
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

HVAC replacement and quality maintenance account for a significant share of the potential energy savings in the commercial sector. In "Options for Energy Efficiency in Existing Buildings" (2005), the CEC reports that Direct Expansion air conditioning and cooling system tune-ups account for roughly 12% of the technical potential for demand savings in commercial buildings. Energy savings potential is less, at 2% to 5% of the technical potential for kWh savings (CEC, Appendix, A-11). Although the kWh savings on these programs might be more cost-effectively obtained through lighting programs, HVAC system replacements and tune-ups offer the unparalleled opportunity to dramatically reduce peak load in a relatively short period of time.

Although HVAC replacement and quality maintenance hold much potential for energy savings, the commercial sector encounters market signals that discourage the purchase and upkeep of efficient equipment. Specifically, customers face negative externalities and information asymmetry with respect to their HVAC equipment, as described below.

- An older HVAC unit or equipment not tuned at manufacturer specifications is significantly less efficient than HVAC units available on the market today or existing units that are properly tuned. Although the customer pays more on average to operate these inefficient units, negative externalities such as increased

demand and the associated effects of wasted energy and/or reliability problems are borne by other ratepayers and the community at large. The negative externality creates impetus for consumers to do nothing. Routine maintenance activities are conducted without a critical eye toward optimizing the charge and performance of the units; replacements are delayed until the units are no longer repairable, and the least efficient units on the market are selected on an initial-cost basis.

- The second critical market failure is information asymmetry. Customers may not understand the value of an HVAC tune-up and the availability of program services unless the costs of obtaining this information is reduced to near-zero. When customers put out bid requests for replacement units, they often drive the market toward the least-cost and lowest efficiency units simply by failing to consider the lifetime costs of the new units. Contractors, typically at the mercy of customer specifications, have reduced ability to educate the customer and influence the replacement decision; will bid the lowest-cost equipment to win the job. By providing consumers with the tools and information to incorporate energy efficiency and lifetime costs into their bid specifications, the Program can greatly reduce (consumer) information costs and correct the information asymmetry. Similarly, by assisting contractors and distributors in marketing premium equipment and advanced diagnostics, the program aims to provide information to consumers through multiple channels, reinforcing the message that tune-ups and premium equipment are well worth any initial investments in time, resources, or capital.

This Program specifically addresses the above mentioned market failures and the technical potential for demand reduction by focusing on incentives, outreach and education through established communication channels, removing participation barriers, and increasing the quality and reliability of claimed energy savings. These are consistent with CEC Public Interest Energy Research (PIER) research, best practices, field experience, market research, and the EE Strategic Plan.

d) Quantitative Program Targets:

Market potential for high-efficiency HVAC sales in the 2009-11 cycle will likely be constrained by economic conditions and tight credit markets that have led to leaner capital improvement budgets. The Dow-Jones Industrial Average is off of its 2007 high by roughly 40% and it would be reasonable to assume that non-essential high-ticket investments in the San Diego commercial building systems sector would be off by a comparable proportion. That would possibly reduce anticipated HVAC sales in the coming cycle to roughly about 60% of sales in the previous cycle. However, given the statewide efforts (through AB32, the Air Resources Board, the CEC and California Public Utility Commission (CPUC)) to promote broad adoption of energy efficient HVAC systems, program marketing and increased incentives, the quantitative program targets are set at 76% of the production achieved in the previous cycle (as of November 2008). All else equal, this represents a net increase in HVAC sales targets of 25% over the prior cycle. Tune-up goals are significantly lower than those achieved in the prior cycle, due to the assumption that the low-hanging fruit has already been harvested. With

more than 95,000 tons of RCA services delivered and an additional 5,000 circuits tested without further corrections, it is likely that the next phase will move into more difficult-to-reach customers and less profitable or accessible sites. As existing preventative maintenance agreements become tapped, contractors will need to actively market the Program to generate the QM activity witnessed in 2007 and 2008. This will likely contribute to lower production numbers than in the previous cycle as seen in Table 5. Should the tune-up market remain robust, the program would ease its equipment goals to facilitate higher tune-up production.

Table 5

Premium Efficiency Cooling	Program Target by 2009	Program Target by 2010	Program Target by 2011
Equipment Installed (Tons Cooling)	2,013 tons	4,900 tons	4,900 tons
Tune-ups Performed (Tons RCA)	9,000 tons	14,400 tons	14,478 tons
Contractor Participation (number of contractors performing RCA on ten or more sites)	Six of the top twenty commercial contractors fully engaged	Eight of the top twenty commercial contractors fully engaged	Ten of the top twenty commercial contractors fully engaged

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan goals and objectives:

Customer incentives and service vouchers will be used to pull the market toward more efficient consumer choices when considering the repair or replace decision, and when choosing or scheduling maintenance services. These services are aligned with the HVAC component of the "Big Bold Energy Efficiency Strategies" (CPUC D.07-10-032 and D.07-12-051), where "Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate [Section I, p. 6 California Long Term Energy Efficiency Strategic Plan, Sept 2008]."

As identified in the Long Term Energy Efficiency Strategic Plan, "Quality HVAC installation and maintenance (QI/QM) is currently the exception, not the norm [Section 6, p. 61]." To catalyze rapid and broad adoption of Quality Installation and Maintenance (QI/QM) practices, the Premium Efficiency Cooling Program offers technician training and customer/contractor incentives to (a) increase the availability of these services throughout the service territory and (b) stimulate consumer demand. By subsidizing initial quality maintenance services, the Program hopes to assist contractors in adopting these services as part of their preventative maintenance contracts over the long term, and drive market forces such that consumers recognize the value of QI/QM and are willing to adopt and pay for these services even without ratepayer subsidies in future years. Program education and marketing strategies, including a web presence and vertical

marketing through market segment networks will assist in spreading the word that QI/QM increases comfort, air quality, and energy and operating cost savings.

The Program design offers flexibility in training requirements and Verification Service Provider choices in order to allow alignment with a statewide certification program should the state adopt HVAC industry accreditation standards in the course of the 2009-11 program cycle.

Additionally, technologies such as ductless mini-split systems and high efficiency evaporative coolers are incorporated into the Program to support integrated whole-building efficiency, downsizing and right-sizing of existing HVAC systems, and the green building initiative.

This Program supports the EE Strategic Plan in the following manner:

- Targets non-residential customers and thus supports meeting the commercial sector goals (3. Commercial Sector, Strategy 3)
- Specifically addresses HVAC and thus promotes quality installation and maintenance (6. HVAC, Strategies 1 & 2)
- Will actively promote Company financing programs to ethnic small businesses. (2. Residential Sector, Low Income, Strategy 2.2)
- Will actively promote Company financing programs and partner with non-Investor Owned Utility (IOU) financing programs as these are developed (3. Commercial Sector, Implementation Strategy 2-6)
- Coordination through Company financing programs to push for comprehensive Demand-Side Management (DSM) retrofits. (3. Commercial Sector, Strategy 3)
- Specifically addresses HVAC (6. Heating, Ventilation and Air Conditioning, Strategy 2)

6) Program Implementation

a. Statewide IOU Coordination:
   i. Program name
   ii. Program delivery mechanisms
   iii. Incentive levels
   iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
   v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
   vi. Similar IOU and POU programs

This third-party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or

programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b. Program delivery and coordination:

i. Emerging Technologies Program

A key component of the Long Term Energy Efficiency Strategic Plan (2008) is the advancement of technologies, standards and building practices to deliver Zero Net Energy Homes by 2020. The immediate near-term goal (2009-11) is that 50% of new homes exceed 2005 Title 24 standards by 35% and 10% exceed these standards by 55%. HVAC contractor engagement is an essential bridge between new technology development and deployment. As innovative financing opportunities become available, and new energy efficiency and renewable technologies enter the market, participating HVAC contractors will be positioned to guide their customers in selecting appropriate technologies and financing instruments for their projects.

ii. Codes and Standards Program

With the adoption of statewide green building standards in July 2008, California's Building Standards Commission has set a voluntary benchmark for green buildings, effective in 2009. These standards are expected to become mandatory by 2012. In the interim, this Program provides contractors with valuable training and field assessment of their skills in quality maintenance and quality installation of HVAC equipment.

iii. WE&T efforts

Although workforce education and training efforts broadly encompass many private and public institutions of higher learning, the Premium Efficiency Cooling Program meets a specific need in workforce education and training by offering HVAC technicians affordable, easily accessible advanced training on Quality Maintenance and advanced diagnostics, and support in promoting premium efficiency HVAC equipment. Of the many near-term (2009-11) goals for energy efficiency education and training, this Program serves to expand training curricula and training and professional career development in building construction, services and energy efficiency technical fields (Action 1-2, p. 78 Long Term EE Strategic Plan).

iv. Program-Specific Marketing and Outreach efforts

Program-specific marketing and outreach efforts are budgeted at $236,312.00. To achieve market penetration objectives and overcome the barriers to program participation while preserving program cost-effectiveness, five essential networks will be tapped for program promotion and information provision. These networks include:

- Upstream distribution channels (manufacturers and suppliers);
- Midstream market actors (contractors, trade groups and trade professionals);
- Market-specific networks such as the San Diego Hotel-Motel Association, BOMA, and local grocer, retail, and fast-food associations;

- High-visibility partnerships with ENERGY STAR and ACCA; and
- Utility resources and relationships through close coordination with Company Account Executives, Energy Auditors, On-Bill Financing and Customer Service personnel.

Vertical marketing will be targeted toward high-occupancy, high-yield industries such as the lodging industry, retail, restaurants, biotech and data facilities, grocery, casinos, residential care facilities, and offices. Direct sales calls and marketing materials will be tailored to these market segments to boost participation among small and medium commercial customers with the highest potential energy savings. Rebates will be provided to the customer, or their designee, and program tips, tools and voucher applications will be on the program website.

Specific marketing materials and outreach strategies include:

- The program website, with links from Company's website and Flex Your Power™, will broadly inform the market and attract participation;
- The Program will leverage the extensive efforts of contractors, Energy Service Companies (ESCOs) and Company Account Executives and commercial programs to promote program awareness and generate leads;
- Participation in Company training events, annual Energy Showcase, and workshops or conferences aimed at the target market sector will raise program visibility;
- The three-year Program will enable marketing and outreach to large end users at the earliest decision-making stages of major equipment or facility modifications;
- Personal marketing will be used as cost effective to identify and address customer-and industry-specific barriers and customer issues;
- Case studies will be developed and disseminated case studies to highlight key technologies and segment applications. These will be available to customers and contractors alike through the program website; and
- On-going training of account managers and other marketing staff will be aimed at ensuring consistent and current program communications.

v. Non-energy activities of program

Non-energy activities of the program include training and integration aspects that do not specifically contribute to resource acquisition. While the primary focus of the Program is immediate energy savings and demand reduction, the long-term emphasis is to contribute toward the Long Term Energy Efficiency Strategic Plan by transforming the HVAC markets to stimulate sales of above-code equipment, retire inefficient equipment, and catalyze demand for Quality Installation and Maintenance Services, while providing the trade with training and equipment to provide these services. This transformation is not expected to be complete at the

end of 2011, but significant movement toward contractor education and participation should ensue over the coming three years.

Non-energy activities also include mandatory inspections on 100% of the equipment installations as an opportunity to verify that the equipment meets program eligibility criteria and to promote related programs (lighting, appliances or other third-party or IOU programs) as a means to add comprehensiveness to service delivery. (Since the Premium Efficiency Cooling Program will not claim additional energy savings for referring customers to appropriate programs or coordinating customer involvement in Company financing opportunities for non-HVAC measures, this must be considered a non-energy activity.) Providing additional consumer information on other programs or energy-saving tips on the program website, incorporating links to the ARB's Cool California carbon calculator, and other links and information are also non-energy activities. Other non-energy activities include alignment with other programs or entities (such as applying for an Energy Star partnership); communicating program updates to market actors who do not directly participate in installing HVAC equipment or claiming incentives; and creating and distributing self-audit checklists or recommendation pages to program participants. No specific budget has been set for these activities and they are included in direct implementation costs.

vi. Non-IOU programs

Although no direct coordination activities will be involved, the Premium Efficiency Cooling Program is in step with the Global Warming Solutions Act of 2006 (AB 32) greenhouse gas emission reduction objectives. By focusing on existing buildings, the Program is well integrated with the general objectives of the CEC, CPUC, and ARB with respect to 2020 greenhouse gas emission goals. The Premium Efficiency Cooling Program addresses energy efficiency measures that will assist in meeting the 2020 Goal established by AB 32, and the 2050 Goal established by the governor's Executive Order to meet the 450 part per million (ppm) concentration target. These aggressive goals require businesses and homes to eventually move to Zero Net Energy – a goal that begins with efficiency improvements and right-sized cooling and heating systems. Martha Krebs, of the Public Interest Energy Research Program (PIER) notes that California's Zero Net Energy Business (ZNEB) goal is "technically feasible, although incremental costs will be substantial" [Energy Delivery and Use and Greenhouse Gas Reduction in Communities: Technology and Systems Challenges, presentation, CEC October 28, 2008]. The efficiencies associated with retiring and replacing energy-intensive DX systems and training technicians to optimize charge, airflow and economizer settings during regular service calls are a first step toward ZNEB goals.

The ARB Draft Scoping Plan identifies that the potential from Buildings is second only to the Transportation sector, and represents 23% of 2004 GHG emissions (114 $MMTCO_2E$), (California Air Resources Board, 2004 GHG Emission Inventory). [California's Research Program to Address Greenhouse Gas Emissions, presentation, October 28, 2008, Emerging Technologies Summit

2008]. The Program will assist in achieving these goals through improved commercial HVAC efficiency. Because "existing buildings account for the majority of the potential for GHG reductions [ARB Draft Scoping Plan Appendices]" energy efficiency programs such as the Premium Efficiency Cooling Program are a key element of reaching the 2020 goal.

vii. CEC work on PIER

Program goals, including the focus on improving the energy efficiency of existing buildings and mechanical systems, are aligned with CEC and PIER findings.

In the April 2005 CEC report (CEC-400-2005-011-D-AP) "Technical Assistance in Determining Options for Energy Efficiency in Existing Buildings," cooling system tune-ups account for potential demand reduction of 186 MW and energy savings of 308 GWh/yr This represents 5.1% of the technical potential for demand reduction in existing buildings and 2.1% of potential energy savings. The Premium Efficiency Cooling Program will tap into these potential savings by offering contractor incentives/customer vouchers for free or reduced-fee cooling system tune-ups.

In "Design Guide: Big Savings on Small HVAC Systems" the PIER Buildings Program estimates that HVAC systems for small commercial buildings are "notorious for a host of problems requiring 25 to 35 percent more energy than is necessary to heat, cool, and ventilate California buildings" (Technical Brief CEC-500-2005-046-FS 021705). While this particular PIER sponsored research focuses on design elements such as right-sizing and an integrated design approach, it also calls for improving the efficiency of existing commercial buildings by encouraging businesses to adopt CEE Tier 2 (premium efficiency) HVAC units, and by addressing problems associated with malfunctioning or improperly set economizers, and improper charge and airflow issues. By providing HVAC contractors with training and incentives for optimizing airflow, charge and repairing or properly setting economizers, the Premium Efficiency Cooling Program addresses core problems common to many existing small commercial buildings. By encouraging the early retirement of existing units and installation of higher efficiency DX units, the Program can potentially foster higher adoption levels of above-code equipment.

As noted in the CEC study referenced earlier, DX air conditioning replacements account for an additional 246 MW potential demand reduction, or 6.7% of the commercial building efficiency technical potential (Working Draft, A-11). Energy savings from AC replacements are estimated at 445 GWh/yr or 3% of the technical potential.

viii.CEC work on codes and standards

CEC work on codes and standards underpins much of the content in new building technologies, energy efficiency building codes and green building standards. Again, the Program does not specifically budget coordination with ongoing CEC

work into the delivery of training materials, but as new codes and standards are implemented, the Premium Efficiency Cooling Program will adapt its incentive and eligibility requirements to promote increasingly efficient equipment over the course of the program.

ix. Non-utility market initiatives

Many industries and market actors are adopting practices conducive to becoming green corporate citizens, reducing greenhouse gas emissions, or investing in energy efficiency. However, many of these actors do not understand Energy Efficiency Rating (EER) or Seasonal Energy Efficiency Rating (SEER) and how the extra investment in a higher efficiency AC unit can contribute to their overall goals of going green. The Premium Efficiency Cooling Program targets specific market sectors such as hoteliers or restaurants or offices to directly market program incentives to these customers and provide them with tools and guidance in selecting high-efficiency HVAC equipment. Examples of non-utility market initiatives where opportunities exist for joint marketing and outreach include various Green Lodging Programs, the Green Hotel Association, the Green Restaurant Association, and various green traveler resources.

c. Best Practices:

The program design incorporates many of the best practice elements from the National Energy Efficiency Program Best Practices Study. Specific items include:

Program Theory and Design

- Anticipation of market challenges built into program design
- Program integrates statewide policy objectives into program design
- Program plan and program theory have been tested over the past two years and have been adjusted based on new challenges and quality assurance feedback.

Project Management

- Clear lines of responsibility and communication are set forth in the program participation agreement (contractors and/or customers), and the Verification Service Provider contracts.
- Field staff and efficiency service providers will be trained in program procedures and technical requirements.
- Consistent, experienced personnel from the 2006-08 programs will contribute to the effectiveness and management quality of the 2009-11 program.

Reporting and Tracking

- All Program data, including measure-level data, will be integrated into a single database using Company's SMART system.
- The SMART system is linked to Company's customer relationship management (CRM) systems.

- The Program utilizes electronic workflow management and web-based communications including the program website, e-forms and submittal processes, and electronic upload of data to the SMART system.
- Program prospects will be contacted and tracked early to drive program intervention in the pre-season and off-season months, via communications from program sales representatives, mailers, and program partners (including Account Executives, distributors, and/or contractors).
- The level of tracking will be balanced against resource availability.
- Post-inspections are required for 100% of the equipment installation sites.
- Independent Measurement & Verification (M&V) contractors conduct M&V
- Contractor performance is tied to independently verified results using Verification Service Providers and/or program validity models to identify and remedy potential performance issues.

Participation Process

- The application process and forms are designed for user-friendly navigation and ease of use, including electronic or telephone submittal options, telephone support and on-site assistance for larger projects.
- Program rules and requirements are tailored to the market segments addressed, taking into consideration business practices and capabilities unique to each customer or customer segment.
- Technical assistance is provided to contractors through Verification Service Providers and program representatives, who help applicants through the process
- The Program works with key stakeholders, including industry associations, to maximize reach and acceptance.
- Trade allies (primarily contractors and distributors) will be trained in program policies and procedures so they may then assist customers through the process.
- Program funds are slated to cover program operations for the duration of the three-year cycle, throughout each year.

Incentive Approaches

- Incremental costs were used to benchmark and limit payments
- Incentive strategy is designed to maximize net program impacts
- Various financial incentive methods are used to maximize acceptance in each circumstance.
- Incentive levels will be periodically reviewed and adjusted based on market demand.
- Leverage of Company's On-Bill Financing program.
- Voucher program limits program payments to free riders.

d. Innovation:

Targeted market penetration levels will be achieved through a combination of effective marketing combined with a program that creates a financial benefit to the customer. In

responding to the new challenges for the 2009-11 program cycle, the Program will offer comprehensive and innovative delivery of services and the minimization of lost opportunities:

- *Vouchers for program services*: vouchers offer protection against double-dipping and customer/contractor misunderstandings, while providing direct customer rebates for participating in efficiency tune-ups. Commercial customers who participate in the Program through equipment replacement will be offered vouchers for tune-ups on units not replaced or other sites in their portfolio. Similarly, during the course of performing tune-ups, contractors will make recommendations for replacements and/or repairs, and offer to reserve funds for potential replacements. These will move customers toward more comprehensive services and reduce lost opportunities.
- *Promotional program equipment pricing coupled with rebates and financing instruments*: this delivery strategy is particularly effective in the hotel industry and for small businesses, providing innovative channels for customers to overcome the initial cost barriers of early retirement.
- *Promotional program pricing and coordinated upstream/midstream marketing*: working directly with upstream actors on joint marketing and promotion offers greater program visibility, message reinforcement, and consumer awareness.
- *Coordination with multiple entities (trade associations, utility representatives, other third-party, municipality or special district programs) to market the program through vertical distribution channels*: cross-program and inter-agency marketing will minimize lost opportunities; trade association delivery channels take advantage of industry-specific initiatives toward greener building practices and operations.
- *Partnerships and/or training requirements that move contractors toward improved quality and market transformation while reducing barriers to program participation.*
- *Partnership with ENERGY STAR and promotion of ENERGY STAR recommendations and standards may offer spillover effects on future purchase decisions.*
- *Web site*: extensive consumer information and links on the Program website direct customers toward energy efficiency improvements outside the Program's core features. Customers may contact the Program for additional information or for referrals to the appropriate program or entity.
- *Energy savings calculators*: designed for the 2006-08 Program, these calculators have been adopted by contractors for up selling premium equipment and providing consumers with a quick snapshot of their potential annual savings for retiring inefficient equipment. By providing upstream and midstream actors with simple tools for selling equipment and services, the Program harnesses the power of hundreds of market actors with established customer relationships.

e. Integrated/coordinated Demand Side Management:

Although this is a limited subset of all DSM measures, it is appropriate to the primary delivery mechanism for this Program: HVAC Contractors and Distributors. These trade partners offer access to HVAC customers and units, and generate leads for premium-efficiency equipment replacement opportunities. However, HVAC contractors are not the best emissaries of information regarding technologies and DSM opportunities outside their area of expertise. While some HVAC firms offer full-service energy efficiency contracting, this appears to be the exception rather than the rule. Most HVAC contractors do not bid on lighting projects or provide customers with assistance in replacing food service equipment, identifying and reducing plug loads, or selecting higher efficiency office equipment.

To achieve integration of all DSM measures (including non-HVAC energy efficiency measures, on-site generation and demand-response), the Program would require many additional measures and a much larger budget. Although the Program is open to discussing how non-HVAC measures can be integrated into a program driven primarily by HVAC contractors, distributors and manufacturers, the next-best alternative is to coordinate cross-program marketing through Company Account Executives and personnel. Inspections at all commercial facilities where new equipment is installed will afford the Program an additional opportunity to leave cross-program information behind, including a self-audit checklist or a checklist of recommendations that may apply to the building type or market segment. Cross-program information (as provided by Company) can include information on commercial lighting or controls programs, demand-response programs, onsite generation, utility financing programs, and information on other statewide programs such as the Standard Performance Contract or Express Efficiency.

In addition to utility-provided informational handouts and self-audit checklists or recommendation sheets, customers will be made aware of Company's On Bill Financing (OBF) Program through various program outreach mechanisms including (a) HVAC contractors whose specialty includes lighting and energy-efficiency improvements, (b) program sales representatives, especially those representatives working with the lodging industry, (c) contact information for OBF posted on the program website, and (d) customer calls and referrals (as appropriate or when asked).

Demand response and onsite generation potential can be addressed through referral forms or by offering to pass the customer's information onto Company for follow up. A cost-effective way to integrate utility follow-up from HVAC service visits or equipment replacement would be to collect data at the time of inspection or in customer service surveys on whether the customer would like additional information on demand response programs, onsite generation or energy efficiency programs. This information could then be uploaded to Company as part of the SMART measure file for appropriate follow-up. Because integration will likely be handled by the utility, the Program budget does not include any shared or leveraged budget categories or amounts.

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

2009-2011 Energy Efficiency Programs
Premium Efficiency Cooling
Program Implementation Plan

The Premium Efficiency Cooling Program does not specifically aim to integrate across resource types (energy, water, or air quality). However, to the extent that Quality Maintenance and the replacement of inefficient HVAC units affect GHG emissions, program participation affects broader air quality goals. To emphasize the inter-relations between greenhouse gasses and air conditioning efficiency, the Program plans to incorporate resources and/or links from the California Air Resources Board and other public agencies that address Zero Net Energy Homes, and GHG emission reductions associated with air conditioning and heating loads. In order to enhance integration across resource types, website links to resources for green building practices may include information on building-related water and air resource programs and practices such as standards for meeting water-conservation building ordinances, native and low-water use landscaping practices and new construction standards consistent with meeting the California Building Standards Commission benchmark for green buildings.

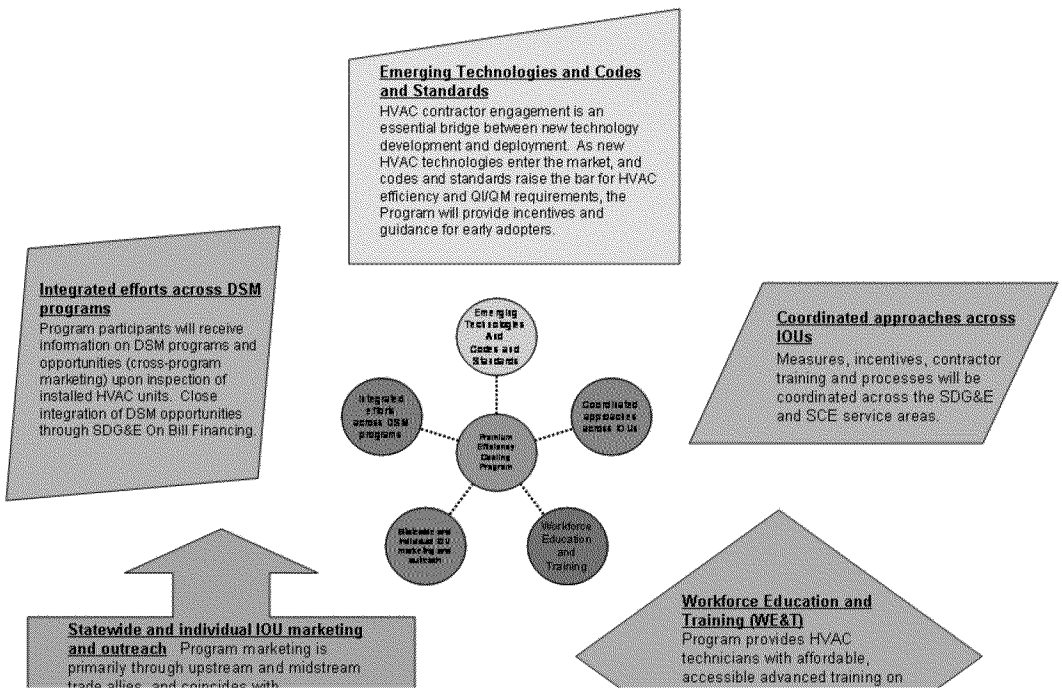
g. Pilots:

Not applicable to this program.

h. EM&V:

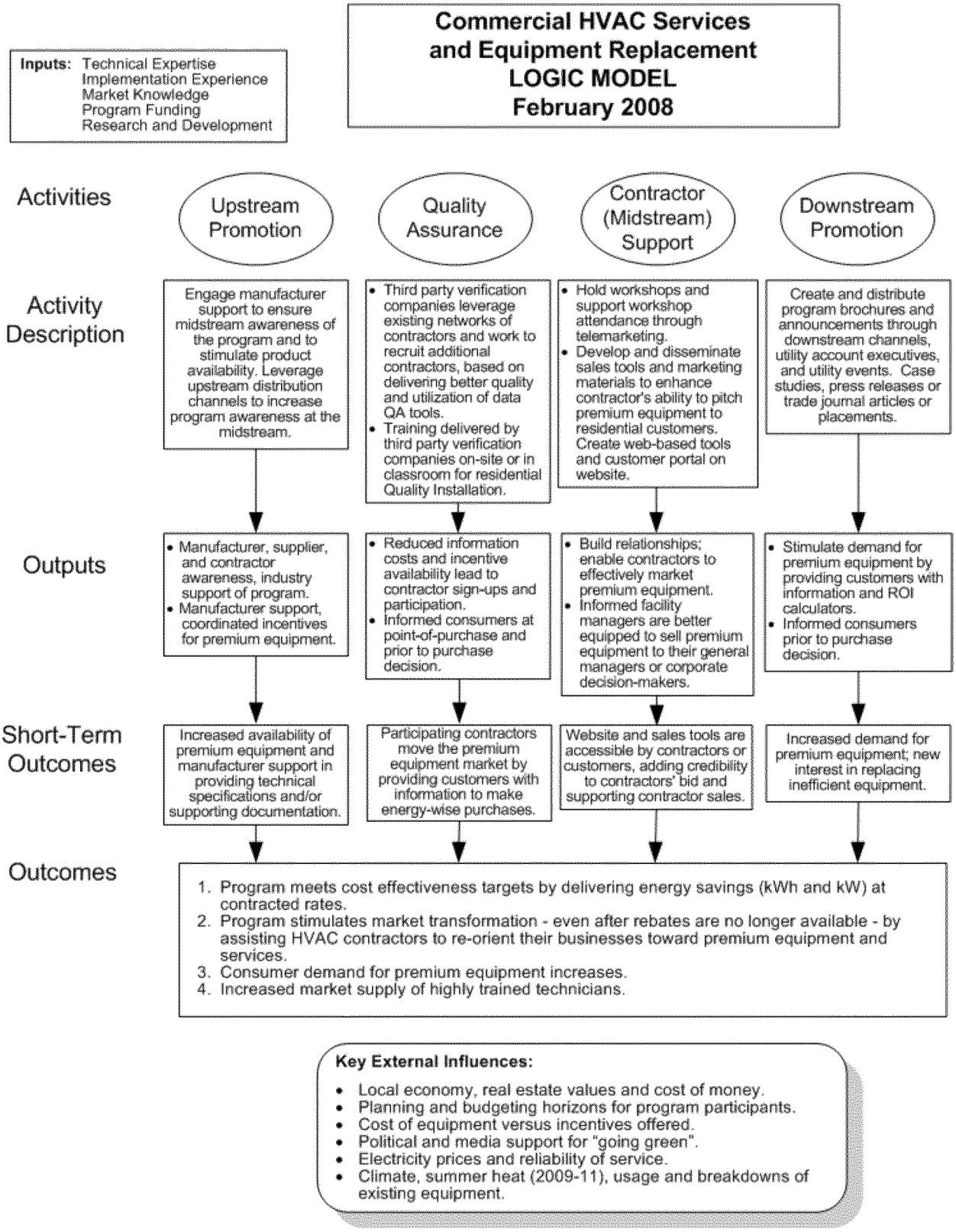
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division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



2009-2011 Energy Efficiency Programs
Premium Efficiency Cooling
Program Implementation Plan

8) Program Logic Model:



2009-2011 Energy Efficiency Programs
Premium Efficiency Cooling
Program Implementation Plan

The logic model for the Commercial HVAC sector begins with promotional activities through upstream distribution channels (manufacturers and suppliers), contractor recruiting activities (midstream), and targeted downstream marketing activities. By launching the Program through multiple streams and venues, the Program will gain momentum by enlisting the support of crucial market actors, building downstream customer awareness, and providing customers and contractors with reduced information costs. These activities are expected to eventually affect customer decisions at the point of purchase and in the pre-planning and bid-seeking stages of their investment decision. Although not identified explicitly in the program logic model, commercial equipment and services go hand in glove. Activities intended to promote premium-efficiency equipment awareness include commercial equipment tune-ups and advanced diagnostics, delivered through participating contractors. Taken together, tune-up services and above-code HVAC unit sales should produce cost-effective energy savings, stimulate market transformation over the long term consistent with the Long Term Energy Efficiency Strategic Plan, and increase consumer demand for premium equipment and Quality Installation and Maintenance services while increasing the supply of highly trained HVAC technicians.