

I O U

Core

Programs

Table of Contents

Appendix C.1: Program Implementation Plan Requirements (CLEAN COPIES)	Page #
IOU Core	
SW IOU Volume 1	
SW CALSPREE	1
SW IOU Volume 2	
SW Commercial EE Program	200
SW Industrial Programs	356
SW Agricultural Programs	431
SW IOU Volume 3	
SW Finance	510
SW Lighting Program	552
SW Emerging Technologies Programs	636
SW Codes & Standards	686
SW Workforce Education & Training	748
SW Integrated Demand Side Management	851
Partnerships Volume 4	
Local Institutional Partnerships	870
Local Government Partnerships	978
3P & Local Programs Volume 5	
Comprehensive Manufactured-Mobile Home	1073
Appliance Recycling	1086
San Diego Retrocommissioning	1102
K-12 Energy Efficiency Education	1113
Res HVAC	1120
Comprehensive Industrial Energy Efficiency	1144
Energy Efficient Water Pumping	1155
Non-Res HVAC Tune up/QI	1166
Healthcare Energy Efficiency	1194
Lodging Energy Efficiency	1205
NonRes Direct Install	1216
IDEEA365	1227
MIDI	1239
IDSMS Marketing Local	1259
IDSMS Behavioral Local	1272

2013-2014 PIP Addendum

Program Name	California Statewide Program for Commercial	Date Submitted	7/2/2012
Subprogram Name		Utility Name	San Diego Gas & Electric
Subprogram ID		IOU Program Contact	

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibility rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
3. Fund shifts (indicate advice letter approval below if required)
4. Portfolio Budget and Other Commission-Directed Changes
5. Changes to Program Theory/Logic Models
6. Addition or elimination of programs and/or sub-programs (indicate advice letter approval below)
7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Aim to reduce the complexity in IOUs' portfolios while increasing customer participation.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

The 2010-2012 Commercial Energy Efficiency Program program implementation plan (PIP) reflects the following sub-programs:

1. Nonresidential Audits Program
2. Calculated Incentives Program
3. Deemed Incentives Program
4. Continuous Energy Improvement
5. Commercial Direct Install – (program is delivered through LGP and Third Party Channels)
6. Energy Efficiency for Entertainment Centers, third party program
7. K-12 Private Schools and Colleges Audit and Retrofit Program, third party program
8. California Preschool Energy Efficiency Program (CREEP), third Party program

The new 2013-2014 Commercial Energy Efficiency Program will be simplified and consist of the following sub-programs:

1. Customer Services Program
2. Commercial Calculated Incentives Program
3. Commercial Deemed Incentives Program
4. Continuous Energy Improvement (CEI)
5. Nonresidential HVAC
6. Commercial Direct Install

PIP Section and/or Wording to be Changed or replaced:

Changes are throughout the 2013-2014 Statewide Commercial Energy Efficiency Program

Replacement Language or Information

Refer to Description of Program of 2013-2014 Statewide Commercial PIP for details on changes

Revised Energy Savings (If Any):

Refer to 2013-2014 Statewide Commercial PIP for details

Other PIP Changes Required:

Refer to 2013-2014 Statewide Commercial PIP for details of other changes

- 1) **Program Name:** Commercial Energy Efficiency Program
Program ID #:
SDG&E Program Type:

2) **Projected Program Budget Table**

Table 1¹

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	SW Commercial EE Program					
3215	SW-COM-Continuous Energy Improvement	\$125,976	\$23,000	\$1,121,034	\$0	\$1,270,010
3216	SW-COM-Customer Services-Benchmarking	\$212,718	\$71,852	\$1,292,638	\$0	\$1,577,208
3220	SW-COM-Calculated Incentives-Calculated	\$1,738,618	\$384,117	\$10,997,538	\$23,621,775	\$36,742,048
3223	SW-COM-Deemed Incentives-Commercial Rebates	\$549,122	\$213,192	\$3,572,336	\$7,501,080	\$11,835,730
3227	SW-IND-Continuous Energy Improvement	\$76,701	\$3,000	\$821,297	\$0	\$900,998
	TOTAL:	\$2,703,136	\$695,161	\$17,804,842	\$31,122,855	\$52,325,995

3) **Projected Program Gross Impacts Table**

Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	SW Commercial EE Program			
3215	SW-COM-Continuous Energy Improvement	0	0	0
3216	SW-COM-Customer Services-Benchmarking	0	0	0
3220	SW-COM-Calculated Incentives-Calculated	19,644	114,687,004	3,861,332
3223	SW-COM-Deemed Incentives-Commercial Rebates	10,068	55,444,003	607,296
3227	SW-IND-Continuous Energy Improvement	0	0	0
	TOTAL:	29,712	170,131,007	4,468,628

4) **Program Description**

a) Describe Program

The Statewide Commercial Energy Efficiency Program offers California’s commercial customers a statewide-consistent suite of products and services to overcome the market barriers to optimized energy management. The program targets integrated energy management solutions, including energy efficiency, demand response (DR), and distributed generation, through strategic energy planning support; technical support services, such as facility audits, and calculation and design assistance; and financial support through rebates, incentives, and financing options.

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.

Targeted end users include all commercial sub-segments such as distribution warehouses, office buildings, hotels, motels, restaurants, schools, trade schools, municipalities, universities, colleges, hospitals, retail facilities, entertainment centers, and smaller customers that have similar buying characteristics.

The Statewide Commercial Energy Efficiency Program includes six core statewide sub-program elements, including Energy Advisor, Commercial Calculated Incentives, Commercial Deemed Incentives, Continuous Energy Improvement, Nonresidential HVAC and Direct Install. IOU offerings also include local program elements such as third party programs, and local government partnerships that have close ties to Business Improvement Districts (BIDs). Per CPUC directives, the IOUs will strengthen their relationships with local BIDs and develop opportunities for BIDs to participate in the marketing and delivery of direct install and deemed commercial incentives. In addition to the above sub-programs, the utilities will consider one or more demonstrations of a comprehensive whole building approach (WBA) to commercial building energy efficiency. This approach may make available the tools and resources necessary for customers to pursue and integrate multiple customized measures. This approach may also include deployment of energy management and information systems in demonstration projects that can be used to quantify and analyze energy savings based on various forms of measured performance data, including interval meter data. These elements are designed to not only overcome the traditional market barriers to energy efficiency, but also attain deeper energy savings, advance demand response and distributed generation opportunities uniquely suited to the Commercial segment.

Description of the Commercial Energy Efficiency sub-programs:

- Energy Advisor Program brings together under one program all audit services offered to support customer education and participation in energy efficiency, demand response and self-generation energy reducing opportunities and benefits, along with awareness of greenhouse gas and water conservation activities. These services include Benchmarking, Online Energy Audit Tool, CEI, Nonresidential Audits, Pump Efficiency Services, Retro-commissioning (RCx) and coordination with CEI as described below.
- The Commercial Calculated Incentives Program offering provides standardized incentives for customized and integrated energy efficiency/DR projects for retrofit, and RCX projects while also providing technical and design assistance. Customized calculation method that can consider system and resource interactions, it will be the preferred approach for supporting the integrated, whole system, and multi-resource management strategies of the Strategic Plan and concurrently overcome technical and financial barriers. Calculated savings for the Savings By Design Program are achieved through the commercial new construction component.
- The Commercial Deemed Incentives Program offering provides utility representatives, equipment vendors, and customers an easy-to-use mechanism to

cost-effectively subsidize and encourage adoption of mass market efficiency measures through fixed incentive amounts per unit/measure.

- Continuous Energy Improvement (CEI) is a consultative service which targets long-term and strategic energy planning. CEI is designed to reintroduce the importance of energy management by transforming the market and to help reduce energy intensity through a comprehensive energy management approach. CEI will address technical and management opportunities for commercial customers while creating sustainable practices through a high-level energy commitment from executive and board-level management. CEI applies the principles of well-known business continuous improvement programs, such as Six Sigma and International Standards Organization (ISO) standards, to facility and plant energy management. These principles are: (1) Commitment; (2) Assessment; (3) Planning; (4) Implementation; (5) Evaluation; and (6) Modification. At each stage of customer engagement, a variety of complementary utility and non-utility products and services can be customized to fit different customer profiles and optimize the cost-effectiveness of the delivered energy management solution.
- The Nonresidential HVAC Program delivers a comprehensive set of upstream strategies that are built on education, marketing efforts and leveraged relationships within the HVAC industry geared to transform the market towards a sustainable, quality driven market.
- The Direct Install rebate offering provides small business customers that have a small peak demand the opportunity to have a third-party contractor retrofit existing systems to energy efficient systems at no cost to the customer. However, PG&E and SoCal Gas's Direct Install rebate offering is delivered through its Local Government Partnerships (LGP) and Third Party programs for small business.

When developing program metrics and targets for each sub-program element, each utility will consider market potential as available, past program participation rates, market progress, current economic conditions, work-paper and baseline updates, and customer mix and penetration. Statewide coordination and planning will facilitate inter-utility sharing of successes, lessons learned, and best practices in the pursuit of those targets and metrics.

Statewide coordination and planning between utility program planning staff, utility functional departments, government agencies, municipalities and other key partners and stakeholders will also be critical to the advancement of the Strategic Plan. Leveraging national and state initiatives, tools and resources to manage energy and resources – including greenhouse gasses (GHG), air quality, and water – is a critical path to optimizing the potential for California's commercial customer segments to thrive. The Statewide Commercial Energy Efficiency Program design includes the staged integration and coordination with existing non-utility programs, initiatives, and existing regulations today. This design is aimed to drive or support advancements in integrated resource planning, energy management certification, industry benchmarking, workforce education and training, and sharing of industry best practices.

The commercial customer markets are uniquely suited to integrated energy strategies. Load management opportunities and demand response have had great success and show additional potential. Opportunities for distributed generation from biogas, biomass, solar, fuel cells, and wind will be supported through this plan in support of state renewable energy targets, state GHG reduction efforts under AB32, and support of emerging carbon markets and offset programs. Utilities are also using integrated energy strategies to test DSM as a means to address T&D constraints in local areas. Consistent with California's preferred loading order, however, the utilities will continue to aggressively market and support energy efficiency first, as California's most cost-effective energy resource, while also being mindful of the customer's ultimate interests and goals.

b) List of Measures

Technologies addressed through this program effort are varied, and include, but are not limited to, lighting, HVAC, refrigeration, food service equipment, boilers, vertical transportation, motors, and plug load controls.

c) List Non-incentive Customer Services

The Statewide Commercial Energy Efficiency Program will include a wide variety of non-incentive program services intended to support customer strategic planning, educate and train customers and the workforce about energy efficiency, and provide customized technical and project support. The service list includes:

Energy Advisor Program

- Hands on workshops
- Technical support assistance
- Automated Benchmarking services
- Nonresidential Audits

Continuous Energy Improvement (CEI)

- Energy management assessments
- Energy planning
- Baselineing and benchmarking
- Project implementation support
- Customer recognition

Customer Education and Training

- DOE Basic, Intermediate, and Specialist Training – refrigeration systems, HVAC, motors, compressed air, and steam.
- Other commercial process systems training
- Commercial lighting efficiency seminars

- Regulatory compliance and energy efficiency convergence, for example,, NOX and boilers
- Integrated industry-focused workshops, e.g., restaurants, lodging, retail, hospitals, and commercial facilities

Workforce Education and Training

- DOE Basic, Intermediate and Specialist Training in support of ANSI Certification, per the Strategic Plan.
- Title 24 Training,
- Commercial refrigeration best practices (for designers), in support of the Strategic Plan focus on refrigeration
- HVAC best practices for data centers, laboratories, and other specialized use facilities.
- California Advanced Lighting Controls Training Program (CALCTP)

New Construction – Savings By Design

- Integrated Building Design Assistance
- Whole Building, Individual Systems, and Simplified Approaches
- Integrated design training for architects, engineers and owners
- Partnerships and collaboration with industry groups like the California Council of American Institute of Architects, California Energy Commission, among others
- Zero Net Energy Design Services, like consultation services, student design competitions, research activities, 2010-2012 pilot success adoptions
- Energy Design Resources and Savings By Design – internet portals
- Software tools and expertise
- Nonresidential HVAC
- Education of the market on the value of selecting high-efficiency systems
- Reports for customers of estimated energy savings, cost savings and carbon reductions for their HVAC systems treated under the program
- Training for contractors on HVAC industry standards, sales, and marking of the value of those standard, and their implementation in the field
- Education for customers on how

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Indicators

Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as “Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific

market.”² The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that new programs are needed to support the continuous transformation of markets around successive generations of new technologies³.

Market transformation programs differ from resource acquisition programs on 1) objectives, 2) geographical and 3) temporal dimensions, 4) baselines, 5) performance metrics, 6) program delivery mechanisms, 7) target populations, 8) attribution of causal relationships, and 9) market structures⁴. Markets are social institutions⁵, and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains⁶ as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market transformation progress⁷. According to York⁸, “Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are three ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy.”

The question of what constitutes successful transformation is controversial because of a Catch-22: Market transformation is deemed successful when the changed market is self-sustaining, but that determination cannot be made until after program interventions are ended. Often, however, the need for immediate energy and demand savings or immediate carbon-emissions reductions will mean that program interventions may need to continue, which would interfere with the evaluation of whether MT is self-sustaining. Market transformation success has also been defined in terms of higher sales of efficient measures than would have otherwise occurred against a baseline absent of program interventions. The real world, however, provides no such control condition. Evaluators must estimate these baselines from quantitative factors such as past market sales that may be sparse and/or inaccurate - particularly for new products. Evaluations must also defer to expert judgments on what these baselines may have been as well as on the degree of successful market transformation⁹. Due to the subjective nature of these judgments, it is

² California Public Utilities Commission Decision, D.98-04-063, Appendix A.

³ California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan*, p. 5. Available at <http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf>

⁴ Pelozo, J., and York, D. (1999). “Market Transformation: A Guide for Program Developers.” Energy Center of Wisconsin. Available at: <http://www.ecw.org/ecwresults/189-1.pdf>

⁵ Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) “From technology transfer to market transformation”. Proceedings of the European Council for an Energy Efficient Economy Summer Study. Available at http://www.ecee.org/conference_proceedings/ecee/2001/Panel_2/p2_7/Paper/

⁶ Sebald, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

⁷ Gibbs, M., and Townsend, J. (2000). The Role of Rebates in Market Transformation: Friend or Foe. In *Proceedings from 2000 Summer Study on Energy Efficiency in Buildings*.

⁸ York, D., (1999). “A Discussion and Critique of Market Transformation”, Energy Center of Wisconsin. Available at <http://www.ecw.org/ecwresults/186-1.pdf>.

⁹ Nadel, S., Thorne, J., Sachs, H., Prindle, B., and Elliot, R.N. (2003). “Market Transformation: Substantial Progress from a Decade of Work.” American Council for an Energy-Efficient Economy, Report Number A036. Available at: <http://www.aceee.org/pubs/a036full.pdf>

imperative that baselines as well as milestone MT targets be determined and agreed upon through collaborative discussion by all stakeholders, and these targets may need periodic revision as deemed necessary by changing context.

Market transformation draws heavily upon diffusion of innovation theory¹⁰, with the state of a market usually 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 decades¹¹. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects¹². The ability to make causal connections between these market transformation effects and any particular program's activities fades with time, as markets continually change and other influences come into play.

These challenges mentioned above are in reference to programs that were specifically designed to achieve market transformation; and these challenges are only compounded for programs that were primarily designed to achieve energy and demand savings. However, since the inception of market transformation programs almost two decades ago, many lessons have been learned about what the characteristics of successful MT programs are. First and foremost, they need to be designed specifically to address market transformation. "The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given to program designers.)"¹³ The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts¹⁴, but also reflects the CPUC's directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful MT programs have involved multiple organizations, providing overlapping market interventions¹⁵. The Strategic Plan calls for coordination and collaboration throughout, and in that spirit the utilities look forward to working with the CPUC and all stakeholders to help achieve market transformation while meeting all the immediate energy, demand, and environmental needs. Drawing upon lessons learned from past MT efforts, the Energy Center of Wisconsin's guide for MT program developers¹⁶ suggests that the first step is not to set end-point definitions, progress metrics or goals. Rather, the first steps include forming a collaborative of key participants. As the Strategic Plan suggests, these may include municipal utilities, local governments, industry and business leaders, and consumers. Then, with the collective expertise of the collaborative, we can define

¹⁰ Rogers (1995) *Diffusion of Innovations*, 5th Ed.

¹¹ Example in bottom chart of this graphic from the New York Times:
<http://www.nytimes.com/imagepages/2008/02/10/opinion/10op.graphic.ready.html>

¹² Sebold et al (2001) p. 6-5,

¹³ Peters, J.S., Mast, B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume 1.* Available at <http://calmac.org/publications/19981215CAD0001ME.PDF>.

¹⁴ CPUC (2008) Strategic Plan, p. 5.

¹⁵ Nadel, Thorne, Saches, Prindle & Elliot (2003).

¹⁶ Pelosa & York, (1999).

markets, characterize markets, measure baselines with better access to historical data, and define objectives, design strategies and tactics, implement and then evaluate programs. The collaborative will also provide insights that will set our collective expectations for the size of market effects we can expect, relative to the amount of resources we can devote to MT. No one organization in the collaborative will have all the requisite information and expertise for this huge effort. This truly needs to be a collaborative approach from the start.

Attitudinal change is an important part of any market transformation effort. This change may be tracked with a battery of questions that probes customer attitudes, knowledge and awareness (AKA) of energy efficiency. In order to gauge an attitudinal based metric for this sector a battery of questions probing AKA among customers would have to be created and used to scale AKA. Examples of AKA would include knowledge of energy efficiency lighting and other specific measures. Evaluators could also draw from customer surveys used in past program evaluation studies to determine whether any response patterns would be a useful indicator of market transformation, moving forward. The dimensions of any scale would need to be selected by the MT collaborative. The baseline response pattern to the AKA scale would need to be established early during the program cycle. Customers could be surveyed on an annual basis and changes in their AKA tracked along the scale. Responses of customers for a particular sub-program could be pulled out for separate analysis, as needed. In addition, the suggested metrics also include a behavioral metric.

In addition, behavioral change is an important part of any market transformation effort. This change may be tracked with a battery of questions that probes customer past behavior and intentions about energy efficiency. In order to gauge a behavioral based metric for this sector a battery of questions about energy efficient behaviors could be used to create a scale of Energy Behavior. Evaluators could also draw questions about specific behaviors from customer surveys used in past program evaluation studies to determine whether any response patterns would be a useful indicator of market transformation, moving forward. The dimensions of any scale would need to be selected by the MT collaborative. The behaviors that could be probed include maintenance behaviors to keep EE measures operating correctly, and behaviors that maximize energy efficiency of existing equipment. Customers could be surveyed early in the program cycle and their responses on the scale could serve as the baseline for subsequent behavioral change. Customers could be probed annually and their Energy Behavior change measured along the scale. Responses of customers for a particular sub-program could be pulled out for separate analysis, as needed.

Program Performance Metrics (PPMs)

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. The Commission gave each PPM a metric type which indicated the reporting frequency:

Metric type 2a indicates that the IOUs should report on the metric on an annual basis (unless indicated otherwise). Metric type 2b indicates the IOUs should report on the metric at the end of the program cycle.

Below are the approved PPMs and metric types for the Commercial Energy Efficiency Program (Resolution E-4385, Appendix A, pp 32-33):

Table 3

SW PROGRAM / Sub-Program	PROGRAM PERFORMANCE METRIC (PPM)	Metric Type
COMMERCIAL / INDUSTRIAL / AGRICULTURAL COMBINED * Data to be reported in disaggregate form by SW program (commercial, industrial, and agricultural)		
	*1. Number and percent (relative to all eligible customers) of commercial, industrial and agricultural customers participating in sub-programs (NRA, Deemed, Calculated, and CEI) by NAICS code, by size (+/- 200 kW per yr or +/- 50K therms per yr), and by Hard to Reach (HTR)** ** "HTR" is as defined in the EE Policy Manual	2a
<i>Continuous Energy Improvement (CEI)</i>	*1. Number and percent of commercial, industrial, and agricultural CEI participants that meet short-term (2010-2012) milestones as identified by their long term energy plans.	2a
	*2. Lessons learned, best practices, and plan to ramp up the CEI program are developed. (Y/N) Comment: IOUs confirmed with ED that this is a 2b metric	2b
	*3. Number and percent of commercial, industrial and agricultural customers that created an energy plan via CEI will be tracked by program.	2a
<i>Non-Residential Audit Program (NRA)</i>	*1. Number and percent of commercial, industrial, and agricultural customers receiving non-residential audits by NAICS and SIC code.	2b
	*2. For commercial, industrial, and agricultural customers who received audits, the number and percent of adopted audit-recommended technologies, processes and practices, (Report disaggregated data by type of audit - Basic, Integrated, and Retro-commissioning audit).** **Data sources for reporting will come from (a) program tracking databases and (b) process evaluation to refine estimates.	2b
<i>Deemed Incentives</i>	*1. Number and percent of new, improved, or ETP measures** installed in the commercial, industrial and agricultural programs. ** "ETP measure" defined as ET measures first introduced into the EE portfolio since January 1, 2006	2a
<i>Calculated Incentives</i>	*1. Number and percent of new, improved, or ETP measures installed in completed calculated projects.	2a
	*2. Number, percent, and ex-ante savings from commercial, industrial and agricultural sector of projects with ETP measures** included. (Report disaggregated savings by measure and number of installations by measure.) ** "ETP measure" defined as ET measures first introduced into the EE portfolio since January 1, 2006	2b

COMMERCIAL	
1. Number and percent of Direct Install participants that participate in other resource programs or OBF.	2a
2. Number of and percent of participants that are hard to reach (HTR).** ** "HTR" is as defined in the EE Policy Manual	2a

b) Market Transformation Indicators (MTIs)

As stated above, 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.

As a consequence, it is not appropriate to offer more than broad and general projections. Any targets provided in the following table are nothing more than best guesstimates, and are subject to the effects of many factors and market forces outside the control of program implementers.

Per Resolution E-4385 a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per the Assigned Commissioner's Ruling dated , following are the MTIs approved for the Commercial Energy Advisor and Deemed Incentives sub-programs. (need text approved after an ACR is issued)

ED Identifier	2010-2012 Subprogram	2013-2014 Subprogram	Market Transformation Indicator Presented by Energy Division at November 7, 2011 Public Workshop
CIA-2	CEI	Customer Service	Number and percent of targeted large Non Res Customers who developed a long-term energy plan. (Track by sector Industrial, Ag, Commercial)
CIA-10	Deemed	Deemed	Number of energy efficiency measures sunsetted in IOU CIA programs and new measures introduced since year [2011].

c) Program Design to Overcome Barriers

The 2013-2014 Statewide Commercial Energy Efficiency Program builds on past program successes and best practices to overcome both common and unique barriers to efficiency in the segment.

Among commercial customers, there are many market barriers to energy efficiency offerings:

- Commercial customers are a highly diverse and geographically disperse customer class, which requires utilities to develop a large number of differentiated incentive offerings for a variety of distribution channels.

- There is a general lack of awareness of the benefits of energy efficiency, and uncertainty and skepticism over long-term energy and cost savings.
- Energy efficiency improvements are not perceived to add value and marketability of properties.
- Efficient design alternatives can be lost in low-cost bidding scenarios.
- Small business customers are less likely to install EE technologies than larger customers due to lack of time, resources, financial sophistication and familiarity with energy efficiency, among other reasons.
- Building owners, especially landlord owners¹⁷, tend to focus on minimizing capital costs associated with new construction, building renovation, tenant improvements and building retrofits.
- For multi-tenant buildings, property owners often have little incentive to pursue energy efficiency measures due to ubiquitous “triple net” leasing terms that pass through utility costs to tenants, while tenants may be deterred either by short lease terms relative to project payback or by contractual restrictions regarding leased space improvements.
- Institutional owners are often constrained by rigid boundaries separating capital development and operating budgets and are limited by lowest-bid regulations for capital projects.
- Some activities such as Healthcare and Biotech also face strong regulatory challenges with being integrated in energy efficiency offerings (for example: the Office of Statewide Health Planning and Development (OSHPD) and California Division of Occupational Safety and Health (CAL-OSHA)).
- In some activities like High-Tech and Hospitality, international competition drives short-term survival attitudes versus a long-term continuous improvement approach. In addition franchises have additional barriers to overcome such as Franchise owner approval.
- Whole system opportunities are missed by individual equipment vendors, many of which are only specific equipment types or building systems.
- Customers are often not aware of efficiency degradation or failure in building systems or equipment.
- Customers may be reluctant to invest in new energy savings technologies over concerns regarding product quality, reliability or obsolescence.
- Performance issues resulting from improper equipment installation, maintenance and poor owner/operator education create customer dissatisfaction with energy efficiency measures.

By uniquely approaching constituent vertical market sub segments, this Commercial Energy Efficiency Program will better serve commercial customers while gaining

¹⁷ For properties where the landlord owns the equipment and the lessee pays the bills, there is currently minimal incentive for the customer or the landlord to invest in EE

efficiency and consistency in the delivery of the programs. This targeted and focused approach will mitigate the indicated EE adoption barriers as follows:

- Program applications and processes will be simplified and made more consistent. There will be a central core incentive/rebate offering, with service-specific riders added as needed. This will enable customers to better understand the program delivery process. Program verification processes will also be made more consistent so that the customer is touched fewer times for multiple offerings.
- When appropriate, IOUs will deliver information to customers in a way that bundles relevant EE, DR and other DSM programs and services. For example, the IOUs will develop print and electronic Case Studies that feature customers who have implemented integrated solutions in order to address their energy management needs. A package of program bundles will be made available so that typical offerings for a sub segment will be grouped together. This will minimize lost opportunities as a more comprehensive program and service offering will be readily available for customers.
- Marketing outreach efforts will be more focused on customer sub-segments rather than programs, which should lead to improved customer adoption for all programs. Utilities will continue to foster strategic partnerships with industry associations such as Building Owners and Managers Association (BOMA), Department of General Services (DGS), Green Building Council, Air-Conditioning, Heating, and Refrigeration Institute (AHRI), American Society of Heating, Refrigerating, and Air-conditioning Engineers (ASHRAE), Manufacturers Trade Associations, and specific sub-segment professional association as California Hospital Association (CHA), California Society for Healthcare Engineering (CSHE), International Society for Pharmaceutical Engineering (ISPE), to engage in a multi-faceted approach to marketing energy efficiency practices and programs to targeted users.
- Program bundling will be configured so that customers will have greater flexibility in how they enroll; however, the program bundles will be packaged so that customers will be encouraged to take a more comprehensive approach to EE.
- The utilities will consider one or more demonstrations of a comprehensive whole building approach (WBA) to commercial building energy efficiency. This approach may make available the tools and resources necessary for customer to pursue and integrate multiple customized measures. This approach may also include the deployment of energy management and information systems in demonstration projects that can be used to quantify and analyze energy savings based on various forms of performance data, including interval meter data.
- Multi-tenant buildings have a unique and significant barrier. Most typically referred to as the principal-agent or tenant-landlord split incentive, this issue is characterized by the natural separation of tenant energy efficiency savings and capital expenditures by building owners. The commercial program will incorporate market research and/or market tests to better understand potential programmatic offerings that can help reduce the barrier. Some examples of strategies that might warrant testing include combinations of education and

creative tenant/landlord incentives or credits for centralized systems or building shell upgrades, incentives for sub-metering, and plug load control technologies.

- Because program offerings will be bundled, especially through the Continuous Energy Improvement Program, the program eligibility requirements will be made more consistent, leading to fewer areas where customers are not served.
- For public sector customers, existing federal and state programs and mandates will be leveraged.
- Utilities will expand the Statewide EE Finance Program, which offers unique benefits to government departments by allowing them to retain rebates and cost savings from EE projects without having to upstream these financial benefits to the General Fund.
- The Statewide Finance PIP includes plans to explore and develop additional finance tools to facilitate the adoption of integrated projects.
- Coordination with other parties will be enhanced so that related programs (e.g., water conservation, reduction in greenhouse gas (GHG emissions, LEED™) are clearly and concisely communicated to customers, which should improve participation in all offerings.
- During the 2013-2014 period, as part of AB 1103 requirements, utility data to be used for benchmarking buildings will be provided by the IOUs to the EPA for facility owners' use. The existing energy benchmarking offering will give customers the information required to understand how their buildings perform and how the improvements they make can be tracked.
- To overcome barriers to advanced lighting control adoption, consideration will be given for systems installed by the California Advanced Lighting Controls Training Program (CALCTP) certified contractors. The CALCTP is a team made up of the IOUs, POUs, contractor and labor organizations, community colleges and other interested stakeholders. The goal is to promote the proper design, installation and commissioning of advanced lighting controls through training and certification of contractors.

d) Quantitative Program Targets

Table 5 - Program targets are provided at the sub-program level.

e) Advancing Strategic Plan goals and objectives

Many activities under the Commercial Statewide Portfolio advance the goals, strategies, and objectives of the California Long Term Energy Efficiency Strategic Plan (Strategic Plan). Details on these actions are provided in the tables found in the Commercial sub-program descriptions. The examples below highlight some of the Portfolio strategies that align with the Strategic Plan:

- **Integration:** To encourage greater use of IDSM, IOUs will

- Offer customers solutions that integrate site-specific and optimized packages of comprehensive energy efficiency, demand response, solar and combined heat and power and thermal storage opportunities.
 - Develop an active cooperation network among the different stakeholders, such as corporate and local managers, OSHPD, engineering firms, service companies, architects, and vendors.
 - Create customized long-term plans with large corporations connecting corporate and local levels integrating energy efficiency, DR, self-generation and renewables.
 - Implement integrated local integrated marketing campaigns that leverage multiple tactics and multiple communications to present customers with a holistic view of EE and other DSM programs and service offerings.
- **New energy efficiency delivery methods:** To take advantage of the significant opportunities offered by information, behavior-change strategies and training as delivery channels for increasing energy efficiency, utilities will:
 - Drive expanded involvement of the California Commissioning Collaborative in developing statewide measurement and verification protocols and professional training and accreditation programs for the retro-commissioning industry
 - Champion adoption of stringent codes and standards within the industry.
 - Publish baselines, best practices and calculation tools to facilitate the dissemination of information and to help customers select and evaluate energy efficient solutions.
- **Financing and Funds Leveraging:** To overcome cost barriers to energy efficiency, the IOUs will:
 - Create customer awareness and educate customers about standardized statewide EE financing and develop additional finance strategies for the commercial section.
 - Continue incentives for on-peak demand reduction related to retrofits and retro-commissioning.
 - Partner with integrators like Siemens, Trane to aggregate energy efficiency with other building improvements, such as security, safety, waste management, and IT.
 - Analyze the green vision of the corporations to align energy plans towards their objectives
- **Advanced Adoption of New Products:** IOUs will create demand for advanced, energy-saving products—such as lighting and HVAC—by expanding incentives to include both financial incentives and technical assistance while partnering closely with Emerging Technologies to bring new technologies through development to the market, and strengthening relationships with vendors.

- **Workforce Development:** To expand their role in creating and meeting the demand for a robust energy efficiency workforce, the IOUs will:
 - Support the development of new and innovative programs to influence commercial trade schools to teach about the financial incentives, tools, protocols, partnerships, expert analysis, and implementation support services that promote commercial building energy efficiency and optimum load management.
 - Engage various industry and energy-wise stakeholders to expand their current intellectual knowledge and coordinate education/training opportunities through the WE&T program, outreach through ME&O, and coordination with research and technology.
 - Expand the CALCTP initiative to create additional opportunities for lighting contractors to become certified in the proper installation of advanced lighting control systems.
- **ZNE Commercial Buildings:** To help make ZNE a reality in the commercial sector, utilities will:
 - Integrate successful ZNE strategies and activities proven through program and/or pilot projects during the 2010-2012 program cycle. The commercial program, particularly Savings By Design, will absorb and enhance existing programmatic elements aimed at delivering ZNE best practices to the market place, potentially including but not limited to:
 - Project consultations that pair projects with experts capable of driving unique designs to ZNE;
 - Provide education opportunities to key architectural, engineering, and other design professionals (see WE&T plans);
 - Continue successful design competition elements aimed at ZNE design in the student and professional communities; and
 - Explore cost effective ZNE solutions that consider the intersection of building and community energy use
 - Facilitate benchmarking and constant improvement by supporting the initiative recently launched by the DOE and Lawrence Berkeley Laboratory.
 - Explore joining or continue a leadership position in the national Office of the Future Consortium (“Consortium”) which was established to help shape and inform the research and product development of individual component products that have the ability to communicate with each other, are interoperable, and that create a system that will meet defined performance standards for a described office space type. The recent publication of the 25% Solution is intended to identify significant reductions in energy used by lighting, plug loads and HVAC systems using a comprehensive “Systems” approach that also improves lighting quality and air conditioning/heating performance. The efforts of the Consortium will be fully integrated into the

Commercial Calculated and Deemed incentive programs to create a delivery mechanism that supports the path to ZNE buildings.

6) Program Implementation

a) Statewide IOU Coordination

i. Program name

Statewide Commercial Energy Efficiency Program

ii. Program Delivery Mechanisms

The Statewide Commercial Energy Efficiency Program will coordinate on a statewide level to ensure the program is continuously updated and enhanced throughout the 2013-2014 program cycle. In addition, the six Commercial sub-programs will be coordinated on a statewide level to align by program name, program delivery mechanisms, incentive levels, marketing and outreach plans, and IOU program interactions. (For a detailed description of each of these program aspects and how they will be coordinated statewide, please refer to the Commercial sub-program descriptions). The two coordination systems (one for the broad programmatic level and one designed for the sub-program level) will interact with and support one another. The broad, high-level coordination effort will be described below, focusing on how the IOUs will work together to effect the continuous improvement of the Statewide Commercial Energy Efficiency Program.

The Statewide IOU coordinated effort for the Statewide Commercial Energy Efficiency Program will be as follows:

- Designate an IOU Program “Lead” – The coordination process will begin with each IOU designating a Statewide Commercial Energy Efficiency Program “lead.” The IOU lead will represent one Commercial sub-program, investigating new innovations, special accomplishments, and challenges experienced by sub-program managers in all IOUs. Where such innovations or challenges show potential for impacting the Statewide Commercial Energy Efficiency Program across multiple sub-programs or the statewide program as a whole, the IOU lead will present such information to a quarterly Steering Committee meeting.
- Hold Periodic Steering Committee Meetings – The Commercial Steering Committee will be comprised of all designated IOU leads (including at least one lead for each of the six sub-programs), and possibly other contributing stakeholders identified by the IOUs. At the Steering Committee meetings, individual innovations, challenges, and accomplishments experienced in one IOU or by one sub-program will be transmitted to all IOUs. The Steering Committee will evaluate these individual IOU and sub-program experiences, hear ideas for course corrections and overcoming challenges, replicate successful innovations for consistency statewide, resolve differences in implementation to stay unified, and

measure the Commercial Energy Efficiency Program’s progress against statewide metrics and goals.

- Adopt Program Enhancements – Once the Steering Committee agrees that a particular implementation policy or innovation has merit on a statewide level, each IOU lead will distribute the information to their sub-program managers for adoption and integration. Therefore, the IOU lead will act as a conduit, feeding sub-program information up to the statewide Steering Committee and distributing measures for adoption back to the sub-program managers. This feedback loop will assure consistency and unity in programmatic improvements across the IOUs. In some cases, it may be necessary to invite the sub-program managers to the Steering Committee meeting to get their feedback and ensure they receive the same message.
- Evaluate Program Enhancements Against Statewide Targets – To complete the adaptive management loop, the Steering Committee will track the program’s accomplishment of statewide targets and goals to ensure that adopted program enhancements are generating their intended results. The Steering Committee will determine whether further course corrections are needed, and if so, rely on the above coordination process to generate the improvements necessary to stay on track.

The high-level focus of this statewide coordination effort will enable the capture of new innovations and opportunities for program improvement, correct program weaknesses that reveal themselves during implementation, and ensure achievement of statewide targets across IOU service territories. Therefore, statewide focus on program unity and continuous program improvement over the course of the two year ‘transition period’ will be assured.

iii. Incentive Levels

Incentives for commercial customers will be provided through both prescriptive and customized approaches. Refer to the Commercial Deemed and Calculated Incentive sub-program descriptions for information regarding specific incentive levels.

iv. Marketing outreach plans

Local commercial marketing strategy will focus on helping customers understand the relevance of EE programs and services and enabling customers to take actions that are appropriate to their needs -- including one-time measures such as rebates as well as deeper retrofits. This local EE marketing strategy will be coordinated through a variety of channels and tactics, with the intent of reaching customers at the right place and at the right time to drive increased participation and ongoing engagement.

The IOUs will continue to develop an in-depth segmentation of the commercial market. The results of this customer segmentation will support the development of targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers based on their needs. Such delivery channels will likely include increased customer outreach through trade and community-based associations, third parties,

government partnerships and core IOU programs. More specific marketing information is provided in each of the commercial sub-program plans. Local outreach to SMB customers will also leverage a new Statewide ME&O campaign that will focus on creating awareness and educating customers about energy management and integrated DSM.

- v. IOU program interactions with the California Energy Commission (CEC), Air Resources Board (ARB), Air Quality Management Districts, local government programs, other government programs as applicable

The Commercial Energy Efficiency Program will scan the programs offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to share program information and marketing collateral with commercial customers. Conventionally, each government agency and utility has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. Refer to the Commercial sub-program descriptions for more specific information on linkages with other government programs.

- vi. Similar IOU and POU programs

Several of the initiatives described herein (i.e., California Advanced Lighting Controls Training Program and Office of the Future Consortium) are joint efforts with the other California IOUs and POUs, as well as other domestic and international utilities. In addition to these joint efforts, local third-party programs that address niche opportunities within the commercial market segmented will be implemented in each of the IOUs service territory. These various efforts will be coordinated to ensure a consistent approach in terms of program message, delivery and measure incentives (as appropriate).

b) Program delivery and coordination

- i. Emerging Technologies program

The long-term energy efficiency vision of California can only be attained through the continuous development, verification, and acceptance of new technologies into the market. The achievement of long-term goals requires new technology as well as information, training and market development to maximize the EE benefits of cutting edge technologies. In recognition of the importance of emerging technologies, the program will consider higher initial incentives for emerging technologies being newly introduced to the market place. Once the new products have taken hold in the market, the incentives will be adjusted to reflect market conditions. The Commercial Energy Efficiency Program is currently working to support a diverse list of emerging technologies including advanced building system controls and LED lighting technologies.

- ii. Codes and Standards

The commercial offering relies on the Codes and Standards program to help maintain an updated and relevant list of measures that will support savings. As codes and

standards impact measures, the program will act to align itself with appropriate offerings. It is important to manage the measure life cycle to take full advantage of providing incentives before moving them into code. The program coordinate with the Codes and Standards Planning & Coordination sub-program. Planned enhancements to Title 20 and 24 will be reflected in incentive levels and eligible measures and services. As the market moves toward “low energy” or “zero net energy” buildings, specific changes to each element of the bundling will be made to ensure the latest cost effective technologies/services (e.g., LEDs) made available as these technologies transition from 1) R&D to 2) Emerging technologies to 3) Incubation to 4) Mainstream.

iii. WE&T Efforts

WE&T efforts support the education and training of a robust network of industry trade allies, vendors, engineers, design teams and others who can support the market transformation strategies of the Strategic Plan. For the Commercial Energy Efficiency Program, WE&T efforts will focus in the near term on supporting national ANSI Energy Management Certification and the ISO 50001 Energy Management System development efforts, as outlined in the Strategic Plan. Programs will closely coordinate with key stakeholders to ensure that California is poised to adopt this national standard and be a leader in this effort. Specifically, prerequisite trainings will be offered in DOE systems trainings to lay the groundwork for certification level trainings.

The education and training takes place through energy centers, technology test centers, and education and training program offerings.

iv. Program-specific marketing and outreach efforts:

Integrated and program-specific marketing efforts will complement and work in coordination with statewide ME&O to increase awareness, provide education, and drive ongoing engagement and participation in DSM programs and services among nonresidential customers. When appropriate, individual programs will be targeted to customers or industries based on segmentation data and strategy, however, such individual program-specific efforts will be part of a larger integrated approach to customer outreach to Commercial customers.

The integrated Statewide ME&O effort will focus on creating awareness and educating SMB customers about energy management and the local campaign will focus on the ways that customers can engage and take action to participate in EE as well as other integrated DSM offerings.

To address the diverse commercial customers segments, utilities will continue to foster strategic partnerships with trade association and industry groups to engage in a multi-faceted approach to marketing energy efficiency practices and programs to targeted users. Specific efforts will include:

- Attending trade association meetings and providing information in monthly newsletters.

- Close partnerships with key industry associations, and participation in their annual conferences, with an effort to develop conference speaking engagements.
- Targeted integrated education and training to specific market sectors to support peer-to-peer interactions and industry advancement.
- Ads and articles, with program information and case studies, in trade magazines.
- Online content and integration of marketing materials and campaigns with online tools such as audits and other energy demand and usage.
- Targeted customer efforts through assigned account representatives, technical solutions engineers and program engineers, third parties, and government partnerships.
- Telephone and web-based customer support and outreach.
- Market sector specific collateral that drives customers to account representatives and websites for additional support.

v. Non-energy activities of program

Integrated Energy Audits (described in the Energy Advisor sub-program) and Continuous Energy Improvement are the primary vehicles to promote project solutions that look across the various IOU DSM program offerings, as well as complementary options available through other entities (e.g., water agencies).

vi. Non-IOU Programs

In addition to the interactions with local, state and national programs, there are a variety of programs that will be coordinated with and leveraged in support of the Program objectives. These include:

- Connecting customers with the CA Climate Action Registry
- AB32 support through CO2 tracking in program resources
- Regulatory program coordination, including EPA air quality standards, water quality standards, and new refrigerant regulations
- Non-utility financing resources, including from water utilities, industry and private banking, state and federal incentives, funds, grants, and loan products to support energy and other resource management objectives
- Water/Energy efforts within California
- ANSI standard (see CEI section)
- ISO international energy management standards (see CEI section)

The Program will continue to engage with Air Quality Management Districts, CEC, CARB, DOE, water agencies, and other government agencies responsible for regulating the various aspects and operations of customer facilities participating in the programs, as appropriate and feasible.

i. CEC work with Environmental Protection Indicators for California (EPIC)

As of June 2012, PIER no longer exists. However, the program will interact with the Emerging Technologies Program (ETP) to leverage new technologies to increase the list of measures available for energy efficiency projects. The portfolio staff actively works to incorporate promising emerging technologies and projects in coordination with the applied research of EPIC.

The program will also coordinate with the CEC on the BEARS tool development and launch.

ii. CEC work on codes and standards

As indicated in Section 6.b.ii, planned enhancements to Title 20 and 24 will be reflected in incentive levels and in eligible measures and services.

iii. Non-utility market initiatives

The Commercial Energy Efficiency Program will coordinate with applicable market initiatives to leverage market momentum and areas of mutual advantage. The Program will leverage the following efforts:

- California Green Building Initiative
- LEED
- Zero-net energy
- DOE
- AB1103
- AB758

c) Best Practices

As described in prior sections, the Commercial Energy Efficiency Program reflects the best of each utility program's successful components of statewide Commercial Energy Efficiency Program offerings, and introduces new elements from other utilities and national efforts as well. Best practices include:

- Benchmarking as an appropriate first step for customers to assess their energy baseline.
- Development of a prioritization process, leveraging the CEI sub program, that works to identify the most significant upgrade potential based on building and ownership characteristics. This process will help guide customers to a building integrated approach leveraging all of the available utility programs for a customer

segment rather than only pursuing the “low hanging fruit”. The utilities will continuously educate the various delivery channels on the importance of the building integrated approach and how to increase customer participation at a whole building level.

- **Technical Assistance:** The IOUs recognize the need for a personalized, full service approach when providing technical assistance to customers –from audits to design and technical assistance, presentation of recommendations, resources to develop a long term plan, and the potential of project management assistance with financial incentives.
- **Vendor Partnerships:** This strategy will be coupled with vendor support and educational workshops and classes to provide the full breath of support customers may need to influence their decision to implement energy efficient equipment and practices.
- **Statewide Coordination:** The IOU program representatives will meet on a quarterly basis to improve program operations by sharing successes and areas of operational concerns.
- **Leveraging Local Commercial sector:** Resources such as industry associations, trade associations, and facility management associations will be leveraged.

d) Innovation

Significant innovative aspects of the Commercial Energy Efficiency Program offering include:

Integration

- Benchmarking will provide customers with an easy and low cost way to assess and monitor their energy use.
- Integrated Energy Assessments provide targeted customers with integrated solutions in efficiency, DR, and DG, and advise customers on other sustainability practices such as water conservation opportunities, CO2 reduction potential or other programs references.
- IOUs will link customers with the California Climate Registry to support carbon foot printing of a customer’s plant.

Marketing

- The Customer segmentation work currently underway will support development of new, super targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers based on their needs.
- IOUs will examine opportunities in the “MUSH” segments (municipalities, universities, colleges, schools and hospitals) for focused offerings in conjunction with all the segmentation plans being deployed.

- Closer coordination with third parties, government partnerships, core programs, and other delivery channels will optimize portfolio performance.
- Utilities will increase outreach to new trade and community-based associations, leveraging best practices identified in ACEEE study of utility Commercial Energy Efficiency Programs.
- Energy Design Resources, developed statewide by IOUs, will be expanded as a web-based hub of commercial and food processing best practice information, training, modeling and performance tracking tools.
- Expanded workforce education and training efforts with vendors, design teams, industry association members and other key market actors will help overcome many customer informational and transactional barriers
- Training will be provided on modeling and quantifying savings opportunities through tools such as eQUEST and Energy Pro.

Implementation

- Utilities will coordinate process improvements for statewide programs to ease participation barriers.
- SMB-targeted local marketing will leverage the heightened levels of awareness and education that the IOUs expect to result from the Statewide ME&O campaign.

Deeper Energy Savings

- Utilities will seek to deliver deeper energy savings to our customers through bundling of measures, continuous energy improvement, innovative auditing, and/or whole approaches.
- Utilities will explore other mechanisms to more highly reward comprehensive energy management retrofits, e.g. premium incentives for bundled measures coupled with an energy audit.
- Utilities will enhance current finance offerings by standardizing statewide financing and exploring innovative tools to leverage additional funding sources.
- Utilities will evaluate approaches which bundle various equipment and technologies to encourage customer adoption of long and short-term payback IDSM measures.
- Utilities will seek to motivate owners and operators of large facilities to undertake improvements through presenting compelling return on investment (ROI) or Payback based business cases to top decision-makers, while strengthening the skills and knowledge of building operators.
- Utilities are considering a number of different, innovative approaches to achieve deeper energy savings; including a whole building approach that integrates both customized retrofit and retro-commissioning in a single, performance-based program offering.

Energy performance measuring and benchmarking assistance/services to customers will enable customers to compare themselves to “best in class” peers utilizing tools such as the U.S. EPA’s ENERGY STAR Benchmarking tool.

e) Integrated/coordinated Demand Side Management

An integrated portfolio is cost effective, captures program delivery efficiencies, and serves the needs and wants of customers, who prefer a single, informed utility point of contact who can help inform and prioritize their energy investment decisions based on their unique needs. To that end, the statewide utilities and the Statewide Commercial Energy Efficiency Program have made tremendous progress in advancing integrated solutions:

- Marketing: In marketing integration, the IOUs are placing major emphasis on getting the right message to the right customer at the right time. Advanced customer segmentation is being used to develop detailed integrated marketing and outreach plans which outline multiple tactics, delivery channels and key messages to target to specific customers based on their specific needs. The account representatives, who serve as the key customer point of contact, will be attending an integrated sales strategy and training program to ensure consistent delivery of portfolio offerings.
- Education and training – especially workshops organized around a customer segment – provides an ideal situation to integrate customer energy solutions. Utilities will build on past successes to provide integrated workshops to restaurants, retailers, office building facility managers, lodging, and warehouses. The workshop topics generally start with “analysis” resources and methods, and move on to “conservation”, “efficiency”, “demand response”, then “generation” topics and resources. These workshops provide opportunities for utilities to cross-sell solutions and share key information with other utility departments.
- As appropriate, Workforce Education and Training will also cover integrated energy and system solutions, which will be increasingly important as Critical Peak Pricing matures. For example, the California Advanced Lighting Controls Training Program addresses both the energy efficiency and demand response capabilities through the proper design, specification and installation of lighting system controls.
- The availability of a Continuous Energy Improvement approach, especially for the largest, most strategic customer accounts, will facilitate a thoughtful, integrated energy plan and will allow utilities to stay engaged in supporting the progress of that plan.
- Integrated Energy Audits combine funds and resources of energy efficiency and demand response programs to provide integrated recommendations to customers that emphasize energy management in proper sequence, in support of the California Loading Order: Incentives from both programs can help reduce payback cost and support advanced energy management decisions. Demand response opportunities will be targeted in the larger facilities, especially as part of

monitoring-based retro-commissioning efforts where the controls to facilitate demand response efforts would be installed. Additionally, any energy efficiency audits required for participation in distributed generation programs will be expanded to include DR opportunities when appropriate.

- Emerging Technologies and CEC collaboration is expected to include initiatives and market acceleration assistance for market-ready products in the general categories of day lighting, lighting, HVAC, controls, and building envelope improvements.

f) Integration across Resource Types

California's Commercial sectors face a multitude of environmental, regulatory, and financial (Landlord owned, capital outlay) challenges that impede the adoption of new energy efficiency technologies. In addition, new regulations aimed at improving air quality, water quality and reducing toxic environmental pollutants are proving to be expensive and disruptive to business as usual, and in many cases will have the impact of increasing energy use in compliance.

The Commercial Energy Efficiency Program proposes to leverage these challenges to coordinate with the regulating agencies and the programs they are operating in order to support mutually advantageous program designs, customer incentives, marketing opportunities, and implementation opportunities.

Utilities will pursue opportunities to partner with water agencies to offer joint energy and water incentives in support for projects that reduce both resources, which ultimately improves payback and decrease project costs.

Where applicable, the program will integrate topics like LEED certification into targeted customer workshops, marketing and communications, building on a strong track record from the 2006-8 program cycle.

Third party programs at the utilities will further integrate resources. These third party programs will focus on specific customer segments offering a complete project package that will include integration aspects.

g) Pilots

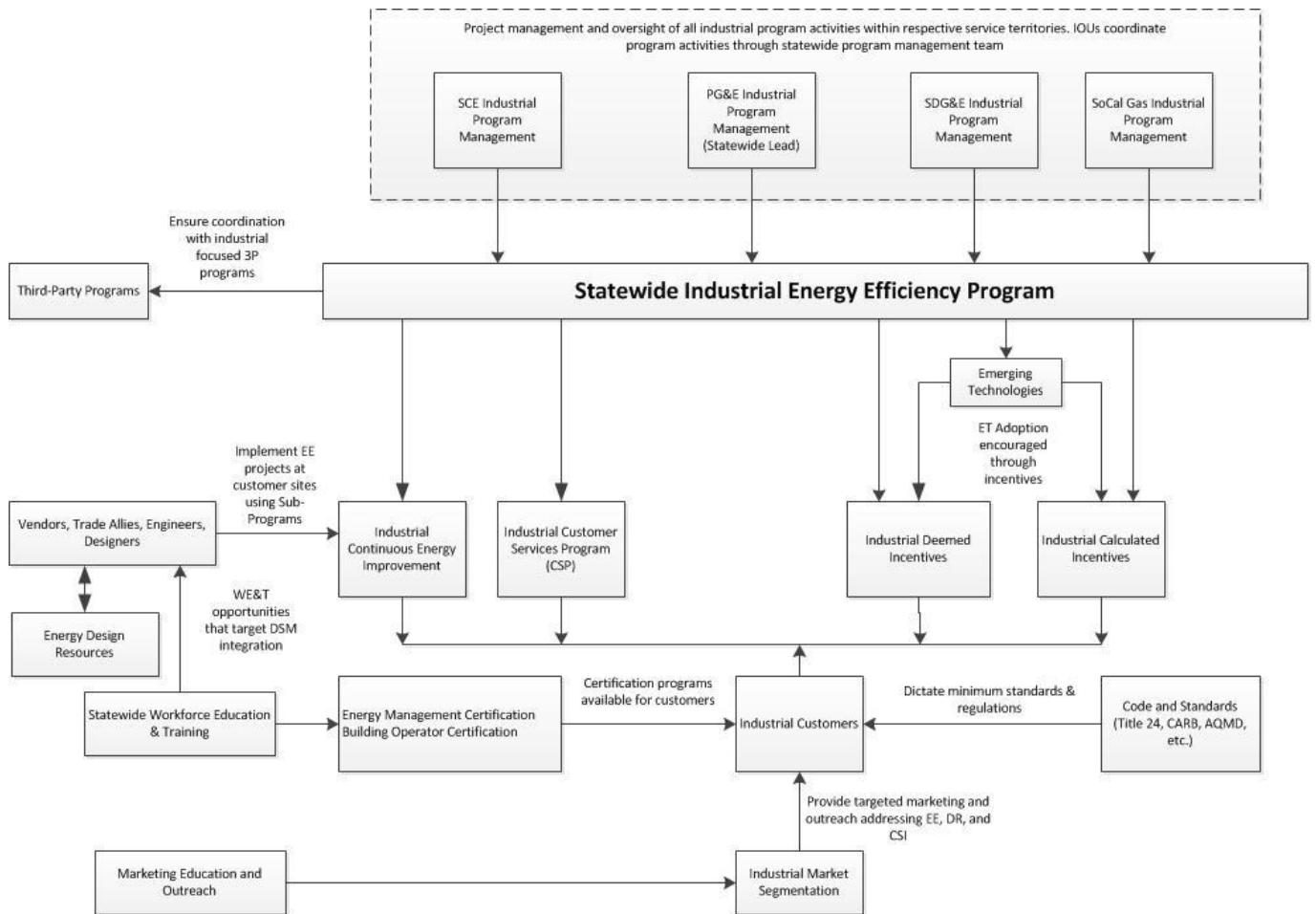
During the course of the two-year cycle, initiatives may be created based on the needs of the commercial customers.

The IOU's intend on implementing methods to gather and retain more detailed performance and usage data on a pilot basis to determine more effective methods and to achieve savings. Exploring incentives for sub-metering is an option as is expanding the tool library in lieu of incentives.

h) EM&V

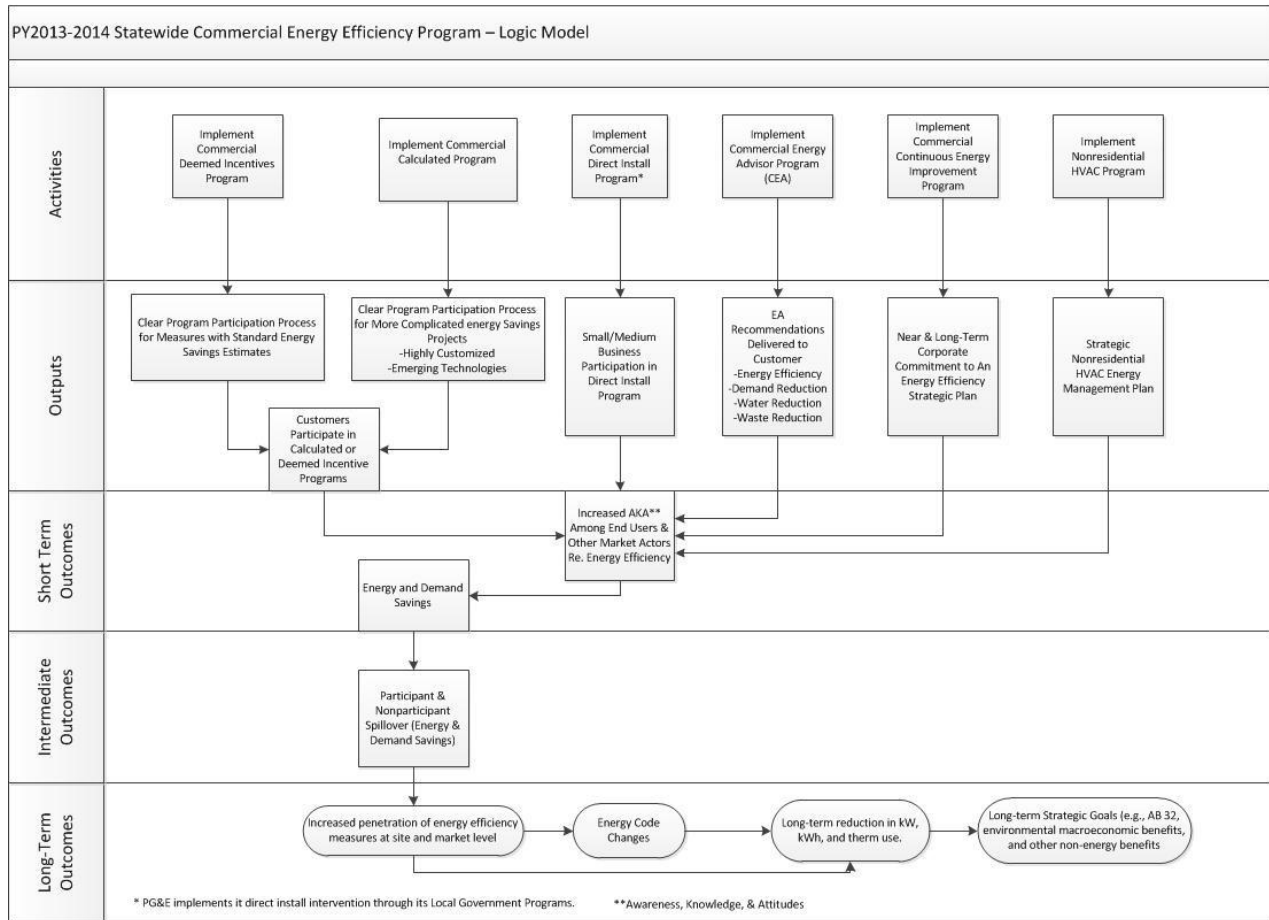
The utilities will work with the Energy Division to develop and submit a comprehensive EM&V plan for 2013-2014 cycle, after the program implementation plans are filed. This plan will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More details plans for process evaluation and other program-specific evaluation efforts will be developed collaboratively by the utilities and Energy Division. Development of these plans will occur after the final program design is approved by the CPUC, and in many case, after the program implementation has begun, since the plans need to be based identified program design and implementation issues.

7) **Diagram of Program**



8) Program Logic Model

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. In addition, this Resolution approved updated logic models for the statewide programs. Below is the approved logic model for the Commercial Energy Efficiency Program.



2b) Commercial Energy Advisor, core sub-program

4) Program Description

a) Describe Program

The Statewide Investor Owned Utilities (IOUs) have created the Energy Advisor sub-program to bring together under one program all services offered to support customer education and participation in energy efficiency, demand response and self-generation energy reducing opportunities and benefits, along with awareness of greenhouse gas and water conservation activities.

CSP was created to provide a streamlined and coordinated assignment of right-sized customer solutions. The key is to start the process with an initial analysis of a customer's needs, determination from the analysis which audit will service the customer with the highest cost/benefit, identify additional program support and key indicators that will motivate the customer to implement energy saving recommendations

The utilities anticipate the restructuring of CSP will affect the way audits are provided. CSP will enhance the IOUs' ability to match customers' need(s) with the right audit service. This will result in an increased cost-effective delivery of these audit services with an increased expectation for customer adoption/installation of provided customer specific recommendations.

In its offerings, CSP will place an emphasis in deep energy saving measures and emerging technologies where appropriate. When the technologies and customer opportunities are correctly aligned, the customer will become more open to the benefits these technologies offer to their business and will therefore increase their acceptance and adoption.

Together the CSP offerings will work to support the achievement of Strategic Plan objectives across all non-residential segments.

The IOUs believe this approach is the best way to influence market transformation, serve customers' needs, and increase adoption of DSM solutions.

The CSP package consists of six (6) distinct offerings:

- **Benchmarking** is the first step for a customer to begin to understand the energy use of their building. Benchmarking is an initiative designed to educate and motivate customers to measure and track the energy use of their facilities, educate customers of the benefits of benchmarking their facilities and how they can track the impact of energy savings after implementing energy saving measures. To support the customer's efforts, the IOUs will offer technical support, hands-on workshops that will provide customers with information on how to benchmark, how benchmarking can be used as an energy management tool and what to do next after benchmarking.

The IOUs will develop or continue benchmarking initiatives that supports the customers' ability to comply with AB1103's benchmarking requirements (upon its implementation), utilizing ENERGY STAR Portfolio Manager and IOU supported Automated Benchmarking Services.

The IOUs will also continue to offer customers technical support ranging from email and phone hotlines, hands-on workshops and web-based benchmarking educational and instructional materials.

Support will continue to identify, evaluate and make information disposable about other benchmarking tools available.

The primary focus for benchmarking activities will continue to be centered on commercial buildings (in alignment with the target building type of AB 1103).

- **Online Energy Audit Tool (Small Business):** The online audit tool is an enhanced, customer friendly “do-it-yourself” web-based audit tool targeting small business customers. The online audit tool offers an integrated auditing approach providing energy efficiency, demand response and self-generation recommendation and education.¹⁸

With large numbers of small business customers in each IOU’s service territory, it is necessary to offer and test different cost-effective strategies that can help small business customers maximize their energy use.

The IOUs will confirm their implementation timelines and once their tool is rolled out, they will initiate a continuous improvement cycle to ensure the benefits and features of the tool are meaningful for customers use. As the timing is appropriate, the IOUs will initiate marketing campaigns to raise small business customer awareness of the tool’s availability and benefits.

Per the Final Transition Period Decision, IOU implementation timelines occurring beyond 2012 are listed below..

Audit Type	Description	IOU	Small Business	Residential
Online Energy Audit Tool	The web-based energy audit tool (also known as the Progressive Energy Audit Tool) provides Small Business and Residential customers with a customized audit designed to help customers understand their business and/or home energy use. The tool provides concrete customer suggestions about ways to maximize their energy efficiency (EE), demand response (DR) and distributed-generation opportunity.	SCG	Q2 2013	Q4 2012
		SDG&E	Q2 2013	Q4 2012
		PG&E	Q4 2012	Q1 2012
		SCE	Q1 2012	Q1 2012

- **Continuous Energy Improvement (CEI)** Continuous Energy Improvement (CEI) is a consultative service aimed at helping customers (utilities will target CEI services in line with market segment potential in their service territories and resource availability) engage in long-term, strategic energy planning. Corporate energy management is not currently part of normal business operations for the majority of utility customers. With current economic pressures forcing customers to reduce costs and focus more on their core business, it is likely to be further marginalized. CEI proposes to reintroduce the importance of energy management by transforming the market (and reducing energy intensity) through a comprehensive approach that addresses both technical and management opportunities and creates sustainable practices which address energy savings, reduction of greenhouse gas emissions and water conservation, through high-level energy commitments from executive and board-level management.

¹⁸ The online energy audit tool is a continuation of the Universal Energy Audit Tool (UEAT) from the 2010-2012 program cycle and is also referred to in the Commercial Energy Efficiency Program logic diagram)

CEI offers customers the pinnacle of audit offerings guiding executive management to levels of energy management self-actualization that makes energy and environmental issues a consideration in all management/business operational decisions and in long term energy planning. For additional information about CEI, please consult the CEI Program Implementation Plan.

- **Non-Residential Audits (NRA)** for the Transition Period will provide Integrated Comprehensive Energy Audits (ICEA) that focus on customer energy savings, cost/benefits, and the targeted delivery of financial and technical assistance. Audit information must communicate complex information in a simple and understandable way to enable customers in identifying energy efficiency, demand response and distributed generation opportunities. Audits use “ex ante” deemed and calculated methodologies for energy savings analysis information.

As stated above, NRA offers two (2) categories of audits – basic and integrated.

Audit Type	Description	Detail	SCG	SDG&E	PG&E	SCE
Integrated Comprehensive Energy Audit	The ICEAT audit is a customized audit specifically designed to help customers understand and identify their facility’s energy use and provide concrete suggestions to maximizing energy efficiency (EE) demand response (DR). And distributed-generation opportunity as defined by the customer’s need.	Phone	YES	YES	YES	YES
		Online (Web-Based)	YES	YES	YES	YES
		Onsite	YES	YES	YES	YES

This program cycle, emphasis will be given on meeting requirements of the California Long Term Energy Efficiency Strategic Plan (Strategic Plan), streamlining the audit process increasing its efficiency, lessening complexity, and increasing the effectiveness of influencing customer implementation actions through actions such as integration of the demand response technical audit component directly into NRAs offerings. In addition, the IOUs will investigate ways to implement meaningful financial measurements such as return on investment (ROI) and/or simple payback metrics. The key is ensuring financial tools selected provide the customers with meaningful information by ensuring cost assumptions are appropriate to the customer. Also, NRA will assume the audit and budget responsibilities for Demand Response’s technical audit services, as applicable. It is intended that these audits will be a critical component of the integrated comprehensive audit service offering.

- **Pump Efficiency Services** is designed to help commercial customers make informed decisions about improving inefficient pumping systems and operations through recommendations derived from pump test audit or direct observations of processes.

Pumping of water is estimated to account for more than 80% of the electric load and 73% of the natural gas requirement in California in the agricultural segment and 73% of the natural gas requirement in California's agriculture segment, and this load is growing as the state's water users increase their reliance on pumping water to meet their needs. Pumping is also estimated to account for 20 to 25% of energy usage within the nation.

The Pump Efficiency Services program element, implemented by a team of trained in house or third party contractors, aims to overcome key informational, technical, and financial barriers to pump optimization by offering pump tests, retrofit incentives, and targeted education, training and technical support for customers and pump companies. Each IOUs database of pump test results will be used in the near-term to target pumps in need of retrofit as a means to capture savings. However, pump performance data aggregation at the statewide level will contribute to the development of metrics and targets for pump improvements, in support of a statewide pumping focus across segments, in agriculture, commercial and industrial, supporting their strategies and objectives.

The IOUs will continue to offer pump testing services at no or low cost and pumping system efficiency workshops through their energy education centers or other event opportunities.

- **Retro-commissioning:**

The IOUs are planning to continue and enhance their core Retro-commissioning (RCx) programs. RCx is a systematic process for optimizing an existing building or system's performance by identifying operational deficiencies and making necessary adjustments.

The RCx element is designed to optimize existing building or system performance by identifying operational deficiencies and making necessary adjustments to correct the deficiency. RCx is offered to agricultural, commercial and/or industrial customers based on the market segment potential and resources of the respective IOU. The range of projects may involve measures which reset, repair or replace existing system controls and components. Simple paybacks for these measures are usually short in duration and must meet customer expectations. Through the RCx assessment report, comprehensive projects are identified and referred to other sub-programs for completion (i.e., Commercial Calculated and Deemed Incentives). Energy savings from projects identified through RCx will be claimed in the Commercial Calculated Incentives sub-program.

Enhanced RCx program elements will explore and may include but not be limited to:

- Innovative approaches to measure identification, automated baseline capabilities, and savings quantification;
- Continuous commissioning and monitoring-based commissioning;
- Solutions for small and medium commercial customers;
- Strategies to drive savings persistence;
- Appropriate alignment with retrofit activities;
- Overall program incentives, targeting, and delivery.

The RCx program is a key offering in the Commercial Calculated sub-program and a more detailed description of the program is provided.

The CSP strategy focuses on simplifying the way audits are provided to customers. Through various assessment functions, the IOUs will work with the customer to identify the best, most cost-effective solution and the one with the greatest potential to motivate the customer to implement energy saving solutions (i.e. primarily EE, DR, and SG).

It is anticipated CSP will allow the expansion of audit serves across diverse class of customers, potentially across all segments and will interconnect the customer with the wide and diverse range of programs offered. From a customer perspective, the impact on customer time and resources will be reduced, the audit analyses will include DSM, greenhouse gas reduction information, provide water conservation recommendation all in a single report. The resulting report will identify comprehensive solutions that will simplify the customer decision-making process.

The primary program objectives for 2013-14 are:

- Support the Strategic Plan by offering integrated audits across a wide selection that address the full spectrum of energy solutions, including energy efficiency, demand response, and distributed generation (California Solar Initiative and distributed generation) focusing on customer facilities as defined by each IOU's market potential and resource availability.
- Provide a focus on the "MUSH" market (municipalities, universities, colleges, schools, and hospitals) to test ideas for deeper energy savings efforts.
- The continuation of delivering high value audit reports to the customer. Audit reports will be designed in such a way that they will provide the customer with information which motivates them to implement energy efficiency, demand response and consider renewable generation options.
- Enhance efforts to identify and provide financial analyses focused on deeper energy savings and technologies. Identify ways different financial metrics, such as return on investment (ROI) and/or simple payback, can be provided where the values presented have meaning to the customer.
- The IOUs will explore and evaluate the potential of enhanced customer incentive options that are contingent on a customer's receiving an audit prior to applying to incentive programs.
- Incorporate new and/or emerging technologies appropriate for the customer's facility.
- Develop and implement enhancements to current benchmarking workshops (targeting commercial buildings) and continue providing benchmarking and AB 1103 technical support through established and new delivery channels.
- Encourage statewide consistency by offering a similar energy audits with the ultimate goal of offer customers the best energy management practices and technologies.

- Review and evaluate the CEC’s Building Energy Asset Rating System tool (BEARS) once the CEC has completed developing the tool. The successful implementation of testing the new BEARS audit tool will depend on its timely release. BEARS is currently slated for completion at the end 2012. If the release of the BEARS tool is significantly delayed then the implementation of a successful pilot will also be delayed.
- Enhance the CSP’ offerings by including activities such as, but not limited to:
 - a. The highlighting of emerging technologies and deep energy savings opportunities and providing education on long term energy planning/project management strategies (in coordination with the Commercial CEI program).
 - b. Will continue existing water saving services and develop Leak detection services and strategies which will offer the service to customers in all customer segments as determined by the IOUs to provide customer benefits and cost-effective to administer. The services will, be offered through the use of audit teams, in house and/or contracted, and may be required as a service in the delivery of all integrated comprehensive audits.
 - c. CSP will play a key role in exploring options regarding identifying deep energy savings, promotion of emerging technologies and providing the proper support to those customers who take advantage of more than three (3) measures from Commercial Deemed Incentive subprogram.
 - d. CSP will develop processes to assist energy audit teams and customers identify facilities and services that will provide the greatest return on benefits from the audit. The IOUs may explore leveraging tools to complete energy audits, usage analysis, assessments and/or building performance benchmarking as the first step in determining a customer’s need.
 - e. CSP may also enhance tracking and audit component capabilities to support customer needs analysis, reduce program application barriers, maximize recommendation follow up and streamlined audit report generation.

b) List of Measures

The CSP primarily offers non-resource, auditing services. It does not offer incentives, but ultimately influences the customer’s implementation of energy efficiency, demand response, and self-generation opportunities in combination with incentive from the core commercial incentive programs (refer to the Commercial Deemed and Calculated Incentives sub-programs for specific information). However, each utility reserves the ability to offer incentives specific to CSP’s individual service offerings.

c) List Non-incentive Energy Advisor

The Commercial Energy Advisor sub-program is designed to deliver a coordinated and customer specific service. CSP features a statewide integrated demand side management customer specific solution that promotes energy efficiency, demand response, distributed generation and emerging technologies as appropriate to the customer’s need(s).

Such activities include, but are not limited to: energy management assessments, energy planning, marketing and outreach, baselining and benchmarking, project implementation support, technical support, energy savings calculations, process evaluations and report generation, and web-based energy resources.

5) **Program Rationale and Expected Outcome**

a) Quantitative Baseline and Market Transformation Indicators (MTIs)

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

See Appendix H – refer to the overarching program for quantitative baseline metrics

b) Market Transformation Indicators (MTIs)

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics and goals are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

See Appendix H – refer to the overarching program for quantitative baseline metrics

c) Program Design to Overcome Barriers

The Commercial CSP offers services that address corporate/management cultures that prevent successful implementation of comprehensive energy policies. These offerings help overcome customers' lack of awareness of DSM opportunities by providing a customer focused, comprehensive package of energy solutions designed specifically to motivate the customer to implement recommendations. Information such as cost/benefit analysis (i.e. ROI or simple payback) and identification of appropriate IOU incentive and/or finance programs, can significantly enhance the financial benefit of the energy saving recommendation. Commercial CSP also provides customers with tools to measure the effects of implemented energy savings actions on their bottom line.

CSP brings together audits and related services to implement energy saving activities.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts.

Table 5

TARGETS FOR CSP SUB COMPONENTS

	Program Target by 2013	Program Target by 2014
Number of Audits	1311	1332

e) Advancing Strategic Plan goals and objectives

The CSP is designed to promote DSM coordination and the integration strategies of the Strategic Plan. Foremost are recognition of the linkage between energy and environmental policy and the importance of integrating energy efficiency, demand response and distributed generation to support California’s plan to reduce greenhouse gas emissions.

Specific near-term strategies proposed by the Strategic Plan that are addressed by the CSP include:

- Facilitate all State-Owned and Leased Buildings having a Retro-Commissioning option

By offering a dedicated retro-commissioning program a mechanism is created whereby IOUs can facilitate the achievement of this goal as a coordinated effort with the IOU Government and Institutional Partnership Programs.

- Strengthen Tools and Practices for Building Commissioning

Based on the IOUs' experience with managing the Retro-commissioning program, lessons learned and best practices can be integrated into the 2013-2014 offering. To increase market adoption of these program best practices, the IOUs will work in cooperation with the California Commissioning Collaborative to disseminate relevant information to the retro-commissioning community and services may be extended to all segments as deemed appropriate by each IOU.

- Identify New and Improved Tools and Strategies to Reduce Energy Consumption in commercial facilities

Starting with energy conservation and proceeding to distributed generation and demand response opportunities, the benchmarking, CEI, NRA and RCx, demonstrate to the customer a comprehensive, site-wide solution for near and longer term energy consumption and clearly state the positive greenhouse gas effects of their actions. Addressing customer energy needs through long-term solutions allows consideration of technologies and projects that benefit the state and planet for a decade or longer (e.g., HVAC systems, commercial customer processes and equipment, facility envelope upgrades and enhancements). Recommendations for retrofit opportunities within existing facilities contribute to California’s zero net energy goals. Once implemented, recommendations for operation and maintenance (O&M) practices on on-going

commissioning will ensure that customer facilities continue to operate in an efficient manner.

- State/Local Governments and Major Corporations Commit to Achieve EE Targets

CSP's offerings will seek to (1) gain corporate level commitment to energy efficiency as a core business operation; (2) develop corporate energy policies that establish measurable goals; (3) develop an actionable plan to achieve these goals; (4) guide customers to IOU programs that can help implement cost-effective EE projects; and (5) provide a feedback loop to measure performance. This codified process is designed to support the significantly greater energy efficiency performance desired by the Strategic Plan.

- Develop Tools to Reduce Energy in Commercial Facilities

As part of the implementation of specific CSP offerings, the IOUs will partner with energy industry peers, industry associations, and DOE/CPUC-sponsored labs and consultants to enhance the use of existing tools and explore new tools to help commercial customers reduce initial energy usage at their facilities, then continue to operate their facilities in an efficient manner. Current tools used for benchmarking tools and resources include those developed by the EPA for ENERGY STAR and by Lawrence Berkeley National Lab (LBNL) with CEC funding:

- Management Standard for Energy SME2000-2008.
- EPIC Superior Energy Performance.
- ISO-50001.

- Develop Business Models to Deliver Energy Management Solutions

CSP's offerings will address the fundamental purpose to influence decision making practices from commercial customers to consider energy usage and sustainability as a core part of their daily operations. This level of commitment will help achieve greater penetration of energy efficiency in the agricultural market sector.

In addition, CSP's offerings promote acceptable practices of accounting, auditing, and evaluation by:

- Offering integrated and focused audits, benchmarking, savings calculation assistance for retrofit and retro-commissioning opportunities, and simplifying the audit-to-project documentation process to bridge the gap between educating customers about energy solutions to environmental issues and taking action.
- Guiding and supporting customers as they implement technologies, processes and practices to achieve deeper energy efficiency savings.
- Long term energy planning support.

6) Program Implementation

- a) Assess and identify the best way to support the use of CEC's BEARS tool.
- b) Enhanced current benchmarking workshops and continue providing benchmarking and AB 1103 technical support through established and new channels.
- c) Emphasize and support integration in emerging technologies and deeper energy savings opportunities.
- d) In coordination with incentive programs, identify ways to streamline the end to end process for customers wanting to participate in utility energy saving programs.
- e) Continuation of **State IOU Coordination**

- i. Program name: Commercial Energy Advisor Program
- ii. Program delivery mechanisms

CSP will employ a variety of delivery mechanisms or channels. Most of CSP's offering will use IOU customer energy efficiency staff and contractors, service and sales representatives, website and/or marketing and outreach efforts. Other delivery channels may also be developed.

In addition, where applicable, Utility customer account representatives or program management staff will support this activity within the statewide commercial sector, as well as third parties, government partnerships, and local programs.

- iii. Incentive levels
N/A

iv. Marketing and outreach plans

A comprehensive audit marketing plan will be aligned and coordinated with the marketing plans for each of the IOUs in order to maximize effectiveness, integrate offerings, and as appropriate refer customers to relevant DSM programs.

Additionally, IOUs may investigate piloting alternative channel marketing, such as social media tools, and outreach options that might include community-based organizations and/or third parties to recruit small businesses and influence them to take actions that result in energy efficiency improvements. IOUs may investigate and test efforts to leverage relationships with trade associations as a way to increase cost effectiveness of reaching customer groups.

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

CSP's energy recommendations will continue to recognize the regulations required by other bodies. For example, information about GHG reductions resulting from AB

32 may be incorporated into the customer recommendations and to factor into the projects cost-effectiveness and water conservation information will be included in the reports as appropriate.

Program offerings will collaborate and support the CEC's AB 1103 mandate by assisting customer with technical and awareness activities. CSP will advance the introduction of the BEARS and California Rating Tool where reasonable.

CSP recognizes the efforts of the CEC's Green Building Initiative programs, DOE's "ISO plant certification" programs, EPA EnergyStar Portfolio Manager benchmarking, EPA Building Performance with Energy Star and other programs, USGBC LEED certification, and local and other government incentive programs and will leverage such activities to the customer's benefit.

b) Program delivery and coordination

The sub-program will be coordinated with the following activities, as applicable:

i. Emerging Technologies (ET) Program

The IOU CSP Management Team will stay abreast of and incorporate relevant emerging technologies into audit recommendations as appropriate.

ii. Codes and Standards Program

CSP implementation will include information about pending new codes and standards that may affect planning or prioritization of retrofit or new construction projects. Audits reports will include customer recommendations that are consistent with current governing codes.

iii. WE&T efforts

CSP implementation will integrate with WE&T efforts, as needed, by providing CSI process, lessons learned, and case study input to energy engineering curriculum designers for community colleges and universities. This activity will be coordinated through the Statewide WE&T program team and will ultimately be integrated into the web portal that team is now developing. IOUs will assess and support specialized WE&T training to help target working energy management professionals, industry professionals, and those pursuing education in universities and colleges.

IOUs will also continue with WE&T coordination to bridge the linkages and integrate sector strategy approaches, as required.

iv. Program-specific marketing and outreach efforts (budget provided in Table 1)

v. Non-energy activities of the program

Integrated audits are a key tool for identifying non-energy opportunities for specific customers. These opportunities will be pursued whenever possible.

vi. Non IOU programs

CSP reports will include information on Non-IOU Programs to expose customers to funding, such as from air or water agencies, to support integrated efforts. CSP will partner with programs offered by CEC, ARB, Air Quality Management Districts, ENERGY STAR, and other government and quasi-governmental agencies to capitalize on opportunities to develop co-branded program information and marketing collateral target to commercial sector customers, as opportunities present themselves. With respect to water conservation, utility program managers will continue to partner with the local water districts to co-brand marketing collateral, attend trade shows, co-release notices, for programs with interactive water and energy effects (ESPM, BEARS, California Rating Tool, Water Agencies and others).

vii. CEC work with EPIC

CSP implementation will continue collaboration efforts with the CEC and seek to promote adoption of new technologies developed through the CEC's processes and to educate customers to demonstration, research and/or pilot projects. Specific CSP offerings will encourage recommendations addressing new technologies, processes, and methods, as identified in CEC projects, which will enable customers to achieve energy efficiency "stretch" goals that produce significant energy savings beyond an established baseline in a cost-effective manner.

viii. CEC work on codes and standards

CSP will not be implemented with a direct linkage to codes and standards efforts. Although CSP will reflect code and standards regulation in its energy savings calculations as deemed appropriate.

ix. Non-utility market initiatives

Education about federal tax incentives for energy efficiency investments is an example of non-utility information and guidance that CSP offerings will provide to customers. In addition, the IOUs will participate in state and national efforts to develop and/or improve benchmarking tools and services that can be used by customers to better facilitate their adoption of sustainable energy management practices.

c) Best Practices

The IOUs will continue to leverage best practices and lessons learned at regularly scheduled statewide program management meetings. These meetings are forums to discuss program design and implementation issues, and as appropriate provide statewide collaborated guidance in RFP solicitations and awareness of program offerings so customers operating multiple facilities across IOU service territories receive the same customer experience.

Other best practices approaches apply the principles of well-known business continuous improvement programs, such as Lean Six Sigma and ISO standards, to facility and plant energy management, in order to achieve widespread adoption of long-lasting sustainable energy management practices in the market sectors. As stated above, these principles are: (1) Commitment, (2) Assessment, (3) Planning, (4) Implementation, (5) Evaluation, and (6) Modification. This approach will continue through the two-year program cycle for 2013-2014, allowing longer-term and deeper project development engagement with customers.

d) Innovation

For 2013-2014, the IOUs are identifying and evaluating program processes to increase effectiveness, simplification and increase the benefits the program delivers. Each IOUs set of lessons learned from these efforts will be shared and implemented to enhance energy savings benefits to all California IOU customers.

CSP will engage in a process of continuing improve as a new standard way of packaging energy efficiency, demand response and self-generation products and services, aimed at helping customers engage in long-term, strategic energy planning. It proposes to transform the market and reduce energy intensity through a comprehensive approach that includes addressing both technical and management opportunities.

Depending on the outcome of the 2012 process evaluation, CEI may consider customer incentives to accelerate project implementation (including IDSM projects), and reward customer for implementing strategic energy management.

e) Integrated/Coordinated Demand Side Management

CSP will provide a comprehensive approach for integrated audit services. Its services will have the flexibility of meeting every level of a customer's audits needs from integrated comprehensive audits to targeted or focused audits, which centers on specific systems or processes, to assessments or general walk through audits or online "do-it-yourself" audits (currently for small business customers), which when properly applied can assist in identifying the areas of a customer's greatest energy interest, financial capabilities of the customer's ability to invest in improving its energy use, and identification of other programs that can be brought into the discussion to motivate a customer to move forward with the energy saving plan.

The scope of services offered can coordinate the audit to look for retrofit or retro-commissioning opportunities; with benchmarking tools, or long term planning. Audit reports can present a truly integrated analysis to customers, seamlessly providing them with information and recommendations regarding energy efficiency, distributed-generation, demand response, greenhouse gas emissions and water energy savings, Customers will be referred to other IOU programs that will help them implement the recommendations

resulting from the audit report and thus will be given a complete picture of their energy usage and options for reducing costs and using energy more efficiently.

f) Integration Across Resource Types

CSP will focus on DSM integration.

CSP implementation will include information on Non-IOU programs to expose customers to funding, such as from air or water agencies, to support integrated efforts. IOU CSP managers will partner with the appropriate programs, when applicable, with government agencies to capitalize on opportunities to share program information, marketing collateral, and financial incentive analysis with customers.

Conventionally, each government agency and utility has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. For customers who are regulated by or interested in more than one resource issue, CEI will provide information about the mutual benefit of combining complementary resource programs.

In the effort to promote CSP offerings, IOUs will seek out customers interested in complementary resource programs such as provided by water and air quality agencies. With respect to water conservation, utility program managers will collaborate with the local water districts to produce marketing collateral, attend trade shows, and co-release brochures, for programs with interactive water and energy effects.

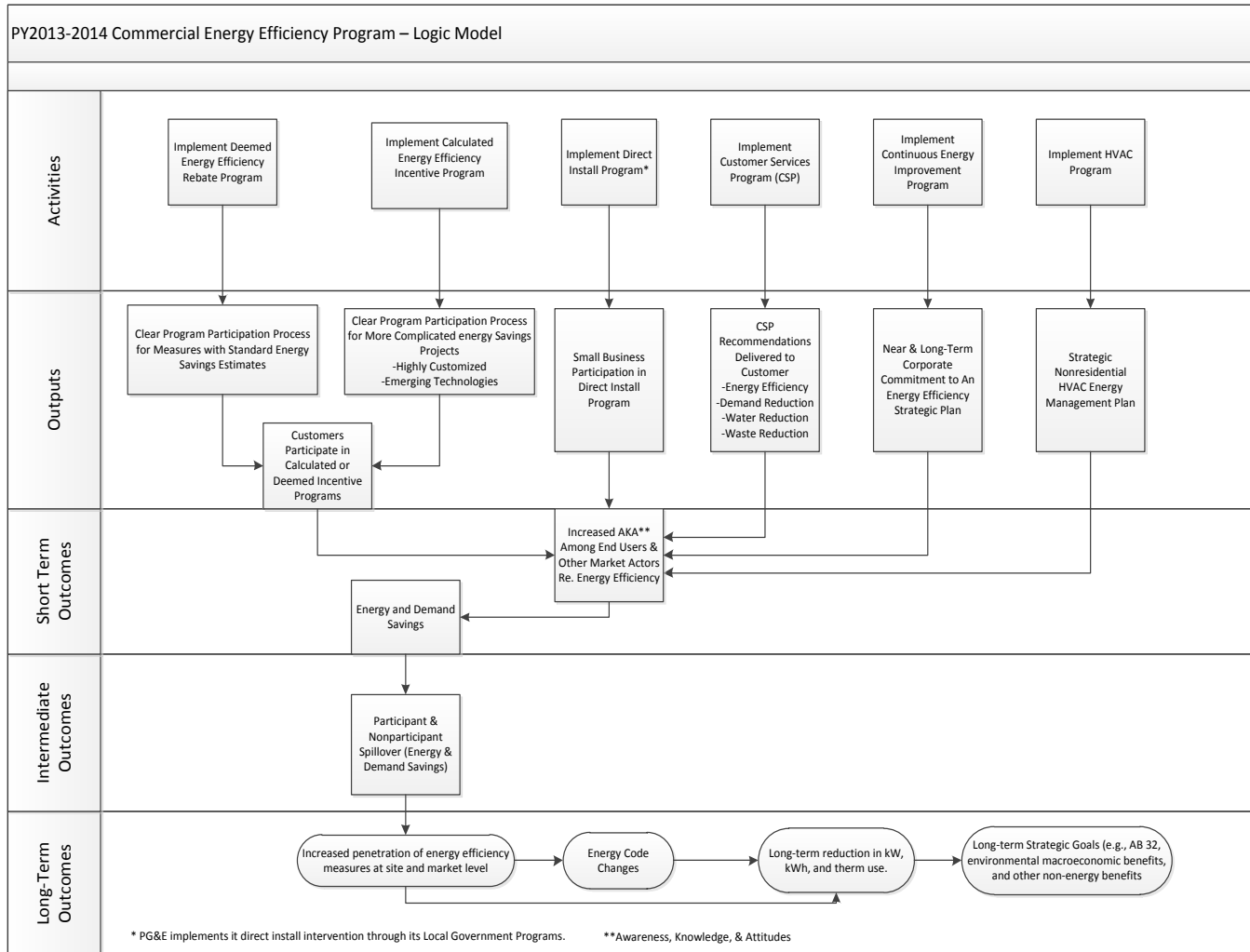
g) Pilots

CSP services may consider the development of test markets especially in the introduction of new energy benchmarking or saving tools.

h) EM&V

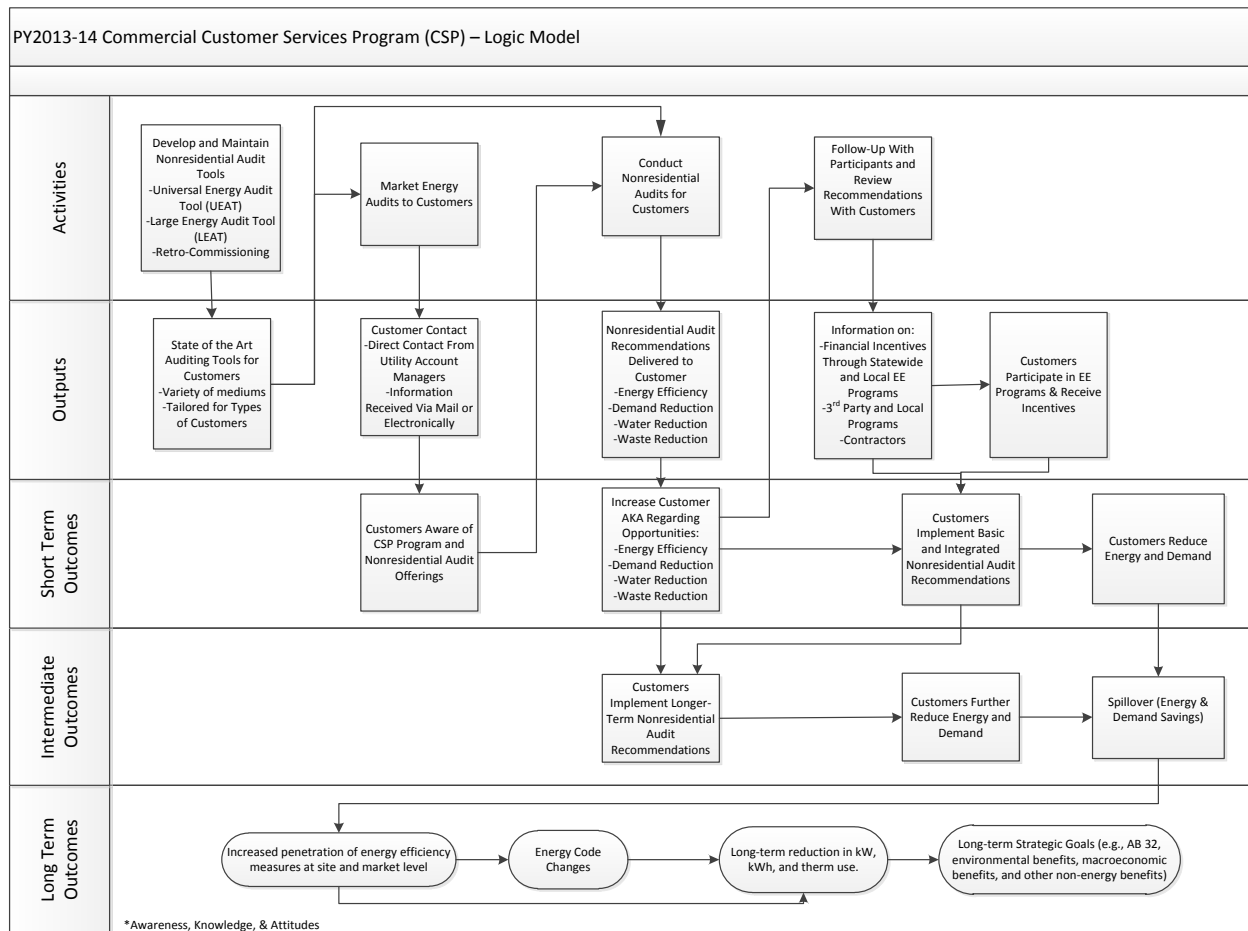
The utilities will work with the Energy Division to develop and submit a comprehensive EM&V plan for 2013-2014 cycle, after the program implementation plans are filed. This plan will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More details plans for process evaluation and other program-specific evaluation efforts will be developed collaboratively by the utilities and Energy Division. Development of these plans will occur after the final program design is approved by the CPUC, and in many case, after the program implementation has begun, since the plans need to be based identified program design and implementation issues.

7) Diagram of Program



8) Program Logic Model

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. In addition, this Resolution approved updated logic models for the statewide programs.



2c) Commercial Calculated Incentives, core sub-program

4) Program Description

a) Describe Program

The statewide Commercial Calculated Incentives sub-program provides customers technical and calculation assistance, as well as incentives based on calculated savings, to influence the design and installation of energy efficient equipment and systems in both retrofit and added load applications.

The Commercial Calculated Incentives sub-program is utilized for projects where a rebate

is not available through the statewide Deemed program, where project conditions require customized calculations to provide the most accurate savings estimates, or where a project has interactive effects that are best captured through whole building or whole system modeling. Because calculated savings estimates are based on actual customer operating conditions, pre-inspections (for retrofit projects) and post-inspections are typically required as part of each utility's project documentation.

An important element of the Commercial Calculated Incentives sub-program is the design assistance and calculation assistance provided by the IOUs to influence customers to select the most efficient design and equipment options. For both retrofit and added load projects, IOUs work with the customer and their project team to evaluate their proposed projects and provide a report recommending efficient design alternatives and detailing energy savings, CO2 reductions, and calculated incentives available for exceeding Title 24 code or industry standard practice baselines as appropriate. This information is also available to customers through the nonresidential Audit offering. The combination of technical support and the availability and commitment of approved utility incentive funds is an essential driver to overcome key customer barriers, including lack of technical resources and lack of capital for energy efficiency projects.

Customers and project sponsors (contractors, design teams, vendors, ESCOs) participating in the Commercial Calculated Incentives sub-program may also opt to complete their own calculations for submittal to the IOUs for review and approval. For this purpose, consistent statewide calculators are publically available to customers for use if desired. The statewide utility-created and maintained CCT Calculator can be used for retrofits and is available online and through CDs. For whole building construction projects, IOUs accept both Energy Pro, available for license, and the utility-sponsored EQEST, available for free on the statewide Energy Design Resources website www.energydesignresources.com.

Depending on whether a project is a retrofit or added load project, and on whether Title 24 is triggered for a particular project, different baselines are applied to capture appropriate project savings. For retrofit projects, incentives are capped at 50% of the total project costs. For added load projects, incentives are capped at 50% of the incremental project cost.

b) List of Measures

A broad range of measures is eligible for the Commercial Calculated Incentives Program. The current incentives are summarized in the following table. The incentives for these measures are standard across the utilities participating in the statewide Commercial Calculated Incentives Program.

The following measure categories are eligible for Calculated Incentives:

- Lighting
- AC & Refrigeration
- Motors and others
- Gas measures

c) List Non-incentive Energy Advisor

The Commercial Calculated Incentives sub-program is primarily an incentive program designed to achieve energy savings through measure implementation; however it does provide such non-incentive measures as technical and calculation assistance to help customers navigate through the application process. This assistance ensures that the sub-program captures lost opportunities by not allowing projects to fall behind schedule simply because the customer does not have the resources to shepherd the project through the process.

5) **Program Rationale and Expected Outcome**

a) Quantitative Baseline and Market Transformation Indicators (MTIs)

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 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 should (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 Indicators (MTIs)

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics and goals are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

See Appendix H – refer to the overarching program for quantitative baseline metrics

c) Program Design to Overcome Barriers

The Statewide Commercial Calculated Incentives sub-program offers customers incentives to implement energy efficiency measures that have been identified primarily through standard utility energy efficiency audits, in-depth facility/process assessments or retro-commissioning studies.

Other avenues used to identify energy efficiency opportunities include Programs that provide Education and Outreach, Workforce Education and Training, or through IOU Emerging Technologies Programs.

The Commercial Calculated Incentives Sub-program addresses and eliminates a significant number of barriers to energy efficiency for commercial customers such as:

- A high percentage of the time, developers, building owners, building managers and building contractors build or retrofit to current standards (i.e., Title 24). On the Architect and Engineering Firm side, design engineers specify what they know or what they are familiar with. The Commercial Calculated Incentives sub-program encourages or rewards developers, building owners, building managers, contractors, and A&E Firms to “push the efficiency envelope” and exceed Title 24 requirements, or to exceed industry accepted baseline standards when retrofitting existing buildings or systems by providing up-to-date information on emerging technologies and providing incentives to bridge the “chasm” which typically prevent emerging technologies from being adopted by the market.
- In several instances, high efficiency Emerging Technologies are viable, but are unknown to facility owners and system designers and thus, are slow to penetrate the market, causing energy efficiency opportunities to be “lost.” The Commercial Calculated Incentives sub-program helps speed market penetration and associated energy savings for Emerging Technologies by offering, when appropriate, “premium” incentives for emerging technologies that are “proven” but not widely employed in the markets for which they are intended (e.g., solid state lighting, advanced lighting controls).
- Across all nonresidential customer segments, a significant barrier mentioned is “Access to Information”. This can be a lack of awareness of operating “best practices”, lack of awareness of energy efficiency opportunities, difficulty accessing industry relevant technical assistance, inadequate availability of qualified industry specialists or lack of personnel resources to fully assess a

building, system or process. Also, in many instances, customers are not sure of how a specific energy efficiency project will impact their emissions, resource consumption or waste discharge streams.

- Multi-tenant buildings have a unique and significant barrier. Most typically referred to as the principal-agent or tenant-landlord split incentive, this issue is characterized by the natural separation of tenant energy efficiency savings and capital expenditures by building owners. The commercial program will incorporate market research and/or market tests to better understand potential programmatic offerings that can help reduce the barrier. Some examples of strategies that might warrant testing include combinations of education and creative tenant/landlord incentives or credits for centralized system or building shell upgrades.

These barriers are overcome by providing:

- Highly skilled Energy Management Professionals that perform basic and integrated facility assessments;
- IOU Workforce Education and Training seminars through the Energy Centers;
- Web-based information and energy management tools that assist with identifying DSM opportunities;
- In-depth plant or system assessments such as the assessments jointly provided by the IOU's and the U.S. Department of Energy (DOE), that focus on improving production and optimizing energy efficiency;
- Incentives based on energy savings quantified through technical assessments or basic audits that help customers overcome internal financial hurdle rates;
- Incentive mechanisms that reward implementation of advanced technologies;
- Integrated solutions that conserve energy and reduce GHG emissions; and
- Statewide SPC Estimator that provides energy savings calculation for most popular and common retrofit projects and measures, assists in filling out program applications, and simplifies its processing.

The Commercial Calculated Incentives sub-program delivers a consistent message statewide to commercial customers about the benefits, energy savings and GHG reductions that efficient technologies and “best operating practices” offer. This eliminates the barrier often run into by commercial customers of getting incorrect or out-of-date information from local networks.

The Commercial Calculated Incentives sub-program not only brings IOU incentive information to customers, but in many instances also provides additional information about other opportunities for project assistance, such as State or Federal funds available for energy efficiency projects, Tax incentives or other local sources of project funding.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts.

Table 5

Program Name	Program Target by 2013	Program Target by 2014
Projects	160	160

e) Advancing Strategic Plan Goals and Objectives

The unifying objective of the Strategic Plan is to employ market transforming strategies to encourage marketplace adoption of energy efficient measures to a point that public investment in energy efficiency is no longer necessary (Section 1, page 4). The Calculated Incentives sub-program will support this effort by employing two of the five market transformation policies identified in the Strategic Plan. Specifically, the Program will offer “carrots” in the form of financial incentives to help pull the marketplace towards energy efficiency. The Calculated Incentives sub-program will also provide education and informational resources through marketing and program outreach efforts. Therefore, these program elements will work in concert to transform the market towards sustained, long-term energy savings.

The program will help to achieve the following near-term strategic goals as identified in Chapter 3 of the Strategic Plan:

- 2-3: Ensure compliance with minimum Title 24 codes – The Calculated Incentives sub-program only provides incentives for projects that exceed current Title 24 minimum baselines. Incentive mechanisms will be created to ensure deeper levels of energy reductions, potentially including implementation of the Office of the Future Consortium’s Phase 2 recommendations, “The 25% Solution”, which seek to reduce energy usage 25 percent below Title 24-2005 baselines.
- 2-5: Develop tools and strategies to reduce energy consumption in commercial buildings – The Calculated Incentives sub-program directly supports this effort by collecting data and conducting energy use and efficiency studies that, when collected over multiple IOU service territories, will be very helpful in supporting statewide efforts to establish a robust and useful knowledge base for the commercial sector.
- 2-7: Develop business models that deliver integrated energy management solutions – The Calculated Incentives sub-program will implement incentive mechanisms that will reward comprehensive energy management and “energy efficiency projects” such as incentives for reaching certain stretch goals that produce significant energy savings beyond an established baseline.
- 2-8: Improve utilization of plug load technologies – The existing incentive structure pays for energy reductions through plug load measures. Additional

incentives that encourage greater penetration of plug load technologies may be developed.

6) Program Implementation

a) Statewide IOU Coordination

The Statewide IOU Coordination process, described in detail in the Statewide Commercial Energy Efficiency Program, will ensure continuous improvement and consistent implementation of all of the sub-programs. The discussion below will focus on how the IOUs will coordinate the Commercial Calculated Incentives sub-program specifically.

The Statewide IOU Coordination process for the Commercial Calculated Incentives sub-program will be as follows:

- Hold Regular Program Manager Meetings – The Commercial Calculated Sub-program managers from each of the IOUs will meet on a regular basis. The sub-program managers will unify, to the extent possible, the implementation of program aspects such as Program name, Program delivery mechanisms, Incentive levels, Marketing and outreach plans, and IOU program interactions. The sub-program managers will also discuss new innovations and develop solutions to overcoming implementation challenges. Therefore, the regular meetings will focus on issues specific to the Commercial Calculated Sub-program only.
- Designate an IOU Program “Lead” – One of the sub-program managers that participates in the regular meetings will be the designated Calculated Program IOU “Lead”. The IOU lead will represent the sub-program at the regular Statewide Steering Committee meetings.
- Participate in Regular Steering Committee Meetings – The IOU lead will be responsible for attending the regular Steering Committee Meetings and sharing Calculated Incentives sub-program innovations, experiences and challenges that have the potential to impact multiple sub-programs or the core Commercial Energy Efficiency Program as a whole.
- Adopt Program Enhancements - Once the Steering Committee agrees that a specific innovation or implementation policy has merit on a statewide level; the IOU lead will distribute the information to the Commercial Calculated Sub-program managers by email or at the next regular meeting for adoption and integration. Therefore, the IOU lead will act as a conduit feeding Commercial Calculated Sub-program-specific information up to the statewide Steering Committee and distributing measures for adoption back to the Commercial Calculated Sub-program managers.
- Evaluate Program Enhancements – To complete the adaptive management loop, the Commercial Calculated Sub-program managers will track the success of the adopted statewide enhancement or implementation policy and report any challenges or concerns at the regular Commercial Calculated Incentives sub-

program meeting. The IOU lead will report any challenges that transcend the Commercial Calculated Incentives sub-program to the Steering Committee, who will determine whether further course corrections are needed.

By following the process stated above, the Calculated Incentives sub-program managers will play a critical role in ensuring unified implementation on a statewide level over the course of the three year implementation cycle. Sub-program innovations and challenges will also feed productively into the higher-level Steering Committee process, where the IOU lead will act as participant and conduit between both statewide coordination systems.

The coordination and unity of all program aspects, such as Program name, Program delivery mechanisms, incentive levels, marketing and outreach plans, and IOU program interactions, will be handled through this statewide coordination framework. However, these aspects will start off at a high level of statewide consistency. In rare cases, there will be IOU-specific deviations. Such instances where one IOU will favor a different approach than the other IOUs will be called out in italicized text throughout the Calculated Incentives sub-program.

Additional areas of program coordination include:

i. Program Name

Commercial Calculated Incentives

ii. Program Delivery Mechanisms

The Commercial Calculated Incentives sub-program for will be delivered consistently across IOUs using the same application materials and energy savings calculation to ensure consistency. Both retrofit and added load projects for commercial customers are eligible for incentives.

iii. Incentive Levels

Current incentive levels are as follows:

- Lighting, \$0.05/kWh and \$100/kW
- Air Conditioning & Refrigeration I, \$0.15/kWh and \$100/kW
- Air Conditioning & Refrigeration II, \$0.09/kWh and \$100/kW
- Other, \$0.09/kWh and \$100/kW
- Therms, \$1.00/therms, Capped at 50% of project cost

The IOUs are exploring innovative means of improving the Calculated Incentive sub-program based on Energy Division and market direction. One possible method to comply with the Energy Division's guidance to "achieve deeper energy savings retrofits and packages of measures" is to institute a scaled incentive mechanism that would provide higher incentives for more comprehensive projects. The IOUs are soliciting input from

stakeholders and may institute a scaled incentive mechanism for the Calculated Incentive sub-program.

iv. Marketing and outreach plans

In 2013-2014, the IOUs will continue to target customers for calculated incentives based upon segmentation research and messaging. Large Commercial customers make up a significant portion of the audience for Calculated Incentives and these customers will not be targeted by the SW ME&O campaign. Due to the complexity of aligning Calculated Incentives with customer operations and highly individualized energy management needs, the sales cycle for these deeper retrofit measures tends to be longer and require significant one-to-one contact at the local level. Customer workshops and other account management support are all important parts local marketing and the consultative selling process for Commercial Calculated Incentives.

The Commercial Calculated Incentives sub-program will be marketed through IOU Account Executives, as well as through third-party programs, trade allies, educational, outreach and other marketing activities. Marketing activities will target business customers, ESCOs, trade associations, local business groups and government entities to generate interest and program participation. In addition, direct customer contact by Account Executives, Demand Response Program outreach, phone and e-mail support will be provided.

The IOUs plan to monitor and optimize local marketing campaigns and when possible, will share best practices and coordinate efforts for statewide consistency.

v. IOU program interactions

The Commercial Calculated Incentives Sub-program managers will partner with the appropriate programs offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to co-brand program information and marketing collateral with this sector's customers. Conventionally, each government agency and utility has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. For customers who are regulated by or interested in more than one resource issue, comprehensive information that discusses all resource efficiency issues will benefit the customer to the mutual advantage of the single resource programs.

With respect to water conservation, utility program managers will partner with the local water districts to co-brand marketing collateral, attend trade shows, and co-release notices, for programs with interactive water and energy effects. Similarly, with ARB and Air Quality Management Districts, IOUs will offer customers Commercial Calculated Sub-program incentives for energy efficient equipment that may also reduce air and GHG emissions.

vi. Similar IOU and POU programs

The IOUs will be delivering many third-party programs that utilize the Commercial Calculated Incentives infrastructure. This will ensure a consistent delivery of measure incentives to ensure that programs do not cannibalize each other and detract from achieving cost-effective energy savings.

b) Program Delivery and Coordination

The program will be coordinated with the following activities:

- Emerging Technologies program

The long-term EE vision of California can only be attained through the long-term and continuous development, verification, and acceptance of new technologies into the market. The achievement of long-term goals requires new technology as well as information, training and market development to maximize the EE benefits of cutting edge technologies. In recognition of the importance of emerging technologies, the sub-program will consider higher initial incentives for technologies being newly introduced to the market place through the Emerging Technologies Program. Once the new products have taken hold in the market, the incentives will be adjusted to reflect market conditions. In addition, portfolio staff actively works to incorporate promising emerging technologies from IOU or CEC-funded projects.

- Codes and Standards program

The program relies on the Codes and Standards program to maintain an updated and relevant list of measures that will support savings. As Codes and Standards impact measures, the program will act to align itself with appropriate offerings. It is important to manage the measure life cycle to take full advantage of providing incentives before moving them into codes and standards. Programs will include new offerings that will allow flexibility in adapting to changes in codes and standards, market trends, and technologies. Planned enhancements to Title 24 will be reflected in incentive levels and eligible measures and services. As the market moves toward “low energy” or “zero net energy” buildings, specific changes to each element of the bundling will be made to ensure the latest cost effective technologies/services (e.g., LEDs) made available as these technologies transition from research and development to the mainstream.

- WE&T

WE&T is a portfolio of education and training programs that showcase energy efficient equipment found on the list of measures offered in the program. The education and training takes place through energy centers, technology test centers, and education and training program offerings. In addition to providing the education and training the classes also address how customers engage the energy efficiency program offerings relative to the class. An Energy Efficiency

representative will be present at appropriate classes to provide detailed information on the application process to the relevant Energy Efficiency program.

Specific workforce development efforts supporting the Commercial Calculated Incentives sub-program which include training on topics, not limited to as follows:

- Audits – Training will be developed in an effort to promote a consistent approach and format to facility audits.
- Financing
- Soft skills and Business training (including customer service, sales, and marketing).
- Benchmarking
- Program-specific training – Training will be developed to promote increased familiarity with the program’s eligibility requirements, application, processes, etc).
- IDSM

The IOUs will explore voluntary incentive-based approaches to encourage contractors and other industry professionals to complete the full bundle of Commercial – Calculated workforce development training. For professionals who complete the pre-requisite courses and pass a high-road skill standards test, such approaches may include (as applicable):

- Allowing marketing or advertising differentiation;
- An incentive bonus; and/or
- Providing preference to these professionals during bid evaluation process.

Commercial – Calculated workforce development training will be coordinated with the statewide IOU WE&T program. In addition to the trainings described above, SW IOU WE&T programs will continue to offer building-block courses that educate professionals on the concepts that form the foundation of Commercial calculated programs. Those concepts include:

- Green building techniques;
- Codes and standards (Title-24);
- Lighting and HVAC technologies;
- Energy cost management; and
- Food service equipment.

Contractor recruitment efforts will be conducted primarily by SW WE&T program implementers through:

- The network of contractors already participating in EE programs;
- Direct outreach through industry organizations with locally active memberships (e.g. IHACI, U.S.G.B.C., IFMA, AIA, BOMA, etc.);
- Workforce development departments (to target unemployed general contractors); and

- Community Based Organizations with a proven track-record of effective outreach to the hard-to-reach workforce.
- Program-specific marketing and outreach efforts

Market outreach to raise awareness of EE programs available will use a number of strategies, including:

- Account representatives will make a regular and consistent customer calling effort to key customers within this sector;
- Utility representatives, Energy Efficiency program management representatives, and field engineers will be available to provide additional expertise;
- Participation and membership in one or two key trade associations affiliated with each high priority sub-segment within the Commercial Market Sector;
- Attendance at the key trade shows for each high priority sub-segment within the Commercial Market Sector;
- Utility-sponsored training events at the IOUs Customer Training Centers and other convenient locations within the IOUs service territory;
- Online content and integration of marketing materials and campaigns with online tools such as audits and other energy demand and usage assessments
- Hosting of utility-sponsored Webinars that provide sub-segment training and program adoption; and
- Written collateral pieces that provide an overview of the IOUs Energy Efficiency programs will be linked into the appropriate IOU DSM web page.

- Non-energy activities of program

Integrated Energy Audits (described in the Energy Advisor sub-program) is the primary vehicle to promote project solutions that look across the various IOU DSM program offerings, as well as complementary options available through other entities (e.g., water agencies).

- Non-IOU Programs

The Program will continue to engage with Air Quality Management Districts, CEC, ARB, DOE, water agencies, and other government agencies responsible for regulating the various aspects and operations of customer facilities participating in the programs, as appropriate and feasible.

- CEC work with EPIC

As of June 2012, PIER no longer exists. However, the program will interact with the Emerging Technologies Program to leverage new technologies to increase the list of measures available for energy efficiency projects. The portfolio staff

actively works to incorporate promising emerging technologies and projects in coordination with the applied technology research of EPIC.

- CEC work on codes and standards

Planned enhancements to Title 20 and 24 will be reflected in incentive levels and in eligible measures and services.

- Non-utility market initiatives

The program will support, educate customers, and facilitate such initiatives as AB32, renewables, ANSI certification, facility benchmarking, Continuous Energy Improvement, ISO 50001 California Green Building Initiative, and other initiatives as directed. The IOUs will remain engaged in these efforts and work to influence the development of increasingly higher standards.

c) Best Practices

IOUs will continue working collaboratively on modifications to program Policies and Procedures to address ongoing changes in customer expectations, market conditions and program flexibility. Such changes have been and will be targeting ease of program understanding and participation, measures eligibility, increase of customer economic benefits and policy restrictions that will be identified as barriers to participation. IOUs are implementing such process based on market studies conducted on the subject and preceding discussion of the policy change. Among modifications that would be potentially discussed and implemented are incentive caps, redesign of measure/equipment early retirement according to the CPUC concept and other.

IOUs are planning to explore appropriate consolidation of various calculating software such as SPC Software, Engage and other measure specific calculating tools to standardize our calculating methodology. This will ensure that calculations will be more uniformed and consistent amongst all stakeholders. This will not limit the use of nationally recognized standard DOE toolsets for certain measures. The IOUs also plan to continue exploration of emerging software tools that have the potential to enable significant advances in comprehensive energy efficiency at both the system and whole building levels.

IOUs are also planning to elaborate and utilize positive experience obtained using Savings By Design and Energy Design Resources tools and extend it to energy efficiency retrofit projects. Such tools substantially reduce application processing and review time, minimize number of hand-offs, not sacrificing accuracy of energy saving calculations.

Leveraging best practices from past program cycles, the Commercial Calculated Incentives sub-program information will also be made available through industry organizations such as The Building Owners and Managers Association (BOMA), and through advertising in industry and trade publications. Trade associations and vendor allies have historically delivered substantial energy savings through previous calculated program models.

d) Innovation

Innovative aspects of the program are aiming major program performance indicators such as accuracy of energy saving calculation, higher realization rate, overcoming energy efficiency barriers, reducing application processing time and administrative costs, and integrated energy management.

For the new program cycle California IOUs have implemented a new incentive structure that emphasizes peak demand reduction, addresses current economic downturn and better motivates customers to participate in energy efficiency incentive programs. During 2013-2014 program cycle new incentive structure will be periodically evaluated and necessary changes may be made in order to enhance program benefits and performance.

An additional example of innovation is aimed at the strategic plan's transformational vision and goals around energy user behavior, market transformation and deeper energy savings. SDG&E may consider providing up-front payments for installation of system-level controls (e.g. lighting, HVAC etc.) and/or energy management and information systems (EMIS). Customers receiving the incentive payments would be enrolled in a statistically based pre- and post-measurement evaluation of data, using whole building measurement and verification protocols, from which savings will be determined and claimed.

Where possible, IOUs will use integrated approach to addressing DSM opportunities. Innovative aspects such as merging energy efficiency and demand response analysis and converting recommendations to projects under Retro-commissioning and/or Calculated program, processing and reviewing energy efficiency and demand response measures in a single application, providing analytical information about applicable distributed generation solutions will maximize customer adoption rates for most cost-effective energy management opportunities.

The IOUs are planning to continue and enhance their core Retro-commissioning (RCx) program in multiple target markets. RCx is a systematic process for optimizing an existing building or system's performance by identifying operational deficiencies and making necessary adjustments. Measures may involve resetting, repair or replacement of existing system controls and components, and in general are low-cost projects with simple payback periods of less than 4 years.

The RCx program is a key offering in the Calculated Sub-program. The audit components of the RCx program are also described in the non-residential audit section above. Enhanced RCx program elements will explore and may include but not be limited to:

- Innovative approaches to measure identification, automated baseline capabilities, and savings quantification;
- Continuous commissioning and monitoring-based commissioning;
- Solutions for small and medium commercial customers;
- Strategies to drive savings persistence;

- Appropriate alignment with retrofit activities;
- Overall program incentives, targeting, and delivery.

After energy audit is complete and applicable no-cost/low-cost measures are identified the scope of work will be handed-off to RCx implementer who, in-turn, will follow RCx program protocols, execute the scope of work (measure implementation, M&V plan, incentive payment for energy savings) and report final results to the core program office.

e) Integrated/coordinated Demand Side Management

As the primary incentive vehicle that customers have for implementing efficiency projects, the Commercial Calculated Incentives sub-program is the logical choice for implementing greater demand side integration. Appropriate incentive mechanisms will be developed and implemented during the 2013-2014 program cycle to reward customers who implement comprehensive DSM programs.

The first step on the path towards DSM integration may be to introduce incentives for kW demand reduction, which as shown in Section 4.b. This will provide additional incentives for demand reduction strategies such as lighting controls.

f) Integration Across Resource Types

Integration across resource types (e.g., energy, water, and air quality) will be explored. Examples include working with Water Agencies to co-promote Food Service appliances that save water and energy and working with Air Quality Management Districts to co-promote Boilers and Water Heating measures that save energy and improve air quality.

g) Pilots

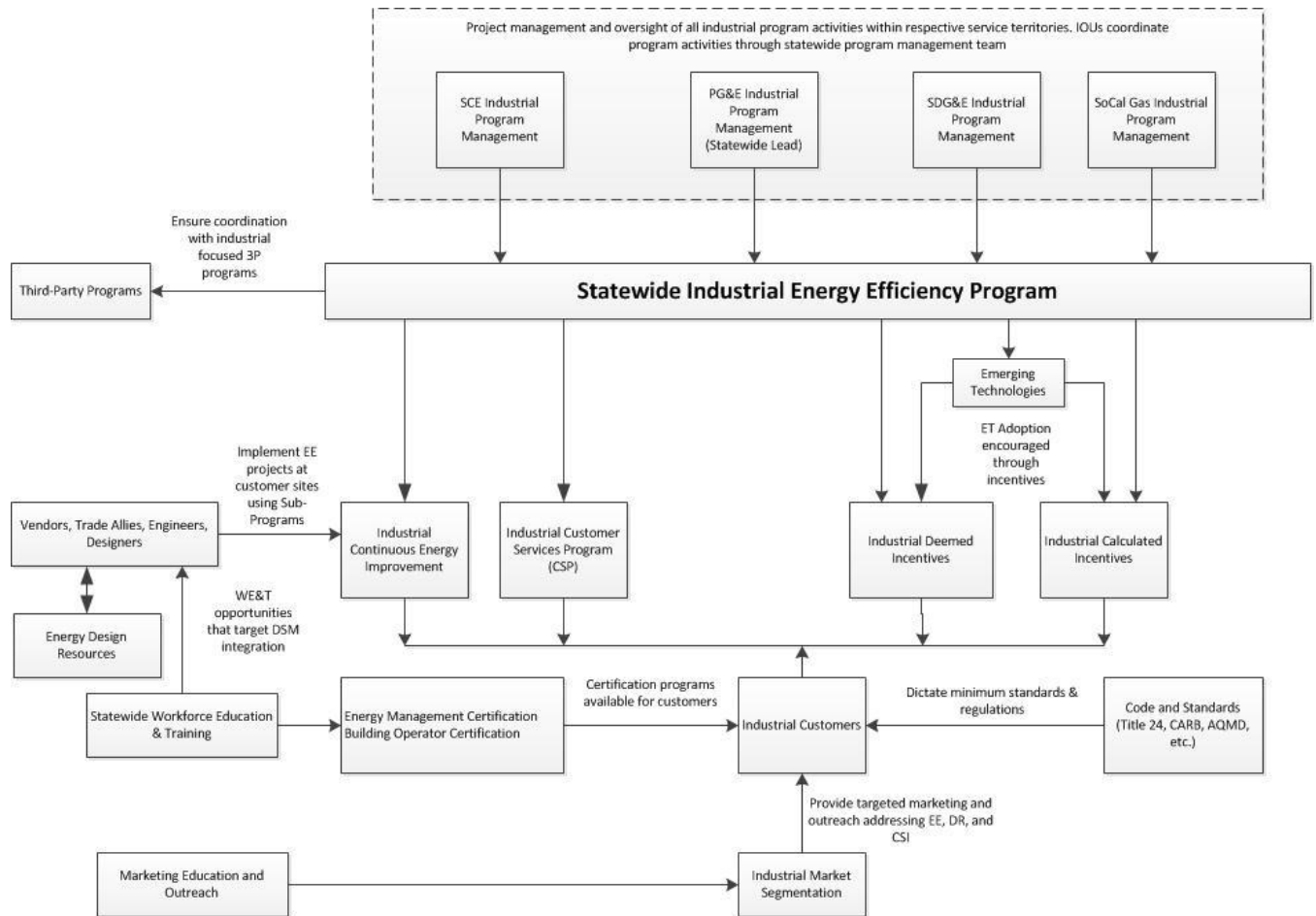
Not applicable

h) EM&V

The utilities will work with the Energy Division to develop and submit a comprehensive EM&V plan for 2013-2014 cycle, after the program implementation plans are filed. This plan will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More details plans for process evaluation and other program-specific evaluation efforts will be developed collaboratively by the utilities and Energy Division. Development of these plans will occur after the final program design is approved by the CPUC, and in many case, after the program implementation has begun, since the plans need to be based identified program design and implementation issues. However, a brief description of the current, preliminary plans is provided below:

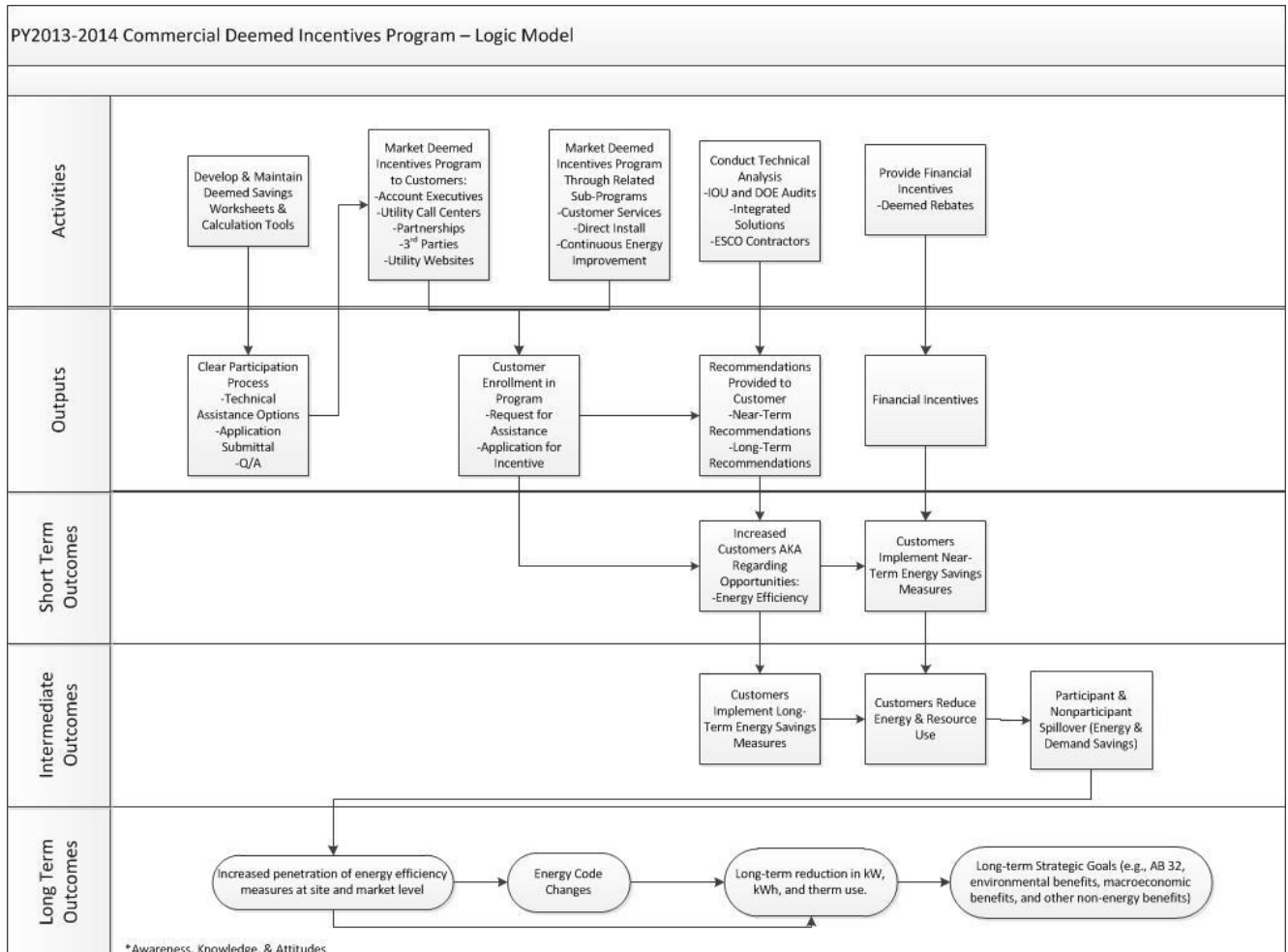
- Conduct evaluation to track the all proposed key metrics,
- Conduct specific process evaluation to improve program design, implementation and market effectiveness.

7) Diagram of Program



8) Program Logic Model

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. In addition, this Resolution approved updated logic models for the statewide programs. As there were no revisions to the original logic model for the Commercial Calculated Incentives Program, this logic model is left unchanged.



Commercial New Construction – Savings By Design

4) Program Description

a) Describe Program

The Savings By Design (SBD) sub-program aims for significant energy efficiency improvements in the nonresidential new construction industry, and is designed to overcome customer and market barriers to designing and building high performance facilities. Since

1999, SBD has provided statewide consistency, program stability and savings. SBD seeks to protect and preserve natural resources by advancing the design and construction of sustainable communities and promoting green building practices. The program is designed to overcome customer and market barriers to designing and building high performance facilities.

California's Title 24 requirements set some of the most stringent energy regulations in the nation. Exceeding these standard energy performance levels requires a high degree of design expertise, technical knowledge, and motivation. The requirements also can be complex and sometimes confusing. Because many in the design field are unaware of the potential savings from energy efficient design or perceive budgetary constraints, they are reluctant to implement energy-efficiency strategies. As a result, energy efficiency is often a lost consideration, abandoned in favor of pursuing the "lower initial cost" option. SBD strives to avoid lost opportunities by assisting customers in moving beyond initial cost considerations and towards the realization of long-term energy cost savings.

Through an integrated design approach (a whole building approach that encourages performance significantly better than Title 24 code by offering a variety of financial incentives) as well as a systems approach for simpler facilities where integrated opportunities are limited, SBD encourages energy efficiency and green building practices in new commercial buildings. These financial incentives are supplemented by a variety of other support activities, including feasibility studies and pilot projects, training and education, conferences and workshops, scholarships, and program marketing activities. In the 2013-2014 portfolio period, SBD will advance a broader palette of technical and financial resources to aid the proactive design of new facilities in accordance with the most cost-effective energy and resource efficiency standards. SBD will incorporate several new approaches towards integrated design and green building certification in support of the Strategic Plan.

SBD provides the nonresidential new construction industry with a broad palette of technical and financial resources to aid the design of new facilities in the most cost-effective energy and resource efficiency standards.

The SBD program will continue to offer two existing program components to its customers with new construction or major remodel/renovation projects, and will add a simplified approach for smaller projects.

- Whole-Building Approach or WBA (Integrated Design) - existing
- Systems Approach - existing
- Simplified Approach - new

SBD will offer financial support for design teams to undertake an integrated design process. Additionally, sustainability incentives will be offered to building owners to perform building commissioning during design and construction, and monitor building performance through End Use Monitoring. These sustainability incentives are designed to encourage new buildings to be

as well designed as possible, be built as well as they are designed, and be operated as well as they are built.

The program will continue to incorporate new approaches for 2013-2014 to advance integrated design and green building certification in support of the Strategic Plan.

Tools and Expertise: California's Title 24 requirements establish some of the most stringent energy regulations in the nation. Exceeding these standard energy performance levels requires a higher level of design, technical assistance, and motivation. The requirements also can be very confusing. SBD provides the assistance, tools and expertise necessary to help customers and designers exceed compliance with the requirements and achieve long-term energy- and cost-savings.

Zero Net Energy Design Assistance: To date there are very few Zero Net Energy Buildings in California. According to study published by the New Buildings Institute¹⁹, only twenty one buildings in the United States have a measured performance of zero energy. This information provides ample proof that ZNE buildings are extremely challenging to achieve and will continue to require substantial support from utility incentive programs. Savings By Design is best positioned to accomplish this task by encouraging higher levels of energy efficiency through higher levels of incentives. When successful, these buildings can be labeled as Zero Energy Capable Buildings (ZECB) that is one step from ZNE status. The missing component then is the self-generation component that is encouraged through other programs offered by the utilities. To get buildings to this ZEC state, Savings By Design will offer a soup to nuts whole building integrated design assistance, which would include analysis on natural ventilation, through energy efficiency, Computerized Fluid Dynamics, self-generation cost analyses, plug load analysis, building compliance analyses, and whole building energy modeling services.

Long-Term Energy-Efficiency: It has been firmly established in SBD program evaluations that the integrated design process, when implemented correctly, can lead to highly cost-effective energy savings for most projects. Because many in the design field are unaware of the potential savings, do not understand the design process, or perceive budgetary constraints, they are reluctant to implement energy-efficiency strategies. As a result, energy efficiency is often a lost consideration, abandoned in favor of pursuing the "lower initial cost" option. SBD strives to avoid lost opportunities by assisting customers in moving beyond initial cost considerations and towards the realization of long-term energy cost savings.

Energy Design Resources: Another key component of Savings By Design is Energy Design Resources (EDR). Energy Design Resources offers a valuable palette of energy design tools and resources that help make it easier to design and build energy-efficient commercial and industrial buildings in California. The goal of this effort is to educate architects, engineers, lighting designers, and developers about techniques and technologies that contribute to energy efficient nonresidential new construction. Additionally, design tools that reduce the time spent evaluating the energy use impact of design decisions are provided here at no cost.

¹⁹ Getting to Zero 2012 Status Update: A First Look at the Costs and Features of Zero Energy Commercial Buildings

Comprehensive Integrated Building Design Training: In conjunction with the Workforce Education and Training program, Savings By Design will proactively offer integrated building design training to architects, engineers and other design professionals. Training might encompass highly technical building modeling techniques for use in the selection of cost effective energy efficient measures. In addition, SBD will offer “lunch and learn” sessions to architectural and engineering firms interested in learning about utility energy efficiency programs.

b) List of Measures

The Savings By Design Program aims to achieve the deep levels of market transformation described in California’s Strategic Plan, primarily by offering meaningful financial incentives directly to key participants in the building community. Incentives and/or assistance may be targeted to builders, designers, and energy analysts. Various organizations involved in developing green building and sustainability standards may also be actively supported.

In addition to providing the traditional sliding-scale incentives calibrated to energy savings exceeding standard energy performance code, SBD will offer a flat incentive for peak kW reduction and financial support for design teams to undertake an integrated design process. Additionally, sustainability incentives will be offered to building owners to perform building commissioning after construction, and/or establish and follow a building measurement and verification (M&V) plan after occupancy. These sustainability incentives are designed to encourage new buildings to be as well designed as possible, be built as well as they are designed, and be operated as well as they are built.

c) List of Non-Incentive Customer Services

The Saving By Design Program will be active in a number of non-incentive areas as well. Several non-incentive customer service components are incorporated in the sub-programs, including the following:

- Technical support to energy analysts and design teams
- Economic modeling/measure selection support to builders and construction managers
- DSM coordination (PV, DR, AMI, ET) for builders to maximize demand-side reductions
- Feasibility studies and pilot program components as needed to develop new approaches to more effectively engage new and targeted non-residential market segments
- Training and resource enhancements (WE&T and Statewide Websites) Conferences and workshops to develop tools and concepts that will help the program
- expand its educational efforts Educational institution collaboration; sustainability lectures to students

5) **Program Rationale and Expected Outcome**

a) Quantitative Baseline and Market Transformation Information

Market Transformation (MT) metrics should neither be used for short-term analyses nor for specific program analyses. Rather, should focus on broad market segments.

Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as “Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market.”²⁰ The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that new programs are needed to support the continuous transformation of markets around successive generations of new technologies²¹.

Market transformation programs differ from resource acquisition programs on 1) objectives, 2) geographical and 3) temporal dimensions, 4) baselines, 5) performance metrics, 6) program delivery mechanisms, 7) target populations, 8) attribution of causal relationships, and 9) market structures²². Markets are social institutions²³, and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing

behavior, attitudes, and market supply chains²⁴ as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market transformation progress²⁵. According to York²⁶, “Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are three ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy.”

²⁰ California Public Utilities Commission Decision, D.98-04-063, Appendix A.

²¹ California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan*, p. 5. Available at <http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf>

²² Pelozo, J., and York, D. (1999). “Market Transformation: A Guide for Program Developers.” Energy Center of Wisconsin. Available at: <http://www.ecw.org/ecwresults/189-1.pdf>

²³ Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) “From technology transfer to market transformation”. Proceedings of the European Council for an Energy Efficient Economy Summer Study. Available at http://www.ecee.org/conference_proceedings/ecee/2001/Panel_2/p2_7/Paper/

²⁴ Sebold, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

²⁵ Gibbs, M., and Townsend, J. (2000). The Role of Rebates in Market Transformation: Friend or Foe. In *Proceedings from 2000 Summer Study on Energy Efficiency in Buildings*.

²⁶ York, D., (1999). “A Discussion and Critique of Market Transformation”, Energy Center of Wisconsin. Available at <http://www.ecw.org/ecwresults/186-1.pdf>.

The question of what constitutes successful transformation is controversial because of a Catch-22: Market transformation is deemed successful when the changed market is self-sustaining, but that determination cannot be made until after program interventions are ended. Often, however, the need for immediate energy and demand savings or immediate carbon-emissions reductions will mean that program interventions may need to continue, which would interfere with the evaluation of whether MT is self-sustaining. Market transformation success has also been defined in terms of higher sales of efficient measures than would have otherwise occurred against a baseline absent of program interventions. The real world, however, provides no such control condition. Evaluators must estimate these baselines from quantitative factors such as past market sales that may be sparse and/or inaccurate - particularly for new products. Evaluations must also defer to expert judgments on what these baselines may have been as well as on the degree of successful market transformation²⁷. Due to the subjective nature of these judgments, it is imperative that baselines as well as milestone MT targets be determined and agreed upon through collaborative discussion by all stakeholders, and these targets may need periodic revision as deemed necessary by changing context.

Market transformation draws heavily upon diffusion of innovation theory²⁸, with the state of a market usually 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 decades²⁹. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects³⁰. The ability to make causal connections between these market transformation effects and any particular

program's activities fades with time, as markets continually change and other influences come into play.

These challenges mentioned above are in reference to programs that were specifically designed to achieve market transformation; and these challenges are only compounded for programs that were primarily designed to achieve energy and demand savings. However, since the inception of market transformation programs almost two decades ago, many lessons have been learned about what the characteristics of successful MT programs are. First and foremost, they need to be designed specifically to address market transformation. "The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given to program designers.)³¹" The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts³², but

²⁷ Nadel, S., Thorne, J., Sachs, H., Prindle, B., and Elliot, R.N. (2003). "Market Transformation: Substantial Progress from a Decade of Work." American Council for an Energy-Efficient Economy, Report Number A036. Available at: <http://www.aceee.org/pubs/a036full.pdf>

²⁸ Rogers (1995) *Diffusion of Innovations*, 5th Ed.

²⁹ Example in bottom chart of this graphic from NYTimes: <http://www.nytimes.com/imagepages/2008/02/10/opinion/10op.graphic.ready.html>

³⁰ Sebold et al (2001) p. 6-5,

³¹ Peters, J.S., Mast, B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume 1.* Available at <http://calmac.org/publications/19981215CAD0001ME.PDF>.

³² CPUC (2008) Strategic Plan, p. 5.

also reflects the CPUC's directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful MT programs have involved multiple organizations, providing overlapping market interventions³³. The Strategic Plan calls for coordination and collaboration throughout, and in that spirit the utilities look forward to working with the CPUC and all stakeholders to help achieve market transformation while meeting all the immediate energy, demand, and environmental needs. Drawing upon lessons learned from past MT efforts, the Energy Center of Wisconsin's guide for MT program developers³⁴ suggests that the first step is not to set end-point definitions, progress metrics or goals. Rather, the first steps include forming a collaborative of key participants. As the Strategic Plan suggests, these may include municipal utilities, local governments, industry and business leaders, and consumers. Then, with the collective expertise of the collaborative, we can define markets, characterize markets, measure baselines with better access to historical data, and define objectives, design strategies and tactics, implement and then evaluate programs. The collaborative will also provide insights that will set our collective expectations for the size of market effects we can expect, relative to the amount of resources we can devote to MT. No one organization in the collaborative will have all the requisite information and expertise for this huge effort. This truly needs to be a collaborative approach from the start.

Program Performance Metrics (PPMs)

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric

Company for 2010-2012 statewide energy efficiency programs and sub-programs. The Commission gave each PPM a metric type which indicated the reporting frequency: Metric type 2a indicates that the IOUs should report on the metric on an annual basis (unless indicated otherwise). Metric type 2b indicates the IOUs should report on the metric at the end of the program cycle.

Below are the approved PPMs and metric types for the Savings by Design Sub-program of the New Construction Statewide Program

³³ Nadel, Thorne, Saches, Prindle & Elliot (2003).

³⁴ Pelozo & York, (1999).

Table 3 – Program Performance Metrics

Sub-program: Savings By Design

PROGRAM PERFORMANCE METRIC (PPM)	Metric Type
1. Average site energy install, ex-ante (kBtu/sq ft-yr and demand (kW/sq ft) for participating commercial new construction by building type and climate zone	2b
2. Percentage of committed participating Whole Building Approach projects that are expected to reach a minimum of 40% less energy than 2008 T24 codes requirements	2b

b) Market Transformation Information

i. Description of the non-residential new construction market

Non-residential new construction is one of the BBEES programmatic initiatives to accelerate market transformation toward greater adoption of energy efficiency. Successful market transformation efforts in the commercial building market must occur at multiple levels across the design and construction supply chain and through building owners and building occupants. This transformation must establish the relevance of energy efficiency among market actors and institutionalize the high efficient building practices³⁵.

According to a 2001 study on energy efficiency in new construction³⁶, the non-residential building industry is a series of linked industries arrayed along a value chain. The study identified the following six major industry groups involved in this highly diverse market—providers of capital, developers, design delivery firms, community/political/regulatory interests, real estate service providers, and users. The market structure reflected in this study remains relevant for today’s non-residential new-construction market. An emerging group in this market structure is the design build firm. The design build firm offers a complete design and construction package to the entity pursuing a new project. The building development process brings these groups together to deliver a building product that meets capital, land, and user requirements. Developers orchestrate the development process and bring together the disparate groups during the various phases of the project build. Community, political, and regulatory interests shape what can be built through zoning, codes, review and other public processes. Real estate service providers offer marketing, sales, produced by architects, engineers, and contractors in the design and delivery group. The leasing, investment, management, and operations services represent the interests of many market actors. Building users are the firms and organizations that occupy the buildings on lease or owner-occupied bases.

³⁵ http://eec.ucdavis.edu/ACEEE/2002/pdfs/panel04/15_239.pdf

³⁶ Market Structure and Energy Efficiency: The Case of New Commercial Buildings by Loren Lutzenhiser and Nicole Woolsey Biggart July 2001

The complex and interrelated linkages of the market participants need to be studied further as recommended by a recent SCE Savings By Design Market Characterization Study³⁷ (“CADMUS Study”). The utilities are interested in engaging in such work during this and subsequent program cycles. The utilities also draw upon available information, past Savings By Design evaluation studies, and the long experience of the program managers and staff to articulate the market transformation process for the non-residential new construction market.

Finally, the new construction market value chain is slowly showing signs of interest in Zero Net Energy. As indicated earlier in the SBD PIP, New Buildings Institute (NBI) has found very few buildings in the nation that can be labeled as Zero Net Energy. NBI also found that a slightly larger number, although also very few as compared to existing building stock, can be labeled as ZNE capable (ZECB) buildings. From this perspective, Savings By Design will face ever increasing needs for expert consultations in unique ZNE projects, like Computerized Fluid Dynamics that analyzes a design for its effectiveness in a natural ventilation scenario. The emergence of ZNE in the commercial space will undoubtedly spawn new challenges and barriers in the new construction market.

ii. **Market characterization, key barriers and DSM opportunities**

Through collaboration with a wide array of market actors and provision of technical support, training, and financial incentives, SBD is positioned to help reduce many of the

most prevalent barriers to building greater levels of high efficiency nonresidential new construction. Although the 2011 Cadmus study referenced in this Market Transformation section was conducted for the Southern California Edison service territory, it is assumed that some of the broader determinations are likely to be common to all IOU service territories. Some key market barriers identified in the 2011 Cadmus study for SCE include the following:

- *Lack of information among new building owners and designers/builders of beyond code energy efficiency benefits and opportunities to achieve such benefits*
- *Lack of financing options for high efficiency buildings*
- *Uncertainty in projected performance of efficient buildings*
- *Split Incentives*

The Cadmus study also identifies other obstacles to energy efficiency in nonresidential buildings that include the following:

- *Upfront costs, including energy modeling costs and green certification costs*
- *Capital constraints*
- *Lack of sub-metering in multiple tenant buildings*
- *Added difficulty getting plans through review process*

³⁷ Commercial Building Market Characterization for Savings by Design Program Final Report June 20, 2011
Study ID: SCE0312.01

The findings below from the Cadmus study allude to factors that may drive increased DSM opportunities in the nonresidential new building market:

- *Increasing desire among owners to reduce building utility costs as a component of operating costs, particularly in the current market with higher vacancy rates*
- *Building energy codes such as CALGreen and rating systems such as Energy Star and LEED are significant motivators for building owners that want to market the buildings as promoting “sustainability”*
- *Benefit-cost analyses based on energy modeling and economic analysis is often effective in convincing the new building owner of the long-term benefits of energy efficiency*
- *Increasingly building owners and tenants are driven by company core values or views of social responsibility to reduce energy usage and greenhouse gas emissions*
- *Market actors that are developing buildings for their own occupancy or to lease are more likely to invest in highly efficient building.*

Finally, Zero Net Energy projects perhaps present the best opportunity for DSM, because energy efficiency can be driven into all aspects of a building, i.e. lighting, plug loads, HVAC and envelope. While this may be true, there can also be significant challenges, both technological and financial, to encouraging the building community to develop these projects. Some barriers include:

- *Lack of comprehensive software tools to enable design*
- *Lack of expertise in the architectural and engineering community to offer these services to owners and developers*
- *Significant first costs for energy efficiency and for renewable generation*
- *A desire on the owners’ or organizations’ part to pursue a ZNE facility*
- *Overcoming the technological challenges to design and build multi-story ZNE facilities*

iii. Proposed SBD interventions to address market barriers and intended results

While most of the proposed market support mechanisms are well-known SBD approaches, the intent of the SBD market interventions are to redirect its efforts on multiple levels to engage market actors and integrate energy efficiency into the mechanisms the building market is already using. The market-based approach for the program is to focus specifically on targeted sectors in the building industry to understand the sector’s business processes, motivations, and barriers and to develop specific strategies to motivate the interest and investment in energy efficiency.

Southern California Edison’s 2011 CADMUS Study analysis of 2004-2008 building construction data on square footage of new floor space completions indicates that the SBD has enrolled between 19% and 28% of the new floor space added each year. The program’s penetration in the market exceeded 20% for six categories of buildings over the period 2006 through 2008.

Currently, Pacific Gas and Electric is pursuing a market characterization study and its information will be added to this MT section if available by the next PIP update. The program will address the following market barriers:

- a) Lack of Information in the building owner community and building industry to pursue EE design and construction practices

The SBD program is well positioned to inform architects, energy analysts, and builders about the benefits of incorporating energy efficiency early into the design process for new buildings. Through design assistance services and training opportunities, the program will work with market actors in the building industry to adopt Integrated Building Design practices and increase the technical knowledge base for energy efficient design across the industry. In addition to the design assistance, SBD provides incentives to building owners and designers to buy down some of the costs of pursuing above code designs and to encourage further use of the efficient design practices.

Lack of information about the energy efficiency benefits also prevails in the renovations and retrofits building market. The building facility manager and building engineer typically pushes for energy efficiency and have a big influence on the owner's decision; however, these market actors are hard to reach for participation in energy efficiency programs. It is much more difficult to get in at the design phase of these projects which, combined with cost, makes it harder to influence owners to install non-lighting measures. The challenge is finding ways to inform such potential participants early enough about the Program, learn about future projects, and find points of entry. Again, the utilities' SBD staffs will aim to reach these and other hard to reach areas and continue to take steps in 2013-14 to engage in projects earlier.

Another hard to reach segment is the building owners, the majority of whom do not understand the full extent of potential savings, program opportunities, and cost savings that can be achieved. Energy modeling is often what is needed to convince owners to make efficiency changes by educating the owner on the long-term financial benefits and the upfront cost effectiveness after making adjustments for rebates, and showing how energy efficiency affects the bottom line. A collaborative approach is needed between the owner, contractor, and architect early in the design process. The program's outreach efforts can inform these players on the benefits of energy efficiency improvements through focusing on the utility bill savings produced by such improvements and the resulting competitive advantage of energy efficient buildings in the market as the businesses continue to look for ways to trim costs.

- b) Uncertainty in projected savings

This barrier is related to lack of information in terms of savings that result from the energy efficient new construction buildings. Through the Design Assistance Services, SBD provides or assists in developing building performance simulations that are capable of estimating lifecycle energy savings benefits of efficient building design. The 2011 Cadmus Study showed that such analysis was beneficial in the early decision making for a new efficient building. This performance uncertainty barrier is also being addressed by

the California Energy Commission (CEC) and DOE that has collaborated with other out-of-state research entities to develop and market innovative performance testing and diagnostic tools and training for commissioning agents and building owners. Additionally, rating systems such as LEED and Energy Star work to address this market barrier by setting guidelines that send signals to the market about expected building performance for efficient buildings.

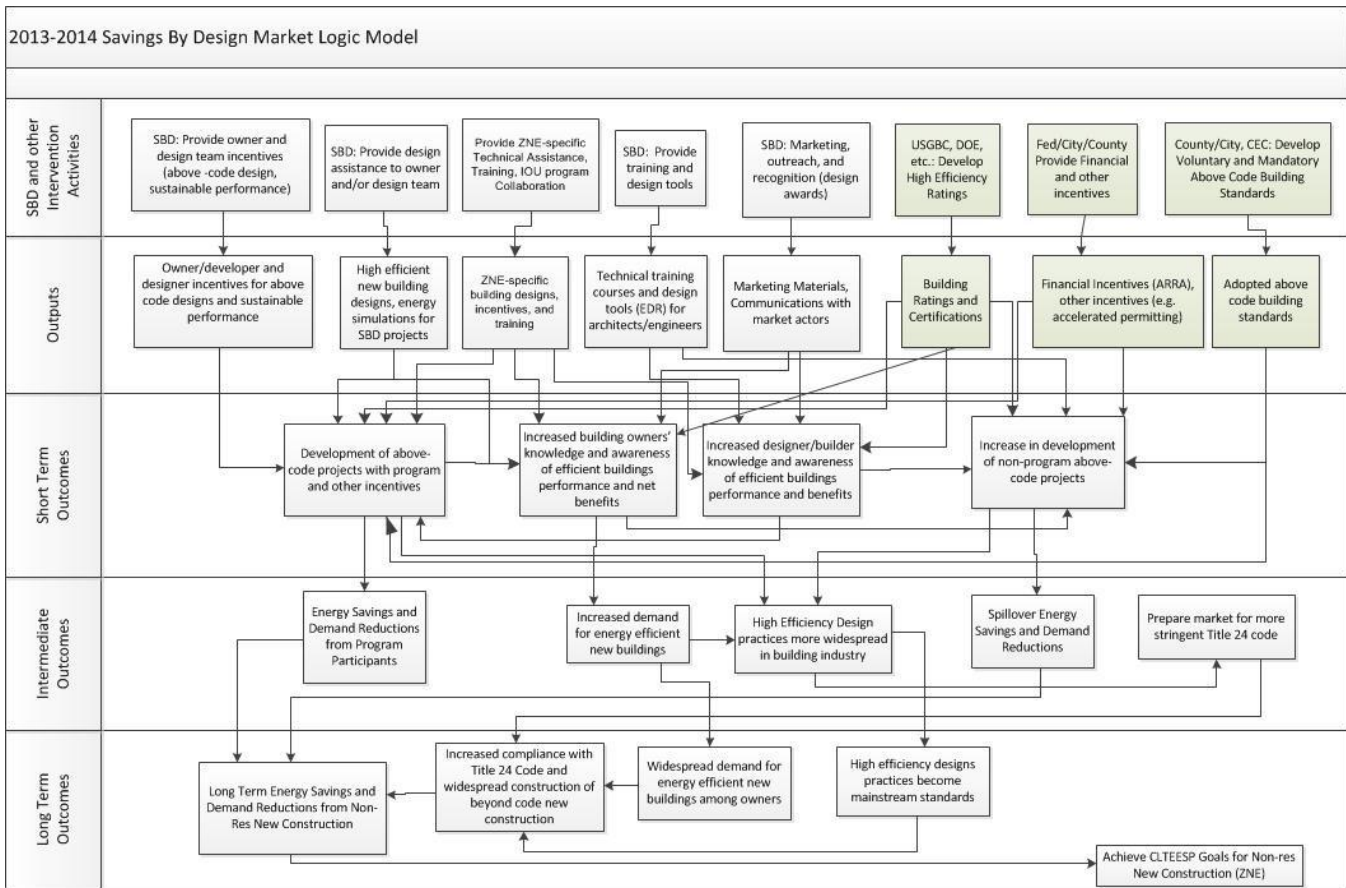
c) **Split Incentive**

Energy efficiency is often not a priority in buildings built to lease either because of the split incentive between owner and occupant and the situation depends on who pays the utility bills. Leased buildings present barriers to energy-efficient operations and efficiency upgrades and the reason for this lies in the lease structure and issues related to sub-metering. If the tenants split the utility bill or if spaces are sub-metered and paid for by the occupant, the owner will be less inclined to consider efficient performance of the building in early project decision-making because much of the operations cost is borne by the tenant.

In the 2013-14 transition cycle, IOUs will be engaging in pilot activities within the SBD framework that seeks to uncover innovative ways of addressing the barrier. The “Office of the Future” pilot activities will work with building owners and tenants to identify areas where outreach, training, and incentives – both financial and non-financial – will be offered for motivate investments in reducing the portions of the energy usage paid for by occupants. In an important step, SBD has moved to increase the incentives offered for those projects that include an M&V component in their projects that would entail monitoring end uses.

iv. **Program Logic model**

Developing a program logic description can assure that everyone concerned with the program has a clear understanding of what the program seeks to achieve. Included below is the program logic that addresses specific program interventions related to market barriers, while acknowledging that multiple interactions in the market of various entities and market actors makes the non-residential new construction market quite complex. The full market depiction for the purpose of understanding the market transformation of this market will need to be developed with the input from the market stakeholders, CPUC, and other entities.



v. **Evaluation plans, market transformation indicators and PPMs**

Due to the need to comply with the Decision’s timeline for filing the 2013-2014 PIP, and our desire to comply with earlier Decisions that call for gathering stakeholder input in informing market transformation efforts, we suggest that a full market effects statewide evaluation plan be developed during the formulation

of the Joint EM&V Plan as described in section “18.1. Evaluation Budget” in Decision R.09-11-014. Until then, we suggest the following approach:

Summative evaluation: Market Effects. The market transformation program’s theory and logic model will be used to guide the evaluation efforts. The scope of the market effects study should be defined by the MT program’s scope. The timeline for specific market effects that are to be evaluated should be defined by the MT program theory. Among other indicators, the program theory may specify changes in market characteristics that can be evaluated, such as 1) Spillover, 2) attitudes, awareness and knowledge, 3) reductions in specific market barrier, 4) current pricing and product availability, and 5) other market milestones. We will make the following distinction between program “spillover” and market effects: spillover is energy savings not directly tracked by the program, whereas market effects are broader and would include spillover as well as meaningful changes in the structure or functioning of the market.

The formative evaluation of a market transformation program is typically performed at the intervention (i.e. program) level. The methods are the same as would be used in a program process evaluation, and would include interviews with program staff, participants and non-participants as well as an assessment of the program’s direct outputs.

PROGRAM PERFORMANCE METRIC (PPM)	Metric Type
1. Average site energy install, ex-ante (kBtu/sq ft-yr and demand (kW/sq ft) for participating commercial new construction by building type and climate zone	2b
2. Percentage of committed participating Whole Building Approach projects that are expected to reach a minimum of 40% less energy than 2008 T24 codes requirements	2b

Market Transformation Indicators (MTIs)

Market transformation indicator results shall be reported, as available, by Energy Division or the IOUs, depending upon who conducts the necessary market studies. (Res. 4385, 12/2/10)

Attribution: Outside of California, most guidelines for evaluating market transformation acknowledge that it is very difficult to attribute market effects to any single program, and nearly impossible to partition out the respective contributions of several coordinated programs on market effects and market transformation. In California, the Framework (Sebold et al., 2001) emphasized that attribution of market effects to programs bears further research. Others (Rosenberg & Hoefgen, 2009; Keating & Prah (MT Workshop, Nov 2011) suggest that declaring the program’s strategic intent through the market transformation initiative’s theory and logic model is key to establishing future claim on transformation effects. The methods proposed by Rosenberg & Hoefgen (2009) for attributing market effects to individual programs include a number of approaches, all of them qualitative: self-report of spillover and free ridership; cross-sectional comparisons with other geographic regions; structured expert judging; and case studies. But attribution using a “preponderance of evidence” approach would likely be expensive and still yield arguable results. Attribution by nature focuses on individual program efforts, and we believe the market transformation evaluation discourse should be focused on the overlapping synergy among all programs and influences in the market. We realize we all have a “Shared Mission” of meeting the CPUC’s very aggressive Strategic Plan goals. We do not wish to not invest resources in teasing apart which program entity contributed how much, but instead will plan to focus on whether all the market forces across the State of California have succeeded in transforming the market.

c) Program Design to Overcome Barriers

The Savings By Design program will address the following barriers, some of which are common across the different market segments:

- **Building Code Changes:** Effective January 1, 2010, California’s Title 24 standards have been revised and updated. Financing of energy efficiency upgrades continues to be a barrier in achieving full savings potential. This is critically important for the small- and medium-size builders who have limited access to capital financing. To this end, SBD will begin to explore ways to leverage the EE Statewide Financing Program established in the 2013–2014 Transition Period.
- **Small-Project Market Penetration:** SBD has historically achieved very high penetration rates with mid-sized and especially large new construction projects. However, barriers continue to exist to deeply penetrating the small-project market due to extensive level of design assistance required in SBD projects. To help overcome this, SBD will expand the use of a web-based simplified system for projects that meet the above criteria.
- **Program Presentation:** Gaining a full understanding of program offerings can be difficult for some customers, especially in the case of nonresidential building participants. Collaboration with demand response and distributed generation programs, as appropriate, to combine program offerings into a customer-friendly and easy-to-navigate suite of materials is essential for effective communication of integrated offerings.

The building industry in California continues to be pinned down in one of the worst slumps in decades. In a buyer’s market, builders are looking to differentiate themselves from competition. This presents a great opportunity for Savings By Design to assist builders in overcoming cost barriers, minimizing lost opportunities, and working collaboratively to meet the state’s and utilities’ goals for the reduction of greenhouse gas emissions and utility source demand.

d) Quantitative Program Targets

SBD aims to achieve the following broad program targets:

Table 5

Savings By Design	2013 Target	2014 Target
Increase # of Participants in SBD Sub Program [#]	10%	12%
Integrated Whole Building Training to Architects and Engineers	2	2
Increase Partnerships with Industry Groups	2	2

Increase # of Design Team Participants #	10%	12%
Increase Whole Building Design Approach #	10%	15%
SBD Sub Program – Incentives Delivered		

e) Advancing Strategic Plan goals and objectives

The SBD Program is designed to enable the achievement of several goals and strategies identified in the Strategic Plan. Additionally, the SBD Program will facilitate implementation of the mandates of AB32 (California Global Warming Solutions Act) for carbon reduction, as well as the State of California’s Green Building Initiative. The State of California’s Green Building Initiative³⁸ requires that state agencies, departments, and other entities under the direct executive authority of the Governor, cooperate in taking measures to reduce grid-based energy purchases for state-owned buildings by 20 percent by 2015, through cost-effective efficiency measures and distributed generation technologies.

Commercial building owners are also encouraged to take aggressive action to reduce electricity usage by retrofitting, building, and operating the most energy- and resource-efficient buildings by taking measures described in the Green Building Action Plan.

SBD supports the voluntary portions of this legislation through improved new construction in the commercial sector as well as the mandates in the government sector.

The California Global Warming Solutions Act of 2006 (AB 32) created a state-mandated program to reduce greenhouse gas (GHG) emissions in California to 1990 levels by 2020, specifically including emissions of GHG from the generation of electricity delivered and consumed in the state.

SBD supports efforts to enhance the public’s understanding of AB 32 by relating the carbon reduction effects of energy efficiency programs to program participants.

The Strategic Plan spells out a variety of strategies to address energy reduction in California for homes, offices, factories, and farms. SBD advances CLTEESP’s comprehensive energy efficiency goals with:

- Integrated design approach
- Support of commissioning and End Use Monitoring
- Support training activities

³⁸ Per Executive order S-20-04, dated December 14, 2004,
http://www.energy.ca.gov/greenbuilding/documents/executive_order_s-20-04.html

With respect to commercial new buildings, the Strategic Plan calls for laying out a path to zero net energy by 2030; it envisions a dramatic growth of innovative technologies, and enhanced building design and operating practices through a combination of whole building programs, technology development, market pull, professional education, targeted financing and incentives, and codes and standards. Specifically, the Strategic Plan lays out the following goal for Commercial New Construction.

- Goal #1: Commercial new construction will increasingly embrace zero net energy performance (including clean, on-site distributed generation), reaching 100% penetration of new starts in 2030.

SBD utilizes a holistic integrated design approach that reduces market barriers and results in high performance buildings. Examples of this integrated design include:

- Architect and engineer training;
- Energy Design Resources;
- Case studies;
- Energy efficiency integration awards;
- Design team incentives;
- Commissioning and End Use Monitoring Kickers

Further, the elements of SBD are designed to advance the Strategic Plan's comprehensive energy efficiency goals. By offering a set of tools and expertise, as well as financial incentives (traditional sliding-scale incentives tied to building design performance, peak reduction incentives that encourage load reduction, Design Team Incentives that ensure intervention at early design phases) that support long term energy efficiency improvements, as well as training and education to the design professionals and architects, SBD plans to accelerate commercial building design practices towards ZNE by offering increased incentives and design assistance for innovative buildings and through case studies to show case ZNE projects. SBD will partner with green focused organizations and local governments to advance the ZNE concept. The IOUs will leverage the IOU partnership programs to meet with, inform and advise local governments and other key entities of activities and opportunities to participate in ZNE pilots, as well as lessons learned. These strategies and the IOU action plans are further elaborated in the SBD PIP for Savings By Design), as well as in the Statewide Commercial PIP

The State of California's Green Building Initiative³⁹ requires that state agencies, departments, and other entities under the direct executive authority of the Governor cooperate in taking measures to reduce grid-based energy purchases for state-owned buildings by 20 percent by 2015, through cost-effective efficiency measures and distributed generation technologies. Commercial building owners are also encouraged to take aggressive action to reduce electricity usage by retrofitting, building, and operating the most energy- and resource-efficient buildings by taking measures described in the Green Building Action Plan. SBD supports the voluntary portions of the Green Building Initiative

³⁹ Per Executive order S-20-04, dated December 14, 2004,
http://www.energy.ca.gov/greenbuilding/documents/executive_order_s-20-04.html

through improved new construction in the commercial sector as well as the mandates in the government sector.

6) **Program Implementation**

SBD plans to undertake a variety of marketing and outreach activities, which could include the following:

Cross Promotion

For 2013 - 14, SBD program information will be included with marketing materials of other programs/services as appropriate. This will extend the reach of the program and reduce customer confusion as to program availability.

Partnership Synergies

Savings By Design has established close relationships and memberships with other groups involved with the commercial new construction industry. These relationships make it possible to provide comprehensive services to our customers. These groups include:

- American Institute of Architects (AIA)
- California Council of American Institute of Architects (AIACC)
- Illuminating Engineering Society (IES)
- American Society of Heating and Refrigeration Engineers (ASHRAE)
- United States Green Building Council (USGBC)
- Green Building Consultants
- Collaborative for High Performance Schools (CHPS)
- California Commissioning Collaborative (CCC)
- California Energy Commission (CEC)

SBD seeks out partnerships and opportunities to help educate building owners, building design teams, and other industry participants in order to promote whole building, energy-efficient, sustainable design in new construction.

Awards Sponsorship

SBD co-sponsors (with AIA California Council) the annual Energy Efficiency Design Awards. These awards are designed to raise the awareness of successful high-performance facilities within the design professions.

Internet

Comprehensive information about SBD can be found on savingsbydesign.com. In addition, SBD case studies are posted on the Energy Design Resources (energydesignresources.com) website. In the future, Web Based Training (WBT) might be considered for both websites mentioned above.

Utility websites will continue to advance Savings By Design by providing Utility specific program information.

Print Media

Articles and press releases submitted to specialty publications targeting developers, building owners and design professionals.

Outreach

SBD will continue to seek out speaking opportunities at conferences and provide “Lunch and Learns” for architects and engineers. In addition, Utilities will consider holding and attending conferences to promote and build awareness surrounding their energy efficiency programs, although this might only be offered when resources permit.

i. Non-energy activities of the program

SBD will be engaged in a number of non-energy activities, including the following.

- Market characterization studies conducted through the Evaluation, Measurement and Verification programs
- Feasibility studies and pilot program components as needed to develop new approaches to more effectively engage new and targeted market segments.
- Training and resource enhancements in concert with the Energy Design Resources component Conferences and workshops to develop tools and concepts that will help the program expand its educational- efforts to encompass sustainability issues, and work towards coordinated delivery of Demand Response, self-generation, water conservation, and enhanced gas savings.
- Scholarships for students to attend the UC/CSU’s Sustainability Conferences. The annual conference presents the architectural students with the rare opportunity to see first-hand that sustainability issues are growing in importance. Sponsoring Scholarships also provides SBD with a participatory role on a panel that answers questions regarding the SBD program and the compliance characteristics of potential customer projects. In addition, as part of this conference, SBD will sponsor a student design competition through funding from Energy Design Resources.
- Educational Institution Collaboration will help ensure the development of curricula and adequate preparation of students for opportunities in energy efficiency. Sustainability lectures to students are also expected to help in their development.

Subcontractor Activities

Including other industry experts in certain program implementation processes enhances and extends the value of program benefits that customers can receive. In recognition of this, appropriate consultants will be selected through competitive bidding processes for some or all of the following activities:

- Project-specific energy simulation design assistance for WBA projects.
- Integrated energy design support, such as charrette facilitation and process training.

- Program marketing and delivery in technically specialized, hard-to-reach industries.
- Complex computational analyses required for the achievement of Zero Net Energy projects, as called for in the Strategic Plan.

a) Statewide IOU Coordination

The IOUs will jointly participate in California’s efforts to achieve real market transformation in the commercial new construction market segment. In order to accomplish this task, the IOUs will use the principles of adaptive management and follow a structured process to continuously update and enhance the Sub-programs throughout the three-year implementation cycle. The process will include the following key elements:

- Designate an IOU Program Lead: Each IOU will designate a Lead for Savings by Design. a. The leads will investigate new innovations, special accomplishments and challenges faced by the Sub-program within their own IOU. Where such innovations or challenges offer some potential for improving the Savings By Design Program, the Program Leads will present such information in regularly scheduled New Construction Program Management Team meetings.
- Hold Savings By Design Program Management Team Meetings: At this regularly scheduled meeting, individual innovations and accomplishments experienced in one IOU will be presented to all IOUs. The team will evaluate the innovations and accomplishments of the individual IOUs, consider ideas for course corrections and overcoming challenges, measure the Savings By Design Program’s progress against statewide metrics and goals.
- Adopt Program Enhancements: Once the Savings By Design Program Management Team agrees that a particular idea or innovation has merit on a statewide level, the leads will disseminate the information to their constituents for adoption and integration.
- Evaluate Program Enhancements Against Statewide Targets: To complete the adaptive management loop, the Program Management Team will track the program’s accomplishment of statewide targets and goals to ensure that adopted program enhancements are generating their intended results. The Program Management Team will determine whether future course corrections are needed, and if so, “activate” a fresh start of the adaptive management cycle to generate the improvements necessary to stay on track.
- Additional areas of program coordination include the following:
 - Program names: The Savings By Design name will continue to be used by all the IOUs uniformly and used in their communications consistently. This will ensure better communication across the utility service territories and ensure uniformity and long-term continuity of program offerings.
 - Program delivery mechanisms: The SBD Program is deployed through the sub-program activities discussed in more detail later in this PIP and summarized above in Section 4.a. The IOUs will deliver these SBD through a combination of delivery channels such as account

executives/managers, third-party vendors and internal program management staff. The program will be delivered using existing industry infrastructure and the individual utility's organizational structure, in order to enhance their local effectiveness.

- Incentive levels: To the extent possible, the IOUs will retain uniformity in the incentive structure of the sub-programs.
- IOU program interactions: Strategy [1-2] outlined in the Strategic Plan is to create a better linkage between the CEC's Title 24 compliance efforts with the IOUs' energy efficiency programs. In order to achieve the market transformation goals of the Strategic Plan, the Program Management Team will ensure coordination with the efforts of the CEC, Codes and Standards and Emerging Technology.

b) Program delivery and coordination

The Savings By Design program will be coordinated with the following statewide and local activities. The individual IOUs are responsible for ensuring communication and cooperation with the entities listed below on an as-required basis. The Program Management Team will ensure such communication occurs on a regular basis from a statewide perspective.

i. Emerging Technologies program

Coordination of Savings By Design Program with the Codes and Standards and Emerging Technologies activities will be realized through the Program Management Team (consisting of the appropriate program managers from the four IOUs) that meets on a regular basis to discuss program integration and implementation issues. The SBD sub-program is expected to interact extensively with the ET Program to ensure new and emerging technologies are showcased and/or piloted, including any ZNE promoting technical potential studies and roadmaps.

ii. Codes and Standards program

Close coordination with the Statewide Codes and Standards team is essential for tracking and implementing changes initiated by the Title 24 standards. The Savings By Design Program goals are closely tied to Title 24 standards, and it is imperative to track and implement changes to the program on an as-needed basis. Savings By Design, Codes and Standards and Emerging Technologies activities will be coordinated through the Program Management Team.

iii. Workforce Education & Training efforts

The workforce education and training (WE&T) needs for the Savings By Design program are unique to the industry. Specific workforce development efforts supporting Savings by Design include training on topics including, but not limited to:

- Energy Pro
- Title-24

SDG&E will explore voluntary incentive-based approaches to encourage contractors and other industry professionals to complete the full bundle of Savings by Design workforce development training. For professionals who complete the pre-requisite courses and pass a high-road skill standards test, such approaches may include (as applicable):

- Allowing marketing or advertising differentiation;
- An incentive bonus, and/or
- Providing preference to these professionals during bid evaluation process.

Savings by Design workforce development training will be coordinated with the statewide IOU WE&T program. In addition to the trainings described above, SW IOU WE&T programs will continue to offer building-block courses that educate professionals on the concepts that form the foundation of commercial new construction programs. Those concepts include:

- Green building techniques;
- Codes and standards);
- Lighting and HVAC technologies;
- Energy cost management, and
- Food service equipment.

Contractor recruitment efforts will be conducted primarily by SW WE&T program implementers through:

- The network of contractors already participating in C/I EE programs;
- Direct outreach through industry organizations with locally active memberships (e.g. IHACI, USGBC, IFMA, AIA, BOMA, etc.);
- Workforce development departments (to target unemployed general contractors), and
- Community Based Organizations with a proven track-record of effective outreach to the hard-to-reach workforce.

iv. Program-specific marketing and outreach efforts

Each utility will develop and execute specific marketing and outreach plans to engage the industry in its own particular market transformation objectives. The Program Management Team will explore opportunities for extracting synergies in developing collateral materials, common program websites that could be utilized by builders and designers, exchange of builder contact information, joint presentations at trade shows, expos, and other industry events.

v. Non-IOU Programs

The Program will remain engaged with CEC, DOE and other government agencies responsible for various aspects of New Construction in California.

vi. Non-utility market initiatives

California utilities have established relationships with a number of other groups in the building industry. The Savings By Design Program will continue to seek out and coordinate synergies with, but not limited to, the following groups:

- Environmental Protection Agency (EPA)
- California Building Industry Association (CBIA)
- Green Building Consulting Organizations (Build It Green, California Green Builder, Global Green)

IOUs are keenly interested in the efforts of Green Building organizations that are engaged in developing industry-wide qualification standards, and will coordinate with the relevant organization s to ensure appropriate standards are developed and adopted.

c) Best Practices

The Statewide Savings By Design Program demonstrates several examples of programmatic best practices. The team continues to utilize information from the process evaluations of the 2006-08 programs. Interviews with various market actors and focus groups from the design community had yielded several recommendations to improve the program. Based on that feedback, several enhancements will continue to be offered in the 2013 – 2014 Transition Period. Some of these are providing early design charrettes to explore “out-of-the-box” ideas, promoting high efficiency standards (LEED certification), expanding energy credits for unconventional measures, establishing tracks for cutting edge projects, providing early design team incentives, and expanding the incentives for commissioning and M&E projects.

Additionally, SBD will extend the potential of targeted approaches to market segments or industries where alternative interventions may be more effective than the traditional design assistance/incentive approach. A customized approach will focus on market segments such as hospitals and clean room facilities, and other market segments as identified.

The Statewide Savings By Design team has completed process evaluations of the 2006-2008 programs and is currently participating in the 2013-2014 process evaluation. Based on interviews with various market actors and focus groups from the design community in the 2006-2008 program cycle, several consistent themes emerged on recommendations to improve the program. Consequently, several enhancements were added to the program.

Process Evaluation Recommendations:

- a) Provide Early Energy Charrettes - The objective of the charrette would be to review all of the potential energy efficiency aspects of the project, and to explore all feasible “out-of-the-box” ideas that could conceivably be incorporated into the project at an early stage.
- b) Promote High Efficiency - Participants were skeptical about LEED and its value, yet they all acknowledged that higher levels of energy efficiency were valuable.
- c) Expand Credit for Unconventional Efficiency Measures - As SBD becomes increasingly ambitious, it will become necessary to update the analysis methods to credit measures that lie outside the T-24 compliance domain, for example, natural ventilation and un-air-conditioned buildings.
- d) Establish Track for Cutting Edge Projects - Some of the designers suggested that there be a track specifically established to encourage cutting edge projects that significantly diverge from conventional energy efficiency solutions, and which could demonstrate substantial new opportunities for advanced energy efficiency.
- e) Provide Early Design Team Incentive Payment - Designers value the design team incentives and would like to have them earlier in the design process. Because the typical design team incentives arrive so late, often years after the extra design effort was expended, the link between the reward and the behavior it encourages is lost. If it were easier for designers to receive a portion of the incentive earlier, it would likely be more influential and give SBD a more prominent role in their projects.
- f) Expand Incentives - Incentives could encourage both commissioning activities and the end use monitoring of projects. Commissioning especially is perceived as adding costs, so incentives are offered to offset the perception.
- g) Benchmarking – Newly constructed buildings do not have one year’s worth of data to effectively utilize the Energy Star Portfolio Manager benchmarking tool. Consequently, SBD will funnel completed projects into benchmarking programs that exist at individual IOUs, where the buildings will be queued for benchmarking after one year’s data are available. Feedback from these follow-up evaluations will be shared with the building owner and the other IOUs.

Implementation of some of these recommendations is discussed below or in the Innovations section.

Other SBD best practices include the following:

Whole Building Approach

The Whole Building Approach (WBA) is SBD’s preferred avenue for achieving energy efficiency in new construction because it enables a design team to consider integrated, optimized energy-efficiency solutions. This customized approach requires a high level of building energy simulation and interactive feedback, which generally leads to much more

efficient design decisions. The key to maximizing energy choices, using this type of collaborative effort, is intervention at the earliest phase of building design.

Systems Approach

The systems approach is a performance-based method utilizing energy analysis tools for energy modeling to analyze efficiency choices. This approach is used for projects that do not present sufficient opportunities to warrant the labor intensive assistance services offered through the WBA. The systems approach is designed to make it easy for designers to look at the interaction of systems within their project, rather than individual equipment or fixtures. The systems approach is used for simple facilities where integrated opportunities are limited, as well as projects where program intervention may come in too late in the design phase to effect sweeping programmatic changes to the design.

For 2013-2014, SBD will continue to offer the same incentives by measure end-use as the non-residential calculated retrofit program (known in 2006-2008 as Standard Performance Contract, or SPC).

Traditional Incentives

For 2013-2014, the statewide owner's incentives for electrical energy savings offered by the WBA will start at \$0.10 per kWh at 10 percent better than Title 24 code and increase in a straight line to \$0.30 per kWh at 30 percent better than code. For projects that exceed 30 percent better than code, the electric incentive will be \$0.30 per kWh saved. The incentives will be capped at 75% of incremental cost or \$150,000, whichever is lower. For a limited number of projects, Utilities may decide to pay larger incentives if the projects are deemed worthy to receive the larger incentive.

If SBD provides design assistance services to a project that achieves high performance without incurring incremental equipment cost (due to the intrinsic benefits of the integrated design process), an owner incentive will not be awarded due to the incremental cost cap. In these cases, SBD will still claim the resulting energy and demand savings.

Alternative Delivery Methods and Targeted Approaches

SBD will continue to build on the successful Alternative Delivery Method, which invites third-party market players to implement program goals in specific hard-to-reach niches such as facilities with dominant refrigeration loads. For 2013 - 14, the program will continue to explore a similar effort to more effectively extend the reach of the program into hospitals, and possibly the arena of leased commercial spaces with high turnover rates. Other niche markets that may respond to a higher level of technical support will also be considered as they are identified.

In addition to working with individual building owners, SBD has interfaced aggressively with large retail chains to promote energy efficiency and sustainability.

When each chain proposes opening a series of stores across California, SBD will continue to work directly with their design teams helping them incorporate energy efficiency measures into their new prototype, utilizing a whole building approach. SBD models that prototype across all 16 climate zones in California, to clearly identify energy savings and

potential incentives for these customers. With these chains now beginning to focus on green/sustainable stores with renewable energy as part of the design this activity will continue to grow during the 2013-2014 Transition Period.

SBD will extend the potential of targeted approaches to market segments or industries where alternative interventions may be more effective than the traditional design assistance/incentive approach. For example, simplified approaches to working with the segment of rapidly designed-and-constructed building types would consider such facilities as quick service restaurants. A customized targeted approach will focus on market segments such as hospitals and clean room facilities, and other market segments as identified.

d) Innovation

The Statewide New Construction Program features a number of new program elements that reflect innovative out-of-the box thinking. These innovative features originated from the IOUs' desire to extend their resources in order to achieve the ambitious goals of the program by tapping into heretofore unexplored markets. Some examples include:

- Simplified SBD for smaller projects, which will offer web-based advice on common energy saving strategies.
- Performance Bonus adders for sustainability measures designed to move the market towards very high levels of energy efficiency.
- Program implementation that will emphasize fuel neutrality: a whole building, performance-based incentive approach that focuses on overall building efficiency rather than individual measures.
- On the basis of recommendations resulting from the EM&V review and other experience, SBD will initiate a number of innovations, including the following:

The Zero Net Energy Campaign

Many building owners and their design teams are interested in higher performance buildings, but the costs and risks of going beyond known design practice can be substantial. Learning how to design, build and operate the next generation of buildings will continue to challenge current thinking.

Already, approximately 50% - 70%⁴⁰ of the square footage of new building stock participates in the SBD program (according to SDG&E data) – the program is reaching the customers. Now, using Zero Net Energy (ZNE) benchmarks, SBD will work closely with each IOU's internal sustainability and Zero Net Energy offerings to develop an overall strategy needed to move toward the goals established in the CLTEESP for commercial buildings in achieving the ZNE performance targets.

⁴⁰ Data from San Diego Gas and Electric

In addition to SBD, marketing for the ZNE program will be leveraged through other IOU programs, e.g. Sustainability PIP at SCE. The campaign will focus on subsectors and climate zones having the most potential in achieving ZNE targets in a cost effective manner.

These innovative projects will require additional design time, innovative technologies, creative design solutions, and higher funding levels to achieve these results.

Program Goals Pertaining to Zero Net Energy

Creating a demand in the marketplace for super-efficient, green, LEED+ and/or solar ready, high-performance buildings will be a priority. ZNE's aggressive program goals include the following.

- Buildings will use a minimum of 40% less energy than Title 24 codes requirements
- A new kBtUs per sq. ft. by building type performance metric will be adopted (e.g.) to encourage inclusiveness of strategies (e.g. buildings operations and occupant created loads)
- Up to 5% of SBD projects will comply with ZNE goals and outcomes.
- For ZNE pilot projects, the WBA incentives may range up to \$0.50 per kWh plus the standard kW incentive.

Incentives

Reaching ZNE's goal of energy efficiency 40% below Title 24 will require innovative incentives. ZNE building innovators may be eligible for utility funding such as:

- Advanced computational modeling
- Higher incentive targets
- Additional technical/design team assistance
- Financial assistance for natural ventilation strategies and on-site renewable energy systems design – either utility- or customer-owned.

Training

The SBD Program, through the WE&T Program will offer advanced design training for architects, lighting designers, to advance the opportunities in Zero Net Energy. The training, covering subjects including natural ventilation systems and daylight lighting, will take place in workshops and “lunch and learns.”

Program Evaluation Through End Use Monitoring and Benchmarking

Influencing the decision makers as early as possible is crucial in addressing the need for sub-metering/advanced metering to track a building's performance in key areas such as lighting and plug loads. Those devices then help create feedback loops for the owner and the utility.

Newly constructed buildings do not have one year's worth of data to effectively utilize the Energy Star Portfolio Manager benchmarking tool. Consequently, SBD will funnel completed projects into benchmarking programs that exist at individual IOUs, where the buildings will be queued for benchmarking after one year's data are available. Buildings

that appear to have performance problems will receive additional review and or services to improve performance, e.g. re-commissioning.

Following the completion of each project, a comprehensive process evaluation and /or internal program reviews will be conducted to determine:

- Successful incentive strategies
- Successful technical/design integrations
- Key marketing/business case messaging

Lessons learned from these evaluations will be applied to the net zero pathway that will improve SBD performance over time.

To analyze the success of this campaign, it is important to not only evaluate each project upon completion, but energy efficiency performance must be monitored for several years following completion. The building owners need to be apprised of the follow-up results so they know how their building is performing. Elements of these follow-up evaluations will include metering for:

- Plug load
- Lighting
- HVAC
- Other loads (process loads deemed important)

The SBD program may offer incentives towards the cost of installing metering to measure energy use in these areas or for sub metering tenant spaces.

Case Studies

Case studies will be produced for ZNE projects to capture lessons learned and to highlight the elements, design, and performance of ZNE buildings. These case studies, to include information gathered in the follow-up program evaluations, will broaden the market interest, knowledge, and skill sets to make ZNE buildings a reality.

Market Transformation

The ZNE program seeks to encourage high-performance building and transform the market by:

- Identifying, demonstrating, building familiarity and lowering costs of energy-savings strategies so that they are more likely to be codified
- Training design professionals on advanced energy savings strategies
- Providing business case related information (financial benefits, leadership benefits, non-energy benefits) to support owner interest in adopting corporate policies related to green and high-performance buildings.

Internal Program Coordination

SBD ZNE activities will be coordinated very closely with Emerging Technologies (ET) Programs to profile their technologies. ET will help fund the monitoring, verification and provide studies related to ZNE projects and benefit from lessons learned from the process evaluations.

Coordination with Codes and Standards can help develop reach codes for Title 24.

External Program Coordination

This program would work with various external organizations that are interested in driving ZNE buildings. These organizations will help promote the “success stories” of early adopters.

Peak Reduction Incentives

SBD will offer an incentive for peak demand reductions, consistent with the CPUC’s methodology for determining peak kW reductions. The rationales for directly incentivizing peak reductions are two-fold:

- Adding a direct demand incentive will encourage measures that may have little or no energy savings, but significant demand reductions. California values energy savings and permanent demand reductions equally. Therefore, the indirect demand reduction incentive currently offered by the WBA, through tying the energy incentive rate to the Time Dependent Valuation (TDV) based compliance margin, does not offer sufficient visibility to the importance of achieving peak demand reduction.
- A flat incentive for peak demand reductions, in addition to the energy incentive, addresses two industry concerns. To achieve the same magnitude of energy savings as under the previous Title 24 code versions. There is also widespread recognition in the CLTEESP that achieving the state’s aggressive goals will require increased incentive levels to offset the effects of diminishing returns.

Design Team Incentives

SBD offers Design Team Incentives (DTI) for WBA projects to support the extra effort on the part of design teams for integrated energy design and to reward exceptional design accomplishments within the framework of the WBA. In addition, SBD will continue to develop a mechanism by which design firms are offered extensive technical support in building their in-house energy modeling capabilities. This assistance is intended to help design firms overcome the initial learning-curve barriers that have kept many from undertaking energy modeling for energy efficiency measure alternatives analysis when programming buildings.

By forming alliances with design firms to ramp up their internal energy modeling resources, SBD will achieve increased market penetration for the WBA. SBD will support the long-range vision of the CLTEESP by encouraging the design community to consider energy efficiency as an equally important component of every building’s programming.

For 2013-2014, the Design Team Incentives will equal one-third of the owner's incentive. The threshold for design teams to begin earning a DTI is the same as that of the owner: 10 percent better than code. Additionally, 50 percent of the DTI will be paid to the design team upon acceptance of the Owner Agreement and all supporting analysis and documentation. The design team will be required to conduct energy modeling with comparison of alternatives. These analyses will be contained in a report prepared by the design team that is presented to the project owner and accepted by the utility. The DTI will be capped at \$50,000.

If a design team elects not to perform energy modeling for the DTI approach on a WBA project, SBD will provide comprehensive energy modeling services to the customer and their design team. These Design Assistance (DA) services have proven successful over the past years in providing energy calculations, design facilitation, and energy recommendations that provide the guidance and information building owners need to make well-informed design and construction decisions for their facilities. In many cases building owners find that design assistance is the main influence in their including energy-efficient options in their building - even more influential than a direct incentive. In all such cases, SBD will track and report such results toward its program goals. If design assistance services are provided, Design Teams become ineligible for incentives or their own.

Simplified Approach for Small Projects

Continuing into 2013-2014, SBD will further develop and if ready offer a mass-market simplified approach for small projects to participate in the program. SBD has historically achieved very high penetration rates with mid-sized and especially large new construction projects. However, numerous barriers exist to deeply penetrating the small-project market. Such barriers are typically centered on the extensive level of design assistance provided to SBD projects. From the customer's perspective, small projects often do not warrant the high level of involvement and documentation that participating in the standard systems approach or WBA requires. For the SBD program, these small projects are not cost-effective to deliver the extensive suite of design assistance services typically provided to all SBD projects.

To overcome these barriers, the simplified approach will offer web-based advice on common energy efficiency strategies applicable to customers' project types through an internet portal. The customer's Title 24 compliance documentation will be accepted as documentation for implementing these strategies. A project size threshold will be set to prevent overlap between the simplified approach and the systems approach. Incentives will be designed to overcome the capital cost barriers typically present on projects in this size range.

Initially, small offices, religious facilities, elementary schools, and strip malls have been identified as customer segments that will directly benefit from a simplified SBD approach. The simplified approach will target these projects first, adding in other segments as they are identified as having high potential to benefit.

Elementary school projects that apply too late in the design process to participate in SBD will be directed to Third Party New Construction programs as applicable.

Sustainability Incentives

SBD offers additional financial incentives beyond direct energy and demand reduction incentives to systems approach and WBA projects that perform building commissioning (Cx) during design and construction, and/or install end use monitoring equipment to trend building performance in the lighting, plug load and HVAC areas.

An incentive for building commissioning directly supports the realization of the energy savings that were modeled in the package of energy efficiency recommendations presented by SBD and chosen by the customer for the project. An incentive for Cx ensures that the facility is operated in a manner consistent with achieving the maximum benefit from the installed energy efficiency measures. This helps to ensure that the state will receive the full benefit of the installed measures.

The Sustainability incentives will take the form of a multiplier, i.e. Commissioning incentive is 1.1 and End Use Monitoring incentive is 1.2, to be applied to the owner's base incentives. Whole Building Approach and Systems Approach projects are eligible for these incentives. Projects participating in the Simplified Approach method are not eligible for Sustainability incentives.

Financing of energy efficiency upgrades continues to be a barrier in achieving full savings potential. To help overcome the barrier of financing higher efficient equipment in Savings By Design projects, the program will explore leveraging the Statewide EE Financing program as directed by the CPUC in 2013-2014.

e) Integrated/coordinated Demand Side Management

At a minimum, all marketing materials developed to support energy efficient design process will cross promote demand response to educate customers on the availability of IOU DR programs. Additional work will take place during the three-year program cycle to evaluate closer linkages between EE and DR.

Integrated Design

The integrated design process encourages facilities to be designed with energy efficiency included as an objective from the start. When done correctly, it is likely that the overall cost of construction for the energy-efficient building will not exceed the cost of the building at minimum code compliance. The focus of this offering is to provide an incentive to design teams at the earliest stages of the design process.

f) Integration across resource types

The Savings By Design Program is designed to be implemented with fuel neutrality. Wherever possible, program management staff will highlight potential water savings and work with the local water utilities to incorporate water savings into the program. SCE and SCG have signed a joint agreement to exchange therms and electricity savings derived from projects they have been able to secure, so lost opportunities are minimized.

Industry Integration

SBD field delivery staff will develop a full spectrum of energy use and sustainability program offerings by collaboratively working with applicable electric, gas, water and other industry groups. Issues such as energy savings associated with water use efficiency and embodied energies in building materials and transportation will be explored and analyzed to identify potential new sources of energy savings.

SBD will interact with the California Lighting Technology Center to encourage aggressive lighting recommendations which revolve around LED task lighting, LED down lights, effective day lighting and various outdoor lighting applications such as parking garages, exterior lights, walkway and parking lot lighting.

Program Integration

SBD field delivery staff will collaborate with demand response and self-generation programs, as appropriate, to combine program offerings into a customer-friendly and easy-to-use program. Technologies, such as building-integrated photovoltaic systems and energy management systems that are flexible enough to respond to new demand response strategies, are obvious strategies that can be integrated into a whole building approach to educate designers in the benefits of their adoption in new construction.

SBD will continue its integrated partnership with the Emerging Technology group in bringing new and innovative technologies and designs into the mainstream commercial new construction market. One of the highlights of this partnership is the *Office of the Future*, a program designed to address new ideas for energy efficiency in the commercial buildings market.

Office Of The Future is geared primarily to impact the tenant improvement process for existing office space but is also viable for new construction projects and new tenant improvement projects occurring in Class A office building shells. In addition to high quality, energy efficient lighting, *Office of the Future* also addresses plug loads, HVAC performance, advanced metering technologies for performance verification, and demand response thermostats.

The program is being re-designed to be user-friendly so it will be welcomed by the leasing/tenant improvement market and perceived as a business benefit, both from an environmental standpoint and from the potential incentives perspective.

g) Pilots

Not Applicable

h) EM&V

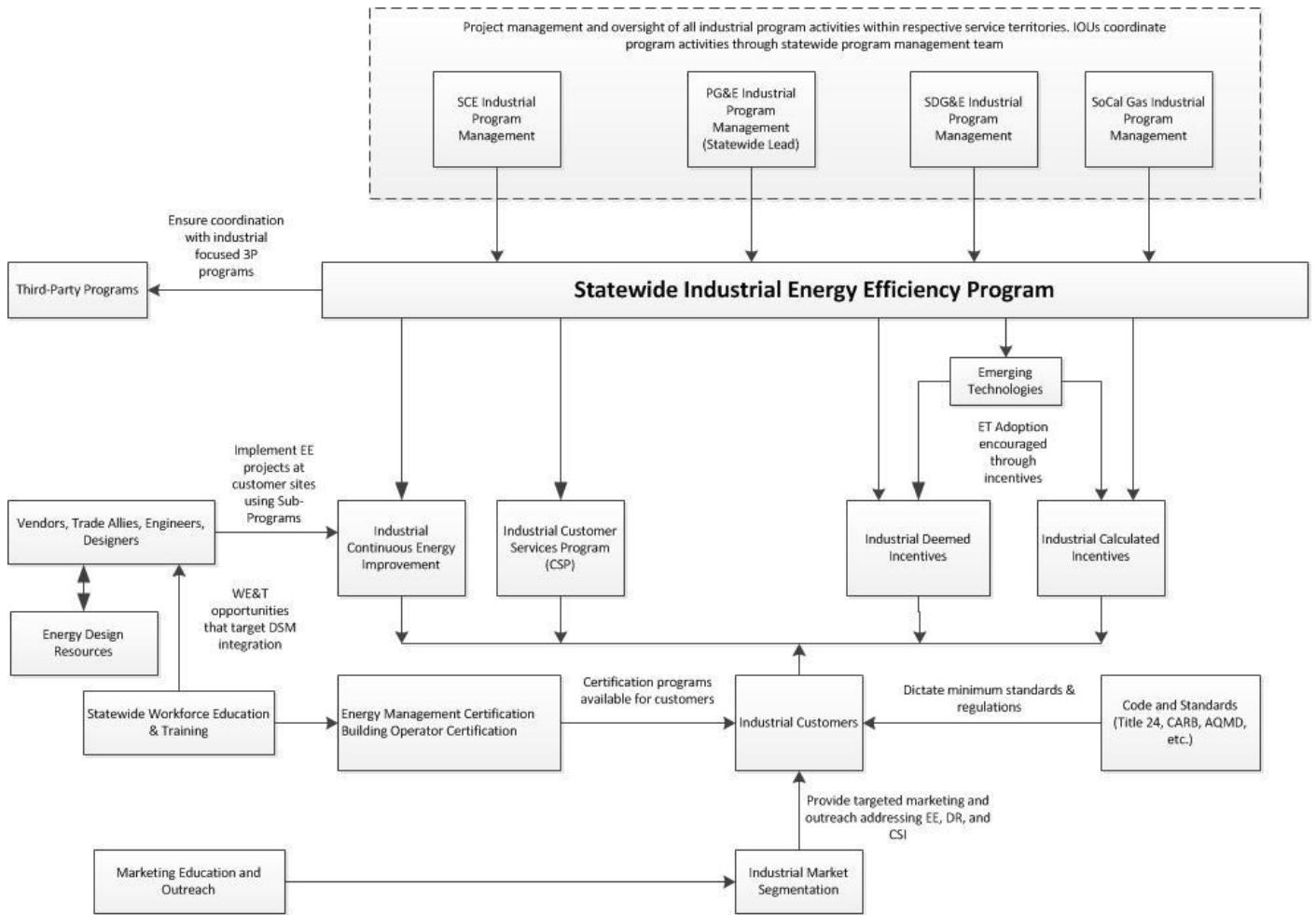
The utilities will work with the Energy Division to develop and submit a comprehensive EM&V plan for 2013-2014 cycle, after the program implementation plans are filed. This plan will include process evaluations and other program-specific studies within the context

of broader utility and Energy Division studies. More details plans for process evaluation and other program-specific evaluation efforts will be developed collaboratively by the utilities and Energy Division. Development of these plans will occur after the final program design is approved by the CPUC, and in many case, after the program implementation has begun, since the plans need to be based identified program design and implementation issues. The utilities plan to work together and with the Energy Division to develop a complete plan for 2013-2014 studies and budgets after the program plans are finalized and filed. EM&V efforts will be an important component as the IOUs move forward with the demonstrations of deeper energy efficiency, whole building demonstration projects. In an effort to explore the appropriateness of various measures of whole building savings – many using interval meter data – the IOUs will consider parallel EM&V with such demonstration projects; a key component to successful evaluation of these new approaches.

Detailed plans for process evaluations and other evaluation efforts specific to this program will be developed after 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:

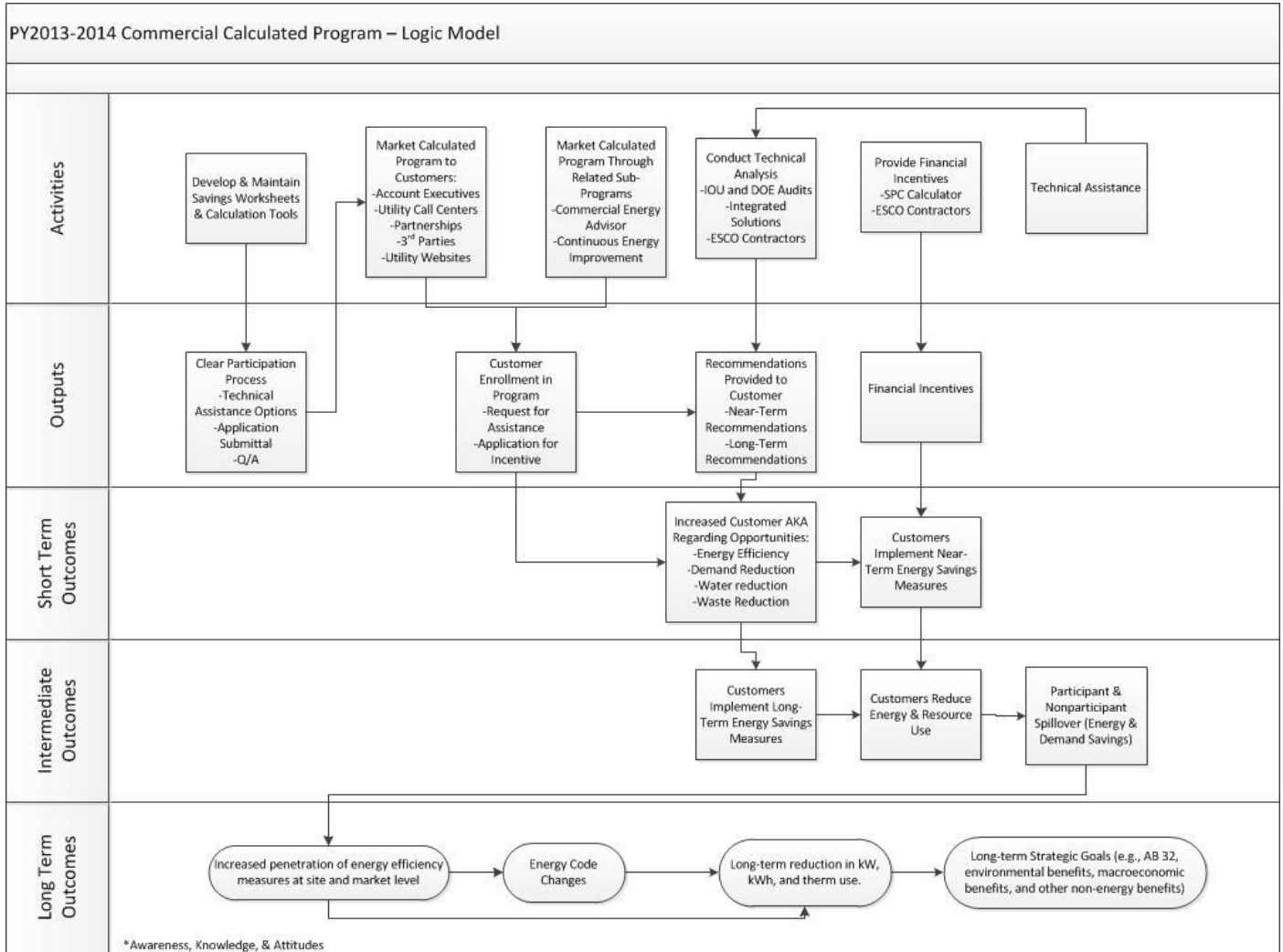
- Conduct evaluation to track the all proposed key metrics,
- Work with ED to resolve market baseline and transformation issues.
- Conduct specific process evaluation to improve program design, implementation and market effectiveness.

7) Diagram of Program



8) Program Logic Model

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. In addition, this Resolution approved updated logic models for the statewide programs. As there were no revisions to the original logic model for the Commercial Calculated Incentives Program, this logic model is left unchanged.



2d) Commercial Deemed Incentives, core sub-program

4) Program Description

a) Describe program

The statewide Commercial Deemed Incentives sub-program provides rebates for the installation of new energy efficient equipment. Deemed retrofit measures have prescribed energy savings and incentive amounts and are generally intended for projects that have well defined energy and demand savings estimates (i.e., T12 to T8 replacements). The Commercial Deemed Incentive mechanism is designed to help influence the installation of energy efficient equipment and systems in both retrofit and added load applications by reducing the initial purchase costs of such equipment and reducing the “hassle” of participating in utility rebate programs by offering a simple application process.

The Commercial Deemed Incentives sub-program directly addresses key market factors that lead to higher energy costs for California businesses. Providing a menu of prescribed common measures simplifies the process of reviewing project proposals and provides a "per-widget" rebate that reduces the cost of retrofitting outdated and inefficient equipment. This sub-program makes it attractive for customers to spend money in the short-run in order to achieve lower energy costs in the long-run.

b) List of Measures

The following measure categories are eligible for Commercial Deemed Incentives:

- Lighting
- Air conditioning equipment
- Food service equipment
- Refrigeration
- High efficiency water heating
- Plug load

Audits are an important tool for marketing and increasing the uptake of EE measures. Nonetheless, an audit is not a prerequisite for deemed incentives. In fact, deemed incentives are specifically designed for ease of use, and the goal is to decrease, rather than increase, any administrative burden on customers opting for deemed incentives. Utilities are exploring higher deemed incentives for customers completing an audit as part of their application.

Deemed energy efficiency rebates for businesses will be part of the integrated strategy to promote energy efficiency with non-residential customers. The Statewide Commercial Deemed Team will hold regular conference calls and in-person meetings to share successes challenges, and best practices in delivering energy efficiency via deemed incentives. When appropriate, the Commercial, Industrial, and Agricultural segments will

meet as a statewide entity to share successes challenges, and best practices in delivering energy efficiency to each market sector and associated sub-segments.

Commercial Deemed Incentives will work with the other sub-programs to design customer facing marketing materials that integrate EE offerings into a complete energy savings package that is focused on individual market segments.

c) List Non-incentive Customer Services

The Commercial Deemed Incentives sub-program is primarily an incentive program designed to achieve energy savings through measure implementation; however it does provide such non-incentive measures as technical consultation and application preparation assistance to help customers navigate through the application process. This assistance ensures that the sub-program captures lost opportunities by not allowing projects to fall behind schedule simply because the customer does not have the resources to shepherd through the process.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Indicators (MTIs)

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

See Appendix H – refer to the overarching program for quantitative baseline metrics

b) Market Transformation Indicators (MTIs)

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

See Appendix H – refer to the overarching program for quantitative baseline metrics

c) Program Design to Overcome Barriers

The Statewide Commercial Deemed Incentives sub-program offers customers rebates to implement energy efficiency measures that have been identified primarily through standard utility energy efficiency audits, in-depth facility/process assessments or retro-commissioning studies. The sub-program is designed to help commercial customers overcome barriers to adopting energy efficiency program measures by reducing financial costs to the customers for the implementation of energy efficient measures that address major end-uses (e.g., lighting, HVAC, plug loads). Additionally, the easy-to-use online and paper application process reduces that hassle and transaction costs generally associated

with commercial deemed incentives, where engineering calculations and pre- and post-monitoring may be required.

Furthermore, to ensure equity to all business customer segments, this program will continue to offer statewide-consistent, cost-offsetting itemized rebates to help customers with the cost of installing new energy efficient equipment.

Incentives and savings payouts will be based upon deemed measures in the DEER database or through work papers.

The Commercial Deemed Incentives sub-program delivers a consistent message statewide to commercial customers about the benefits, energy savings and GHG reductions that efficient technologies and “best operating practices” offer. This eliminates the barrier often run into by commercial customers of getting incorrect or out-of-date information from local networks.

The Commercial Deemed Incentives sub-program not only brings IOU incentive information to customers, but in many instances also provides additional information about other opportunities for project assistance, such as State or Federal funds available for energy efficiency projects, Tax incentives or other local sources of project funding.

In several instances, high efficiency Emerging Technologies are viable, but are unknown to facility owners and system designers and thus, are slow to penetrate the market, causing energy efficiency opportunities to be “lost.” The Commercial Deemed Incentives sub-program helps speed market penetration and associated energy savings for Emerging Technologies by offering “premium” incentives for emerging technologies that are “proven” but not widely employed in the markets for which they are intended (e.g., solid state lighting, advanced lighting controls).

d) Quantitative Program Targets

The targets provide herein are best estimates, but nonetheless are forecasts.

Table 5

Program Name	Program Target by 2013	Program Target by 2014
Projects	1500	1500

e) Advancing Strategic Plan goals and objectives

The unifying objective of the Strategic Plan is to employ market transforming strategies to encourage marketplace adoption of energy efficient measures to a point that public investment in energy efficiency is no longer necessary (Section 1, page 4). The Deemed Incentives sub-program will support this effort by employing two of the five market transformation policies identified in the Strategic Plan. Specifically, the Program will offer

“carrots” in the form of financial incentives to help pull the marketplace towards energy efficiency. The Deemed Incentives sub-program will also provide education and informational resources through marketing and program outreach efforts. Therefore, these program elements will work in concert to transform the market towards sustained, long-term energy savings.

The program will help to achieve the following near-term strategic goals as identified in Chapter 3 of the Strategic Plan:

- 2-3: Ensure compliance with minimum Title 24 codes – The Commercial Deemed Incentives sub-program only provides incentives for projects that exceed current Title 24 minimum baselines. Incentive rates will be created to encourage the implementation of advanced technologies (e.g., solid state lighting) to ensure deeper levels of energy reductions including implementation of the Office of the Future Consortium’s Phase 2 recommendations, “The 25% Solution”, which seek to reduce energy usage 25 percent below Title 24-2005 baselines.
- 2-5: Develop tools and strategies to reduce energy consumption in commercial buildings – The Commercial Deemed Incentives sub-program directly supports this effort by collecting data and conducting energy use and efficiency studies that, when collected over multiple IOU service territories, will be very helpful in supporting statewide efforts to establish a robust and useful knowledge base for the commercial sector.
- 2-7: Develop business models that deliver integrated energy management solutions – The Commercial Deemed Incentives sub-program will coordinate with the Energy Advisor subprogram offerings for options to implement incentive mechanisms that will “reward comprehensive energy management retrofits” such as incentives for reaching certain stretch goals that produce significant energy savings beyond an established baseline.
- 2-8: Improve utilization of plug load technologies – The existing incentive structure pays for energy reductions through plug load measures. Additional incentives that encourage greater penetration of plug load technologies may be required and will be developed to support technologies recommended by CEC, the Office of the Future Consortium.

6) Program Implementation

a) Statewide IOU Coordination

The Statewide IOU Coordination process, described in detail in the Statewide Commercial Energy Efficiency Program, will ensure continuous improvement and consistent implementation of all of the sub-programs. The discussion below will focus on how the IOUs will coordinate the Commercial Deemed Incentives sub-program specifically.

The Statewide IOU Coordination process for the Commercial Deemed Incentives sub-program will be as follows:

- Hold Regular Program Manager Meetings – The Deemed sub-program managers from each of the IOUs will meet on a regular basis. The sub-program managers will unify, to the extent possible, the implementation of program aspects such as Program name, Program delivery mechanisms, Incentive levels, marketing and outreach plans, and IOU program interactions. The sub-program managers will also discuss new innovations and develop solutions to overcoming implementation challenges. Therefore, the regular meetings will focus on issues specific to the Deemed sub-program only.
- Designate an IOU Program “Lead” – One of the sub-program managers that participates in the regular meetings will be the designated Deemed Program IOU “Lead”. The IOU lead will represent the sub-program at the regular Statewide Steering Committee meetings.
- Participate in Regular Steering Committee Meetings – The IOU lead will be responsible for attending the regular Steering Committee Meetings and sharing Commercial Deemed Incentives sub-program innovations, experiences and challenges that have the potential to impact multiple sub-programs or the core Commercial Energy Efficiency Program as a whole.
- Adopt Program Enhancements - Once the Steering Committee agrees that a specific innovation or implementation policy has merit on a statewide level; the IOU lead will distribute the information to the Deemed sub-program managers by email or at the next regular meeting for adoption and integration. Therefore, the IOU lead will act as a conduit feeding Deemed sub-program-specific information up to the statewide Steering Committee and distributing measures for adoption back to the Deemed sub-program managers.
- Evaluate Program Enhancements – To complete the adaptive management loop, the Deemed sub-program managers will track the success of the adopted statewide enhancement or implementation policy and report any challenges or concerns at the regular Commercial Deemed Incentives sub-program meeting. The IOU lead will report any challenges that transcend the Commercial Deemed Incentives sub-program to the Steering Committee, who will determine whether further course corrections are needed.

By following the process stated above, the Commercial Deemed Incentives sub-program managers will play a critical role in ensuring unified implementation on a statewide level over the course of the three year implementation cycle. Sub-program innovations and challenges will also feed productively into the higher-level Steering Committee process, where the IOU lead will act as participant and conduit between both statewide coordination systems.

The coordination and unity of all program aspects, such as Program name, Program delivery mechanisms, incentive levels, marketing and outreach plans, and IOU program

interactions, will be handled through this statewide coordination framework. However, these aspects will start off at a high level of statewide consistency. In rare cases, there will be IOU-specific deviations. Such instances where one IOU will favor a different approach than the other IOUs will be called out in italicized text throughout the Deemed Incentives sub-program.

i. **Program name:** Deemed Incentives

ii. **Program delivery mechanisms**

Deemed Incentives will be primarily delivered via paper or online application. Measures and incentive levels will be the same across IOUs, unless markets in the individual IOUs require adjustments based on research, communication with industry, and/or changes in the economic landscape.

iii. **Incentive Levels**

Incentive levels vary by measure type, but will be offered consistently across IOU service territory except where local market conditions necessitate different amounts. Higher incentive levels will be provided for Emerging Technologies to spur traction in the market as feasible. The level of increased incentive for emerging technologies will be evaluated on a measure by measure basis dependent on kW, kWh, equipment cost, other market factors and cost effectiveness.

iv. **Marketing and outreach plans**

The Deemed Incentives sub-program will be marketed through IOU account executives, as well as through third-party programs, trade allies, educational, outreach and other marketing activities. Marketing activities will target business customers, ESCOs, trade associations, local business groups and government entities to generate interest and program participation. In addition, direct customer contact by account executives, Demand Response Program outreach, phone and e-mail support will be provided.

In 2013-2014, the IOUs will implement segmentation research and messaging. Marketing campaigns will provide a wide range of action-oriented solutions targeted to “personas” identified through segmentation research. In addition, marketing efforts will be “bundled.” That is, a menu of demand response, energy efficiency and conservation programs will provide customers a full array of EE and DR options. By providing packaged energy management solutions for each industry segment, the IOUs will be better able to communicate with and serve customers.

Marketing efforts will incorporate a variety of marketing tactics and activities to promote the solutions in the Deemed Incentives sub-program. Education, awareness and outreach efforts will rely on a combination of mass media and targeted communication channels to ensure that messages reach the intended audiences with enough frequency to motivate attitude and behavior changes. The marketing strategies may include, but are not limited to, a mix of print, direct mail, e-mail, personal contact, trade shows, trade association

meetings, customer workshops and seminars, energy-related and other community events and partnerships with business and industry organizations, specialized collateral, case studies, website links and information with regular updates, bill inserts, press releases, and newspapers.

Additionally, IOUs may investigate piloting alternative channel marketing and outreach options that utilize community-based organizations and/or third parties to recruit small businesses and influence them to take actions that result in energy efficiency improvements. Local government partnerships, regional and community entities tend to interface with small businesses with some regularity; therefore, partnering with these organizations could prove to be a viable delivery option. A marketing and outreach campaign with Business Improvement Districts through our Local Government Partnerships, will serve to educate and increase engagement in a segment that is hard to reach.

v. **IOU program interactions**

The Deemed Incentives sub-program managers will partner with the programs as appropriate offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to co-brand program information and marketing collateral with this sector's customers, to the extent possible. Conventionally, each government agency and utility has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. For customers who are regulated by or interested in more than one resource issue, comprehensive information that discusses all resource efficiency issues will benefit the customer to the mutual advantage of the single resource programs.

With respect to water conservation, utility program managers will partner with the local water districts to co-brand marketing collateral, attend trade shows, and co-release brochures, for programs with interactive water and energy effects. Similarly, with ARB and Air Quality Management Districts, IOUs will offer customers Deemed sub-program incentives for energy efficient equipment that may also reduce air and GHG emissions.

vi. **Similar IOU and POU programs**

The IOUs will be delivering many third-party programs that utilize the Deemed Incentives sub-program infrastructure. This will help ensure a consistent delivery of measure incentives and protect programs from undermining each other and detracting from achieving cost-effective energy savings.

b) Program delivery and coordination

i. **Emerging Technologies program**

To meet California's future energy efficiency goals, both in terms of overall usage and peak demand usage, new technologies and new applications of technology are needed. The Commercial Deemed Incentives sub-program will seek support from ETP's incubation and development of new technologies to meet the needs of the marketplace. ETP provides the pipeline of new technologies that the Commercial

Deemed Incentives sub-program looks to incorporate to maintain a robust selection of energy savings equipment. The program will look to ETP to provide customers with technology information, validating effectiveness as an unbiased and neutral expert.

Deemed incentives will be primarily delivered via paper or online application. Measures will be the same across IOUs and incentive levels will also be aligned, unless markets in the individual IOUs require adjustments based on research, communication with industry, and/or changes in the economic landscape.

ii. Codes and Standards program

The Commercial Deemed Incentives sub-program relies on Codes and Standards to help maintain an updated and relevant list of measures that support savings. As codes and standards impact measures, the Commercial Deemed program will act to align itself with appropriate offerings. It is important to manage the measure life cycle to take full advantage of providing incentives before moving them into codes and standards. Programs will include new offerings that will allow flexibility in adapting to changes in codes and standards, market trends, and technologies. Planned enhancements to Title 24 will be reflected in incentive levels and eligible measures and services. As the market moves toward “low energy” or “zero net energy” buildings, specific changes to each element of the bundling will be made to ensure the latest cost effective technologies/services (e.g., LEDs) are made available as these technologies transition from research and development to the mainstream.

iii. WE&T

WE&T is a portfolio of training and information programs that showcase energy efficient equipment found on the list of measures offered in the Commercial Deemed Incentives sub-program. Dissemination of information takes place through energy centers, technology test centers, and information and training program offerings. During classes, time is dedicated to energy efficiency programs and how to participate. In 2013-2014, a program representative will be available to deliver the EE message and answer questions.

iv. Program-specific marketing and outreach plans

The Deemed Incentives sub-program will be marketed through IOU Account Executives, as well as through third-party programs, educational, outreach and other marketing activities. Marketing activities will target business customers, ESCOs, trade associations, local business groups and government entities to generate interest and program participation. In addition, direct customer contact by Account Executives, Demand Response Program outreach, phone and e-mail support will be provided.

SDG&E will explore voluntary incentive-based approaches to encourage contractors and other industry professionals to complete the full bundle of Commercial – Deemed workforce development training. For professionals who

complete the pre-requisite courses and pass a high-road skill standards test, such approaches may include (as applicable):

- Allowing marketing or advertising differentiation;
- An incentive bonus; and/or
- Providing preference to these professionals during bid evaluation process.

Contractor recruitment efforts will be conducted primarily by SW WE&T program implementers through:

- The network of contractors already participating in C/I EE programs;
- Direct outreach through industry organizations with locally active memberships (e.g. IHACI, USGBC, IFMA, AIA, BOMA, etc.);
- Workforce development departments (to target unemployed general contractors); and
- Community Based Organizations with a proven track-record of effective outreach to the hard-to-reach workforce.

The IOUs will continue to build on and refine marketing plans and strategies used in past portfolios in the 2013-2014 cycle. This will involve developing marketing plans to deliver targeted messages to specific customers that resonate with their values and needs with the goal of increasing the market uptake of deemed incentives. These plans will coordinate and create timelines for activities, present strategic campaigns, establish targets and metrics, and include a performance monitoring strategy.

The following will be used as marketing and outreach channels:

- Non-contracted equipment vendors are a key delivery channel of the Commercial Deemed Incentives sub-program. Emphasis will be placed on building awareness with more vendors in the territory and training vendors on how to participate effectively in the program.
- Community-based organizations (CBOs), faith-based organizations (FBOs), non-profit organizations, and non-government organizations (NGOs) with unique access and following are expected to be emphasized as delivery channels.
- Trade associations and industry networks
- Enabling partners (financial institutions, trade associations, service providers, law firms, environmental organizations)
- Unique channels that offer complementary value propositions from the customers' perspective (e.g., energy, water, materials management, recyclables, corporate citizenry).

The ideal marketing mix will be assessed for maximum awareness and participation. Marketing and outreach coordination will be coordinated among the IOUs utilizing the statewide coordination process described above.

- v. Non-energy activities of program Integrated energy audits (described in the Energy Advisor Program sub-program) is the primary vehicle to promote project solutions that look across the various IOU DSM program offerings, as well as complementary options available through other entities (e.g., water agencies).

- vi. Non-IOU program interactions

The Commercial Deemed Incentives sub-program managers will partner with the programs offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to co-brand program information and marketing collateral with this sector's customers. Conventionally, each government agency and utility has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. For customers who are regulated by or interested in more than one resource issue, comprehensive information that discusses all resource efficiency issues will benefit the customer to the mutual advantage of the single resource programs.

With respect to water conservation, utility program managers will partner with the local water districts to co-brand marketing collateral, attend trade shows, co-release notices, for programs with interactive water and energy effects. Similarly, with ARB and Air Quality Management Districts, IOUs will offer customers Commercial Deemed Incentives sub-program incentives for energy efficient equipment that may also reduce air and GHG emissions.

- vii. CEC work with EPIC

As of June 2012, PIER no longer exists. However, the Program will interact with the Emerging Technologies Program to leverage new technologies to increase the list of measures available for energy efficiency projects. The portfolio staff actively works to incorporate promising emerging technologies and project in coordination with the applied research of EPIC..

- viii. CEC work on codes and standards

Planned enhancements to Title 20 and 24 will be reflected in incentive levels and in eligible measures and services.

- ix. Non-utility market initiatives

The sub-program will support, educate customers, and facilitate such initiatives as AB32, renewables, ANSI certification, facility benchmarking, Continuous Energy Improvement, California Green Building Initiative, and other initiatives as directed.

The IOUs will remain engaged in these efforts and work to influence the development of increasingly higher standards.

c) Best Practices

To maximize program effectiveness, best practices in Program Design and Implementation will be employed and shared amongst IOUs. Areas of best practices for the Commercial Deemed Incentive sub-program approach include:

- Best practices in Program Design:
 - Regular communication amongst IOUs is critical to effective program design.
 - Identify qualifying products simply and effectively (Examples; ENERGY STAR®, CEE).
 - Seek input from industry in the development of new programs. The IOU programs are trying to change how an industry operates from manufacturer design to the customers purchasing and maintenance practices.
 - Industry participation increases program volume and speeds market transformation.
- Best practices in Program Implementation:
 - Strive to simplify messaging and participation for the customer. (Look for the ENERGY STAR label, purchase from a qualifying products list)
 - Understand the key motivators that drive an industry and use that information to market your program. Make certain outreach efforts make your program visible to your customers and the market that is catering to your customers.
 - Always communicate program marketing and advertising plans in advance to appropriate industry channels. Advanced notice allows industry partners an opportunity to leverage off of utility marketing efforts and reinforce the messaging we are trying to get across.
 - Statewide coordination is important as it makes it easier for national chains and manufacturers to understand and support IOU rebate programs. Statewide coordination also includes regular meetings to share industry contacts, marketing strategies and lessons learned. Coordinated statewide participation at relevant industry events has reduced administrative expenses through cost sharing arrangements.

d) Innovation

Innovative aspects of the program for 2013-2014 include persistent integration of new and emerging technologies into the program processes. This will manifest itself in an increased emphasis on plug load technologies (in support of the Strategic Plan) and by aligning rebates with the recommendations of the Office of the Future Consortium to help make their “25% Solution” a reality.

Additionally, incentive mechanisms that emphasize peak demand reduction, addresses current economic downturn and better motivate customers to participate in energy efficiency incentive programs will be pursued. During 2013-2014 program cycle new incentive structures will be periodically evaluated and necessary changes may be made in order to enhance program benefits and performance, including measure bundling incentives. The IOUs will explore offering an audit to customers considering three or more measures in an effort to determine if the audit itself leads to implementation of deeper energy savings.

Where possible, IOUs will use integrated approach to addressing DSM opportunities. Innovative aspects such as merging energy efficiency and demand response analysis and converting recommendations to projects under Retro-commissioning and/or nonresidential Audits, processing and reviewing energy efficiency and demand response measures in a single application, providing analytical information about applicable distributed generation solutions will maximize customer adoption rates for most cost-effective energy management opportunities.

e) Integrated/coordinated Demand Side Management

Over the last few years, traditional DSM programs have learned that successful customer participation in one program leads to a likelihood of repeat participation in the same program. Additionally, this successful participation makes these customers likely candidates for other similarly related types of programs. While a successful program experience leads to repeat participation, there has been difficulty in cross pollinating similarly related types of programs with these candidates due to program-specific silos. To overcome the historic siloing of DSM, the Deemed Incentives sub-program will leverage lessons learned from SDG&E’s IDSM efforts by offering comprehensive, coordinated marketing and program delivery.

A primary issue when integrating energy efficiency and demand response programs is that the two programs are at financial odds with one another, as both programs often reduce the potential for each other’s financial incentives. For example, energy efficiency may reduce the overall baseline by which the demand response program’s incentives are based upon. Since benefits from long term energy savings derived from technological measures outweigh the temporary demand reduction benefits derived from behavioral actions, the program will offer additional incentives for energy efficiency measures that enable demand response when customers enroll, or are already enrolled, in demand response programs. In so doing, the program seeks to maximize the potential for both types of programs.

A secondary issue when integrating energy efficiency and demand response programs is that communications of both types of DSM program are often non-coordinated, since energy efficiency is typically technology based and demand response is often focused on behavior. Also, demand response efforts often happen prior to the summer “event season” and wane throughout the remainder of the year. To overcome these differences, the program will offer Integrated and coordinated year-round marketing through consolidated applications, collateral, web sites, and events, where applicable. Through bundling program elements and offering one program application, customers will have the opportunity to enroll in demand response programs in addition to energy efficiency programs.

The integration of energy efficiency and demand response programs presents several issues and, as stated previously, the sub-program seeks to overcome these issues by focusing on several tactics:

- Promotion and incentivizing of demand response enabling energy efficiency measures to ensure that energy efficiency is completed first to maximize potentials;
- Integrated and coordinated year-round marketing (e.g., applications, collateral, web sites, and events);
- Linking of program eligibility requirements (e.g., customer size);
- Provide unified technical assistance through enhanced EE/DR Audits through the TA/TI Program to allow for cross-harvesting opportunities;
- Integrated presence on utility websites; and
- Regular coordination meetings between energy efficiency and demand response program management.

f) Integration Across Resource Types

Integration across resource types (e.g., energy, water, and air quality) will be explored. Examples include working with Water Agencies to co-promote Food Service appliances that save water and energy and working with Air Quality Management Districts to co-promote Boilers and Water Heating measures that save energy and improve air quality.

g) Pilots

Not applicable

h) EM&V

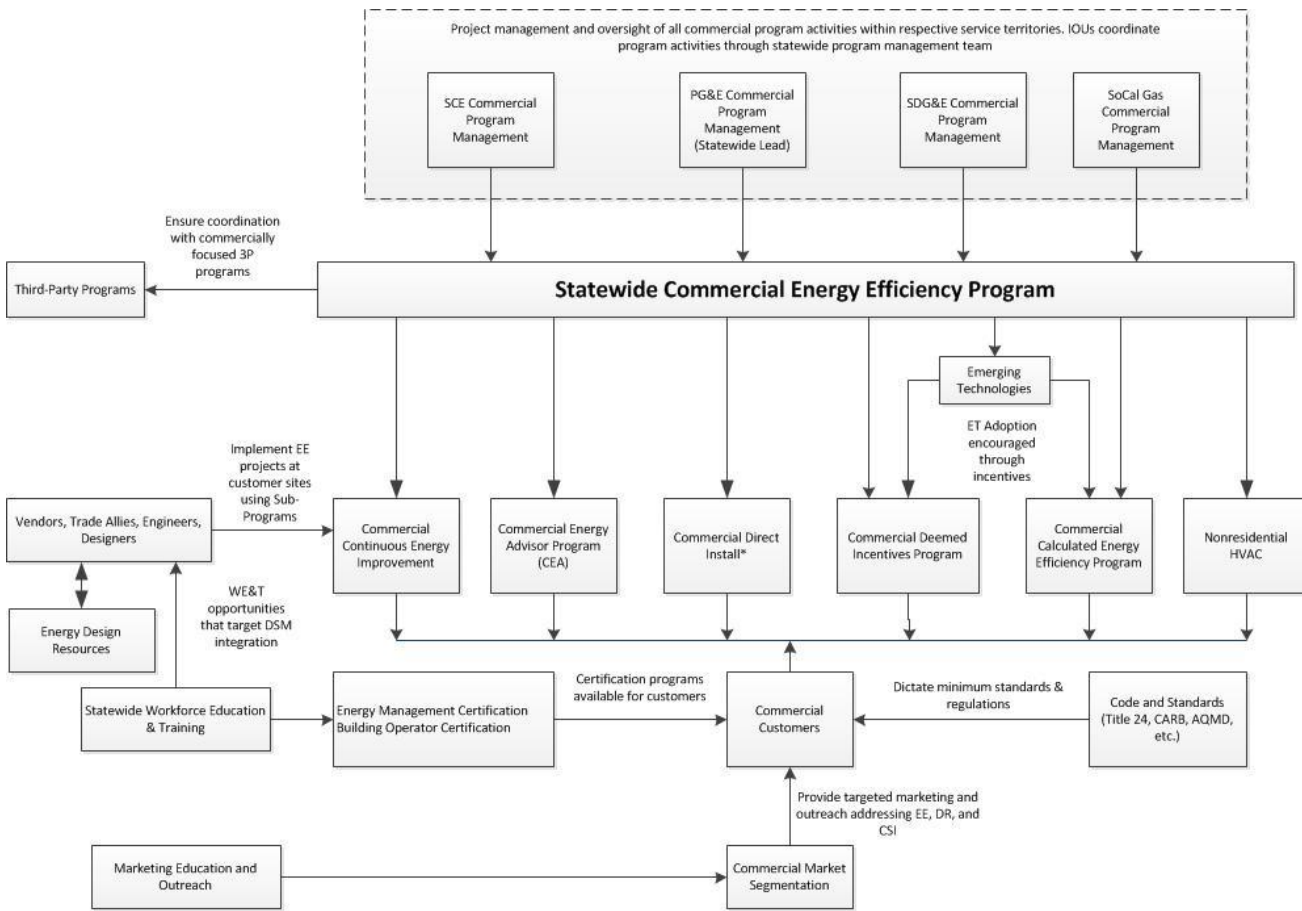
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V plan for 2013-2014 cycle, after the program implementation plans are filed. This plan will include process evaluations and other program-specific studies

within the context of broader utility and Energy Division studies. More details plans for process evaluation and other program-specific evaluation efforts will be developed collaboratively by the utilities and Energy Division. Development of these plans will occur after the final program design is approved by the CPUC, and in many case, after the program implementation has begun, since the plans need to be based identified program design and implementation issues.

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:

- Conduct evaluation to track the all proposed key metrics,
- Conduct specific process evaluation to improve program design, implementation and market effectiveness.

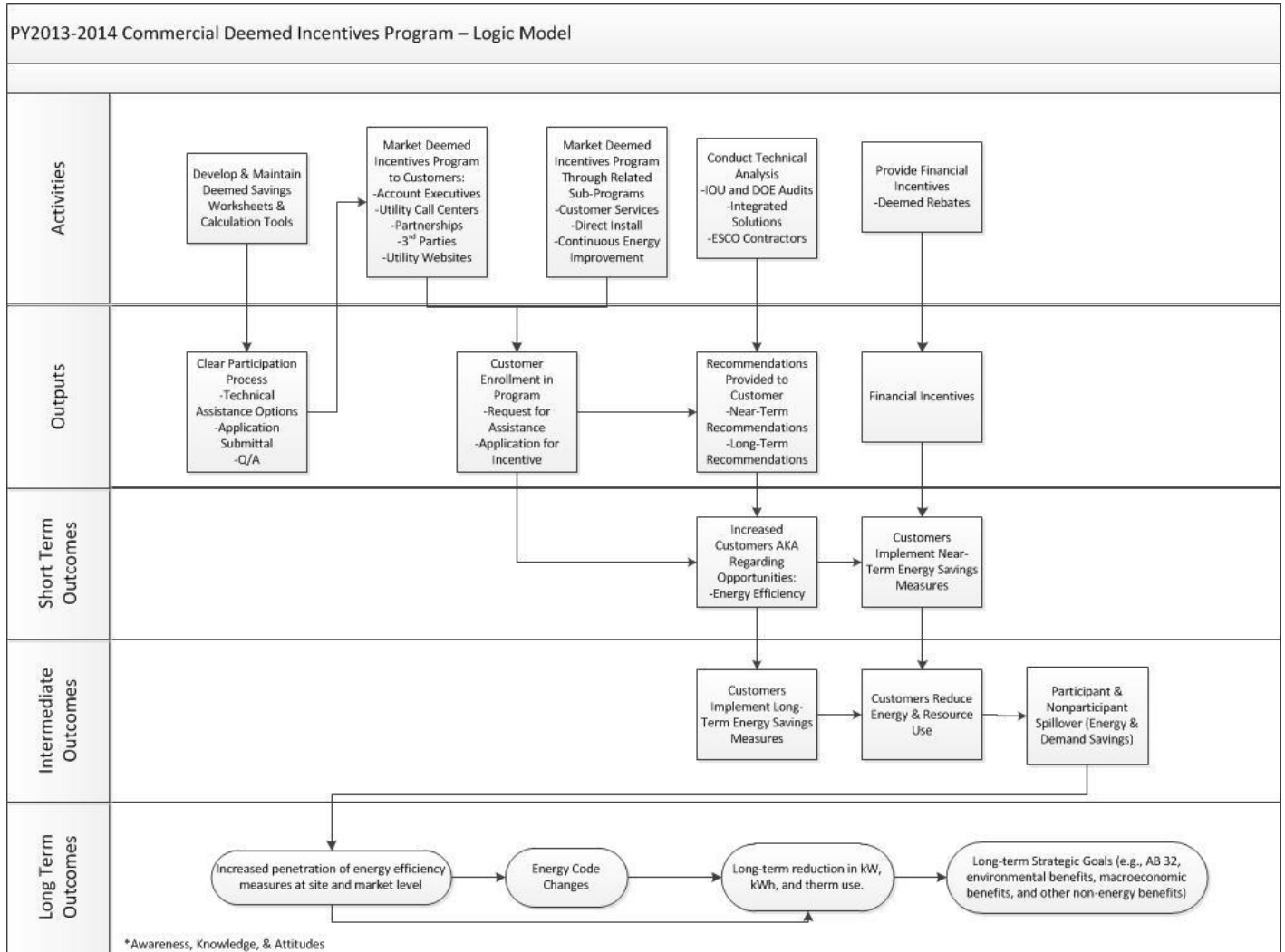
7) Diagram of Program



*PG&E and SCG deliver direct install through Local Government Programs and Third-Party Programs

8) Program Logic Model

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. In addition, this Resolution approved updated logic models for the statewide programs. As there were no revisions to the original logic model for the Commercial Deemed Incentives Program, this logic model is left unchanged.



2e) Continuous Energy Improvement, core sub-program

4) Program Description

a) Describe Program

The Commercial Continuous Energy Improvement (CEI) is a consultative service aimed at helping commercial customers engage in long-term, strategic energy planning. Corporate energy management is not currently part of normal business operations for the majority of utility customers. With current economic pressures forcing customers to reduce costs and focus more on their core business, it is likely to be further marginalized. CEI proposes to reintroduce the importance of energy management by transforming the market (and reducing energy intensity) through a comprehensive approach that addresses both technical and management opportunities and creates sustainable practices through a high-level energy commitment from executive and board-level management. CEI applies the principles of well-known business continuous improvement programs, such as Six Sigma and International Standards Organization (ISO) standards, to facility and plant energy management. These principles are: (1) Commitment; (2) Assessment; (3) Planning; (4) Implementation; (5) Evaluation; and (6) Modification. At each stage of customer engagement, a variety of complementary utility and non-utility products and services can be customized to fit different customer profiles and optimize the cost-effectiveness of the delivered energy management solution.

In 2013-14, CEI will be expanded to include select group of mid-sized non-residential customers. Available options to help target these customers may include an individualized, a small group, or a mass-market, remote deployment approach.

CEI will coordinate its services with the Energy Advisor sub-program offerings. CEI offers customers what can be considered the pinnacle of audit offerings guiding senior management to instill energy considerations in all management/business operational decisions and in long term energy planning.

Commitment

CEI begins with a high-level management commitment to improving energy performance, which increasingly can be combined with other environmental and regulatory commitments that energy users are developing in response to market and political pressures. A corporate commitment sends the top-down message to employees, partners, shareholders and vendors that energy is a priority issue requiring attention – like safety – and also paves the way for establishing the required company resources required to implement the steps of CEI. These resources can include capital, personnel like energy champions or teams, or technical systems and software required for energy management.

Gaining true customer commitment can take time, but is critical. In implementation, utilities will formalize the Commitment phase with more intensive customers through a

CEI participation agreement, which outlines the utility CEI services being offered as well as minimum customer expectations.

Assessment

Following Commitment, a comprehensive assessment is critical to identifying not only technical opportunities, but also systemic energy management practices and cultural shifts that can improve overall facility management practices and sustain continuous improvements towards long-term company targets. A component to the assessment will also include tools to help identify Energy Efficiency (EE), Distributed Generation (DG), and Demand Response (DR) opportunities.

Based on screening criteria, utilities will offer comprehensive energy assessment services using vetted sources like (but not limited to) those described below, to develop a customer specific strategic energy plan.

- ENERGY STAR's Guidelines for Energy Management, housed on the ENERGY STAR website, provide step-by-step guidelines to support CEI in general, and also guide customers to ENERGY STAR's numerous assessment tools. This option is a low-cost resource for smaller and medium customers interested in CEI.
- Energy Management Assessment Tools such as Envinta's One-To-Five, Achiever, or Challenger software products offer professionally facilitated energy management assessment with company decision makers and explores management practices and company priorities to develop a CEI roadmap for energy goals and actions.
- Integrated Energy Audits provide an inventory of technical facility end-uses and energy efficiency, demand response and self-generation investment opportunities. For a full description, see the Energy Advisor sub-program plan.

Benchmarking can compare the energy performance of a company, building, process, or piece of equipment against industry standards or comparable groupings. Benchmarking is a natural first step for the CEI process. Customers with multiple facilities find benchmarking useful to prioritize efficiency projects, track progress toward energy or GHG improvement goals or drive competition among similar benchmarked facilities. Units of measurement vary widely; for commercial buildings, the unit is energy used/square foot for a unit of time. Benchmarking can also be applied to other resources and environmental issues such as water use, CO₂, and emissions.

CEI Planning

Strategic energy planning involves setting energy goals and action plans around energy efficiency, demand response, and generation as appropriate. Planning for customers will typically involve Account Representatives and/or consultants. As is discussed in the Strategic Plan and in the Statewide Integration PIP, strategic planning can also include complementary non-energy considerations as well, such as GHG reduction, water efficiency, and waste-stream minimization, all which have embedded energy components.

Data and findings from a comprehensive customer assessment are critical in developing any comprehensive energy plan, including the results from technical audits or assessments, facility benchmarks, energy management assessments, and assessments of company priorities. This information is analyzed and used to develop realistic and achievable company goals and prioritized shorter-term tactics needed to achieve them. Energy plans should be living documents revisited and revised regularly.

Energy goals can vary widely and include elements such as resource utilization (“Company X will reduce its overall energy intensity by 3% over the next 3 years”), carbon reduction goals (“Company X will be carbon neutral by 2014”), or management oriented goals (“Company X will implement energy teams by 2013”). Goals can be stated in internal documents or can be made public through press releases as part of larger sustainability plans, which is increasingly important for large and public companies.

CEI will assist customers in developing and implementing action plans to execute the prioritized near-term activities in support of their company’s energy goals, as well as the resources, staff and schedule for tracking. Action plans typically includes activities such as:

- Prioritizing process systems or facilities based on benchmarking or company drivers,
- Identifying internal resources required to implement plans, and
- Developing project justification and incentive application documentation lists and detailed schedules.

CEI Implementation

In the implementation stage, utilities partner with customers to identify technical support and utility and non-utility resources available to support implementation of projects, such as rebates, incentives, third party and government partnership programs, and state and national resources, including:

- Statewide Commercial Deemed Incentives
- Statewide Commercial Calculated incentives for new construction/tenant improvement, retrofit and retro-commissioning and/or repair
- Third-Party and Government Partnership programs (described in the statewide and local third-party filings)
- Utility and non-utility financing options
- External and Internal engineer support

CEI Evaluation and Modification

In any continuous improvement program, evaluation is an ongoing process of comparing actual performance against company goals, targets and action plans. It may include:

- Repeating the benchmarking and system or facility baseline process annually,
- Assessing advancements in organizational and management practices that facilitate energy management improvements, or
- Evaluating cost savings per unit of production.

Regular evaluation will inform changes to goals and action plans moving forward

b) List of Measures

CEI does not provide incentives to customers, but ultimately facilitates the customer's implementation of energy efficiency projects through incentive programs. However, depending on the outcome of the 2012 process evaluation, customer incentives may be offered.

c) List Non-incentive Customer Services

CEI is a non-resource program that provides comprehensive strategic energy planning and consulting services for commercial customers. These services include: energy management assessments, energy planning, baselining and benchmarking, project implementation support, customer recognition (e.g., "corporate sustainability awards"), and web-based energy resources.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics and goals are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

See Appendix H – Refer to the overarching program for metrics

b) Market Transformation Indicators (MTIs)

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics and goals are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

See Appendix H – Refer to the overarching program for market transformation metrics

c) Program Design to Overcome Barriers

CEI is intended to address several market barriers that prevent wider adoption of energy efficiency practices. These barriers and the strategies to overcome them include:

- Lack of information – The CEI evaluation and modification process provides data that customers can use to reevaluate their commitment and/or modify their energy goals.
- Performance uncertainties – Through CEI's comprehensive baselining and benchmarking assistance, customers will have access to real-time data that demonstrates how their facility is performing relative to their established goals.

- Organizational customs – The high-level customer commitment that is at the core of CEI increases the likelihood that corporate cultures that prevent successful implementation of comprehensive energy policies.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts.

Table 5

Program Name	Program Target by 2013	Program Target by 2014
Number of Engagements	2	2

e) Advancing Strategic Plan goals and objectives

The program will help to achieve the following near-term strategic goals as identified in the Commercial chapter of the Strategic Plan:

2-1: State/Local Governments and Major Corporations Commit to Achieve EE Targets

CEI seeks to (1) gain corporate level commitment to energy efficiency as a core business operation; (2) develop corporate energy policies that establish measurable goals; (3) develop a actionable plan to achieve these goals; (4) guide customers to IOU programs that can help implement cost-effective EE projects; and (5) provide a feedback loop to measure performance. This codified process is designed to support the significantly greater energy efficiency performance desired by the Strategic Plan.

2-2: Develop Tools to Reduce Energy in Commercial Buildings

As part of the implementation of CEI, the utilities will partner with energy industry peers, industry associations and Department Of Energy/CPUC sponsored labs and consultants, to enhance the use of existing tools, and develop new tools to assist commercial customers reduce initial energy usage at their facilities, then continue to operate their facilities in an efficient manner. Current tools used for benchmarking tools and resources include those developed by the EPA for ENERGY STAR and by Lawrence Berkeley National Lab (LBNL) with CEC funding:

- ENERGY STAR Portfolio Manager Commercial Benchmarking: Benchmarks customer facility against a national database of similar NAICS codes for an ENERGY STAR score (0-100), kBtu/sq ft-yr, lbs CO₂/yr.
- Management Standard for Energy SME2000-2008
- DOE Superior Energy Performance
- ISO-50001

2-3: Develop Business Models to Deliver Energy Management Solutions

CEI's fundamental purpose is to achieve corporate level commitments from commercial customers to change their existing business models to consider energy usage and sustainability as a core part of their daily operations. This level of commitment will help achieve greater penetration of energy efficiency in the commercial market sector.

6) Program Implementation

a) Statewide IOU Coordination

The Statewide IOU Coordination process will ensure continuous improvement and consistent implementation of all sub-programs. The discussion below will focus on how the IOUs will coordinate the CEI sub-program specifically. The Statewide IOU Coordination process for the CEI sub-program will be as follows:

- **Hold Regular Sub-program Manager Meetings** – The CEI sub-program managers from each of the IOUs will meet on a regular basis. The sub-program managers will unify, to the extent possible, the implementation of program aspects such as program name, program delivery mechanisms, incentive levels, marketing and outreach plans, and IOU program interactions. The sub-program managers will also discuss new innovations and develop solutions to overcoming implementation challenges.
- **Input to Program Sector Lead Meetings** – The CEI sub-program managers will communicate to their Program Sector Leads the CEI sub-program innovations, experiences, and challenges that have the potential to impact multiple sub-programs or the Program as a whole. When a specific innovation or implementation policy has merit on a Statewide-level, the Sector Lead will distribute the information to the CEI sub-program managers by e-mail for adoption and integration.
- **Evaluate Program Enhancements** – To complete the adaptive management loop, the CEI sub-program managers will track the success of the adopted Statewide enhancement or implementation policy and report any challenges or concerns at the monthly CEI sub-program meeting.

By following the process stated above, the CEI sub-program managers will play a critical role in ensuring unified implementation on a statewide level over the course of the 2013-2014 program cycle. Sub-program innovations and challenges will also feed productively into the higher-level Program Steering Committee process, where the IOU lead will act as participant and conduit between both statewide coordination systems.

The coordination and unity of all program aspects will be handled through this statewide coordination framework. However, these aspects will start off at a high-level of statewide consistency. In some cases, there will be local IOU-specific deviations. Instances where certain IOUs favor a different approach than the other IOUs will be called out in italicized text.

i. Program name: Commercial Continuous Energy Improvement Program

ii. Program delivery mechanisms

As with other information and education sub-programs, CEI will be primarily delivered by IOU customer energy efficiency staff and contractors, service and sales representatives, website and marketing and outreach efforts. Other delivery channels may also be developed.

Where applicable, the Utility's account representatives will support this activity within the statewide industrial sector, as well as third parties, government partnerships, and Utility local programs.

iii. Incentive levels - N/A. (CEI is a non-resource program).

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

CEI will be available to all commercial customers meeting certain eligibility criteria to justify the cost of the offering. Criteria will include, but not be limited to, customer energy use, complexity, number of facilities, energy decision-making structure, and environmental commitment or demonstrated motivation. Collateral materials such as fact sheets, how-to documents, Power Point slides, case studies, etc., will be produced and distributed during sales calls, public events, association meetings, and/or trade shows. In addition, sponsoring and/or holding recognition events that present customers with awards for achieving specific levels of efficiency, sustainability and/or integration will be explored as a means to promote greater levels of participation.

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

CEI will include the CEC's Environmental Protection Indicators for California (EPIC) and Green Building Initiative programs, DOE's "ISO plant certification" programs, EPA EnergyStar Portfolio Manager benchmarking, EPA Building Performance with Energy Star and other programs, USGBC LEED certification, and local and other government incentive programs as applicable.

vi. Similar IOU and POU programs

Over the next two years, the IOUs will seek to increase their interactions with the POUs as applicable to promote the CEI concept throughout the state. This may involve the creation of periodic California energy efficiency program summits that seek to increase awareness of the Strategic Plan and how programs could/should be designed to help meet its aggressive targets.

b) Program delivery and coordination

CEI includes the following coordination efforts:

i. Emerging Technologies (ET) program

CEI implementation will include identification and project development at specific customer sites with potential for Emerging Technologies program participation and demonstrations.

ii. Codes and Standards program

CEI implementation will include information about pending new Codes and Standards program that may affect planning or prioritization of retrofit or new construction projects.

iii. WE&T efforts

CEI implementation will integrate with WE&T efforts by providing CEI process, lessons learned, and case study input to energy engineering curriculum designers for community colleges and universities. This activity will be coordinated through the Statewide WE&T program team and will ultimately be integrated into the web portal that team is now developing. IOUs will assess and support specialized **WE&T** training to help target working energy management professionals, industry professionals, and those pursuing education in universities and colleges.

IOUs will also continue with **WE&T** coordination to bridge the linkages and integrate sector strategy approaches. Program costs will be shared with WE&T.

iv. Program-specific marketing and outreach efforts

CEI will be marketed through utility account executives, as well as through educational, outreach and other marketing activities. Marketing activities will target business customers, ESCOs, trade associations, local business groups and government entities to generate interest and program participation. In addition, direct customer contact by account executives, Demand Response Program outreach, phone and e-mail support will be provided.

In 2013-2014, marketing campaigns will provide a wide range of action-oriented solutions targeted to “personas” identified through segmentation research. In addition, marketing efforts will be “bundled.” That is, a menu of demand response, energy efficiency and conservation programs will provide customers a full array of EE and DR options. By providing packaged energy management solutions for each industry segment the IOUs will be better able to communicate with and serve customers.

Marketing efforts will incorporate a variety of marketing tactics and activities to promote the CEI sub-program. Education, awareness and outreach efforts will rely

on a combination of mass media communication channels and targeted communication channels to help the messages reach the intended audiences with enough frequency to motivate attitude and behavior changes. The marketing strategies may include, but are not limited to, a mix of print, direct mail, e-mail, personal contact, trade shows, trade association meetings, customer workshops and seminars, energy-related and other community events and partnerships with business and industry organizations, specialized collateral, case studies, website links and information with regular updates, bill inserts, press releases, and newspapers.

The ideal marketing mix will be assessed for maximum awareness and participation. Marketing and outreach will be coordinated among the IOUs utilizing the statewide coordination process described above.

v. Non-energy activities of program

CEI implementation will include non-energy activities such as recognition awards, local area or sector competitions, awareness campaigns, education about non-energy related LEED points and definitions, and use of computerized financial analysis tools and cost estimating and forecasting tools.

vi. Non-IOU Programs

CEI implementation shall include information on Non-IOU Programs to expose customers to funding, such as from air or water agencies to support integrated efforts. The utility managers will partner with programs offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to develop co-branded program information and marketing collateral target to commercial-sector customers. Conventionally, each government agency and utility has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. Closer alignment with these other programs will be achieved in order to deliver the customer a more comprehensive solution. With respect to water conservation, utility program managers will partner with the local water districts to co-brand marketing collateral, attend trade shows, and co-release notices, for programs with interactive water and energy effects. Similarly, with ARB and Air Quality Management Districts, IOUs will offer customers Commercial Calculated sub-program incentives for energy efficient equipment that may also reduce air emissions.

vii. CEC work with EPIC

CEI implementation shall continually seek to promote the adoption of new technologies developed through the EPIC process and to expose customers to demonstration, research and/or pilot projects. The continuous improvement process envisioned by CEI will provide new equipment/processes, and methods that will enable customers to achieve energy efficiency “stretch” goals in a cost-effective manner.

viii. CEC work on codes and standards

The program will not be implemented with a direct linkage to codes and standards efforts. However, see Section 6.b.ii., above.

ix. Non-utility market initiatives

CEI will support Energy Management certification efforts (ANSI, ISO), engaging at the material level. Non-utility market initiatives such as education about federal tax incentives for energy efficiency investments is an example of a non-utility information and guidance that CEI sub program will provide customers.

c) Best Practices

CEI's approach applies the principles of well-known business continuous improvement programs, such as Lean Six Sigma and ISO standards, to facility and plant energy management, in order to achieve widespread adoption of long-lasting sustainable energy management practices in the commercial market sector. As stated above, these principles are: (1) Commitment, (2) Assessment, (3) Planning, (4) Implementation, (5) Evaluation, and (6) Modification. This approach can now be successfully implemented given the two-year program cycle for 2013-2014, allowing longer-term and deeper project development engagement with customers.

d) Innovation

CEI is a new way of packaging energy efficiency, demand response and self-generation products and services, aimed at helping customers engage in long-term, strategic energy planning. It proposes to transform the market and reduce energy intensity through a comprehensive approach that includes addressing both technical and management opportunities.

Depending on the outcome of the 2012 process evaluation, CEI may consider customer incentives to accelerate project implementation (including IDSM projects), and reward customer for implementing strategic energy management.

e) Integrated/coordinated Demand Side Management

CEI includes project analysis and implementation support of recommendations of Statewide Integrated Energy Audits which provide customers with an inventory of facility end-use breakdown and energy efficiency, demand response and self-generation investment opportunities. Over the last few years, traditional DSM programs have learned that successful customer participation in one program leads to a likelihood of repeat participation in the same program. Additionally, this successful participation makes these customers likely candidates for other similar related programs, but because of siloing – thinking of programs as separate, unrelated efforts – this has proved difficult. To overcome this historic barrier, the CEI sub-program will leverage lessons learned from IDSM efforts by offering comprehensive, coordinated marketing and program delivery.

A primary issue when integrating energy efficiency and demand response programs is that the two programs are at financial odds with one another, as both programs often reduce the potential for each other's financial incentives. For example, energy efficiency may reduce the overall baseline by which the demand response program incentives are based on. Since benefits from long term energy savings derived from technological measures outweigh the temporary demand reduction benefits derived from behavioral actions, the CEI sub-program will offer additional support and services for energy efficiency measures that enable demand response when customers enroll, or are already enrolled, in demand response programs. In so doing, the program seeks to maximize the potential for both types of programs.

A secondary issue when integrating energy efficiency and demand response programs is that communications of both types of DSM program are often non-coordinated, since energy efficiency is typically technology-based and demand response is often focused on behavior. Also, demand response efforts often happen prior to the summer "event season" and wane throughout the remainder of the year. To overcome these differences, the Program will offer integrated and coordinated year-round marketing through consolidated applications, collateral, web sites, and events, where applicable, which will give customers the opportunity to enroll in demand response programs as well as energy efficiency programs.

To support the integration of energy efficiency and demand response programs, the sub-program will focus on several tactics:

- Promotion and incentivizing of demand response enabling energy efficiency measures to ensure that energy efficiency is completed first to maximize potentials
- Integrated and coordinated year-round marketing (e.g., Applications, collateral, web sites, and events)
- Linking of program eligibility requirements (e.g., Customer size)
- Provide unified technical assistance through enhanced EE/DR Audits through the TA Program to allow for cross-harvesting opportunities
- Integrated presence on utility websites
- Regular coordination meetings between energy efficiency and demand response program management

CEI is recognized as an integrated element by supporting the statewide IDSM program's goals and objectives, and the IOUs will increase IDSM messaging and coordination within CEI.

f) Integration Across Resource Types

CEI implementation shall include information on Non-IOU Programs to expose customers to funding, such as from air or water agencies to support integrated efforts. IOU CEI sub-

program managers will partner as appropriate with CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to share program information, marketing collateral and financial incentive analysis with customers. Conventionally, each government agency and utility has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. For customers who are regulated by or interested in more than one resource issue, CEI will provide information about the mutual benefit of combining complementary resource programs.

In the effort to promote CEI, IOUs will seek out customers interested in complementary resource programs such as provided by water and air quality agencies. With respect to water conservation, utility program managers will partner with the local water districts to produce co-branded marketing collateral, attend trade shows, and co-release brochures, for programs with interactive water and energy effects.

g) Pilots

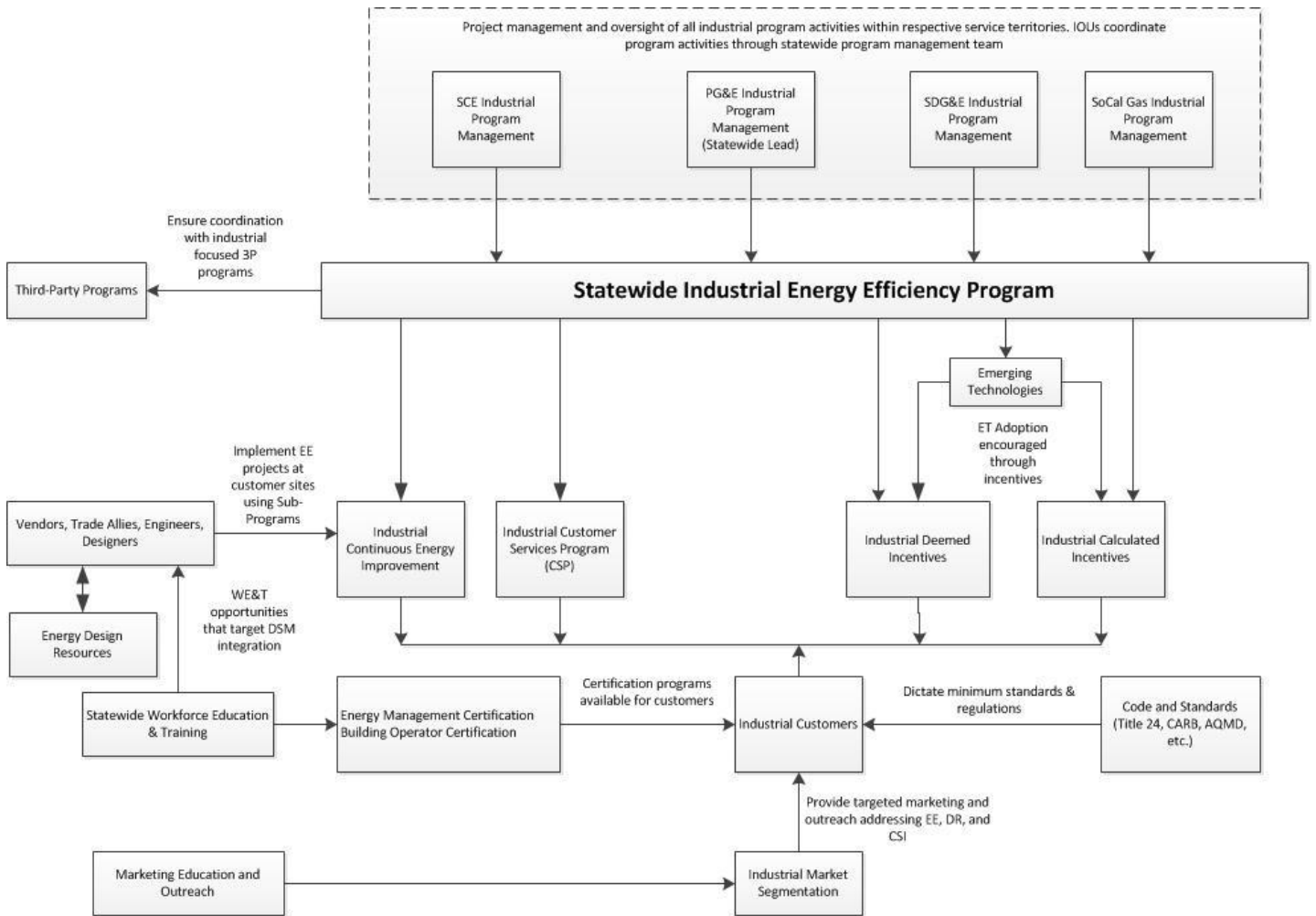
N/A

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2013-2014 after the program implementation plans are filed. This may 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.

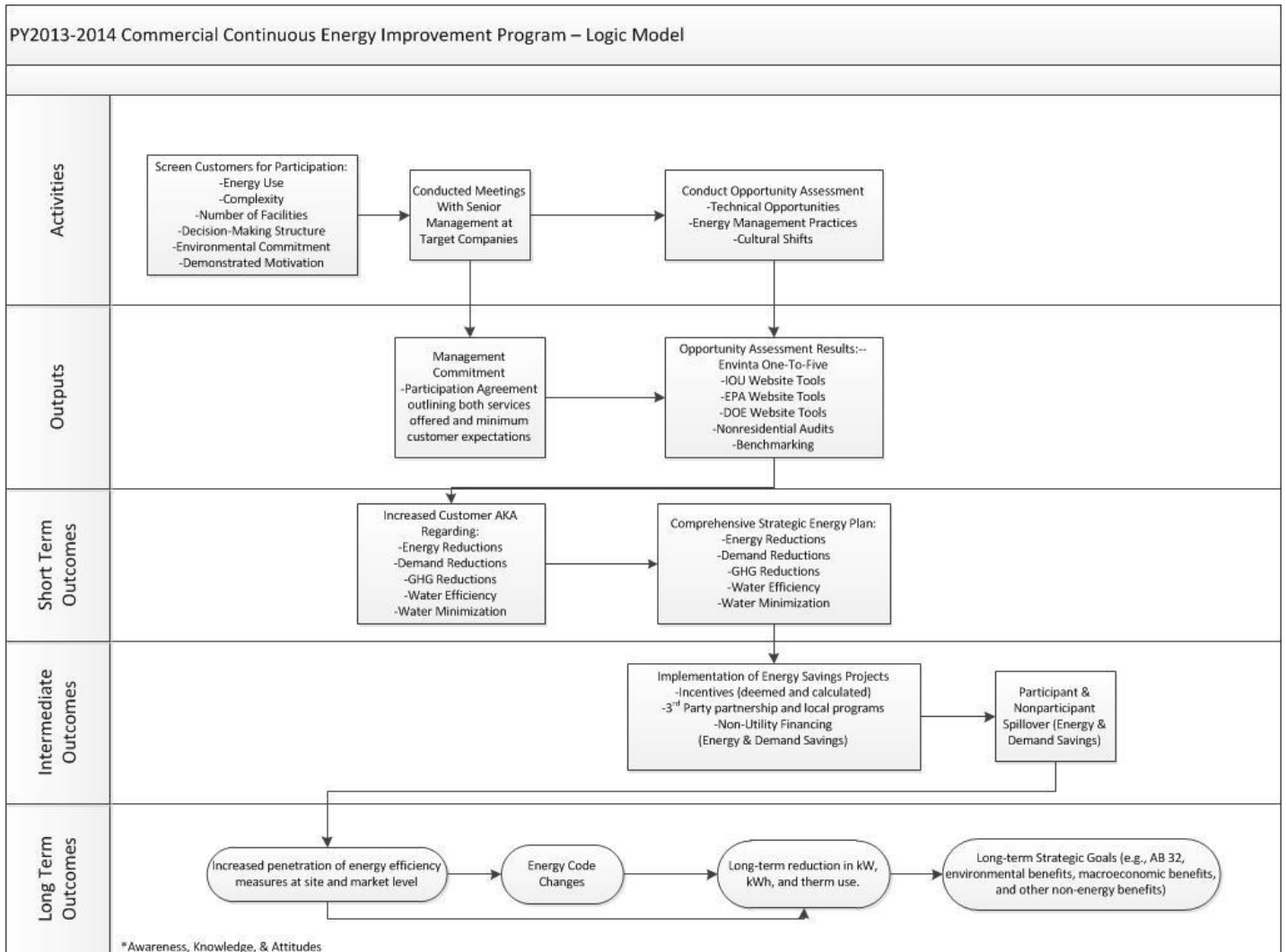
Once results of the 2010-2012 evaluations are ready, recommendations will be reviewed for modifying the CEI PIP accordingly.

7) Diagram of Program



8) Program Logic Model

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. In addition, this Resolution approved updated logic models for the statewide programs. Below is the approved logic model for the Continuous Energy Improvement Sub-program.



2f) Commercial Nonresidential HVAC, core sub-program

4) **Program Description**

a) Describe program

The Nonresidential HVAC Sub-program is a statewide program that will continue the transformation process of California's HVAC market to ensure that:

- HVAC technology, equipment, installation, and maintenance are of the highest quality;
- Quality installation and maintenance practices are easily recognized and requested by customers;
- The HVAC value chain is educated and understands their involvement with energy efficiency and peak load reduction; and
- HVAC market business models for installing and maintaining heating and cooling systems change from commodity-based to value-added service business.

The IOUs are building towards this vision for HVAC by implementing a comprehensive set of strategies that builds on existing program, education, and marketing efforts and leverages relationships within the HVAC industry to transform the market towards a sustainable, quality driven market. Through this state-wide HVAC Sub-program and the Western HVAC Performance Alliance group of industry stakeholders, we will continue to gain a better understanding of the market response to our programs as well as the behavioral implications of the various market participants, and then actively revise/update strategies and programs accordingly, as guided by the California Long Term Energy Efficiency Strategic Plan (Strategic Plan).

Market transformation and direct energy savings and demand reductions will be achieved through a series of Sub-program elements that are summarized below:

Upstream HVAC Equipment Distributor Incentive

This sub-program element offers incentives to upstream market actors who sell qualifying high efficiency HVAC equipment. The logic that underscores this sub-program's design is that a small number of upstream market actors are in a position to impact hundreds of thousands of customers and influence their choice of equipment by increasing the stocking and promotion of high efficiency HVAC equipment. The upstream model cost-effectively leverages this market structure and existing relationships. The sub-program element also provides an online rebate application system to facilitate program participant sales and invoice tracking, which further reduces administrative costs as compared with paper application processing.

The upstream sub-program element is designed to adapt to market changes, and therefore the IOUs will continue working with relevant industry players to continually enhance the program to include new beyond-code upstream incentives.

Nonresidential Quality Installation

This sub-program element is applicable to installations of packaged HVAC systems, with a rated capacity up to 760,000 BTU/H. This sub-program element is based on the assumption that energy and demand savings are achievable through the application of QI in accordance with appropriate industry standards (e.g., ACCA, SMACNA and ASHRAE) applied to new commercial HVAC equipment.

This sub-program element intends to:

- Collaborate with EM&V efforts to quantify potential savings;
- Develop and implement a sub-program element focused on comprehensive, continuously improving installation activities that capture those savings and provide a high return on investment (ROI) to the end-user, thus driving the intense level of market transformation of the HVAC industry envisioned by the Strategic Plan.

Nonresidential Quality Maintenance

This sub-program element may represent one of the more creative aspects of the HVAC “Big Bold Energy Efficiency Strategy.” It is based on the assumption that there are energy and demand savings achievable through the regular application of quality maintenance (QM) procedures applied to existing nonresidential HVAC equipment. This sub-program element intends to implement a commercial maintenance program focused on comprehensive, continuously improving O&M activities that capture those savings and provide a high return on investment (ROI) to the end-user, thus driving the intense level of market transformation of the HVAC industry envisioned by the Strategic Plan.

Equipment efficiencies are improved by applying diagnostic methods and the detailed HVAC inspection and maintenance tasks of American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air Conditioning (ASHRAE)/Air Conditioning Contractors of America (ACCA) Standard 180.

The QM sub-program element is driven by Service Agreements between customers and contractors. The program incorporates training, marketing and incentives to help contractors understand and communicate the value of HVAC quality maintenance and energy efficiency. The program is also supported by commercial customer referrals from utility Sales and Service Representatives.

The 2013-14 HVAC QM efforts will focus on continuous improvement, design enhancements, implementation barriers and collecting program data to help improve savings estimates.

b. List of Measures

To achieve energy savings and the market transformation desired by the Strategic Plan, a variety of appropriate incentives is required to influence specific market actions. Incentives will be targeted to all levels of the HVAC value chain and will be available for equipment (Upstream) and services (Quality Installation and Quality Maintenance).

Additionally, in coordination with the Emerging Technologies Program, the Nonresidential HVAC QM program will continue to consider higher initial incentives for any HVAC emerging technologies that may be newly introduced to the marketplace via this sub-program. Once the new products have taken hold in the market place, any such incentives would be adjusted to reflect market conditions.

Upstream HVAC Equipment Incentive

Eligible measures may include packaged and split system air conditioners and heat pumps and other commercial HVAC equipment. Packaged units less than 65,000 Btu/hour are rated according to seasonal energy-efficiency rating (SEER) and steady state energy efficiency rating (EER). Units greater than 65,000 Btu/hour are rated according to EER and integrated part-load value (IEER). See the tables available on the program website www.cainstantrebates.com for current minimum qualifying efficiency ratings for each size category and corresponding incentive values.

Measure Category	Incentive Level (Not to Exceed)
Air-Cooled Packaged and Split Systems < 5.4 Tons of Cooling Capacity	\$40 - \$450/ton
Air-Cooled Packaged and Split Systems >= 5.4 Tons of Cooling Capacity	\$20 - \$150/ton
Water- or Evaporative-Cooled Systems >= 5.4 Tons of Cooling Capacity	\$100 - \$300/ton
Air-Cooled Chiller Equipment	\$25 - \$90/ton
Water-Cooled Chiller Equipment	\$100 - \$300/ton
Variable Refrigerant (VRF/VRV) Equipment	\$100 - \$1,530/ton

Additional gas savings measures may be included in the program upon further evaluation of their viability and cost-effectiveness. New offering development evaluations will occur through ongoing IOU product development efforts and such continuous national efforts as the Consortium for Energy Efficiency's Commercial HVAC efforts.

Nonresidential Quality Installation

At this point, providing a list of measures and incentive levels is premature, as a valid Quality Installation based Sub-program must be more fully planned and vetted through the Western HVAC Performance Alliance (WHPA), and since EM&V research under discussion through the HVAC EM&V Project Coordination Group (PCG) is needed to clarify a market-realistic baseline for the level of quality of HVAC installation services. This Sub-program will continue to be designed in 2013 for the 2013-2014 program cycle and therefore will not be providing incentives, at least not initially.

Nonresidential Quality Maintenance

Measure	Purpose	Incentive Level
Customer Service Agreement Incentive	Decrease customer's additional cost to upgrade to a QM Service Agreement. Keep the Service Agreement in place and units maintained by Contractor for 3 years	Up to \$3,836 per HVAC unit covered by agreement
Contractor Service Agreement Incentive	Compensate Contractors' for overhead costs related to Service Agreement sale and unit inventory.	\$75
Contractor QM Tasks Incentive	Reduce some of the additional costs of minor repairs that are required but don't receive incentives.	\$50
Contractor EE Tasks Incentive	Compensate Contractors' for completion of a specific set of tasks (see 4.1) required to bring the unit to minimum performance level (within 6 months of Service Agreement approval). EE Tasks Eligible for Incentives Coil cleaning Fan Maintenance Refrigerant system test Refrigerant system service Economizer functional test Integrate economizer wiring Replace damper motor Replace controller/sensor Renovate linkage & other components Decommission economizer Replace thermostat Adjust thermostat schedule	Up to \$2,425 per HVAC unit

c) List Non-incentive Customer Services

The Nonresidential HVAC sub-program will include a variety of non-incentive program services intended to support customers and contractors in achieving greater energy efficiency from HVAC upgrades and quality installations and quality maintenance. The list of such service includes:

- Education of the market on the value of selecting high-efficiency systems.
- Reports for customers of estimated energy savings, cost savings and carbon reductions for their HVAC systems treated under the program.
- Training for contractors on HVAC industry standards, sales and marketing of the value of those standards, and their implementation in the field.
- Education for customers on how HVAC industry standards can help them compare bids of contractor services and select those with high-road skills.

- Customer education about the benefits of establishing a long-term trust relationship with a qualified contractor, which can lead to future energy and cost savings, such as from better planning for future HVAC system replacements and the quality installation of those systems when replaced.
- Participating contractors can receive new business sales leads from utility company customer representatives.
- Improved comfort and indoor air quality for customers.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

The Nonresidential HVAC subprogram is a market transformation oriented program. See Section 7. below for market transformation information about the subprogram for 2013-2014 that replaces and enhances sections 5.a., 5.b. and 5.c. of the HVAC Program plan from 2010-2012, which had covered quantitative baseline and market transformation information, as well as program design to overcome barriers.

See Appendix H – refer to the overarching program for quantitative baseline metrics

b) Market Transformation Information

See Section 7. below.

c) Program Design to Overcome Barriers

See Section 7. below.

d) Quantitative Program Targets

The program will achieve the following program targets:

Table 5

	Program Target for 2013	Program Target for 2014
Upstream HVAC Distributor Equipment Incentive		
Tons of Equipment Cooling Capacity Incentivized	TBD	TBD
Nonresidential Quality Installation (QI)		
Contractor Information Sessions	TBD	TBD
Participating Contractors	TBD	TBD
Nonresidential Quality Maintenance		

Commercial HVAC Systems Serviced	TBD	TBD
QM-Standard Service Agreements Signed	TBD	TBD
Participating Contractors that Sign at Least One QM-Standard Service Agreement	TBD	TBD

e) Advancing Strategic Plan Goals and Objectives

Upstream HVAC Equipment Incentive

Support for Strategic Plan, HVAC Goal 1 to improve code compliance (and related SB454, which is now codified at Public Utilities Code Section 399.4)

HVAC distributors and manufacturers are not directly involved in the relevant code compliance market processes. However, they are supplying and helping with training contractors who are in the best position to ensure that quality installations occur, and who are often in a central role regarding permit compliance. The program will continue to engage these market actors for ideas and possible program modifications to enhance support of quality installations and permit compliance.

Support for Strategic Plan, HVAC Goal 4 to improve market penetration of new climate-appropriate HVAC technologies

The Upstream HVAC sub-program element can serve as an incubator program for increasing the market penetration of promising HVAC technologies, in coordination with HVAC elements of the Emerging Technologies program.

The sub-program element will support improvement to HVAC equipment by providing incentives for various high-efficiency HVAC equipment categories. The eligible equipment categories are based primarily on the Consortium for Energy Efficiency HVAC specifications, which have multiple tiers designed to increase the market share of high-efficiency equipment. Furthermore, by leveraging the geographic area of the Upstream HVAC sub-program throughout California and other parts of the West, the result will be increased participation, which will lead to increased market share of high-efficiency equipment sufficient to argue for standards changes.

Both SMUD and NV Energy currently offer a similar Upstream HVAC program. The California Upstream HVAC Program will look to leverage these existing relationships in addition to engaging the DOE, Southwest Energy Efficiency Project (SWEET), Western Cooling Efficiency Center (WCEC), Western HVAC Performance Alliance (WHPA) and manufacturers to create a regional strategy to develop and increase the commercialization of new climate-appropriate HVAC technologies.

Nonresidential Quality Installation

The program will help to achieve the following near-term strategic goals as identified in Chapter 6 of the Strategic Plan:

- 2-3: Provide expanded QI/QM training – In order to participate in the program, contractors will be required to attend specific training sessions that introduce them to the appropriate industry standards.
- 2-4: Implement contractor accreditation program – Additional support will be made available through the sub-program to reinforce the WE&T Program's efforts toward increasing the level of technician certification.

Nonresidential Quality Maintenance

The program will help to achieve the following near-term strategic goals, as identified in Chapter 6 of the Strategic Plan:

- 2-1: Create a Statewide QI/QM Brand – QM will support the Energy Upgrade California branding as applicable.
- 2-2: Launch Statewide Brand – QM will support the Energy Upgrade California branding as applicable.
- 2-3: Provide expanded QI/QM training – HVAC service technicians will continue to be fully trained on the delivery of the measures promoted by the Program. Furthermore, feedback mechanisms will be utilized to continually evaluate technician performance to ensure that they are applying the information they are being taught in the QI/QM training. Nearly all economists and government leaders agree that negative impacts of the current worldwide financial crisis are likely to linger for years. Thus, the IOUs will work closely with the industry to reduce (and wherever possible eliminate) the direct costs of this transformative training to technicians and contractors who are willing and able to apply their skills and new tools to the task at hand.
- 2-4: Implement contractor accreditation program – Efforts will be made to promote NATE certification.
- 2-5: Develop standards for on-board diagnostic functionality – Evaluating the use of hand-held and other types of diagnostic systems in the field will help determine viable protocols for commercial applications.
- 2-6: Prioritize in-field diagnostic approaches – Conducting the appropriate level of research into existing diagnostic and verification approaches will provide the IOUs and the HVAC industry with the information necessary to target future efforts based on quantifiable energy efficiency benefits.

6) Program Implementation

a) Statewide IOU Coordination

The IOUs will jointly participate in California's nonresidential HVAC efforts to achieve real market transformation. In order to accomplish this task, the IOUs will use the principles of adaptive management and follow a structured process to continuously update and enhance the program throughout the two-year implementation cycle. The process will be as follows:

- Designate an IOU Program Lead – The process for adaptive management will begin with each IOU designating an HVAC Program Lead. The lead will be the

conduit through which information between IOUs will flow and will investigate new innovations, special accomplishments and challenges faced by sub-program managers and the managers of cross cutting statewide programs within their own IOU. Where such innovations or challenges intersect HVAC and show potential for improving the HVAC program, the Program Lead will present such information to a quarterly HVAC Program Management Team meeting.

- Hold HVAC Program Management Team Meetings – Meetings will be held at least quarterly, individual innovations and accomplishments experienced in one IOU will be transmitted to all IOUs. The HVAC Program Management Team will evaluate the innovations and accomplishments of the individual IOUs, hear ideas for course corrections and overcoming challenges, measure the HVAC program’s progress against statewide metrics and goals and prepare summations for presentation to the Western HVAC Performance Alliance.
- Adopt Program Enhancements – Once the HVAC Program Management Team agrees that a particular idea or innovation has merit on a statewide-level, each IOU program lead will distribute the information to their sub-program element managers for adoption and integration as appropriate. In some cases, it may be necessary to invite the sub-program element managers to the HVAC Program Management Team to get their feedback and ensure they receive the same message.
- Evaluate Program Enhancements Against Statewide Targets – To complete the adaptive management loop, the HVAC Program Management Team will track the program’s accomplishment of statewide targets and goals to ensure that adopted program enhancements are generating their intended results¹. The HVAC Program Management Team will determine whether future course corrections are needed, and if so, “activate” a fresh start of the adaptive management cycle to generate the improvements necessary to stay on track.

Additional areas of program coordination include:

- i. Program name

Nonresidential HVAC Sub-program

- ii. Program delivery mechanisms

The Nonresidential HVAC Sub-program is the umbrella activity that encompasses the three sub-program elements summarized above in Section 4.a. The IOUs will deliver the Sub-program through a combination of third-party vendors and internal administrative staff. The Sub-program will be delivered in collaboration with existing industry infrastructures in order to increase its overall effectiveness. Program guidance will be provided to the CPUC/IOUs through the Western HVAC Performance Alliance as described below. The program will be targeted to consumers, contractors and distributors to create a push/pull dynamic that influences sustained market changes.

iii. Incentive levels

See Section 4.b above for more information on sub-program measures.

iv. Marketing and outreach plans

Specific outreach efforts will be made to the industry to keep them engaged with IOU programs and in the Strategic Plan process. On a macro level, this outreach will occur through the Western HVAC Performance Alliance. On a micro level, each sub-program element has specific tactics in place to engage the industry in its own particular demand reduction, energy savings and market transformation objectives

The Upstream sub-program element will explore outreach activities to upstream market actors in other geographic areas that ship into and across service territories and will continue communication with the industry to see where additional collaboration can occur to maximize marketing and outreach resources.

The IOUs will continue to develop common outreach materials, with feedback from market actors to enhance their effectiveness. These marketing materials will only be available to participating contractors, and will leverage IOU and other statewide branding efforts.

v. IOU program interactions

The IOUs are engaged in ongoing collaboration with the CEC and other agencies via the Codes and Standards process and will be able to coordinate and communicate voluntary programs and incentives with mandatory codes that become enacted for the future. Increasing the communication regarding the Strategic Plan will allow all entities to move and plan towards the same objectives.

In order to support the need for increased code compliance, the sub-program will continue to cooperate with CEC training and other compliance support activities targeted at local building departments. Such activities will also be used to promote the economic and performance benefits of QI/QM. The sub-program will also continue to coordinate its activities with IOU local government partnerships, third-party programs and Codes and Standards activities to ensure that code compliance becomes fully integrated into these programs.

vi. Similar IOU and POU programs

As mentioned in Section 5.e. above, the three IOUs and SMUD implement the same or very similar Upstream HVAC Equipment Incentive Program.

As a result of increased federal equipment efficiency standards, many utilities across the country have begun to offer service-based programs that independently

offer measures such as RCA and Duct Sealing. It is expected that the HVAC QM Program could stimulate a paradigm shift by delivering a comprehensive suite of maintenance services that comply with ASHRAE/ACCA/ANSI Standard 180, designed to address the full range of efficiency measures available for commercial HVAC systems.

POUs manage many different types of HVAC programs. However, none of them seek to accomplish the aggressive market transformation goals being proposed by the IOUs. Via the Western HVAC Performance Alliance, the IOUs will continue seek to increase their interactions with the POUs to better align IOU and POU HVAC programs. This may involve increasing awareness of the Strategic Plan and how programs could/should be designed to help meet its aggressive targets.

b) Program Delivery and Coordination

The program will be coordinated with the following activities:

i. Emerging Technologies program

The program is expected to interact extensively with the ET Program to ensure the proper focus on remote and on-board diagnostic equipment and the advancement of energy efficient climate-appropriate HVAC technologies.

ii. Codes and Standards program

The responsibility for HVAC codes and standards issues has been given to the Statewide Codes and Standards Program. This ensures that the code-based solutions are consistent with that program's other activities. The Codes and Standards PIP describes the specific actions that the Program will employ to address HVAC.

As technologies advance and market penetration increases to an acceptable level, the minimum threshold for eligibility in California can increase to lock in the higher efficiency levels and continue an upward level of efficiency for HVAC equipment.

Coordination of HVAC, Codes and Standards and Emerging Technologies activities will be realized through regular interactions of statewide program teams to discuss program integration and implementation issues.

iii. WE&T efforts

The workforce education and training needs for the HVAC industry will be managed through the Statewide IOU Workforce Training and Education (WE&T) Program umbrella. However, the WE&T activity will be coordinated with the statewide HVAC Sub-program activity to ensure that the individual efforts are complementary.

Participating contractors in the HVAC sub-program will be required to attend program-specific QM training in order to participate in the programs.

The IOUs will leverage relationships with upstream market actors established through this sub-program to extend the delivery of training modules developed through the HVAC elements of the statewide WE&T Program.

iv. Program-specific marketing and outreach efforts

The primary outreach vehicle between the Upstream sub-program element and program participants is via the website: www.cainstantrebates.com and other electronic communication (e.g., e-mail and newsletters). The cost of operating this website is shared between the participating IOUs and POU. Additional marketing and outreach activities exist through personal contact between the program staff and program participants. Targeted QI/QM marketing materials can be distributed to contractors via these established upstream channels.

Marketing support will be available for participating HVAC service contractors in order to promote the Statewide QI/QM efforts. Such support may include exclusive promotion on IOU websites, brochures and other leave-behind materials that contractors can use to promote QI/QM and their involvement with the sub-program.

The Nonresidential HVAC sub-program will coordinate marketing activities with other offerings within the Commercial program to create a seamless customer experience.

v. Non-energy activities of program

The direct energy benefits of the program result from promotion of high efficiency HVAC systems and the quality installation and maintenance of new and existing systems. Other activities will be required to support these energy savings goals. These activities include significant efforts in program design enhancements and coordination, technology evaluation and integration, contractor training and consumer marketing.

The program will continue to be active in a number of non-resource and market transformation activities that are required to ensure that the HVAC industry is fully involved in the development and implementation of the many tactics required to address the short and long term goals of the Strategic Plan. One such activity is the Western HVAC Performance Alliance (WHPA). The WHPA is necessary to keep the industry engaged in the Strategic Plan process and to provide guidance and support for the implementation of the various tactics required to transform the industry. Mindful that HVAC industry organizations are not traditionally structured, staffed or allocate resources to contribute the level of involvement envisioned by the Strategic Plan, the HVAC Convener's Report

concluded that: *“The agencies and utilities should work together to ensure the working group is adequately funded to meet its responsibilities”*

The WHPA involves high-level HVAC industry stakeholders—such as manufacturers, distributors, contractors, associations, organized labor and influential end user/customers—to coordinate industry sponsorship of and participation in HVAC strategies. Membership also includes and is targeted at other key players, such as the CPUC, California Energy Commission, utilities, building owners/managers, university researchers, consumers, and the Federal Government.

As a communication and coordination entity for HVAC energy-saving collaboration among IOUs, ED, other state and local government entities, and a broad set of HVAC industry and market stakeholders, the WHPA is chartered 1) to champion (coordinate, guide, prioritize, track and facilitate the implementation and evolution of) the HVAC Action Plan in support of the Strategic Plan and 2) to provide thoughtful input into IOU HVAC Energy Efficiency (EE) Program efforts.

vi. Non-IOU Programs

The Upstream sub-program element, in collaboration with the ET Program, will leverage its involvement with the U.C. Davis Western Cooling Efficiency Center and other industry and academic efforts to continually evaluate and include new equipment technologies as they become more commercially viable.

The IOUs will take an active role in Consortium for Energy Efficiency (CEE) activities to ensure that California’s quality needs are appropriately reflected in the ongoing CEE specification-setting efforts.

The program will interact with the HVAC industry to develop and introduce increasingly stronger QM standards that ensure systems are operating in their most efficient state.

The Program will remain engaged with CEC, CARB, DOE and other government agencies responsible for regulating various aspects of HVAC equipment, services and training.

vii. CEC work on EPIC

The Program will interact extensively with the ET Program to ensure the proper focus on remote and on-board diagnostic equipment and climate-appropriate HVAC technology advancement and market adoption.

viii. CEC work on codes and standards

See Section 6.b.ii. above.

a. Non-utility market initiatives

The tenets of QI and QM are being actively pursued by leaders in the HVAC industry itself. Air Conditioning Contractors of America (ACCA) has taken the lead in this national effort by developing various ANSI- recognized QI and QM standards. These standards have been widely adopted throughout the industry (e.g., AHRI, ASHRAE, CEE, ENERGY STAR, Utilities). Other organizations have also developed processes designed to improve the operating efficiency of HVAC systems (e.g., SMACNA, NCI). The IOUs will remain engaged in these efforts and work to influence the development of increasingly higher standards that drive increased energy savings for customers.

c) Best Practices

The Statewide HVAC Program demonstrates several examples of programmatic best practices. First, the Program involves the HVAC industry in all aspects of the program including public policy, program design and implementation – both formally through the Western HVAC Performance Alliance and informally through various ad-hoc working groups. Industry involvement is a crucial step in achieving the desired market transformation goals. Second, the Program uses an adaptive management process, as described in Section 6.a, to ensure that the Program is responsive to the changing market environment. Included under this process are inter-utility coordination meetings between HVAC, Emerging Technologies and Codes and Standards program managers to ensure these three programs are well coordinated and implemented consistent with the goals of the Strategic Plan. The Program includes the appropriate level of focus on technology issues through the close involvement with the Emerging Technologies program to advance the various technological and policy issues required to meet the deep energy savings and demand reduction goals desired by the Strategic Plan.

The use of industry-accepted design, construction and maintenance standards represents a quality-oriented best practice in air conditioning system installations and maintenance. Industry standards have been developed and vetted by national committees of industry experts and represent the best available information to use for program design. Additionally, networking through organizations such as CEE and the WHPA will provide opportunities for frequent feedback on QI and QM efforts being implemented within California and across the country.

In the Fall of 2007, ACEEE awarded the “Exemplary” Award to this Upstream sub-program element design. This essentially designated this Upstream program model as the highest performing program to promote HVAC equipment as compared to all programs across the United States.

d) Innovation

The Statewide Nonresidential HVAC Sub-program takes an innovative approach to program design through its implementation of a multi-faceted effort to engage all levels of the HVAC value chain. Each sub-program element under the umbrella and in those within

the Residential HVAC Sub-program is designed to influence specific market changes. Within the sub-program elements, innovative techniques such as co-branded marketing and workforce training through existing industry channels will be employed to increase the program's effectiveness. In addition, technical innovation is achieved specifically through the HVAC sub-program's coordination with a dedicated advocacy effort to advance the state-of-the-art in vapor compression cooling and fault detection and diagnostics within the Emerging Technologies program.

A critical component of the Upstream sub-program element is its use of a web-based application and participation tool that provides transparency to both the program participants as well as the host IOU to be able to see what is occurring for applications that involve them. That this system allows participants to know the status in aggregate or down to a customer application level makes participation easy and efficient. For program participants, a paperless system is critical for ease of participation and for utilities there is reduction in cost per kWh saved from administrative costs over a paper review process.

Designing and delivering the QI sub-program program element through active partnership with the industry will increase the likelihood of its success, as will the use of industry-accepted standards for QI as the foundation for activities.

The innovation of the QM sub-program element exists through the adoption of a comprehensive maintenance approach based on industry-accepted standards. A more comprehensive maintenance effort that delivers well-documented energy savings sets the standard for HVAC efficiency programs. Furthermore, delivering this program through active partnership with the industry will increase the likelihood of its success. Finally, innovation results through a continuous improvement process that will be employed to evaluate the viability of offering additional incentives for installations that exceed established program standards.

e) Integrated/coordinated Demand Side Management

As with most HVAC oriented programs, the primary source of integration exists between energy efficiency and demand response activities. At a minimum, all marketing materials developed to support QI and QM sub-program elements will cross promote DR to educate customers on the availability of IOU DR programs. Required contractor training will be designed to include a discussion on DR programs and participating contractors will be required to deliver DR information as part of their customer sales efforts. The IOUs will also explore combined EE and DR opportunities within various HVAC distribution channels.

f) Integration Across Resource Types

The program can be designed to support CARB's efforts to regulate GHGs by providing consumer information on the phase-out of existing refrigerants and the move to zero ozone depletion potential (ODP) refrigerants with the customers maintenance invoice. Such information will seek to influence the customer's adoption of newer equipment by

explaining the likelihood of increased maintenance costs as existing refrigerants become less available.

g) Pilots

No pilot programs are planned as part of this sub-program effort, though activities associated with improving QI and/or QM may be piloted before full implementation to ensure more coherent market adoption on roll-out.

h) EM&V

The utilities will work with the Energy Division to develop and submit a comprehensive EM&V plan for 2013-2014 cycle, after the program implementation plans are filed. To support the continuous improvement envisioned by the adaptive management process and to fully address the intricacies of the program design, appropriate EM&V activities will be conducted as coordinated by the HVAC EM&V Project Coordination Group (PCG) and overseen by the CPUC.

Routine evaluation: the Upstream sub-program element will utilize the online incentive application system to track the sale of high-efficiency equipment from year to year. Reports can then be created to show the percent of equipment incentivized in tons based on SEER or EER. These reports will be prepared every year and compared to the previous accomplishments, and will determine whether the program is achieving goals.

7) Market Transformation Information

The Nonresidential HVAC subprogram is a market transformation oriented program. The following information replaces and enhances Sections 5.a., 5.b. and 5.c. above of the HVAC Program plan from 2010-2012, which had covered quantitative baseline and market transformation information, as well as program design to overcome barriers.

a) Summary of the market transformation objectives of the program:

The Nonresidential HVAC Sub-program will continue the transformation process of California's HVAC market to ensure that:

- HVAC technology, equipment, installation, and maintenance are of the highest quality;
- Quality installation and maintenance practices are easily recognized and requested by customers;
- The HVAC value chain is educated and understands their involvement with energy efficiency and peak load reduction; and
- HVAC market business models for installing and maintaining heating and cooling systems change from commodity-based to value-added service business.

- b) Description of the market, including identification of the relevant market actors and the relationships among them:

The three central functions of heating, ventilating, and air-conditioning (HVAC) are interrelated, especially with the need to provide thermal comfort and acceptable indoor air quality within reasonable installation, operation, and maintenance costs. In modern buildings the design, installation, and control systems of these functions are integrated into one or more HVAC systems.

The HVAC industry is a worldwide enterprise, with roles including operation and maintenance, system design and construction, equipment manufacturing and sales, and in education and research. The HVAC industry was historically regulated by the manufacturers of HVAC equipment, but regulating and standards organizations such as HARDI, ASHRAE, SMACNA, ACCA, Uniform Mechanical Code, and International Mechanical Code have been established to support the industry and encourage high standards and achievement.

For very small buildings, contractors normally "size" and select HVAC systems and equipment on behalf of end-use customers. For larger buildings, building services designers and engineers, such as mechanical, architectural, or building services engineers analyze, design, and specify the HVAC systems, and specialty mechanical contractors build and commission them. Distributors stock equipment from manufacturers in local regions and sell HVAC systems to contractors or building services companies. Building permits and code-compliance inspections of the installations are normally required for all sizes of buildings.

- c) Market characterization and assessment of the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies:

Successful market transformation programs first and foremost need to be designed specifically to address market transformation. "The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given to program designers.)¹" The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts², but also reflects the CPUC's directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful market transformation programs have involved multiple organizations, providing overlapping market interventions³. The Strategic Plan calls for coordination and collaboration

¹ Peters, J.S., Mast, B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume 1.* Available at <http://calmac.org/publications/19981215CAD0001ME.PDF>.

² CPUC (2008) Strategic Plan, p. 5.

³ Nadel, Thorne, Saches, Prindle & Elliot (2003).

throughout, and in that spirit the utilities will continue to work with the CPUC and all stakeholders to help achieve market transformation while meeting the immediate energy, demand, and environmental needs.

Provided that HVAC is allotted sufficient EM&V funds, the statewide team will build on the growing body of HVAC research in California to ensure the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies have been studied to inform future program decision-making.

Key Barriers:

Lack of value proposition awareness

- Performance uncertainties: Previous research has been conducted on the energy savings achievable through HVAC system maintenance measures such as RCA and Duct Sealing, but despite all this research many performance uncertainties still exist, and furthermore, this research has not been able to effectively demonstrate the full energy savings benefits of QI/QM;
- End-use customers do not clearly recognize the loss of energy efficiency performance benefits of a HVAC system if it is not properly installed and maintained, and do not recognize without assistance the value over time of purchasing a high-efficiency system versus a standard-efficiency one.

Availability of higher-efficiency equipment

- Stocking patterns of equipment follow demand, and since customers do not yet well appreciate the value of energy efficiency, HVAC equipment stocking in local distribution centers tends toward lower price, standard-efficiency systems. Without program intervention until market transformation occurs, customers who want to purchase higher-efficiency systems suffer delays from waiting for systems to be shipped from other locations, or just select standard-efficiency systems to avoid delay.

Search costs for qualified QM and/or QI contractors

- Customers do not appreciate the energy efficiency benefits of QI and QM, and suffer from a lack of information, time, and resources to assess their own energy efficiency opportunities.

Commoditized business model practices

- Bounded rationality: It is logical to assume that the HVAC industry would want to take the necessary training required to deliver high quality service; however, market dynamics have not supported such logic as the industry has largely become commoditized and low price/low quality typically wins out. Equipment stocking patterns have followed this same dynamic, such that customers who may seek high-efficiency systems have had to wait for systems to be shipped from outside of California;

Organizational customs:

- The HVAC industry has largely become commoditized into an industry driven by low costs and quality where quality is assumed but not understood or valued by the customer. This is a result, in part, of contractors having minimal success in communicating the value of QI/QM to consumers and consumers not understanding the linkages between comfort and energy use.

d) Description of the proposed intervention(s) and its/their intended results, including which barriers the intervention is intended to address:

Historically, the nonresidential retrofit programs directed toward customers and contractors have had very low uptake rates on high-efficiency HVAC systems, plus there is very little understanding in the market of the value of quality maintenance and installation services. Consequently, the critical foundation required for achieving HVAC market transformation consists of two main strategies:

- Continue to leverage the high level of participation in the Upstream sub-program element to ensure availability in the market and drive sales of high-efficiency equipment, and
- Build customer and contractor participation in the HVAC Quality Maintenance program element, since it is designed to provide an evergreen foundation across a broad customer base of existing HVAC users for achieving deep energy savings across HVAC and other programs.
- The QM program element incorporates training, marketing and incentives to help contractors understand and communicate the value of HVAC quality maintenance and energy efficiency.
- This program element is driven by Service Agreements between customers and contractors, establishing an on-going relationship of trust that also then enables better decisions to be made about replacement of equipment with high-efficiency systems and the proper quality installation of those systems.
- The resulting increase in market share of high-efficiency equipment and quality installation and maintenance services then allows increased levels of customer, installer, and distributor/manufacturer knowledge and interest in these systems, which should then make it easier to achieve further increases in the market share of these energy saving practices.

Program Intervention to Overcome Barriers

Lack of value proposition awareness

- By quantifying the energy efficiency benefits of QI/QM, the benefits of QI/QM (as well as those “premium” HVAC services that prove to exceed the ANSI QI/QM

standards) will be better understood by program participants. It is our goal to discover the evidence, and expected return on investment (ROI), that customers will require to authorize payment for these measures when subsidies are removed. Via the Upstream sub-program element, the delivery process of information about high-efficiency units is streamlined. Delivery from distributors and manufacturers through contractors will provide consistent information on the benefits of energy efficiency and reduces the need for end user analysis, thus allowing more customers to see the benefits of implementing energy efficiency projects/measures;

Performance uncertainties:

- The innovative diagnostic methods and technologies used by the QM program element set it apart from tune-ups and other HVAC maintenance efforts. Program measures include a thorough site assessment and repairs well above and beyond routine HVAC unit maintenance. The methods provided allow contractors enrolled in the program to precisely evaluate commercial customers' HVAC units and subsequently improve unit efficiency and realize energy savings.

Availability of higher-efficiency equipment

- The Upstream incentives ensure product availability to influence the decision maker at the time of purchase or service.

Search costs for qualified QM and/or QI contractors

- By encouraging contractors to promote the concepts and value of quality maintenance at the time of system installation, customers will be more likely to regularly maintain the system and be assured that the energy efficiency performance benefits of their new system will continue throughout the life of their system.

Commoditized business model practices

- Bounded rationality: The sub-program incentives and promotion of qualified participating contractors encourage the HVAC industry to want to take the necessary training required to deliver high quality service;

Organizational customs:

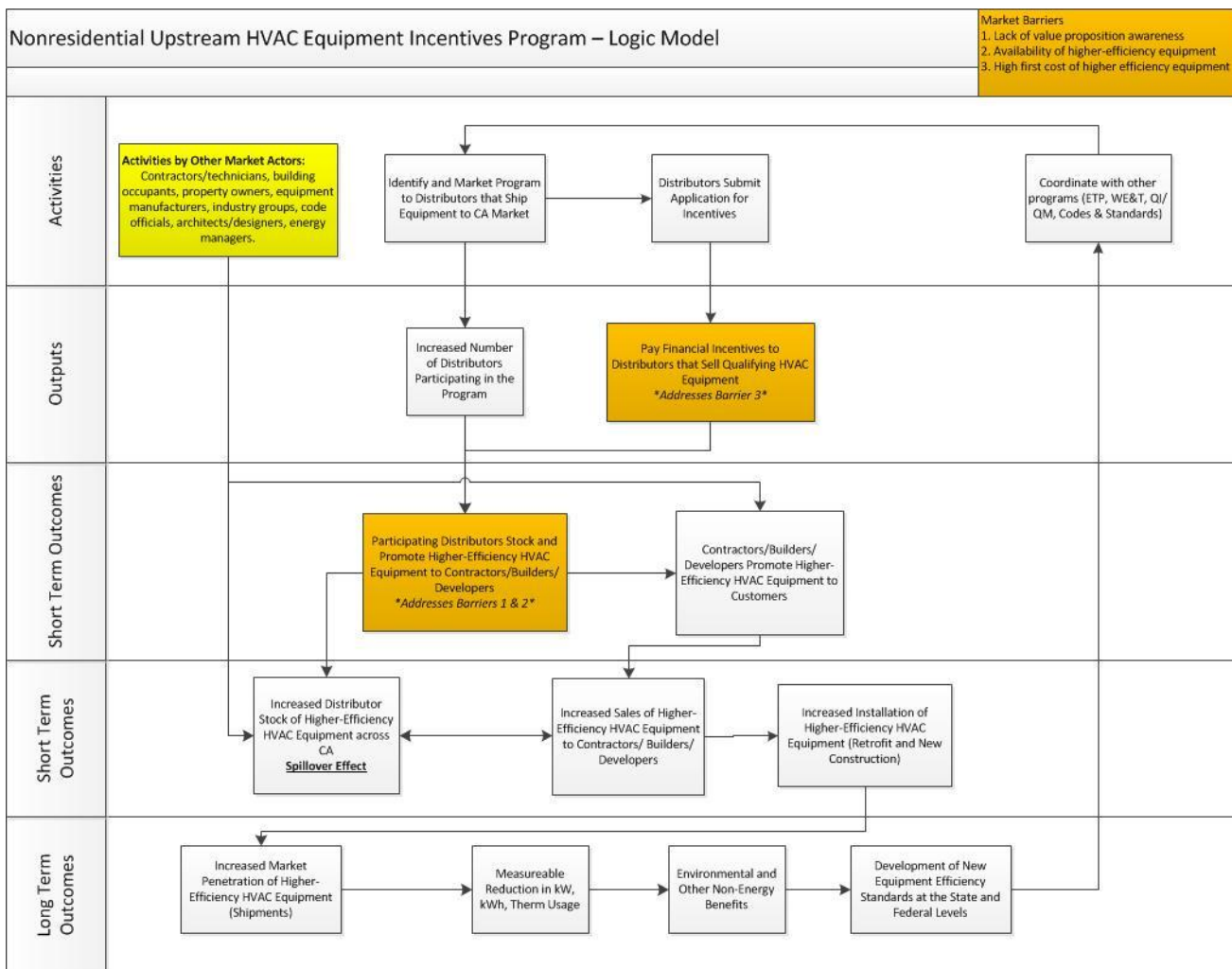
- The program effort is designed to help demonstrate the value proposition of a high quality contracting business and educating consumers on the energy benefits of QI/QM. Additionally, incentives to upstream market actors encourage the development and promotion of new energy-efficiency technologies and tiered incentive structure to build towards meeting future codes and standards changes.

Additionally, several other issues could potentially influence sub-program design for Quality Installation, including:

- Other organizations have established processes and procedures for QI. These processes should be evaluated to determine how well they perform in comparison to minimum QI standards.
- Lack of industry consensus on QI standards and technical protocols
- Overcoming market barriers to exceeding Title 24 Standards

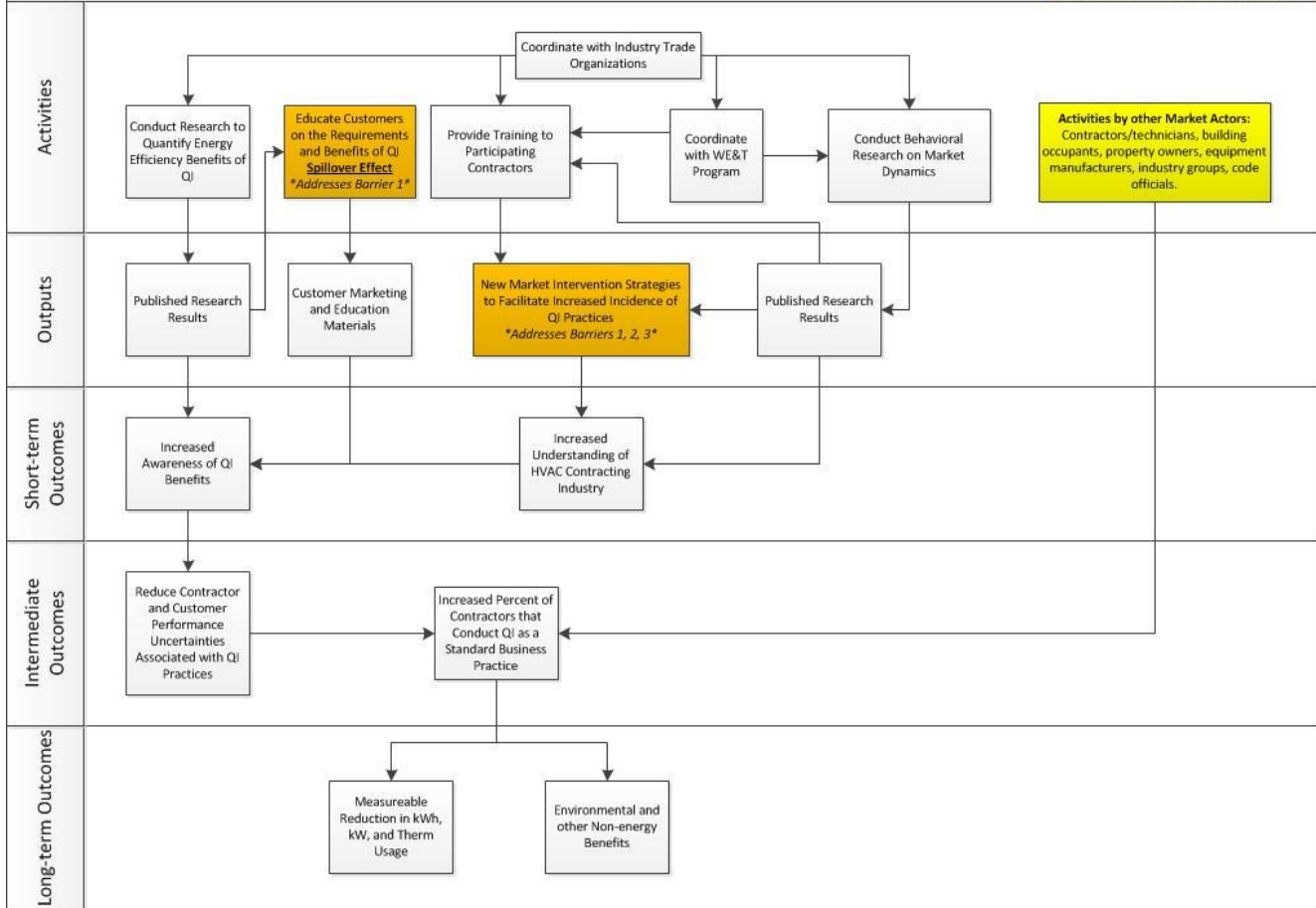
- Cost-effective constraints arising from limited savings for QI measures exceeding Title 24.
- Forging sustainable HVAC industry and market actor support.
- Addressing challenges in standard applicability across a range of commercial building types and HVAC systems.
- True energy savings measurement procedures.
- The WHPA “Road Map” noted that while of both the Title 24 and ACCA standards mandate distribution system evaluation and specify limits for allowable leakage, the Nonresidential QI committee concluded that:
- “To date, no satisfactory method for performing these examinations has been found for a wide range of non-residential installations.” (WHPA Non-Residential Quality Installation Road Map, 2010, p. 2)

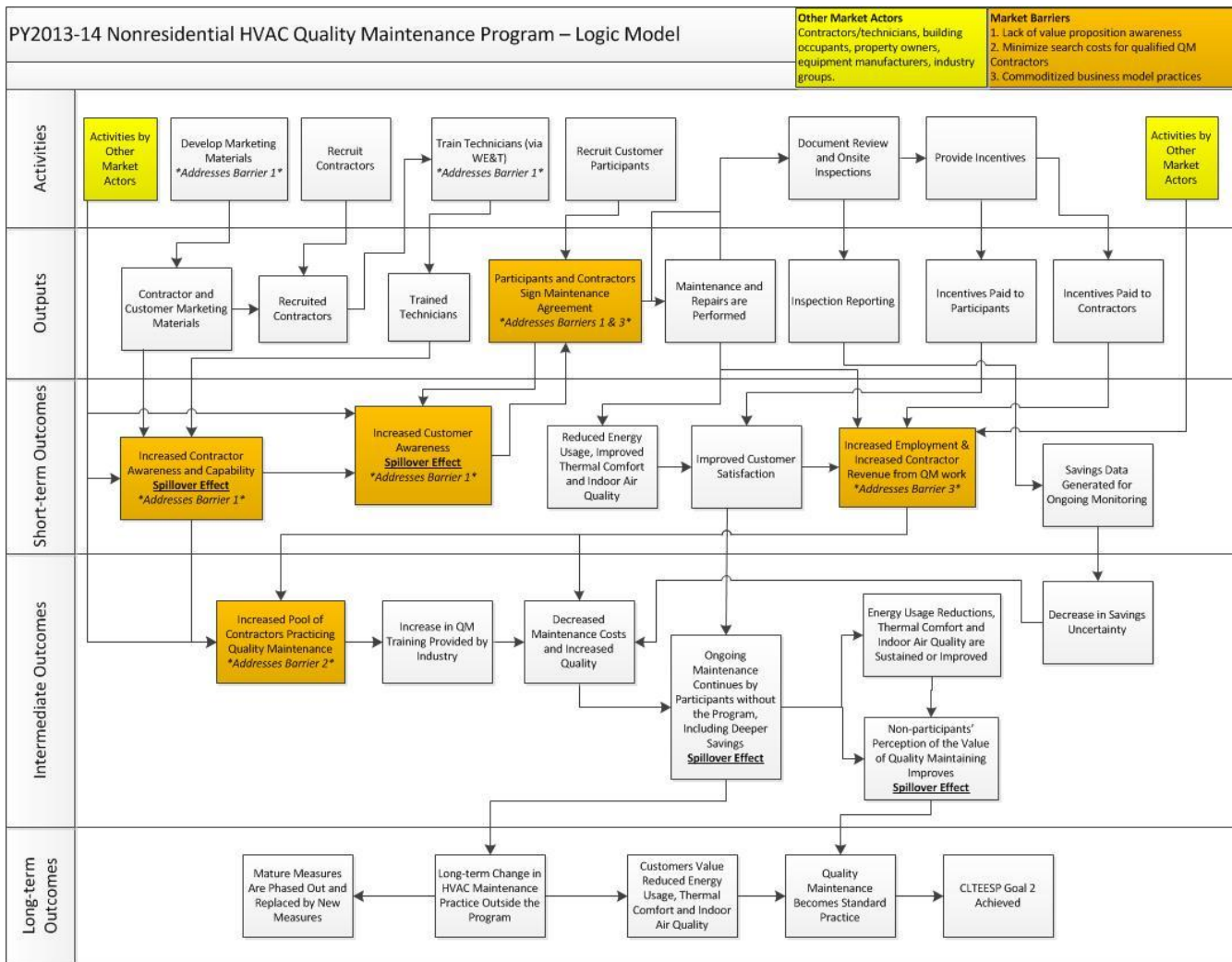
e) Program or market logic model that ensures a solid causal relationship between the proposed intervention(s) and its/their intended results:



PY2013-14 Nonresidential HVAC Quality Installation Development Process

Market Barriers
 1. Lack of value proposition awareness
 2. Minimize search costs for qualified QI Contractors
 3. Commoditized business model practices





f) Evaluation plans and corresponding Market Transformation Indicators and Program Performance Metrics based on the program logic model:

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and sub-programs. The Commission gave each PPM a metric type which indicated the reporting frequency: Metric type 2a indicates that the IOUs should report on the metric on an annual basis (unless indicated otherwise). Metric type 2b indicates the IOUs should report on the metric at the end of the program cycle.

Below are the approved PPMs and metric types for the three elements of the Nonresidential HVAC Sub-program (Resolution E-4385, Appendix A, pp 35-36):

Table 3 – Program Performance Metrics

Program	Metric	Metric Type
<p><i>Upstream HVAC</i></p>	<p>1. (a) kW/ton incentivized in the program. (Note: Decrease in metric indicates positive progress), combined with (b) the number of units that are incentivized in the program vs. (c) number of units over 5.4 tons shipped to California as tracked through AHRI shipment data. (Assuming the availability of AHRI data.)¹</p> <p>¹ As is indicated within this PPM, the availability of item (c) in this PPM is not yet confirmed, since it is closely-held, proprietary third-party information. The IOU team is in discussions with AHRI about obtaining this data and to ascertain the statistical validity of what data would be provided; the IOU team will communicate with the ED about any issues regarding this data element before the first reporting period in Q1 2011 for 2010 information.</p>	2a
	<p>2. The distributor stocking percentage of units eligible for program. (Note: Assumes availability of individual distributor data and/or aggregated data from HARDI.)¹</p> <p>¹ The availability of this data is not yet confirmed, since it is closely-held, proprietary third-party information. The IOU team is in discussions with AHRI about obtaining this data and to ascertain the statistical validity of what data would be provided; the IOU team will communicate with the ED about any issues regarding this data element before the first reporting period in Q1 2011 for 2010 information.</p>	2b
<p><i>Commercial Quality Installation</i></p>	<p>1. Percentage of HVAC contracting companies that are participating in statewide commercial QI program as a share of the targeted market*</p> <p>* "Target market" defined as C20 licensed HVAC contracting companies in CA.</p>	2a

Market Transformation metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments. Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as “Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market.”⁴ The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that new programs are needed to support the continuous transformation of markets around successive generations of new technologies⁵.

Markets are social institutions⁶, and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains⁷ as well

⁴ California Public Utilities Commission Decision, D.98-04-063, Appendix A.

⁵ California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan*, p. 5. Available at <http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf>

⁶ Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) “From technology transfer to market transformation”. Proceedings of the European Council for an Energy Efficient Economy Summer Study. Available at http://www.ecee.org/conference_proceedings/ecee/2001/Panel_2/p2_7/Paper/

⁷ Sebold, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market transformation progress⁸. According to York⁹, “Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are three ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy.”

Resolution E-4385 identified a preliminary list of objectives and market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms, and these MTIs were presented at a public workshop to allow for public comments and discussion before being finalized. Consistent with the outcome of that public workshop, MTIs for this subprogram are below.

Table 4 – Market Transformation Indicators

HVAC-1	Market share of energy efficient climate appropriate HVAC equipment.
HVAC-3	Percentage of all California Commercial HVAC installation contractors using Quality Installation guidelines (weighted by size).
HVAC-4-Commercial	Percentage of Commercial HVAC units (systems) serviced in IOU service territory under a QM Service Agreement.

The utilities will work with the Energy Division to develop and submit a comprehensive EM&V plan for 2013-2014 cycle, after the program implementation plans are filed. To support the continuous improvement envisioned by the adaptive management process and to fully address the intricacies of the program design, appropriate EM&V activities will be conducted as coordinated by the HVAC EM&V Project Coordination Group (PCG) and overseen by the CPUC.

- 2g) Commercial Direct Install,
- 2) **Projected Program Budget Table**
- 3) **Projected Program Gross Impacts Table**
- 4) **Program Description**
 - a) Describe Program

The Direct Install sub-program delivers free and low cost energy efficiency hardware retrofits through installation contractors to reduce peak demand and energy savings for small commercial customers. The program targets small businesses in a staged delivery

⁸ Gibbs, M., and Townsend, J. (2000). The Role of Rebates in Market Transformation: Friend or Foe. In *Proceedings from 2000 Summer Study on Energy Efficiency in Buildings*.

⁹ York, D., (1999). “A Discussion and Critique of Market Transformation”, Energy Center of Wisconsin. Available at <http://www.ecw.org/ecwresults/186-1.pdf>.

approach that provides program services in specific geographic areas at different times allowing for a more concentrated, directed, and yet comprehensive program.

b) List of Measures

Direct Install will implement selected measures at reduced or no or low cost to the customer. Low cost measure opportunities will be targeted to small commercial customers. Eligible measure types include but are not limited to:

- Lighting
- HVAC
- Refrigeration

c) List Non-incentive Customer Services

The sub-program provides a complete turnkey solution for the customer, including equipment purchasing, installation, clean-up and disposal. In addition, information about the installed measures is provided to the customer that explains the energy efficiency benefits they received and proper operation and maintenance practices to ensure sustained performance.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Indicators (MTIs)

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 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 should (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 Indicators (MTIs)

See Appendix H – refer to the overarching program for quantitative baseline metrics

c) Program Design to Overcome Barriers

Small businesses are a significant source of untapped energy-efficiency potential. The primary barriers to participation include limited capital resources, lack of expertise and understanding of the benefits of energy efficiency, a suspicion of the “free offer” and its legitimacy, and language and cultural barriers.

In addition, the majority of these customers occupy short-term leased facilities. Consequently, there is also a split incentive barrier to adoption of energy efficiency improvements. Split incentives occur when the customer and owner do not own the same equipment they pay bills for (e.g., the landlord owns the HVAC equipment and the customer pays utility bills for it, or vice versa). The program makes every effort to address this situation with both the owner/property management company and the tenant to communicate the benefits and gain approval for program services. The no cost offering makes this acceptance of the retrofit easier for the tenant.

While these small customers may be eligible for other elements such as the itemized retrofit incentive, the primary barriers beyond some cost reduction to participation by very small and small commercial customers are not addressed by that program. The No-Cost/Low Cost Installation element addresses these barriers by providing all equipment and installation services at no or very little charge to the customer.

The program utilizes a collaborative team of internal and external stakeholders to conduct strategic program outreach and marketing. Working with our External Affairs Outreach group the Direct Install program has worked actively with a number of Business Improvement Districts and local governments during the current cycle to increase local community involvement and raise the program’s profile among BID businesses. This effort will continue during the 2013-2014 cycle with a concerted effort to partner with Local Government Programs and multiple BIDs to increase the number of BID customers involved in the Direct Install program.

Additionally, the program has team members fluent in the languages spoken and familiar with the cultures in its territory to pro-actively working to bridge cultural and language barriers to understanding the benefits of energy efficiency, overcoming the suspicion of the “free offer” and its legitimacy.

d) Quantitative Program Targets

The Commercial Direct Installation Program has program targets defined within each direct install vendor contract.

e) Advancing Strategic Plan goals and objectives

In accordance with the Strategic Plan, this sub-program advances comprehensive energy efficiency, including:

- Integrating marketing and outreach to the commercial customer sector
- Integrating the approach to better maximize savings and minimize lost opportunities
- Identifying the most promising technologies that can play a role of providing multiple solutions, for energy efficiency.
- Cross-promoting other energy efficiency (e.g., Workforce, Education & Training) and demand response programs.

6) Program Implementation

a) Statewide IOU Coordination

All California IOUs offer The Direct Install efforts. Specific areas of coordination include:

i. Program name

Commercial Direct Install

ii. Program delivery mechanisms

Third-party contractors will be used to perform program services such as customer outreach, survey existing equipment, explain and promote retrofits, and perform retrofit installations for customers and coordinates services performed by the Community-Based Organizations (CBOs).

iii. Incentive levels

The sub-program does not pay a rebate or incentive to the direct install customer. Payments are made to the direct install vendor who employs said incentives to reduce the cost of delivering energy efficiency services. The products and installation of products are at reduced cost or free to the customer.

iv. Marketing and outreach plans

The sub-program is designed to increase the adoption of energy-efficient measures by small and hard-to-reach commercial customers through offering energy efficiency assessments, energy efficient equipment and installation to

small business customers at no or low cost. Marketing efforts undertaken will be targeted based on customer size and demographics. Program interactions include working closely with Faith Based and Community Based Organizations as job development partners, creating and providing jobs in addition to the contract deliverables. This provides a partnership in the community that otherwise would not have engaged.

Additionally, the Program utilizes a collaborative team of internal and external stakeholders to conduct strategic program outreach and marketing. Working with our External Affairs Outreach group the Direct Install program has worked actively with a number of Business Improvement Districts and local governments during the current cycle to increase local community involvement and raise the program's profile among BID businesses. This effort will continue during the 2013-2014 cycle with a concerted effort to partner with Local Government Programs and multiple BIDs to increase the number of BID customers involved in the Direct Install program.

v. IOU program interactions

The sub-program will coordinate its activities with local government partnerships and External Affairs in order to leverage existing infrastructures (e.g., Chambers of Commerce and Business Improvement Districts) that provide outreach to small business customers.

vi. Similar IOU and POU programs

Not applicable

b) Program delivery and coordination

Direct Install contractors are selected using a competitive bid process to ensure cost-effective delivery of services. All customer outreach, existing equipment surveys, explanation and promotion of retrofits and installation of retrofits for customers will be delivered by the contractors.

The IOU Program Management staff provides a customer contact list to the Direct Install contractors. Using this list the contractors will contact the customer to set up an appointment to assess and install the recommended measures at no cost to the customer. In cases where a customer name is not shown on the list (for example, a new business that opened after the list was generated), the contractor confirms their eligibility before performing a survey. Contractors have the main responsibility for contacting eligible customers, but also work with appropriate CBO/FBO and local government partnerships to reach customers.

After completing the energy survey, the contractors must discuss the recommendations with the customer and explain which fixtures and/or lamps recommended for upgrade and/or replacement. The contractor must then ask the customer whether to proceed with the retrofit:

The contractor typically installs the equipment within a few days of obtaining permission to proceed. After completing the installation, the contractor must do two things:

1. Perform an on-site post-verification of the installation. The test must ensure that all retrofit work is completed and in compliance with all applicable statutes, acts, ordinances, regulations, codes and standards of the federal, state and local governmental agencies having regulatory jurisdiction.
2. If a customer has any complaint about work done through the Program, the Contractor is ultimately responsible for handling it.

Any advertising or marketing material that the contractor uses must be approved by the Program manager in advance. All customer communications must be presented in the customer's primary language whenever possible and appropriate categories).

i. Emerging Technologies program

Not applicable; this program does not seek to influence emerging technologies.

ii. Codes and Standards program

Not applicable; this program is not directly involved with the Codes and Standards, but is indirectly involved insofar as Title 20/24 requirements dictate minimum efficiency standards.

iii. WE&T efforts

Direct Install contractors will be required to provide customers with informational materials on statewide and local WE&T opportunities. In addition, the Direct Install program (through its contractor delivery network) offers an opportunity for achieving one of the primary goals of Workforce Education & Training – providing energy efficiency jobs for low income and disadvantaged workers. The linkage between Direct Install and the Statewide WE&T efforts will be made stronger as the WE&T program coalesces.

iv. Program-specific marketing and outreach efforts

Program outreach occurs by working closely with local governments, Faith Based and Community Based Organizations. Marketing and outreach efforts focus on the energy efficiency benefits of the equipment installed, proper operation and maintenance and cross-promotion of DR activities. (Specific IOU budget information for this marketing activity is provided in Table 1.)

v. Non-energy activities of program

As a turnkey program, Direct Install contractors are responsible for outreach efforts, equipment specification, equipment procurement, equipment installation, job-site clean-up, equipment disposal and post-installation inspection.

vi. Non-IOU Programs

Direct Install will leverage the efforts of other philanthropic, faith-based and community-based organizations to achieve additional energy savings. These efforts will be further defined as the program design details are developed and third-party contracts are negotiated.

vii. CEC work on EPIC

Not applicable; see Section 6.b.i.

viii. CEC work on codes and standards

Not applicable; see Section 6.b.ii.

ix. Non-utility market initiatives

Not applicable

c) Best Practices

Direct Install Programs were successfully offered during the 2010-2012 program cycle. Best practices were derived from these programs and include:

- Keep messaging and participation simple for the customer.
- Understand the key motivators that drive an industry and use that information to market the program.
- Make the program visible to targeted customers.
- Contact targeted customers through identified organizations and associations,
- Maintain a high level of customer service by providing customers with assistance with vendor management and other no cost, low cost recommendations.
- Identify qualifying products simply and effectively.

d) Innovation

As the market matures with information regarding energy efficiency, many small businesses are expressing an interest in the adoption of emerging technologies, such as solid state lighting, and demand response enabling technologies. The IOU Direct Install Program Management team will continually evaluate these technologies and incorporating them into the program delivery model including potential customer co-pay into the program.

IOUs will explore offering an audit to customers considering three or more measures in an effort to determine if the audit itself leads to implementation of deeper savings.

e) Integrated/coordinated Demand Side Management

The Direct Install model provides a great opportunity to market other DSM (i.e., DR and CSI) to traditionally hard-to-reach customers. The program will make every effort to do so; however, it is acknowledged that these small business customers likely do not have the resources (both financial and personnel) to actively pursue participation in such programs (especially CSI). To help bridge this resource gap, DSM promotional materials will describe all known non-IOU programs that offer tax credits/rebates/financing for solar PV systems. Information on DR programs and rate alternatives/changes appropriate to the small-business customer class will also be provided.

f) Integration across resource types

Promotional materials described in Section 6.e will also include information on water energy savings. In addition, such water savings measures (e.g., low flow faucets) may be evaluated for inclusion in the program delivery.

g) Pilots

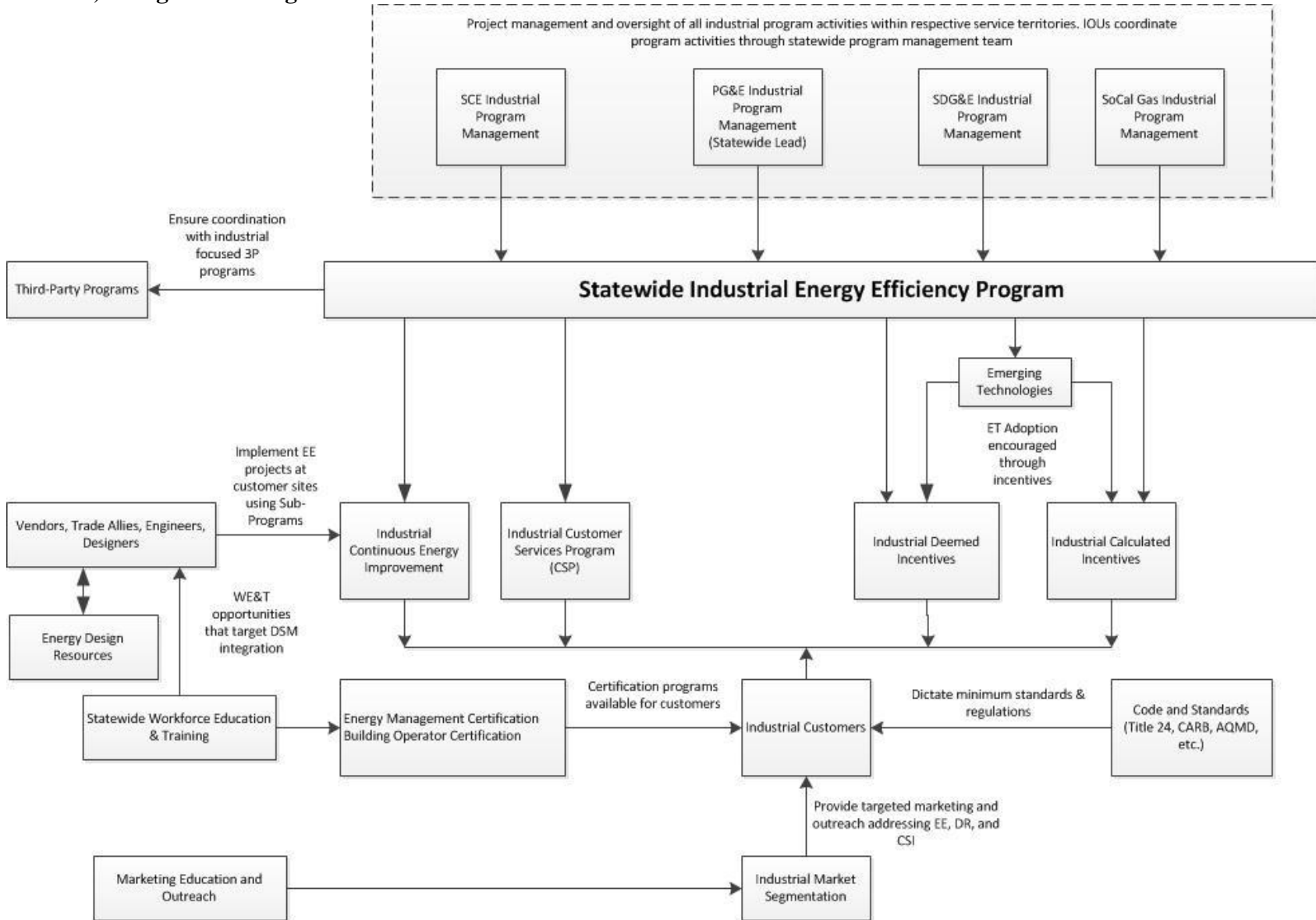
Not applicable

h) EM&V

The utilities will work with the Energy Division to develop and submit a comprehensive EM&V plan for 2013-2014 cycle, after the program implementation plans are filed. This plan 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 will be developed collaboratively by the utilities and Energy Division. Development of these plans will occur after the final program design is approved by the CPUC, and in many cases, after the program implementation has begun, since the plans need to be based on identified program design and implementation issues. However, a brief description of the current, preliminary plans is provided below:

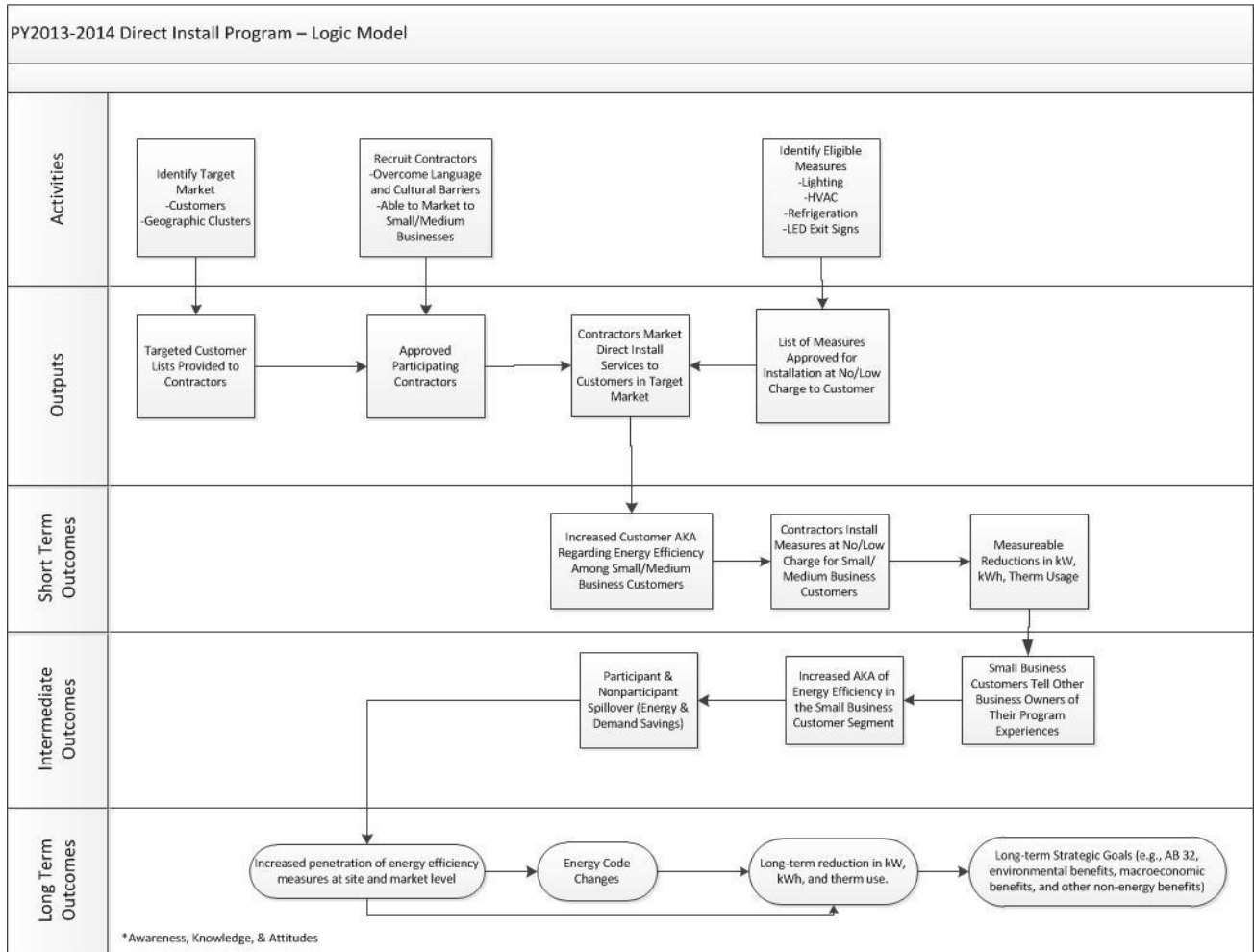
- Conduct evaluation to track the all proposed key metrics,
- Conduct specific process evaluation to improve program design, implementation and market effectiveness.

7) Diagram of Program



8) Program Logic Model

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. In addition, this Resolution approved updated logic models for the statewide programs. Below is the approved logic model for the Direct Install Sub-program.



2013-2014 PIP Addendum

Program Name	California Statewide Program for Industrial	Date Submitted	7/2/2012
Subprogram Name		Utility Name	San Diego Gas & Electric
Subprogram ID		IOU Program Contact	

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibility rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
3. Fund shifts (indicate advice letter approval below if required)
4. Portfolio Budget and Other Commission-Directed Changes
5. Changes to Program Theory/Logic Models
6. Addition or elimination of programs and/or sub-programs (indicate advice letter approval below)
7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes

Driver of Change:

Aim to reduce the complexity in IOUs' portfolios while increasing customer participation.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

The 2010-2012 Industrial Energy Efficiency Program program implementation plan (PIP) reflects the following sub-programs:

1. *Nonresidential Audits Program*
2. *Calculated Incentives Program*
3. *Deemed Incentives Program*
4. *Continuous Energy Improvement*
5. *Commercial Direct Install – (program is delivered through LGP and Third Party Channels)*
6. *Energy Efficiency for Entertainment Centers, third party program*
7. *K-12 Private Schools and Colleges Audit and Retrofit Program, third party program*
8. *California Preschool Energy Efficiency Program (CREEP), third Party program*

The new 2013-2014 Industrial Energy Efficiency Program will be simplified and consist of the following sub-programs:

1. Customer Services Program
2. Commercial Calculated Incentives Program
3. Commercial Deemed Incentives Program
4. Continuous Energy Improvement (CEI)
5. Nonresidential HVAC
6. Commercial Direct Install

PIP Section and/or Wording to be Changed or replaced:

Changes are throughout the 2013-2014 Statewide Industrial Energy Efficiency Program

Replacement Language or Information

Refer to Description of Program of 2013-2014 Statewide Industrial PIP for details on changes

Revised Energy Savings (If Any):

Refer to 2013-2014 Statewide Industrial PIP for details

Other PIP Changes Required:

Refer to 2013-2014 Statewide Industrial PIP for details of other changes

1. **Program Name:** Statewide Industrial Energy Efficiency Program
Program ID#:
Program Type: Core

2. **Projected Program Budget Table**

Table 1¹

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	SW Industrial Programs					
3228	SW-IND-Customer Services-Benchmarking	\$40,093	\$21,415	\$220,465	\$0	\$281,973
3231	SW-IND-Calculated Incentives-Calculated	\$221,673	\$73,209	\$1,123,581	\$1,920,450	\$3,338,913
3233	SW-IND-Deemed Incentives	\$56,112	\$63,181	\$423,068	\$878,287	\$1,420,649
	TOTAL:	\$317,878	\$157,806	\$1,767,114	\$2,798,737	\$5,041,535

3. **Projected Program Gross Impacts Table – by calendar year**

Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	SW Industrial Programs			
3228	SW-IND-Customer Services-Benchmarking	0	0	0
3231	SW-IND-Calculated Incentives-Calculated	1,318	11,039,522	312,192
3233	SW-IND-Deemed Incentives	1,027	6,834,105	36,428
	TOTAL:	2,345	17,873,627	348,620

4. **Program Description**

a) **Describe program**

The purpose of the Statewide Industrial Energy Efficiency Program is to provide services to improve the energy efficiency of industrial facilities in California. The primary services provided to industrial customers include:

- Energy audits covering energy efficiency and demand management opportunities;
- Technical assistance in measures specification, procurement, and project management;
- Post-installation inspection and analysis to verify performance;
- Continuous energy improvement consultation; and
- Financial incentives and project financing for installed measures

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.

Financial incentives will be based on:

- Deemed energy savings by per unit of equipment; and
- Calculated energy savings by per unit of energy

The significance of the industrial sector in energy use in California is evident by recognizing that it is responsible for a third of energy consumption in the state, as shown in the table below, taken from the California Long-Term Energy Efficiency Strategic Plan.

Contribution of the Industrial Sector	(% of total in CA)
Electricity use	16
Natural gas use	33
Energy use	22
End-use CO ₂	20

There are several factors unique to the industrial sector, as compared to the residential and commercial sectors, that present challenges to achieving energy efficiency and greenhouse gas (GHG) goals for the state. As taken from the Strategic Plan, these factors include:

- Industry uses a large quantity of energy and other resources via complex proprietary processes to create and bring products to market. Products, to varying degrees, have embedded energy that traditionally cannot be “zeroed out.”
- Industrial facilities are increasingly managed by corporations that reside outside of the state or the country, and that view these facilities as mobile assets in a competitive global marketplace.
- Industry is highly diverse in type, size, and operation. Customer types include the full range of industries from assembly plants, beverage manufacturing, and chemical production to water and wastewater treatment. Thus, uniform programs often will not match corporate or facility needs.
- Industries are subject to multiple policies and rules in resource areas (e.g. air quality, water quality, energy efficiency, GHG reductions, solid waste management), where compliance can raise competing objectives and outcomes.

To address these factors and challenges, the Statewide Industrial Energy Efficiency Program offers California’s industrial segment a statewide-consistent suite of products and services designed to:

- meet customer needs;
- overcome market barriers to energy management;
- enhance adoption of integrated demand-side management (IDSMS) practices; and
- advance the industry toward achieving the goals of the California Long Term Energy Efficiency Strategic Plan.

The program overcomes barriers through policies that:

- provide integrated solutions for the customer;
- create heightened awareness through education and outreach;
- foster continuous energy improvement (CEI);
- promote the use of commonly accepted standards; and

- support training to create a highly skilled energy efficiency workforce that is accessible to industry.

The Statewide Industrial Energy Efficiency Program includes four statewide sub-program elements that together comprise the core product and service offerings. Each of the four investor-owned utilities in the state also offers local programs that complement and enhance the core offerings in their region. The local portfolio mix of SCE is specifically designed to enhance energy efficiency and DSM opportunities for industrial customers, including financial solutions.

Together, these offerings are designed to not only overcome the traditional market barriers to energy efficiency, but also use efficiency to advance demand response (DR) and distributed generation (DG) opportunities (including solar and renewables) uniquely suited to the industrial segment.

The four statewide sub-programs are summarized below.

- Industrial Energy Advisors: Brings together under one program all audit services offered to support the customer's (1) education; (2) participation in energy efficiency, demand response and self-generation energy reducing opportunities and benefits; and (3) awareness of greenhouse gas and water conservation activities. These services include Benchmarking, Online Energy Audit Tool, Continuous Energy Improvement (CEI) (see CEI sub-program PIP), Nonresidential Audits, Pump Efficiency Services, and retrocommissioning (RCx).
- Industrial Calculated Energy Efficiency Program: Features incentives based on calculated energy savings for measures installed as recommended by comprehensive technical and design assistance for customized and integrated energy efficiency/DR initiatives in new construction, retrofit, and RCx projects. Because it presents a calculation method that can consider system and resource interactions, the program will become the preferred approach for supporting the integrated, whole system, and multi-resource management strategies of the Strategic Plan.
- Industrial Deemed Energy Efficiency Program: Features rebates per unit measure for installed energy-saving projects. It provides IOU representatives, equipment vendors, and customers an easy-to-use mechanism to cost-effectively subsidize and encourage adoption of mass market efficiency measures through fixed incentive amounts.
- Industrial Continuous Energy Improvement Program: Features a consultative service which targets long-term and strategic energy planning. CEI is designed to reintroduce the importance of energy management by transforming the market and to help reduce energy intensity through a comprehensive energy management approach. CEI will address technical and management opportunities for commercial customers while creating sustainable practices through a high-level energy commitment from executive and board-level management. CEI applies the principles of well-known business continuous improvement programs, such as Six Sigma and International Standards Organization (ISO) standards, to facility and plant energy management. These principles are: (1)

Commitment; (2) Assessment; (3) Planning; (4) Implementation; (5) Evaluation; and (6) Modification. At each stage of customer engagement, a variety of complementary IOU and non-IOU products and services can be customized to fit different customer profiles and optimize the cost-effectiveness of the delivered energy management solution.

The IOUs and CPUC have worked collaboratively to define a set of Program Performance Metrics (PPM) to measure progress made by the programs and sub-programs towards their short term goals and Market Transformation. Statewide coordination and planning will facilitate inter-IOU sharing of successes, lessons learned, and best practices in the pursuit of those targets and metrics.

Statewide coordination and planning between IOU program planning staff, IOU functional departments, government agencies, and other key partners and stakeholders will also be critical to the advancement of the Strategic Plan. In addition, leveraging national and state initiatives, tools, and resources to manage energy, use and protection of natural resources and environmental impacts will be key to optimizing the potential for California's industrial segment. The Statewide Industrial Energy Efficiency Program includes the staged integration and coordination with existing initiatives and regulations today, and later will drive or support advancements in integrated resource planning, energy management certification, industry benchmarking, workforce education and training, and sharing of industry best practices towards a goal of optimized energy utilization.

An integrated approach should be an effective way to help customers meet overall economic and green goals. In alignment with California's preferred loading order, however, the IOUs will continue to aggressively market and support energy efficiency first as the most cost-effective energy resource through education and training, as well as when pursuing strategic energy planning with customers.

b) List measures

The key end-use technology categories addressed through the Statewide Industrial Energy Efficiency Program are pumping, motors, heat recovery systems, process steam, loads, and heating, air compressors, hot water systems, insulation, plug load controls and lighting.

c) List non-incentive customer services

Non-incentive customer services offered through the Statewide Industrial Energy Efficiency Program will include the following:

Energy Advisors

- Remote energy audits
- Integrated energy audits
- Retrocommissioning audits
- Benchmarking
- Pump tests and pumping systems technical support
- Water leak detection services

Continuous Energy Improvement (CEI)

- Energy management assessments
- Energy planning consulting
- Energy use baselines establishment
- Facility/customer benchmarking
- CEI education and training
- CEI resources on www.energydesignresources.com
- Customer recognition
- Plant certification

Education and Training

- System-assessment DOE training
- Basic, Intermediate and Specialist Training (in support of ANSI Certification) in industrial pumps, motors, compressed air, and steam
- Other system-specific training
 - Steam system and process heating seminar
 - Air systems
- Industry-specific integrated energy management workshops and seminars developed by the IOUs
 - Control systems
 - Energy management systems
- Workforce Education and (WE&T)
 - Training to build team of highly skilled personnel to perform plant certification and assessment.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as “Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market.”² The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that new programs are needed to support the continuous transformation of markets around successive generations of new technologies³.

Market transformation programs differ from resource acquisition programs on 1) objectives, 2) geographical dimensions 3) temporal dimensions, 4) baselines, 5) performance metrics, 6) program delivery mechanisms, 7) target populations, 8) attribution of causal relationships,

² California Public Utilities Commission Decision, D.98-04-063, Appendix A.

³ California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan*, p. 5. Available at <http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf>.

and 9) market structures⁴. Markets are social institutions⁵, and transformation requires the coordinated effort of many stakeholders at the national level, directed not to immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains⁶, as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market transformation progress⁷. According to York⁸, “Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are 3 ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy.”

The question of what constitutes successful transformation is controversial because of a Catch-22: Market transformation is deemed successful when the changed market is self-sustaining, but that determination cannot be made until after program interventions are ended. Often, however, the need for immediate energy and demand savings or immediate carbon-emissions reductions will mean that program interventions may need to continue, which would interfere with the evaluation of whether MT is self-sustaining. Market transformation success has also been defined in terms of higher sales of efficient measures than would have otherwise occurred against a baseline absent of program interventions. The real world, however, provides no such control condition. Evaluators must estimate these baselines from quantitative factors, such as past market sales, that may be sparse and/or inaccurate - particularly for new products. Evaluations must also defer to expert judgments on what these baselines may have been as well as on the degree of successful market transformation⁹. Due to the subjective nature of these judgments, it is imperative that baselines as well as milestone MT targets be determined and agreed upon through collaborative discussion by all stakeholders, and these targets may need periodic revision as deemed necessary by changing context.

Market transformation draws heavily upon diffusion of innovation theory¹⁰, with the state of a market usually 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

⁴ Pelozo, J., and York, D. (1999). “Market Transformation: A Guide for Program Developers.” Energy Center of Wisconsin. Available at: <http://www.ecw.org/ecwresults/189-1.pdf>.

⁵ Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) “From technology transfer to market transformation”. Proceedings of the European Council for an Energy Efficient Economy Summer Study. Available at http://www.ecee.org/conference_proceedings/ecee/2001/Panel_2/p2_7/Paper/

⁶ Sebold, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

⁷ Gibbs, M., and Townsend, J. (2000). The Role of Rebates in Market Transformation: Friend or Foe. In *Proceedings from 2000 Summer Study on Energy Efficiency in Buildings*.

⁸ York, D., (1999). “A Discussion and Critique of Market Transformation”, Energy Center of Wisconsin. Available at <http://www.ecw.org/ecwresults/186-1.pdf>.

⁹ Nadel, S., Thorne, J., Sachs, H., Prindle, B., and Elliot, R.N. (2003). “Market Transformation: Substantial Progress from a Decade of Work.” American Council for an Energy-Efficient Economy, Report Number A036. Available at: <http://www.aceee.org/pubs/a036full.pdf>.

¹⁰ Rogers (1995) *Diffusion of Innovations*, 5th Ed.

decades¹¹. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects¹². The ability to make causal connections between these market transformation effects and any particular program's activities fades with time, as markets continually change and other influences come into play. These challenges mentioned above are in reference to programs that were specifically designed to achieve market transformation; and these challenges are only compounded for programs that were primarily designed to achieve energy and demand savings. However, since the inception of market transformation programs almost two decades ago, many lessons have been learned about what the characteristics of successful MT programs are. First and foremost, they need to be designed specifically to address market transformation. "The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given to program designers).¹³" The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts¹⁴, but also reflects the CPUC's directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful MT programs have involved multiple organizations, providing overlapping market interventions¹⁵. The Strategic Plan calls for coordination and collaboration throughout, and in that spirit the IOUs look forward to working with the CPUC and all stakeholders to help achieve market transformation while meeting all the immediate energy, demand, and environmental needs. Drawing upon lessons learned from past MT efforts, the Energy Center of Wisconsin's guide for MT program developers¹⁶ suggests that the first step is not to set end-point definitions, progress metrics or goals. Rather, the first step includes forming a collaborative of key participants. As the Strategic Plan suggests, these may include municipal utilities, local governments, industry and business leaders, and consumers. Then, with the collective expertise of the collaborative, we can (1) define and characterize markets, (2) measure baselines with better access to historical data, (3) define objectives, (4) design strategies and tactics, (5) implement programs and (6) evaluate programs. The collaborative will also provide insights that will set our collective expectations for the size of expected market effects, relative to the amount of resources we can devote to MT. No one organization in the collaborative will have all the requisite information and expertise for this huge effort. This truly needs to be a collaborative approach from the start.

Attitudinal change is an important part of any market transformation effort. This change may be tracked with a battery of questions that probes customer attitudes, knowledge and

¹¹ Example in bottom chart of this graphic from NYTimes:

<http://www.nytimes.com/imagepages/2008/02/10/opinion/10op.graphic.ready.html>.

¹² Sebold et al (2001) p. 6-5.,

¹³ Peters, J.S., Mast, B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume 1.* Available at <http://calmac.org/publications/19981215CAD0001ME.PDF>.

¹⁴ CPUC (2008) Strategic Plan, p. 5.

¹⁵ Nadel, Thorne, Saches, Prindle & Elliot (2003).

¹⁶ Pelosa & York, (1999).

awareness (AKA) of energy efficiency. In order to gauge an attitudinal based metric for this sector, a battery of questions probing AKA among customers would have to be created and used to scale AKA. Examples of AKA would include knowledge of energy efficiency lighting and other specific measures. Evaluators could also draw from customer surveys used in past program evaluation studies to determine whether any response patterns would be a useful indicator of market transformation, moving forward. The dimensions of any scale need to be selected by the MT collaborative. The baseline response pattern to the AKA scale would need to be established early during the program cycle. Customers could be surveyed on an annual basis and changes in their AKA tracked along the scale. Responses of customers for a particular sub-program could be pulled out for separate analysis, as needed.

In addition, behavioral change is an important part of any market transformation effort. This change may be tracked with a battery of questions that probes customer past behavior and intentions about energy efficiency. In order to gauge a behavioral based metric for this sector, a battery of questions about energy efficient behaviors could be used to create a scale of Energy Behavior. Evaluators could also draw questions about specific behaviors from customer surveys used in past program evaluation studies to determine whether any response patterns would be a useful indicator of market transformation, moving forward. The dimensions of any scale need to be selected by the MT collaborative. The behaviors that could be probed include maintenance behaviors to keep EE measures operating correctly, and behaviors that maximize energy efficiency of existing equipment. Customers could be surveyed early in the program cycle and their responses on the scale could serve as the baseline for subsequent behavioral change. Customers could be probed annually and their Energy Behavior change measured along the scale. Responses of customers for a particular sub-program could be pulled out for separate analysis, as needed.

Program Performance Metrics (PPMs)

On December 2, 2010, the Commission issued Resolution E-4385 approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and subprograms. The Commission gave each PPM a metric type which indicated the reporting frequency: Metric type 2a indicates that the IOUs should report on the metric on an annual basis (unless indicated otherwise). Metric type 2b indicates the IOUs should report on the metric at the end of the program cycle. Below are the approved PPMs and metric types for the Industrial Energy Efficiency Program (Resolution E-4385, Appendix A, pp. 32-33):

SW PROGRAM / Sub-Program	PROGRAM PERFORMANCE METRIC (PPM)	Metric Type
COMMERCIAL / INDUSTRIAL / AGRICULTURAL COMBINED * Data to be reported in disaggregate form by SW program (commercial, industrial, and agricultural)		
	*1. Number and percent (relative to all eligible customers) of commercial, industrial and agricultural customers participating in sub-programs (NRA, Deemed, Calculated, and CEI) by NAICS code, by size (+/- 200 kW per yr or +/- 50K therms per yr), and by Hard to Reach (HTR)** ** "HTR" is as defined in the EE Policy Manual	2a

SW PROGRAM / Sub-Program	PROGRAM PERFORMANCE METRIC (PPM)	Metric Type
Continuous Energy Improvement (CEI)	*1. Number and percent of commercial, industrial, and agricultural CEI participants that meet short-term (2010-2012) milestones as identified by their long term energy plans.	2a
	*2. Lessons learned, best practices, and plan to ramp up the CEI program are developed. (Y/N)	2b
	*3. Number and percent of commercial, industrial and agricultural customers that created an energy plan via CEI will be tracked by program.	2a
Non-Residential Audit Program (NRA)	*1. Number and percent of commercial, industrial, and agricultural customers receiving non-residential audits by NAICS and SIC code.	2b
	*2. For commercial, industrial, and agricultural customers who received audits, the number and percent of adopted audit-recommended technologies, processes and practices. (Report disaggregated data by type of audit - Basic, Integrated, and Retro-commissioning audit.) **(1) **Data sources for reporting will come from (a) program tracking databases and (b) process evaluation to refine estimates. (1) – An audit completed in one portfolio may have measures implemented over several years and portfolios.	2b
Deemed Incentives	*1. Number and percent of new, improved, or ETP measures** installed in the commercial, industrial and agricultural programs. ** “ETP measure” defined as ET measures first introduced into the EE portfolio since January 1, 2006.	2a
Calculated Incentives	*1. Number and percent of new, improved, or ETP measures installed in completed calculated projects.	2a

b) Market Transformation Indicators (MTIs)

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment “H” are approved for this sub-program as applicable.

c) Program Design to Overcome Barriers

There are a multitude of significant barriers to achieving technical and economic potential for energy efficiency in the industrial sector according to the Strategic Plan (p. 46). While primarily institutional and behavioral, rather than technical, these barriers include:

Lack of awareness of energy efficiency opportunities;

- Difficulty in accessing industry-specific technical assistance;
- Inadequate availability of plant and management personnel to foster energy efficiency;
- Prioritization of production over energy management;
- Aversion to the risk of investing in new technologies and processes with unknown impacts to industrial output or quality; and
- Limited capital and inhibiting internal investment rates.

Further, the industrial sector faces an array of barriers common to all nonresidential customers:

- A high percentage of building developers, owners, managers, and contractors build or retrofit to current standards (Title 24). Likewise, architects and engineering (A&E) firms tend to specify known and familiar equipment and designs.
- Because viable high efficiency emerging technologies are unknown to facility owners and system designers, these technologies are slow to penetrate the market, causing lost energy efficiency opportunities.
- Insufficient access to information creates barriers associated with:
 - operating best practices;
 - energy efficiency opportunities;
 - impacts of an energy efficiency project on emissions, resource consumption, or waste discharge streams;
 - difficulty in obtaining technical assistance; and
 - inadequate availability of qualified industry specialists, which can all impede adoption of energy efficiency.

The Statewide Industrial Energy Efficiency Program will employ all four strategies listed in the Strategic Plan to address the barriers. These strategies include:

- Integrated solutions
- Education and outreach
- Branding and certification
- Workforce training.

The Statewide Finance PIP includes plans to explore and develop additional finance tools to facilitate the adoption of integrated projects.

d) Quantitative Program Targets

Table 5 - Program targets are provided at the sub-program level.

e) Advancing Strategic Plan goals and objectives

The Statewide Industrial Energy Efficiency Program supports all three goals in the Strategic Plan for the 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.

To address this goal, the strategy adopted, in line with the Strategic Plan, is to develop an interagency framework that could combine energy efficiency incentives to achieve measured performance improvements in resource management, including water, air quality, GHG emissions, and energy efficiency. This first goal focuses on developing a minimum regulatory energy efficiency requirement for individual company or industrial sub-sectors as a whole. One example is to integrate AB32 requirements to allow industries to use energy efficiency to meet or exceed regulatory requirements for GHG emission reductions. An IOU – CARB AB32 team will be formed to study the feasibility of implementing negotiated agreements between agencies.

Goal 2: Build market value and demand for continuous improvement in industrial efficiency through branding and certification.

This second goal focuses on companies that want to exceed a minimum regulatory requirement by actively managing their energy use over time. To this end, this program offers CEI options that include participation in a recognized national effort to certify industrial facilities for energy efficiency. Industrial customers will then be able to reach their GHG emission reductions targets via a supported, structured program based on best practices and develop worldwide recognition for their efforts through third-party certification e.g. DOE’s SEP program, based on proven best practices. The IOUs will be partnering with DOE Industrial Technologies Program or EPA Technologies program, for example, to gain access to highly skilled professionals in energy management systems.

Goal 3: Provide centralized technical and public policy guidance for California industrial energy and resource efficiency.

The primary interest with this goal is to provide a clearinghouse of technical knowledge and information so that industry personnel can access information on emerging technology and industry-specific research. The clearinghouse will leverage extensive knowledge on energy efficiency developed by other organizations like DOE and EPA. In alignment with the Strategic Plan, the statewide team will be developing this clearinghouse on the EDR website, which is an existing statewide resource.

6. Program Implementation

a) Statewide IOU coordination

i. Program name: Statewide Industrial Energy Efficiency Program

ii. Program delivery mechanisms

The Statewide Industrial Energy Efficiency Program will be coordinated on a statewide level to ensure the program is continuously updated and enhanced throughout the two year transition period and beyond. In addition, each of the four sub-programs in the Industrial Energy Efficiency Program will be coordinated on a statewide level to unify the implementation of program aspects such as program name, program delivery mechanisms, incentive levels, marketing and outreach plans, and IOU program interactions. A detailed description of each of these program aspects and how they will be coordinated statewide is provided in sub-program descriptions. The two coordination systems, one for the core program and one for the sub-program level, will interact with and support one another. The broad, high-level coordination effort for the core program will be described below, focusing on how the IOUs will work together to effect the continuous improvement of the Statewide Industrial Program.

The Statewide IOU Coordination process for the Statewide Industrial Program will be as follows:

1. Designate an IOU Program Lead

The coordination process will begin with each IOU designating a Statewide Industrial Energy Efficiency Program “lead”. The IOU lead will represent one industrial sub-program, investigating new innovations, special accomplishments, and challenges experienced by sub-program managers in all IOUs. Where such innovations or challenges show potential for impacting the Statewide Industrial Energy Efficiency Program across multiple sub-programs or the Statewide program as a whole, the IOU lead will present such information to a quarterly Steering Committee meeting.

2. Hold Periodic Steering Committee Meetings

The Industrial Steering Committee will comprise all designated IOU leads (including at least one lead for each of the four sub-programs), and possibly other contributing stakeholders identified by the IOUs. At the periodical steering committee meeting, individual innovations, challenges, and accomplishments experienced in one IOU or by one sub-program will be transmitted to all IOUs. The steering committee will evaluate these individual IOU and sub-program experiences, hear ideas for course corrections and overcoming challenges, replicate successful innovations for consistency statewide, resolve differences in implementation to stay unified, and measure the Industrial program’s progress against statewide metrics and goals.

3. Adopt Program Enhancements

Once the steering committee agrees that a particular implementation policy or innovation has merit on a statewide level, each IOU lead will distribute the information to their sub-program managers for adoption and integration. Therefore, the IOU lead will act as a conduit, feeding sub-program information up to the statewide steering committee and distributing measures for adoption back to the sub-program managers. This feedback loop will assure consistency and unity in programmatic improvements across the IOUs. In

some cases, it may be necessary to invite the sub-program managers to the Steering Committee meeting to get their feedback and ensure they receive the same message.

4. Evaluate Program Enhancements Against Statewide Targets

To complete the adaptive management loop, the steering committee will track the program's accomplishment of statewide targets and goals to ensure that adopted program enhancements are generating their intended results. The steering committee will determine whether further course corrections are needed, and if so, rely on the above coordination process to generate the improvements necessary to stay on track.

The high-level focus of this statewide coordination effort will enable the capture of new innovations and opportunities for program improvement, correct program weaknesses that reveal themselves during implementation, and ensure achievement of statewide targets across IOU service territories. Therefore, statewide focus on program unity and continuous program improvement over the course of the three-year implementation cycle will be enabled. The details of actual implementation of these coordination activities are to be determined by the IOU's industrial program managers.

iii. Incentive levels

Details on the incentive levels are discussed with each of the four sub-programs.

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

The IOUs will continue to develop an in-depth segmentation of the industrial market. The results of this customer segmentation will support the development of targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers based on their needs and preferences. Such delivery channels will likely include increased customer outreach through trade and community-based associations, third parties, government partnerships and core IOU programs. More specific marketing information is provided in each of the industrial sub-program plans.

To reach out to the diverse customer segments, IOUs will continue to foster strategic partnerships with industry and community groups, as well as trade professional associations, to engage in a multi-faceted approach to marketing energy efficiency practices and programs to targeted users. Specific efforts will include:

- Participation in trade association meetings to market the industrial program;
- Close partnerships with key industry associations, and participation in their annual conferences, with an effort to develop conference speaking engagements;
- Targeted integrated education and training to specific market sectors to support peer-to-peer interactions and industry advancement;
- Ads and articles, with program information and case studies, in trade magazines;
- Targeted customer efforts through IOU account representatives, program engineers, third parties, and government partnerships;
- Phone and web-based customer support and outreach;

- Development of coordinated industrial resources into a centralized “one stop shopping” clearinghouse; and
- Development of marketing collateral that drives customers to account representatives and websites for additional support.

The IOUs will raise awareness of energy efficiency programs available using a number of strategies, including:

- IOU representatives will make a regular and consistent customer calling effort to key customers within this sector; and
- IOU representatives, Energy Efficiency program management representatives, and field engineers will be available to provide additional expertise.

To help ensure that IOUs are marketing the right products to the right customer at the right time through the right channels, the IOUs need to be able to segment customers based upon their individual characteristics and energy needs. The IOU’s efforts to collect this customer data will guide the development and implementation of its IDSM marketing and outreach activities.

This customer segmentation will help the IOUs develop an understanding of customers’ needs and respond accordingly with products and services that customers want. The segmentation analysis looks at what the customer requires and how the customer is engaged with each IOU. This foundational segmentation will evolve with incremental insight into customer mindsets, behaviors, responses and motivations to achieve the most effective level of energy use. Based upon this evolving segmentation, the IOUs will be able to identify what integrated product offerings are specific to individual customer needs, and offer those products through the most relevant channels.

Based on the segmentation analysis, the IOUs will be able to focus on providing consistent marketing and overall messaging focused on the customer’s:

- Business/personal goals;
- Unique needs; and
- Green/global climate change goals

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

The Statewide Industrial Energy Efficiency Program will leverage the programs offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to share program information and marketing collateral with commercial customers, as appropriate. Conventionally, each government agency and IOU has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. The sub-program descriptions provide more specific information on linkages with other government programs.

vi. Similar IOU and POU programs

Some initiatives, such as the California Advanced Lighting Controls Training Program, are joint efforts with the other California IOUs and publicly owned utilities (POUs), as well as other domestic and international utilities. In addition to these joint efforts, local third-party programs that address niche opportunities within the commercial market will be implemented in each of the IOUs service territory. These various efforts will be coordinated to ensure a consistent approach in terms of program message, delivery and measure incentives.

b) Program delivery and coordination

i. Emerging Technologies (ET) program

The long-term energy efficiency vision of California can be attained through the long-term and continuous development, verification, and acceptance of new technologies into the market. The achievement of long-term goals requires new technology as well as information, training, and market development to maximize the energy efficiency benefits of cutting-edge technologies. In recognition of the importance of emerging technologies, the program will consider higher initial incentives for emerging technologies being newly introduced to the market place. Once the new products have taken hold in the market, the incentives will be adjusted to reflect market conditions..

ii. Codes & Standards program

The industrial offering relies on the Codes and Standards program to help maintain an updated and relevant list of measures that will support savings. As codes and standards impact measures, the program will act to align itself with appropriate offerings. It is important to manage the measure life cycle to take full advantage of providing incentives before moving them into code. The program will coordinate with the Codes and Standards Planning & Coordination subprogram. Programs will include new offerings that will allow flexibility in adapting to changes in codes and standards, market trends, and technologies. Planned enhancements to Title 20 and 24 will be reflected in incentive levels and eligible measures and services. As the market moves toward “low energy” or “zero net energy” buildings, specific changes to each element of the bundling will ensure that the latest cost-effective technologies/services (e.g., LEDs) are made available as these technologies transition from 1) R&D to 2) Emerging technologies to 3) Incubation to 4) Mainstream.

iii. WE&T efforts

Workforce Education & Training efforts support the education and training of a robust network of industry trade allies, vendors, engineers, design teams and others who can support the market transformation strategies of the Strategic Plan. In the Industrial Energy Efficiency Program, WE&T efforts will focus in the near term on supporting national ANSI Energy Management Certification development efforts, as outlined in the Strategic Plan. Programs will closely coordinate with key stakeholders to ensure that California is poised to adopt this national standard and be a leader in this effort. Specifically, prerequisite trainings will be offered in DOE systems trainings to lay the groundwork for certification level trainings. These education and training offerings will take place through IOUs energy centers and technology centers. In general, the Statewide Industrial Energy Efficiency Program will interface with the Workforce

Education and Training Program Implementation Plan to serve the goals of the Strategic Plan.

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

In addition to the general efforts listed above in 6.a.iv., specific marketing and outreach efforts for sub-programs are found in the sub-program documents.

Integrated and program-specific marketing efforts will complement and work in coordination with statewide ME&O to increase awareness, provide education, and drive ongoing engagement and participation in DSM programs and services among nonresidential customers. The statewide effort will provide the first level with IOU-specific programs providing reinforcement at a local level.

v. Non-energy activities of program

Integrated comprehensive energy audits (described in the Industrial Energy Advisors sub-program) that look across the various energy efficiency program offerings, as well as complementary options available through other entities (e.g., water agencies) will be used to identify the opportunities to be recommended to the specific commercial customer.

The Statewide Industrial Energy Efficiency Program will offer information to customers about the non-energy benefits associated with recommended measures, such as improved safety, productivity, indoor air quality, comfort, and appearance.

vi. Non-IOU programs

A variety of programs to be determined will be coordinated and leveraged to support program objectives. These include:

- Connecting customers with the CA Climate Action Registry;
- AB32 support through CO₂ tracking in program resources;
- Regulatory program coordination, including EPA air quality standards, water quality standards, and new refrigerant regulations;
- Non-IOU financing resources, including from water utilities, industry and private banking, state and federal incentives, funds, grants, and loan products to support energy and other resource management objectives;
- Water/Energy efforts within California;
- ANSI standards (see CEI section); and
- ISO international energy management standards (see CEI section).

The program will continue to engage with Air Quality Management Districts, CEC, CARB, DOE, water agencies, and other government agencies responsible for regulating the various aspects and operations of customer facilities participating in the programs, as appropriate and feasible.

vii. CEC work on EPIC

Not applicable.

viii. CEC work on C&S

As indicated in Section 6.b.ii, planned enhancements to Title 20 and in eligible measures and services.

ix. Non-utility market initiatives

The program will support, educate, and/or enforce such initiatives as AB32, renewables, ANSI certification, facility benchmarking, Continuous Energy Improvement, California Green Building Initiative, and other initiatives as directed. The IOUs will remain engaged in these efforts and work to influence the development of increasingly higher standards.

The Program will leverage the following efforts:

- California Green Building Initiative
- LEED
- Zero-net energy
- DOE
- AB1103
- AB758

c) Best Practices

The Statewide Industrial Energy Efficiency Program reflects the best of each IOU program's successful components of statewide Industrial program offerings, and introduces new elements from other utilities and national efforts as well. Best practices include:

- **Continuous Energy Improvement:** This approach proposes to transform the market and reduce energy intensity through addressing technical and management opportunities.
- **Technical Assistance:** Recognizing the need for personalized assistance for customers, the IOUs will offer a full-service approach starting from audits/pump tests to design and technical assistance, presentation of recommendations, resources to develop a long term plan, and potential of project management assistance, with financial incentives.
- **Vendor Partnerships:** This strategy will be coupled with vendor support and educational workshops and classes to provide the full breadth of support customers may need to influence their decision to implement energy efficient equipment and practices.
- **Statewide Coordination:** In order to take advantage of the statewide implementation of the program, the IOU program representatives will meet on a quarterly basis to improve program operations by sharing successes and areas of operational concerns.
- **Leveraging Industry-Specific Resources:** We will make full use of resources available, such as industry trade and professional associations.

d) Innovation

One innovation is that the program focuses on energy efficiency savings through not just hardware installation but also documented permanent changes in operations. Further, it covers all energy resources including energy efficiency, demand response, energy storage, combined heat and power, distributed generation, renewables, and emerging technologies.

The products and services are bundled in an integrated fashion to serve the customer's need and are geared towards a value creation solution that helps customers realize that they can

run their operations efficiently and also meet their business and regulatory objectives. This approach brings to market a more customer-centric energy solution that takes into account their short- and long-term energy usage management and planning and helps overcome some of the barriers to making energy efficiency a priority. It also helps industrial customers identify, develop and document energy efficiency improvements and their economic benefits.

With the introduction of the new CEI product and services, customers now play a more active role in managing their energy usage and GHG reduction. Bundling the program offerings (energy audits, calculated energy savings, deemed energy savings, and continuous energy improvement) makes it easier for customers to participate in a one-stop shop program. Integrated offerings will also garner significant gains in energy efficiency and make the goals envisioned in California's long-term energy efficiency Strategic Plan a reality.

In addition, this approach will enable industry to integrate AB32 requirements such that industrial facilities can use energy efficiency to meet and exceed regulatory requirements for GHG emissions and can also aid in water conservation, waste disposal and air quality improvement. It also moves the program towards a more holistic approach in managing all energy resources utilization, which includes energy efficiency, demand response, energy storage, combined heat and power, distributed generation, renewables and emerging technologies.

Another innovation used in the program design is the creation of the infrastructure for a statewide centralized technical resource to enable customers to seek energy efficiency information and best practices to manage their energy resource. It provides a resource otherwise unavailable due to business resource limitations.

A web-based technical resource is envisioned that includes tools to help customers calculate their energy savings. Also web-based training may be offered in energy efficiency and energy management. It would also link the customer to industry sites that may offer industry-specific information e.g., the latest trends in industry for energy efficiency.

This resource center will be developed on the existing EDR (Energy Design Resource) website and will be readily available to customers. It is another avenue to increase awareness of energy efficiency opportunities by customers, industry consultants and suppliers that was identified as a barrier to the adoption of energy efficiency.

Some of the outcomes from this innovative program approach are listed below:

- IOUs establish a stronger presence with trade associations and community groups, enabling a deeper understanding of customer needs and how energy efficiency can be a part of their solution to their primary concerns. This will enable a deeper and more effective penetration of energy efficiency solutions to a broader base of customers.
- Integrated Energy Efficiency Assessments are offered to provide targeted Industrial, food processing, and water customers with a holistic approach to maximizing energy efficiency, maximizing investment efficiency and maximizing GHG reductions.

- IOU assistance makes customers aware of renewable energy opportunities, with emphasis on system available for California Solar Initiative, Renewable Generation, Department of Industrial and other incentives, grants and rebates.
- Web-based services, including energy efficiency information, training, and modeling tools, are available to help customers with retrofit or new construction projects, via a new enhanced “Energy Design Resources” website.
- Training is designed to strategically target internal personnel, vendors and trade associations, and customers in a focused alignment, which will create a synergistic effort that will overcome many informational and transactional barriers.
- Seminars are offered to train customers on how to identify energy efficiency opportunities at their facility/in their process. Classroom software tool training is available on modeling and quantifying savings opportunities. IOUs may also provide a PDA energy efficiency tool or tools from the statewide IOU tool lending library that customers can use at their sites.
- Energy measuring and benchmarking assistance/services are offered to customers so they can see how their facility/process measures up to “best in class” systems utilizing tools such as the U.S. EPA’s Energy Star Benchmarking tool.
- Information on “green” energy opportunities is provided when doing basic audits or in-depth assessments. Education and training on green and renewable energy opportunities will be available on the EDR website.
- Assistance is offered to help customers quantify the carbon emissions savings that EE opportunities identified during audits and assessments offer.
- A web link will be developed between customers and the California Climate Registry to document a plant’s carbon footprint.
- Trained personnel help (a) identify, assess and make available to customers an integrated assessment tool and (b) train customers on the use of the tool, empowering customers to identify the best EE opportunities at their facilities.
- An application process improved for statewide consistency makes it easier for customers to participate in the program.

e) **Integrated/coordinated Demand Side Management**

Integrating the portfolio of IOU offerings to include energy efficiency, demand response and distributed generation—as well as other resources, such as air and water as they connect to energy—supports future cost-effectiveness of the portfolio and the CA loading order instituted by the California Energy Action Plan. Integration serves the needs and wants of our customers, who are interested in any energy solution that solves their problems and meets their business needs. It also advances significantly the goals of the Strategic Plan. On a broader scale IDSM also includes the integration of Third-Party programs and Local Government Partnerships (LGP) delivery channel with the statewide industrial program.

Customers prefer a single IOU point of contact that understands multiple options. They benefit from a single, coordinated planning process that helps them prioritize integrated investment decisions based on their unique needs. To that end, the statewide IOUs have made tremendous progress in advancing integrated solutions. These include:

- Marketing

In marketing integration, the IOUs are placing major emphasis on getting the right message to the right customer at the right time. Advanced customer segmentation is being used to develop detailed integrated marketing and outreach plans which outline multiple tactics, delivery channels and key messages to target to specific customers based on their specific needs. The account representatives, who serve as the key customer point of contact, will be trained to ensure consistent delivery of portfolio offerings.

- Education and training

Workshops organized around a customer segment provide an ideal situation to integrate customer energy solutions. Building on past successes of providing integrated workshops to customers, the IOUs will offer workshops that provide opportunities, cross-sell solutions and share key information from other IOU departments. As appropriate, Workforce Education and Training will also cover integrated energy and system solutions, which will be increasingly important as Critical Peak Pricing matures.

- Integrated audits

These will combine funds and resources of energy efficiency and demand response programs. They will provide integrated recommendations to customers that emphasize energy management in proper sequence, as supports the CA Loading Order, which calls for permanent reductions through energy efficiency before implementing demand response. Incentives from both programs can help reduce payback cost and support advanced energy management decisions. Demand response opportunities will be targeted in the larger facilities, particularly as part of monitoring-based retro-commissioning efforts, where controls to facilitate demand response efforts would be installed.

Integrated audits combine funds and resources of energy efficiency and demand response programs to provide integrated recommendations to customers that emphasize energy management in proper sequence, in support of the California Loading Order. Incentives from both programs can help reduce payback cost and support advanced energy management decisions. Demand response opportunities will be targeted in the larger facilities, especially as part of monitoring-based retro-commissioning efforts where the controls to facilitate demand response efforts would be installed. Additionally, any energy efficiency audits required for participation in distributed generation programs will be expanded to include DR opportunities when appropriate and thus address the three facets of DSM integration.

As required, IOU distributed generation programs require that customers receive an energy audit before being eligible to receive solar audits.

- Emerging Technologies and CEC

Program collaboration with Emerging Technologies and CEC is expected to include pilot projects and market acceleration assistance for market-ready products in the general categories of day lighting, lighting, HVAC, controls, and building envelope improvements.

Over the last few years, traditional DSM programs have shown that successful customer participation in one program often leads to repeat participation in the same program or other similarly related types of programs. Nonetheless, cross-marketing DSM programs with these customers remains a challenge, due to program-specific silos. To eliminate these silos, the Program will leverage lessons learned from past program experience and offer comprehensive, coordinated marketing and program delivery.

A primary issue when integrating energy efficiency and demand response programs is that these two efforts are at odds with each other, as both programs reduce the potential for each other's financial incentives to the customer. For example, energy efficiency may reduce the overall baseline that serves as the basis for the demand response program's incentives. Also, benefits from long-term energy savings derived from technological measures often outweigh the temporary demand reduction benefits derived from behavioral actions. To overcome this barrier and maximize the potential of both programs, additional incentives will be paid for energy efficiency measures that enable demand response

A secondary issue when integrating energy efficiency and demand response programs is that communication messages for both types of DSM programs are often not coordinated, since energy efficiency is typically technology based and demand response is often focused on behavior. Also, demand response efforts often happen prior to the summer "event season" and wane throughout the remainder of the year. To overcome these differences, the program will offer integrated and coordinated year-round marketing through consolidated applications, collateral, web sites, and events, where applicable. Through bundling program elements and offering one program application, customers will have the opportunity to enroll in demand response, as well as energy efficiency, programs.

In summary, the program seeks to overcome the many issues raised by integration of energy efficiency and demand response by focusing on several tactics:

- Promoting and setting incentives for demand response in a way that helps ensure that energy efficiency is completed first to maximize potentials;
- Integrating and coordinating year-round marketing (e.g. applications, collateral, web sites, and events);
- Linking of program eligibility requirements (e.g., customer size);
- Providing unified technical assistance through enhanced energy efficiency and demand response audits through the TA Program to allow for cross-harvesting opportunities;
- Integrating presence on IOU websites; and
- Coordinating regular meetings between energy efficiency and demand response program management.

During the current cycle, funding for energy efficiency and demand response must remain non-commingled; therefore payments will be split between the two programs, as appropriate.

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

California's industrial sector faces a multitude of environmental and regulatory challenges that affect their competitiveness and, in some cases, survival. New regulations aimed at improving air quality, water quality and reducing toxic environmental pollutants are proving

to be expensive and disruptive to business as usual, and in many cases will have the impact of increasing energy use in compliance.

To help deal with these challenges, the industrial program will coordinate with the regulating agencies and the programs they are operating to support mutually advantageous program designs, customer incentives, marketing opportunities, and implementation opportunities. IOUs will continue to offer targeted trainings to customers who share common regulatory challenges, in an effort to educate customers on impending regulatory requirements for their business operation and the most efficient solution options to consider for compliance. Future workshops may look at wastewater treatment options, steam system upgrades, and energy efficiency to meet AB32 industrial targets.

IOUs will pursue opportunities to partner with water agencies to offer joint energy and water conservation incentives to support projects that would reduce both resources. Partnering with other utilities will help reduce administrative cost and has a greater impact on societal benefits.

Where applicable, the Program will integrate topics such as GHG reduction and water conservation into targeted customer workshops, and marketing and communications, building on a strong track record from the past program cycle. Marketing and communications material will include savings opportunities and messaging.

g) Pilots

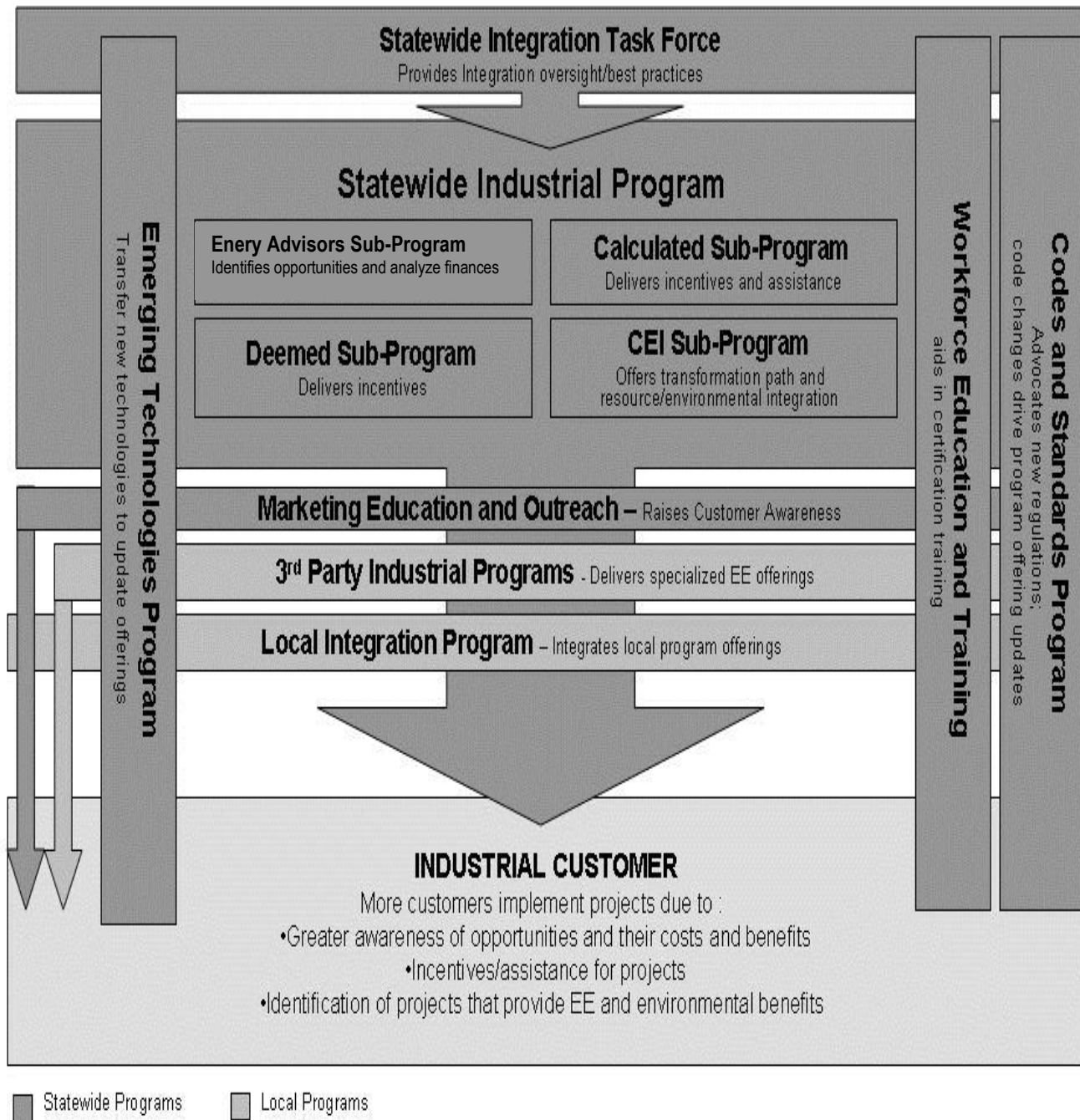
The Statewide Industrial Energy Efficiency Program will coordinate on a statewide level to ensure the program is continuously updated and enhanced throughout the two-year implementation cycle. Pilots may be developed at that time in response to customer's needs or to further advance the goals of the Strategic Plan.

The IOUs intend to implement methods to gather and retain more detailed performance and usage data on a pilot basis. This will determine the more effective methods and achieve savings. Exploring incentives for sub-metering is an option, as is expanding the tool library in lieu of incentives.

h) EM&V

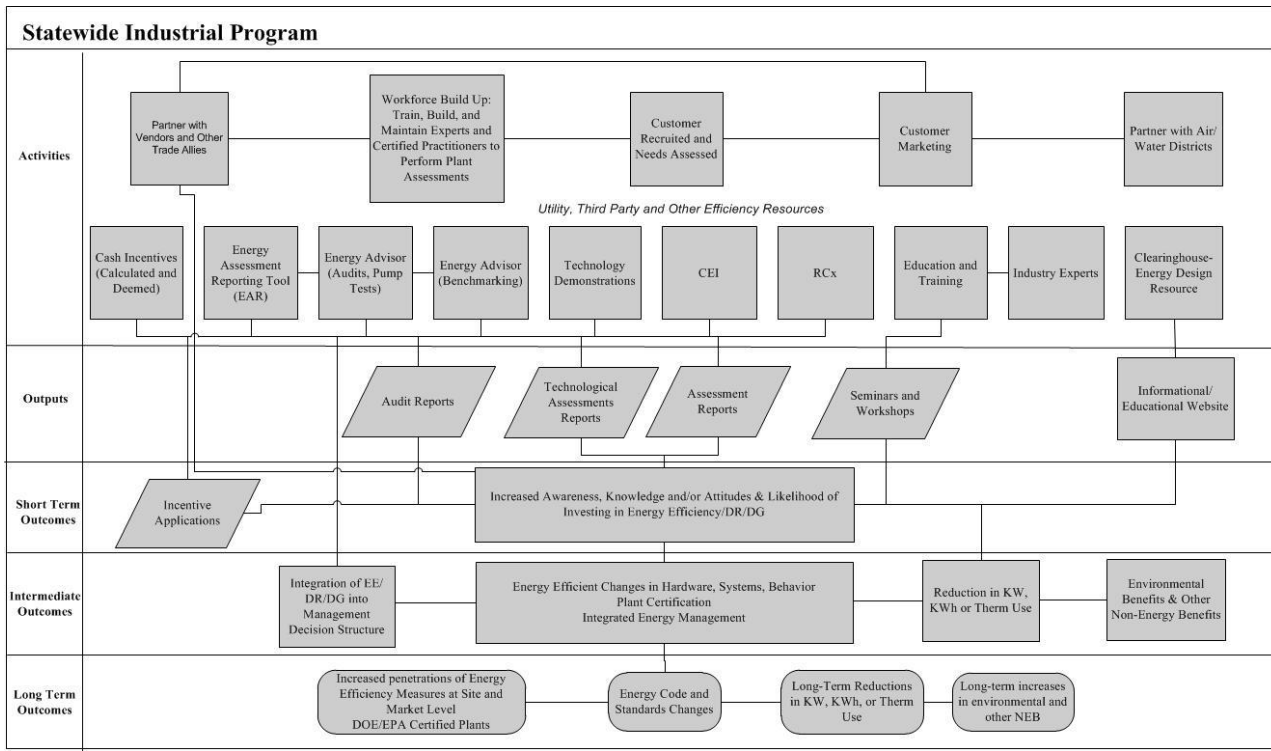
The IOUs are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan after the program implementation plans are filed. This plan will include process evaluations and other program-specific studies within the context of broader IOU and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts will be developed collaboratively by the IOUs and Energy Division. Development of these plans will occur after the final program design is approved by the CPUC and, in many cases, after program implementation has begun, since the plans need to be based on identified program design and implementation issues.

7. Diagram of Program



8. Program Logic Model

Note: On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statement energy efficiency programs and subprograms. In addition, this Resolution approved updated logic models for the statewide programs. Below is the approved logic model for the Statewide Industrial Energy Efficiency Program.



1. **Program Name:** Industrial Energy Advisors Program
Program ID#:
Program Type: Core

2. **Projected Program Budget Table**

Table 1

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	SW Industrial Programs					
3228	SW-IND-Customer Services-Benchmarking	\$40,093	\$21,415	\$220,465	\$0	\$281,973
3231	SW-IND-Calculated Incentives-Calculated	\$221,673	\$73,209	\$1,123,581	\$1,920,450	\$3,338,913
3233	SW-IND-Deemed Incentives	\$56,112	\$63,181	\$423,068	\$878,287	\$1,420,649
	TOTAL:	\$317,878	\$157,806	\$1,767,114	\$2,798,737	\$5,041,535

3. **Projected Program Gross Impacts Table – by calendar year**

Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	SW Industrial Programs			
3228	SW-IND-Customer Services-Benchmarking	0	0	0
3231	SW-IND-Calculated Incentives-Calculated	1,318	11,039,522	312,192
3233	SW-IND-Deemed Incentives	1,027	6,834,105	36,428
	TOTAL:	2,345	17,873,627	348,620

4. **Program Description**

- a) **Describe program**

The Statewide Investor Owned Utilities (IOUs) have created the Industrial Energy Advisor Program to bring together under one program all services offered to support customer education and participation in energy efficiency, demand response and self-generation energy reducing opportunities and benefits, along with awareness of greenhouse gas and water conservation activities.

CPS was created to provide a streamlined and coordinated assignment of right-sized customer solutions. The key is to start the process with an initial analysis of a customer’s needs, determination from the analysis which audit will service the customer with the highest cost/benefit, and identify additional program support and key indicators that will motivate the customer to implement energy saving recommendations.

The IOUs anticipate the restructuring of the program will affect the way audits are provided. The program will enhance the IOUs’ ability to match customer need(s) with the right audit service. This will result in an increased cost-effective delivery of these audit services with an increased expectation for customer adoption/installation of provided customer specific recommendations.

In its offerings, the program will place an emphasis in deep energy saving measures and emerging technologies, where appropriate. When the technologies and customer opportunities are correctly aligned, customers will become more open to the benefits these technologies offer to their business and will therefore increase their acceptance and adoption.

Together the program offerings will work to support the achievement of Strategic Plan objectives across all segments (agriculture, commercial and industrial).

The IOUs believe this approach is the best way to influence market transformation, serve customers' needs, and increase adoption of DSM solutions.

The Industrial package consists of five distinct offerings:

- **Benchmarking** is the first step for a customer to begin to understand the energy use of their building. Benchmarking is an initiative designed to educate and motivate customers to measure and track the energy use of their facilities, to educate customers of the benefits of benchmarking their facilities and to show them how they can track the impact of energy savings after implementing energy saving measures. To support the customer's efforts, the IOUs will offer technical support, hands-on workshops that will provide customers with information about how to benchmark, how benchmarking can be used as an energy management tool and what to do next after benchmarking.

The IOUs will develop or continue Benchmarking initiatives that support the customers' ability to comply with AB1103 benchmarking requirements (upon its implementation), utilizing ENERGY STAR Portfolio Manager and IOU supported Automated Benchmarking Services.

The IOUs will also continue to offer customers technical support ranging from email and phone hotlines, hands-on workshops and web-based benchmarking educational and instructional materials.

They will continue their support to identifying, evaluation and make information about other benchmarking tools available.

The primary focus for benchmarking activities will continue to be centered on commercial buildings (in alignment with the target building type of AB 1103).

- **Industrial Continuous Energy Improvement (CEI)** is a consultative service aimed at helping industrial customers (IOUs will target CEI services in line with market segment potential in their service territories and resource availability) engage in long-term, strategic energy planning. Corporate energy management is not currently part of normal business operations for the majority of IOU customers. With current economic pressures forcing customers to reduce costs and focus more on their core business, it is likely to be further marginalized. CEI proposes to reintroduce the importance of energy management by transforming the market (and reducing energy intensity) through a comprehensive approach that addresses both technical and management opportunities and creates sustainable practices which address energy savings, reduction of greenhouse gas emissions and water conservation, through high-level energy commitments from executive and board-level management.

CEI offers customers the pinnacle of audit offerings, guiding executive management to levels of energy management self-actualization that make energy and environmental issues a consideration in all management/business operational decisions and in long term energy planning. For additional information about CEI, please consult the Industrial CEI Program Implementation Plan.

- **Non Residential Audits (NRA)** The Transition Period will provide Integrated Comprehensive Energy Audits (ICEA) that focus on customer energy savings, cost/benefits, and the targeted delivery of financial and technical assistance. Audit information must communicate complex information in a simple and understandable way to enable customers to identify energy efficiency, demand response and distributed generation opportunities. Audits use “ex ante” Deemed and Calculated methodologies for energy savings analysis information.

As stated above, NRA offers ICEA. In Appendix A, each IOU defines the sub-categories of ICEA that they provide.

In this program cycle, emphasis will be given to meeting requirements of the California Long Term Energy Efficiency Strategic Plan (Strategic Plan), streamlining the audit process, increasing its efficiency, lessening complexity, and increasing the effectiveness of influencing customer implementation actions through actions such as integration of the demand response technical audit component directly into NRAs offerings. In addition, the IOUs will investigate ways to implement meaningful financial measurements, such as return on investment and/or simple payback metrics, and to be effective, the financial tool selected should ensure cost assumptions are appropriate to the customer to provide meaningful information. Also, NRA may assume the audit and budget responsibilities for Demand Response’s technical audit services, as applicable. It is intended that these audits will be a critical component of the integrated comprehensive audit service offering.

- **Pump Efficiency Services** is designed to help industrial customers make informed decisions about improving inefficient pumping systems and operations through recommendations derived from pump test audit or direct observations of processes.

The Pump Efficiency Services program element, implemented by a team of trained in house or third party contractors, aims to overcome key informational, technical, and financial barriers to pump optimization by offering pump tests, retrofit incentives, and targeted education, training and technical support for customers and pump companies. Each IOUs database of pump test results will be used in the near-term to target pumps in need of retrofit as a means to capture savings. However, pump performance data aggregation at the statewide level will contribute to the development of metrics and targets for pump improvements. This will support a statewide pumping focus across segments, in agriculture, commercial and industrial, supporting their strategies and objectives.

The IOUs will continue to offer pump testing services at no or low cost and pumping system efficiency workshops through their energy education centers or other event opportunities during the Transition Period.

- **Retrocommissioning:**

The IOUs will continue to enhance their core Retrocommissioning (RCx) programs. RCx is a systematic process for optimizing an existing building or system's performance by identifying operational deficiencies and making necessary adjustments.

The RCx element is designed to optimize existing building or system performance by identifying operational deficiencies and making necessary adjustments to correct the deficiency. RCx is offered to industrial customers, based on the market segment potential and resources of the respective IOU. The range of projects may involve measures which reset, repair or replace existing system controls and components. Simple payback for these measures is usually short in duration and must meet customer expectations. Through the RCx assessment report, comprehensive projects are identified and referred to other sub-programs for completion (i.e., Calculated and Deemed sub-programs). Energy savings from projects identified through RCx will be claimed in the Industrial Calculated Energy Efficiency Program.

Enhanced RCx program elements will explore and may include but not be limited to:

- Innovative approaches to measure identification, automated baseline capabilities, and savings quantification;
- Continuous commissioning and monitoring-based commissioning;
- Strategies to drive savings persistence;
- Appropriate alignment with retrofit activities; and
- Overall program incentives, targeting, and delivery.

The RCx program is a key offering in the Industrial Calculated Sub-Program and a more detailed description of the program is provided.

The Transition Period will be used to develop and test the design strategy. The strategy focuses on simplifying the way audits are provided to customers. Through various assessment functions, the IOUs will work with the customer to identify the best, most cost-effective solution and the one with the greatest potential to motivate the customer to implement energy saving solutions (i.e. primarily EE, DR, and SG).

It is anticipated that the program will allow the expansion of services across diverse class of customers, potentially across all segments and will interconnect the customer with the wide and diverse range of programs offered. From a customer perspective, the impact on customer time and resources will be reduced. The audit analyses will include DSM, greenhouse gas reduction information and will provide water conservation recommendation all in a single report. The resulting report will identify comprehensive solutions that will simplify the customer decision-making process.

The primary program objectives for 2013-2014 are:

- Support the Strategic Plan by offering integrated audits across a wide selection that address the full spectrum of energy solutions, including energy efficiency, demand response, and distributed generation (California Solar Initiative and distributed generation) focusing on industrial facilities as defined by each IOU's market potential and resource availability.
- Provide a focus on the "MUSH" (municipalities, universities, colleges, schools, and hospitals) market to test ideas for deep energy retrofit efforts
- Continue to deliver high value audit reports to the customer. Audit reports will be designed in such a way that they will provide the customer with information which motivates them to implement energy efficiency, demand response and consider renewable generation options.
- Enhance efforts to identify and provide financial analyses focused on deeper energy savings and technologies. Identify ways different financial metrics, such as return on investment and/or simple payback, can be provided where the values presented have meaning to the customer.
- Explore and evaluate the potential of enhanced customer incentive options that are contingent on a customer's receiving an audit prior to applying to incentive programs.
- Incorporate new and/or emerging technologies appropriate for the customer's facility.
- Develop and implement enhancements to current Benchmarking workshops (targeting industrial buildings) and continue providing Benchmarking and AB1103 technical support through established and new delivery channels.
- Encourage statewide consistency by offering similar energy audits with the ultimate goal of offering customers the best energy management practices and technologies.
- Enhance the program offerings by including activities such as, but not limited to:
 - a. Highlighting emerging technologies and deep energy savings opportunities and providing education on long-term energy planning/project management strategies (in coordination with CEI program).
 - b. Continuing existing water saving services, leak detection services, and strategies which will be offered to customers in all customer segments, as determined by the IOUs to provide customer benefits and cost-effective administration. The services will be offered through the use of audit teams, in house and/or contracted, and may be required as a service in the delivery of all integrated comprehensive audits.
- The program will play a key role in exploring options for identifying deep energy savings, promoting emerging technologies and providing proper support to customers who take advantage of more than three measures from Industrial Deemed Incentive subprogram.

- The program will develop processes to assist energy audit teams and customers identify facilities and services that will provide the greatest return on benefits from the audit. The IOUs may explore leveraging tools to complete energy audits, usage analysis, assessments and/or building performance benchmarking as the first step in determining a customer's need.
- The program may also enhance tracking and audit component capabilities to support customer needs analysis, reduce program application barriers, maximize recommendation follow up and streamlined audit report generation.

b) List measures

The program primarily offers non-resource, auditing services. It does not offer incentives, but ultimately influences the customer's implementation of energy efficiency, demand response, and self-generation opportunities in combination with incentive from the core incentive programs (refer to the Industrial Deemed and Calculated sub-programs for specific information). However, each IOU reserves the ability to offer incentives specific to individual service offerings.

c) List non-incentive customer services

The Industrial Energy Advisor Program is designed to deliver a coordinated and customer specific service. The program features a statewide integrated demand side management customer specific solution that promotes energy efficiency, demand response, distributed generation and emerging technologies as appropriate to the customer's need(s).

Such activities include, but are not limited to: energy management assessments, energy planning, marketing and outreach, baselining and benchmarking, project implementation support, technical support, energy savings calculations, process evaluations and report generation, and web-based energy resources.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

Table 3 – Refer to the overarching program for quantitative baseline metrics

b) Market Transformation Information

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment "H" are approved for this sub-program as applicable.

c) Program Design to Overcome Barriers

The program offers services which change corporate/management cultures that prevent successful implementation of comprehensive energy policies. These offerings help overcome customers' lack of awareness of DSM opportunities by providing a customer focused, comprehensive package of energy solutions designed specifically to motivate the customer to implement recommendations. Information such as cost/benefit analysis (i.e. ROI, or simple payback) and identification of appropriate IOU incentive and/or finance programs, can significantly enhance the financial benefit of the energy saving recommendation. The program also provides customers with tools to measure the effects of implemented energy savings actions on their bottom line.

The program brings together audits and related services to implement energy saving activities.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts.

Table 5

	Program Target by 2013	Program Target by 2014
Number of Audits	160	162

e) Advancing Strategic Plan goals and objectives

The program is designed to promote DSM coordination and the integration strategies of the Strategic Plan. Foremost are recognition of the linkage between energy and environmental policy and the importance of integrating energy efficiency, demand response and distributed generation to support California's plan to reduce greenhouse gas emissions.

Specific near-term strategies proposed by the Strategic Plan that are addressed by the program include the following:

- Facilitate all State-Owned and Leased Buildings having a Retrocommissioning option.

By offering a dedicated retrocommissioning program, a mechanism is created whereby IOUs can facilitate the achievement of this goal as a coordinated effort with the IOU Government and Institutional Partnership Programs.

- Strengthen Tools and Practices for Building Commissioning.

Based on the IOUs' experience with managing the Retrocommissioning program, lessons learned and best practices can be integrated into the 2013-2014 offering. To increase market adoption of these program best practices, the IOUs will work in cooperation with the California Commissioning Collaborative to disseminate relevant

information to the retrocommissioning community. Services may be extended to all segments as deemed appropriate by each IOU.

- Identify New and Improved Tools and Strategies to Reduce Energy Consumption in industrial facilities.

Starting with energy conservation and proceeding to distributed generation and demand response opportunities, the benchmarking, CEI, NRA and RCx demonstrate to the customer a comprehensive, site-wide solution for near and longer term energy consumption and clearly state the positive greenhouse gas effects of their actions. Addressing customer energy needs through long-term solutions allows consideration of technologies and projects that benefit the state and planet for a decade or longer (e.g., HVAC systems, industrial/ agricultural processes and equipment, facility envelope upgrades and enhancements). Recommendations for retrofit opportunities within existing agricultural facilities contribute to California's zero net energy goals. Once implemented, recommendations for operation and maintenance (O&M) practices on on-going commissioning will ensure that customer facilities continue to operate in an efficient manner.

- Encourage State/Local Governments and Major Corporations to Commit to Achieve EE Targets

The program's offerings will seek to (1) gain corporate level commitment to energy efficiency as a core business operation; (2) develop corporate energy policies that establish measurable goals; (3) develop an actionable plan to achieve these goals; (4) guide customers to IOU programs that can help implement cost-effective EE projects; and (5) provide a feedback loop to measure performance. This codified process is designed to support the significantly greater energy efficiency performance desired by the Strategic Plan.

- Develop Tools to Reduce Energy in Industrial Facilities.

As part of the implementation of specific program offerings, the IOUs will partner with energy industry peers, industry associations, and DOE/CPUC-sponsored labs and consultants to enhance the use of existing tools and explore new tools to help industrial customers reduce initial energy usage at their facilities, then continue to operate their facilities in an efficient manner. Current tools used for benchmarking tools and resources include those developed by the EPA for ENERGY STAR and by Lawrence Berkeley National Lab (LBNL) with CEC funding:

- Management Standard for Energy SME2000-2008;
- LBNL Superior Energy Performance; and
- ISO-50001.

- Develop Business Models to Deliver Energy Management Solutions.

The program's offerings will address the fundamental purpose to influence decision-making practices from Industrial customers to consider energy usage and sustainability as a core part of their daily operations. This level of commitment will help achieve greater penetration of energy efficiency in the agricultural market sector.

In addition, the program's offerings promote acceptable practices of accounting, auditing, and evaluation by:

- Offering integrated and focused audits, benchmarking, savings calculation assistance for retrofit and retrocommissioning opportunities; and simplifying the audit-to-project documentation process to bridge the gap between educating customers about energy solutions to environmental issues and taking action.
- Guiding and supporting customers as they implement technologies, processes and practices to achieve energy efficiency savings.
- Long term energy planning support.

6. Program Implementation

- Assessment and identification of the best way to support the use of the BEARS tool
- Enhancement of current Benchmarking workshops and continuation of Benchmarking and AB1103 technical support through established and new channels
- Emphasis and support of integration in emerging technologies and deeper energy measure opportunities
- In coordination with incentive programs, identification of ways to streamline the end-to-end process for customers wanting to participate in IOU energy saving programs

a) Statewide IOU coordination

i. Program name: Industrial Energy Advisors Program

ii. Program delivery mechanisms

program will employ a variety of delivery mechanisms or channels. Most of program's offering will use IOU customer energy efficiency staff and contractors, service and sales representatives, website and/or marketing, and outreach efforts. Other delivery channels may also be developed.

In addition, where applicable, IOU customer account representatives or program management staff will support this activity within the statewide industrial sector, as well as third parties, government partnerships, and local programs.

iii. Incentive levels

Not applicable.

iv. Marketing and outreach plans

A comprehensive audit marketing plan will be aligned and coordinated with the marketing plans for each of the IOUs, in order to maximize effectiveness, integrate offerings, and as appropriate refer customers to relevant DSM programs.

Additionally, IOUs may investigate piloting alternative channel marketing, such as social media tools, and outreach options that might include community-based organizations and/or third parties to recruit small businesses and influence them to take actions that result in energy efficiency improvements. IOUs may investigate and test efforts to leverage relationships with trade associations as a way to increase cost-effectiveness of reaching customer groups.

The IOUs will continue to develop an in-depth segmentation of the industrial market. The results of this customer segmentation will support the development of targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers based on their needs and preferences. Such delivery channels will likely include increased customer outreach through trade and community-based associations, third parties, government partnerships and core IOU programs.

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

The program's energy recommendations will continue to recognize the regulations required by other bodies. For example, information about GHG reductions resulting from AB32 and water conservation efforts may be incorporated into the customer recommendations and factored into the projects cost-effectiveness, as appropriate.

Program offerings will collaborate and support the CEC's AB1103 mandate by assisting customers with technical and awareness activities. The program will advance the introduction of the BEARS and California Rating Tool where reasonable.

The program recognizes the efforts of the CEC's Green Building Initiative programs, DOE "ISO plant certification" programs, EPA Energy Star Portfolio Manager benchmarking, EPA Building Performance with Energy Star and other programs, USGBC LEED certification, and local and other government incentive programs. The program will leverage such activities to the customer's benefit.

b) Program delivery and coordination

The sub-program will be coordinated with the following activities, as applicable:

i. Emerging Technologies (ET) program

The IOU Management Team will stay abreast of and incorporate relevant emerging technologies into audit recommendations as appropriate.

ii. Codes & Standards program

Implementation will include information about pending new codes and standards that may affect planning or prioritization of retrofit or new construction projects. Audit

reports will include customer recommendations that are consistent with current governing codes.

iii. WE&T efforts

Implementation will integrate with WE&T efforts, as needed, by providing CSI process, lessons learned, and case study input to energy engineering curriculum designers for community colleges and universities. This activity will be coordinated through the Statewide WE&T program team and will ultimately be integrated into the web portal that team is now developing. IOUs will assess and support specialized WE&T training to help target working energy management professionals, industry professionals, and those pursuing education in universities and colleges.

IOUs will also continue with WE&T coordination to bridge the linkages and integrate sector strategy approaches, as required.

iv. Program-specific marketing and outreach efforts

In 2013-2014, the marketing campaigns will provide a wide range of action-oriented solutions targeting specific segments and sub-segments of business customers. In addition, the marketing efforts will be “bundled” as a menu of demand response, energy efficiency and conservation programs providing customers with a full array of EE and DR opportunities. By providing packaged energy management solutions for each industry segment, the IOUs will be better able to communicate with and serve customers.

Marketing activities will target business customers and select effective channels to reach entities such as trade associations, local business groups, and government entities to generate interest and program participation. In addition, direct customer contact by account executives, phone and e-mail support may be utilized.

Marketing collateral and messages for energy efficiency will be integrated with other IOU programs. Through additional market segmentation and feedback from customers, IOUs will further adjust approaches based on the varied needs of targeted customers. Additional sub-program marketing will be accomplished by leveraging local third-party programs. Specific IOU marketing budgets are provided in Table 1 of the core industrial program.

Integrated and program-specific marketing efforts will complement and work in coordination with statewide ME&O to increase awareness, provide education, and drive ongoing engagement and participation in DSM programs and services among nonresidential customers. The statewide effort will provide the first level with IOU-specific programs providing reinforcement at a local level.

v. Non-energy activities of program

The IOU team will participate in Statewide and national efforts to develop and enhance audit, benchmarking and retro-commissioning, and continuous energy improvement tools and practices. Such activities will likely occur in conjunction with ongoing industry efforts managed by the California Energy Commission (CEC), Consortium for Energy

Efficiency (CEE). ENERGY STAR and the California Commissioning Collaborative (CCC).

CEI implementation will include non-energy activities such as recognition awards, local area or sector competitions, awareness campaigns, education about non-energy-related LEED points and definitions, and use of computerized financial analysis tools and cost estimating and forecasting tools

vi. Non-IOU programs

Reports will include information on Non-IOU Programs to expose customers to funding, such as from air or water agencies, to support integrated efforts. The program will partner with programs offered by CEC, ARB, Air Quality Management Districts, ENERGY STAR, and other government and quasi-governmental agencies to capitalize on opportunities to develop co-branded program information and marketing collateral targeted to industrial sector customers, as opportunities present themselves.

With respect to water conservation, IOU program managers will partner with the local water districts to co-brand marketing collateral, attend trade shows, and co-release notices for programs with interactive water and energy effects (ESPM, BEARS, California Rating Tool, Water Agencies and others).

vii. CEC work on EPIC

Not applicable.

viii. CEC work on C&S

The program will not be implemented with a direct linkage to codes and standards efforts. However, the program will reflect code and standards regulation in its energy savings calculations, as deemed appropriate.

ix. Non-utility market initiatives

Education about federal tax incentives for energy efficiency investments is an example of non-IOU information and guidance that will be provided to customers. In addition, the IOUs will participate in state and national efforts to develop and/or improve benchmarking tools and services that can be used by customers to better facilitate their adoption of sustainable energy management practices.

c) Best Practices

The IOUs will continue to leverage best practices and lessons learned at regularly scheduled statewide program management meetings. These meetings are forums to discuss program design and implementation issues, and as appropriate provide statewide collaborated guidance in RFP solicitations and awareness of program offerings. This will ensure that customers operating multiple facilities across IOU service territories will receive the same customer experience.

Other best practices approaches apply the principles of well-known business continuous improvement programs, such as Lean Six Sigma and ISO standards, to facility and plant energy management, in order to achieve widespread adoption of long-lasting sustainable energy management practices in the industrial market sectors. As stated above, these principles are: (1) Commitment, (2) Assessment, (3) Planning, (4) Implementation, (5) Evaluation, and (6) Modification. This approach will continue through the two-year program cycle for 2013-2014, allowing longer-term and deeper project development engagement with customers.

d) Innovation

For 2013-2014, the IOUs are identifying and evaluating program processes to increase effectiveness, simplification and increase the benefits the program delivers. Each IOU's set of lessons learned from these efforts will be shared and implemented to enhance energy savings benefits to all California IOU customers.

The program will continue to improve as a new standard for packaging energy efficiency, demand response and self-generation products and services, aimed at helping customers engage in long-term, strategic energy planning. It proposes to transform the market and reduce energy intensity through a comprehensive approach that includes addressing both technical and management opportunities.

Depending on the outcome of the 2012 process evaluation, CEI may consider customer incentives to accelerate project implementation (including IDSM projects), and reward customers for implementing strategic energy management. Other offerings may also consider specialized incentive approaches based on delivery, target markets and/or other opportunities.

e) Integrated/Coordinated Demand Side Management

The program will provide a comprehensive approach for integrated audit services. Its services will have the flexibility of meeting every level of a customer's audits needs from integrated comprehensive audits to targeted or focused audits (which center on specific systems or processes), to assessments or general walk-through audits or online "do-it-yourself" audits (currently for small business customers). When properly applied, these audits can assist in identifying the areas of the customer's greatest energy interest, the customer's financial ability to invest in improving its energy use, and other programs that can be discussed to motivate a customer to move forward with the energy saving plan.

The program services can coordinate the audit with retrofitting or retrocommissioning opportunities, benchmarking tools, or long-term planning. Audit reports can present a truly integrated analysis to customers, seamlessly providing information and recommendations regarding energy efficiency, distributed-generation, demand response, greenhouse gas emissions and water energy savings. Customers will be referred to other IOU programs that will help them implement the recommendations resulting from the audit report. As a result, they will receive a complete picture of their energy usage and options for reducing costs and using energy more efficiently.

f) Integration Across Resource Types

The program will focus on DSM integration.

The program implementation will include information on Non-IOU Programs to expose customers to funding, such as from air or water agencies, to support integrated efforts. IOU managers will partner with the appropriate programs, when applicable, with government agencies in order to capitalize on opportunities to share program information, marketing collateral, and financial incentive analysis with customers.

Conventionally, each government agency and utility has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. For customers who are regulated by or interested in more than one resource issue, CEI will provide information about the mutual benefit of combining complementary resource programs.

In the effort to promote offerings, IOUs will seek out customers interested in complementary resource programs such as provided by water and air quality agencies. With respect to water conservation, IOU program managers will collaborate with the local water districts to produce marketing collateral, attend trade shows, and co-release brochures, for programs with interactive water and energy effects.

g) Pilots

The program's services may consider the development of test markets especially in the introduction of new energy benchmarking or saving tools.

h) EM&V

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

Please see the core program diagram.

8. Program Logic Model

Please see the Commercial Energy Advisors program logic model.

Appendix A

Statewide Audit Type Matrix

Audit Type	Detail	SCG	SDG &E	PG&E	SCE
Integrated Comprehensive Energy Audits	Phone	Yes	Yes	Yes	Yes
	Online (Web-Based)	Yes	Yes	Yes	Yes
	Onsite	Yes	Yes	Yes	Yes

- 1. Program Name:** Industrial Calculated Energy Efficiency Program
Program ID#:
Program Type: Core

2. Projected Program Budget Table

Table 1 – reference the overarching program for budget details

3. Projected Program Gross Impacts Table – by calendar year

Table 2 - reference the overarching program for gross impact details

4. Program Description

a) Describe program

The purpose of the Statewide Industrial Calculated Energy Efficiency Program is to provide services to improve the energy efficiency of industrial facilities in California, including financial incentives based on calculated energy savings. The energy savings are calculated for measures installed as recommended by comprehensive technical and design assistance for customized projects. Integrated projects are encouraged to combine energy efficiency and demand response. Eligible projects include new construction, retrofit, and retrocommissioning.

The Calculated Energy Efficiency Program is part of a suite of programs within the Statewide Industrial Energy Efficiency Program. The Calculated Energy Efficiency Program is utilized for projects where:

- a rebate is not available through the statewide Deemed Energy Savings Program,
- customized calculations provide the most accurate savings estimates, or
- interactive effects between measures are best captured through whole building or whole system modeling.

Because it presents a calculation method that can consider system and resource interactions, the program will become the preferred approach for supporting the integrated, whole system, and multi-resource management strategies of the California Long Term Energy Efficiency Strategic Plan (Strategic Plan).

Key features in the process include:

- Energy audits of facilities and processes with recommendations for energy efficiency, demand response, distributed generation technologies as well as opportunities for greenhouse gas reductions;
- Calculations/estimates of energy savings for exceeding Title 24 code or industry standard practice baselines;
- Technical assistance from IOUs through energy audits, facility walk-through surveys and calculated savings analyses that consider specific projects;
- Submission of project proposal for IOU review and approval;
- Pre-inspection by IOUs for the preliminary approval of retrofit projects;

- Post-inspections on approved and completed projects to verify performance; and
- Payment of incentives from IOUs.

Energy audits may be completed by customers directly or authorized participants. Authorized participants may include contractors, design teams, vendors, and energy service companies. The completed audit may then be submitted for review and approval.

For the energy audit feature, statewide consistent calculators are publicly available. The statewide IOU-created and maintained SPC Calculator can be used for retrofits and some new construction applications and is available online. For whole building construction projects, IOUs typically accept calculations generated with programs such as Energy Pro, Trane Trace 700, Carrier HAP (available for license), and the IOU-sponsored eQuest (available for free on the statewide Energy Design Resources website www.energydesignresources.com), among others. Calculations must be submitted in open, unlocked, native format for review and consideration in the IOU's programs.

Retrocommissioning (RCx) is also eligible in the program for delivering energy savings. RCx is a systematic process to identify and correct operational problems or inherent repair and maintenance deficiencies that lead to excessive energy use. Unlike retrofits, which focus on equipment replacement, or operations and maintenance, which deal with routine maintenance, RCx focuses on identifying and correcting problems that may not be readily identified by a standard energy audit.

O&M items with an effective useful life greater than three years can also be identified through this assessment. Additionally, opportunities often exist to optimize existing systems to operate more efficiently than originally designed with minimal new capital outlay.

RCx will be offered as a bundle of products/services. RCx providers will perform several tasks to identify measures. These tasks include, but are not limited to:

- Initial benchmarking;
- Collecting data to quantify the owner's operational requirements;
- Performing detailed on-site audits to evaluate operational deficiencies and/or operational optimization opportunities, inclusive of improved and enhanced preventive maintenance and repair programs;
- Defining measures, quantifying implementation costs and savings;
- Assisting customers with measure implementation;
- Verifying completion of measures;
- Providing post installation documentation and training as well as other persistence techniques; and
- Posting project benchmark.

b) List measures

A broad range of measures is eligible for the Calculated Energy Savings Program. The current incentives are summarized in the following table. The incentives for these measures are standard across the IOUs participating in the statewide Industrial Calculated Energy Efficiency Program.

The following measure categories are eligible for Calculated Incentives:

- Lighting
- AC & Refrigeration
- Motors and Others
- Gas measures

c) List non-incentive customer services

The Industrial Calculated Energy Efficiency Incentives Program is primarily an incentive program designed to achieve energy savings through measure implementation; however it does provide such non-incentive measures as technical and calculation assistance to help customers navigate through the application process. This assistance ensures that the sub-program captures lost opportunities by not allowing projects to fall behind schedule simply because the customer does not have the resources to shepherd the project through the process.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

Table 3 – Refer to the overarching program for quantitative baseline metrics

b) Market Transformation Information

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment “H” are approved for this sub-program as applicable.

Table 4 – Refer to the overarching program for market transformation metrics

c) Program Design to Overcome Barriers

The Industrial Calculated Energy Efficiency Program includes numerous features designed to overcome these barriers, as identified and discussed below.

Integrated Demand Side Management Approach

The program offers California’s industrial segment a statewide suite of products and services to overcome market barriers to optimize energy management and meet the goals of the Strategic Plan. It overcomes multiple barriers through the implementation of strategies that provide an integrated solution to the customer, offer education and outreach to create awareness and promote continuous energy efficiency improvement. The program also enables a facility to attain resource management levels that exceed industry standards and gain them market and worldwide recognition.

CEI Program Offering

The Continuous Energy Improvement (CEI) program compliments the Industrial Calculated Energy Efficiency Program by helping customers implement energy efficiency measures that have been identified through energy efficiency audits or in-depth facility/process assessments. Such assessments may be jointly provided by the IOUs and the U.S.

Department of Energy (DOE) or ANSI. It focuses on improving production and optimizing energy efficiency and provides integrated resource management solutions including greenhouse gas reduction. This approach overcomes such barriers as lack of awareness of energy efficiency opportunities and provides a highly skilled workforce educated towards energy efficiency, process optimization, and resource management.

Marketing and Outreach

To increase awareness of the program, a statewide centralized clearinghouse will be developed to give customers access to information on operating best practices in energy efficiency, industry relevant technical assistance, baselines, case studies, tools and computer based training. This clearinghouse addresses the issue of availability of information and qualified industry specialists to fully assess a building, system or process and help customers understand how energy efficiency can impact their emissions, resource consumption or waste discharge streams. It helps alleviate the problem often run into by non-residential customers of getting incorrect or out-of-date information from some local networks. It will also enable design engineers to specify energy efficient measures to exceed industry accepted baseline standards when constructing new or retrofitting existing buildings or systems, instead of specifying only what they know or what they are familiar with.

The program's information and services will be delivered primarily through account representatives, IOU call centers hotlines, local government partnerships, third parties, and IOU internet sites. Information will also be made available through industry events, such as the Plant Engineering Expo, through industry organizations, such as the California Manufacturing Association and the Building Owners and Managers Association (BOMA); and through advertising in industry and trade publications. Other avenues to reach out to customers and identify energy efficiency opportunities include non-resource programs such as Education and Outreach, Workforce Education and Training, or through Emerging Technologies Programs.

Education and Training

Highly skilled Energy Management Professionals may conduct technical training and seminars to educate the public as well as develop a highly trained energy efficiency workforce that is accessible to industry.

Emerging Technologies (ET)

In collaboration with ET and the CEC, ET may conduct studies, pilots, and demonstrations to prove the viability of promising emerging technologies and lower the risk of investment which in turn will speed up market penetration.

Financial Assistance

Rebates and incentives properly priced and based on energy savings quantified through technical assessments or basic audits, can help customers overcome internal financial hurdle rates. Skilled energy efficiency personnel may also assist customers and provide additional information about other opportunities for project assistance, such as State or Federal funds available for energy efficiency projects, tax incentives or other local sources of project funding.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts.

Table 5

	Program Target by 2013	Program Target by 2014
Projects	20	20

e) Advancing Strategic Plan goals and objectives

The Statewide Industrial Energy Efficiency Program supports all three goals in the Strategic Plan for the Industrial Sector. General advancement of the goals is presented in the program implementation plan for the Statewide Industrial Energy Efficiency Program. More specific support of the goals is presented here.

Goal 1: Support California Industry’s adoption of energy efficiency by integrating energy efficiency savings with achievement of GHG goals and other resource goals.

Strategy 1.1: Develop coordinated energy and resource management program for CA’s industrial sector, to enhance use of energy efficiency.

Near-term: Establish CARB AB32 Industry Team

The Calculated sub-program infrastructure is designed to facilitate the customer’s implementation of large-scale projects that are supported by detailed energy calculations. There is an opportunity to augment the various tools used for preparing such calculations with GHG emission information that will allow customers to immediately quantify these benefits. This activity will be managed through the IOU CARB AB32 Industry Team, which is proposed as part of the core Industrial Energy Efficiency Program.

Goal 2: Build market value and demand for continuous improvement in industrial efficiency through branding and certification.

Strategy 2.2: Implement certification

Near-term: Plan pilot and recruit host sites (8-10 facilities)

The program will seek out opportunities to recruit host sites for the certification program by surveying project submittals for potential candidates.

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.

Near-term: 1) Identify and incorporate priority energy and other data; 2) Develop clearinghouse or integration system.

The Calculated Energy Efficiency Program will give support by providing information on results and experience in the program, including case studies of innovative projects.

5. Program Implementation

a) Statewide IOU coordination

i. Program name: Industrial Calculated Energy Efficiency Program

ii. Program delivery mechanisms

Program delivery mechanisms for IOUs will include account representatives, technical services personnel, incentives processing staff, and inspection officials. Also important to program delivery will be customer facility owners and managers; energy efficient equipment manufacturers, distributors, and service contractors; industry trade associations; and others in the energy efficiency equipment value chain.

Industrial Calculated Energy Efficiency Program will be coordinated on a statewide level to unify the implementation of program aspects such as program name, program delivery mechanisms, incentive levels, marketing and outreach plans, and IOU program interactions. The Industrial Calculated Energy Efficiency Program will coordinate with the core Industrial Energy Efficiency Program to provide mutual support.

The high-level focus of this statewide coordination effort will enable the capture of new innovations and opportunities for program improvement, correct program weaknesses that reveal themselves during implementation, and ensure achievement of statewide targets across IOU service territories. Therefore, statewide focus on program unity and continuous program improvement over the course of the implementation cycle will be enabled.

IOU account representatives support this activity within the statewide industrial sector, as well as third parties, government partnerships, and IOU local programs.

iii. Incentive levels

Current incentive levels are as follows:

- Lighting, \$0.05/kWh and \$100/kW
- Air Conditioning & Refrigeration I, \$0.15/kWh and \$100/kW
- Air Conditioning & Refrigeration II, \$0.09/kWh and \$100/kW
- Other, \$0.09/kWh and \$100/kW
- Therms, \$1.00/therms, Capped at 50% of project cost.

The IOUs are exploring innovative means of improving the Calculated Incentive sub-program based on Energy Division and market direction. One possible method to comply with the Energy Division's guidance to "achieve deeper energy savings retrofits and

packages of measures” is to institute a scaled incentive mechanism that would provide higher incentives for more comprehensive projects. The IOUs are soliciting input from stakeholders and may institute a scaled incentive mechanism for the Calculated Incentive sub-program.

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

The Industrial Calculated Energy Efficiency Program will be marketed through IOU’s Account Executives, as well as through trade allies, education, outreach and other marketing activities. Marketing activities will target business customers, ESCOs, trade associations, local business groups and government entities to generate interest and program participation. In addition, direct customer contact by Account Executives, Demand Response Program outreach, phone and e-mail support will be provided.

Marketing campaigns will provide a wide range of action-oriented solutions targeted to “personas” identified through segmentation research. In addition, marketing efforts will be “bundled.” That is, a menu of demand response, energy efficiency and conservation programs will provide customers a full array of EE and DR options. By providing packaged energy management solutions for each industry, IOUs will be better able to communicate with and serve customers.

Marketing efforts will incorporate a variety of marketing tactics/activities to promote the solutions in the program. Education, awareness, and outreach efforts will rely on a combination of mass media communication channels and targeted communication channels to ensure the messages reach the intended audiences with enough frequency to motivate attitude and behavior changes. The marketing strategies may include, but are not limited to, a mix of print, radio, TV, direct mail, e-mail, personal contact, trade shows, trade association meetings, customer workshops and seminars, energy related and other community events and partnerships with business and industry organizations, specialized collateral, case studies, website links and information with regular updates, bill inserts, press releases, and newspapers.

Market outreach to raise awareness of available EE programs will use a number of strategies, as follows:

- Providing a regular and consistent customer calling effort to key customers within this sector through account representatives;
- Providing additional expertise from IOU representatives, program management representatives, and field engineers;
- Participation and membership in one or two key trade associations affiliated with each high priority sub-segment within the industrial market sector;
- Attendance at the key trade shows for each high priority sub-segment within the industrial market sector;
- Hosting IOU-sponsored training events at the IOU’s Customer Training Centers and other convenient locations within the IOU’s service territory;

- Hosting IOU-sponsored webinars that provide sub-segment training and program adoption; and
- Linking written collateral pieces that give an overview of the IOU's Energy Efficiency programs to the appropriate IOU DSM web page.

The ideal marketing mix will be assessed for maximum awareness and participation. Marketing and outreach coordination will be coordinated, to the extent possible, among the IOUs utilizing the statewide coordination process described above. Furthermore, industrial facilities are recognized as large energy and water consumers. IOUs will develop proposals, as appropriate, to facilitate water-energy nexus projects.

The IOUs will continue to develop an in-depth segmentation of the industrial market. The results of this customer segmentation will support the development of targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers based on their needs and preferences. Such delivery channels will likely include increased customer outreach through trade and community-based associations, third parties, government partnerships and core IOU programs.

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

The Industrial Calculated Energy Efficiency Program will leverage the programs offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to share program information and marketing collateral with industrial customers, to the extent possible. Conventionally, each government agency and IOU has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type.

With respect to water conservation, IOU program managers will partner with the local water districts to co-brand marketing collateral, attend trade shows and release joint notices for programs with interactive water and energy effects. Similarly, with ARB and Air Quality Management Districts, IOUs will offer customers Calculated sub-program incentives for energy efficient equipment that may also reduce water and greenhouse gas emissions.

vi. Similar IOU and POU programs

The IOUs will be delivering many third-party programs that utilize the Industrial Calculated Energy Efficiency Program infrastructure. This will ensure a consistent delivery of measure incentives to ensure that programs do not cannibalize each other and detract from achieving cost-effective energy savings.

b) Program delivery and coordination

i. Emerging Technologies program

The long-term energy efficiency vision of California can only be attained through the long-term and continuous development, verification, and acceptance of emerging

technologies into the market. The achievement of long-term goals requires new technology as well as information, training and market development to maximize the EE benefits of cutting edge technologies. In recognition of the importance of emerging technologies, the sub-program will consider higher initial incentives for emerging technologies being newly introduced to the market place. Once the new products have taken hold in the market, the incentives will be adjusted to reflect market conditions. In addition, portfolio staff actively works to incorporate promising emerging technologies from the ET program.

ii. Codes and Standards program

The program relies on the Codes and Standards program to help maintain an updated and relevant list of measures that will support savings. As codes and standards impact measures, the program will act to align itself with appropriate offerings. It is important to manage the measure life cycle to take full advantage of providing incentives before moving them into code. The program will coordinate with the Codes and Standards Planning & Coordination sub-program. Programs will include new offerings that will allow flexibility in adapting to changes in codes and standards, market trends, and technologies. Planned enhancements to Title 20 and 24 will be reflected in incentive levels and eligible measures and services. As the market moves toward “low energy” or “zero net energy” buildings, specific changes to each element of the bundling will be made to ensure the latest cost-effective technologies/services (e.g., LEDs) are made available as they transition from research and development to mainstream program offerings.

iii. WE&T efforts

Workforce Education & Training (WE&T) efforts support the education and training of a robust network of industry trade allies, vendors, engineers, design teams and others who can support the market transformation strategies of the Strategic Plan. In the Industrial Energy Efficiency Program, WE&T efforts will focus in the near term on supporting national ANSI Energy Management Certification development efforts, as outlined in the Strategic Plan. Programs will closely coordinate with key stakeholders to ensure that California is poised to adopt this national standard and be a leader in this effort. Specifically, prerequisite trainings will be offered in DOE systems trainings to lay the groundwork for certification level trainings. These education and training offerings take place through IOU’s energy centers and technology centers.

iv. Program-specific marketing and outreach efforts

Marketing and outreach initiatives will include:

- Participation and membership in one or two key trade associations affiliated with each high priority sub-segment within the industrial sector, as appropriate;
- Attendance at key trade shows within the industrial sector;
- IOU-sponsored training events at the IOU’s Customer Training Centers and other convenient locations within the IOUs service territory;
- Hosting of IOU-sponsored webinars that provide sub-segment training and program adoption; and

- Development of case studies, web pages, and marketing material that provide an overview of the IOUs' energy efficiency programs.

Integrated and program-specific marketing efforts will complement and work in coordination with statewide ME&O to increase awareness, provide education, and drive ongoing engagement and participation in DSM programs and services among nonresidential customers. The statewide effort will provide the first level with IOU-specific programs providing reinforcement at a local level.

v. Non-energy activities of program

The program provides a significant challenge to integrating DSM initiatives to non-energy activities due to the general industry structure, the nature of market sector resource use, limited resource savings potential with smaller businesses, and limits to small business owner and operator bandwidth. Therefore, integrated audits that look across the various energy efficiency program offerings, as well as complementary options available through other entities (e.g. water agencies), will be used to identify the opportunities to be recommended to the specific industrial customer.

With respect to water conservation, IOU program managers will contact the local water districts to co-brand marketing collateral, attend trade shows and release joint notices for programs with interactive water and energy effects. Similarly, with ARB and Air Quality Management Districts, IOUs will offer customers incentives for energy efficient equipment that may also reduce water and GHG emissions.

In addition, the program will offer customers educational information about the non-energy benefits associated with energy efficiency measures, such as improved safety, indoor air quality, productivity, comfort, and appearance.

vi. Non-IOU programs

The program will continue to engage with Air Quality Management Districts, CEC, ARB, DOE, water agencies, and other government agencies responsible for regulating the various aspects and operations of customer facilities participating in the programs, as appropriate and feasible.

vii. CEC work on EPIC

Not applicable.

viii. CEC work on C&S

Planned enhancements to Title 20 and 24 will be reflected in incentive levels and in eligible measures and services.

ix. Non-utility market initiatives

The program will support and educate customers, and/or facilitate such initiatives as AB32, renewables, ANSI certification, facility benchmarking, Continuous Energy Improvement, California Green Building Initiative, and other initiatives as directed. The

IOUs will remain engaged in these efforts and work to influence the development of increasingly higher standards.

c) Best Practices

The Industrial Calculated Energy Efficiency Program builds upon the more than 10 years of experience that IOUs have offered such a program¹⁷. Deeper penetration into industrial process loads will be achieved by closely aligning the sub-program with the Industrial Energy Advisors and Industrial Continuous Energy Improvement Programs to ensure that there is an avenue for implementing a variety of customer projects. The infrastructure developed by the Industrial Calculated Energy Efficiency Program will also be used as the core processing backbone for targeted third-party programs in order to reduce the program administrative and processing costs of those programs.

d) Innovation

For the 2013-2014 program cycle, California IOUs will implement an incentive structure that emphasizes advanced controls that enable demand response motivating customers to participate in energy efficiency and demand response incentive programs as well as signing up demand response programs.

IOUs will continue working collaboratively on modifications to program Policies and Procedures to address ongoing changes in customer expectations, market conditions and program flexibility. Changes will (a) target ease of program understanding and participation, (b) measure eligibility, (c) increase of customer's economic benefits, and (d) identify policy restrictions that are barriers to participation. IOUs are implementing such process based on market studies conducted on the subject and preceding discussion of the policy change. Among other modifications that would be potentially discussed and implemented are incentive caps and redesign of measure/equipment early retirement according to the CPUC concept.

IOUs are planning to elaborate and utilize positive experience obtained using SBD Simplified tool and extend it to energy efficiency retrofit projects. Such tools substantially reduce application processing and review time, and minimize the number of hand-offs, without sacrificing accuracy of energy saving calculations.

Where possible, IOUs will use an integrated approach to addressing DSM opportunities. Innovative approaches will be used, such as merging energy efficiency and demand response analysis and converting recommendations to projects. In addition, streamlining programs through processing and reviewing energy efficiency and demand response measures in a single application, providing analytical information about applicable distributed generation solutions, will maximize customer adoption rates for most cost-effective energy management opportunities.

¹⁷ Before 2009-2011, the Calculated Energy Efficiency Program was commonly referred to as the Standard Performance Program or "SPC."

IOUs are planning to consolidate various calculating software such as SPC Software, Engage and other measure specific calculating tools to standardize our calculating methodology. This will ensure that calculations will be more uniform and consistent amongst all stakeholders. This will not limit the use of nationally recognized standard DOE toolsets for certain measures.

IOUs are planning to continue and expand their core RCx program in multiple target markets. RCx is a systematic process for optimizing an existing building or system's performance by identifying operational deficiencies and making necessary adjustments to correct the system. Measures may involve resetting, repair or replacement of existing system controls and components, and in general are low-cost projects with simple payback periods of less than four years.

After an energy audit is complete and applicable no-cost/low-cost measures are identified, the scope of work will be handed off to a RCx implementer who, in-turn, will follow RCx program protocols, execute the scope of work (measure implementation, EM&V plan, incentive payment for energy savings, etc.) and report final results to the core program office.

The IOUs are exploring innovative means of improving the Industrial Calculated Energy Efficiency Program based on Energy Division direction. One possible method to comply with the Energy Division's guidance to "achieve deeper energy savings retrofits and packages of measures" and to "raise incentive levels for Emerging Technologies" is to institute a scaled incentive mechanism that would provide higher incentives for more comprehensive projects. The IOUs are soliciting input from stakeholders and may institute a scaled incentive mechanism for the Industrial Calculated Energy Efficiency Incentive Program.

e) Integrated/coordinated Demand Side Management

Energy audits will include recommendations for not only energy efficiency, but also for demand response and other demand-side management opportunities. Participating customers will be encouraged to participate in other demand-side management opportunities, including demand response and distributed generation. Participating customers will also be encouraged to take a more comprehensive approach to demand-side management and strive for continuous improvement.

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

California's industrial sector faces a multitude of environmental and regulatory challenges that affect their competitiveness and, in some cases, survival. New regulations aimed at improving air quality, water quality and reducing toxic environmental pollutants are proving to be expensive and disruptive to business as usual, and in many cases will have the impact of increasing energy use in compliance.

To help deal with these challenges, the industrial program will coordinate with the regulating agencies and the programs they are operating to support mutually advantageous program designs, customer incentives, marketing opportunities, and implementation opportunities. IOUs will continue to offer targeted trainings to customers who share common regulatory

challenges in an effort to educate customers on impending regulatory requirements for their business operation, and the most efficient solution options to consider for compliance. Future workshops may look at small and medium sized water and wastewater treatment options, steam system upgrades, and energy efficiency to meet AB32 industrial targets.

IOUs will pursue opportunities to partner with water agencies to offer joint energy and water conservation incentives to support projects that would reduce both resources. Partnering with other utilities will help reduce administrative cost and has a greater impact on societal benefits.

Where applicable, the Program will integrate topics such as GHG reduction and water conservation into targeted customer workshops, and marketing and communications, building on a strong track record from the past program cycle. Marketing and communications material will include savings opportunities and messaging.

g) Pilots

Not applicable.

h) EM&V

The IOUs are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan after the program implementation plans are filed. This plan will include process evaluations and other program-specific studies within the context of broader IOU and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts will be developed collaboratively by the IOUs and Energy Division. Development of these plans will occur after the final program design is approved by the CPUC and, in many cases after program implementation has begun, since the plans need to be based on identified program design and implementation issues.

7. Diagram of Program

Please see the core program diagram.

8. Program Logic Model

Please see the Commercial Calculated Energy Efficiency Program logic model.

1. Program Name: Industrial Deemed Energy Efficiency Program
Program ID#:
Program Type: Core

2. Projected Program Budget Table

Table 1 – reference the overarching program for budget details

3. Projected Program Gross Impacts Table – by calendar year

Table 2 - reference the overarching program for gross impact details

4. Program Description

a) Describe program

The purpose of the statewide Industrial Deemed Energy Efficiency Program is to provide services to improve the energy efficiency of industrial facilities in California, including financial incentives based on deemed energy savings. The energy savings are deemed for measures installed. Integrated projects are encouraged to combine energy efficiency and demand response.

The Industrial Deemed Energy Efficiency Program is part of a suite of programs within the Statewide Industrial Energy Efficiency Program.

Key features of the program include:

- Information and technical assistance from IOUs on energy efficiency measures and savings potential;
- Application via mail, fax, internet and phone by customer for eligible measures;
- Reservation of financial incentives by IOU, if requested by customer;
- Pre- and post-installation inspection by IOU, as determined by IOU based on prior participation and other factors; and
- Payment of incentives from IOU.

b) List measures

Itemized retrofit measures have prescribed energy savings and incentive amounts. These measures are categorized under the following end uses:

- Lighting
- Air conditioning
- Food service
- Refrigeration
- Industrial Process
- Motors
- Plug loads.

c) **List non-incentive customer services**

The Industrial Deemed Incentives sub-program is primarily an incentive program designed to achieve energy savings through measure implementation; however it does provide such non-incentive measures as technical consultation and application preparation assistance to help customers navigate through the application process. This assistance ensures that the sub-program captures lost opportunities by not allowing projects to fall behind schedule simply because the customer does not have the resources to shepherd through the process.

5. **Program Rationale and Expected Outcome**

a) **Quantitative Baseline and Market Transformation Information**

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

Table 3 – Refer to the overarching program for quantitative baseline metrics

b) **Market Transformation Information**

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment “H” are approved for this sub-program as applicable.

Table 4 – Refer to the overarching program for market transformation metrics

c) **Program Design to Overcome Barriers**

The Industrial Deemed Energy Efficiency Program is designed to overcome several barriers. The program directly addresses key market factors that lead to higher energy costs for California businesses. Providing a menu of prescribed common measures simplifies the process of reviewing project proposals and provides a "per-widgit" rebate that reduces the cost of retrofitting outdated and inefficient equipment. This element makes it attractive for customers to spend money in the short run in order to achieve lower energy costs in the long run.

Using itemized energy efficiency measures is intended to overcome barriers that prevent many business customers from adopting energy efficiency alternatives. The barriers are addressed by itemizing common energy efficiency measures and rebates, stimulating the supply of high efficiency equipment and products (through higher demand), and offering rebates that help offset higher start-up and down payment expenses for energy efficient retrofits.

Furthermore, to ensure equity to all business customer segments, this program will continue to offer statewide-consistent, cost-offsetting itemized rebates to help customers with the cost of installing new energy efficient equipment.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts.

Table 5

	Program Target by 2013	Program Target by 2014
Projects	15	15

e) Advancing Strategic Plan goals and objectives

The Industrial Energy Efficiency Program supports all three goals in the Strategic Plan for the Industrial Sector. The Industrial Deemed Energy Efficiency Program supports at least two goals.

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

Near-term: Form industrial collaboration mechanisms

The Deemed Energy Efficiency Program facilitates participation by allowing customers to apply for program participation in many ways, including mail, fax, internet and phone. SCE will implement marketing and outreach activities through account executives, trade associations, and in numerous other ways to stimulate participation. It will encourage participants to adopt a policy of continuous improvement.

Goal 3: Provide centralized technical and public policy guidance for California industrial energy and resource efficiency.

Strategy 3.2: Conduct statewide marketing and education effort to create demand for industrial information clearinghouse.

Near-term: 1) Develop ME&O Plan; 2) Implement Plan

SCE will participate in the development of the plan and then encourage industrial customers to use the clearinghouse as part of the implementation of the plan.

6. Program Implementation

a) Statewide IOU coordination

i. Program name: Industrial Deemed Energy Efficiency Program

ii. Program delivery mechanisms

Program delivery mechanisms for SCE will include account representatives, technical services personnel, incentives processing staff, and inspection officials. Also important to program delivery will be customer facility owners and managers; energy efficient equipment manufacturers, distributors, and services contractors; industry trade associations; and others in the energy efficiency equipment value chain.

At the statewide level, the Industrial Deemed Energy Efficiency Program will be coordinated to unify the implementation of program aspects such as program name, program delivery mechanisms, incentive levels, marketing and outreach plans, and IOU

program interactions. The Industrial Deemed Energy Efficiency Program will coordinate with the core Industrial Energy Efficiency Program to provide mutual support.

The high-level focus of this statewide coordination effort will enable the capture of new innovations and opportunities for program improvement, correcting program weaknesses that reveal themselves during implementation, and ensuring achievement of statewide targets across IOU service territories. Therefore, statewide focus on program unity and continuous program improvement over the course of the two-year implementation cycle will be enabled.

iii. Incentive levels

Incentive levels are based on measure type and will be set at uniform amounts across the state. Higher incentive levels will be provided for Emerging Technologies (ET) to spur traction in the market as feasible. The scale of increased incentive for emerging technologies will be evaluated on a measure by measure basis dependent on kW, kWh, equipment cost, other market factors and cost effectiveness.

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

The Industrial Deemed Energy Efficiency Program will be marketed through IOU account executives, as well as through trade allies, education, outreach and other marketing activities. Marketing activities will target business customers, ESCOs, trade associations, local business groups and government entities to generate interest and program participation. In addition, direct customer contact by account executives, phone and e-mail support will be provided.

Marketing efforts will incorporate a variety of marketing tactics/activities to promote the solutions in the program. Education, awareness, and outreach efforts will rely on a combination of mass media communication channels and targeted communication channels to ensure the messages reach the intended audiences with enough frequency to motivate attitude and behavior changes. The marketing strategies may include, but are not limited to, a mix of print, radio, TV, direct mail, e-mail, personal contact, trade shows, trade association meetings, customer workshops and seminars, energy related and other community events and partnerships with business and industry organizations, specialized collateral, case studies, website links and information with regular updates, bill inserts, press releases, and newspapers.

Market outreach to raise awareness of energy efficiency programs available will use a number of strategies, as follows:

- Providing a regular and consistent customer calling effort to key customers within this sector through account representatives;
- Providing additional expertise from IOU representatives, program management representatives, and field engineers will be available to provide additional expertise;
- Participation and membership in one or two key trade associations affiliated with each high priority sub-segment within the industrial market sector;

- Attendance at the key trade shows for each high priority sub-segment within the industrial market sector;
- Hosting IOU-sponsored training events at the IOU's Customer Training Centers and other convenient locations within the IOU's service territory;
- Hosting of IOU-sponsored webinars that provide sub-segment training and program adoption; and
- Linking written collateral pieces that give an overview of the IOU's Energy Efficiency programs to the appropriate IOU's IDSM web page.

The ideal marketing mix will be assessed for maximum awareness and participation. Marketing and outreach coordination will be coordinated, to the extent possible, among the IOUs utilizing the statewide coordination process described above.

The IOUs will continue to develop an in-depth segmentation of the industrial market. The results of this customer segmentation will support the development of targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers based on their needs and preferences. Such delivery channels will likely include increased customer outreach through trade and community-based associations, third parties, government partnerships and core IOU programs.

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

The Industrial Deemed Energy Efficiency Program will leverage the programs offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to share program information and marketing collateral with industrial customers to the extent possible. Conventionally, each government agency and IOU has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type.

With respect to water conservation, IOU program managers will partner with the local water districts to co-brand marketing collateral, attend trade shows and release joint notices for programs with interactive water and energy effects. Similarly, with ARB and Air Quality Management Districts, IOUs will offer customers program incentives for energy efficient equipment that may also reduce water and greenhouse gas emissions.

vi. Similar IOU and POU programs

The IOUs will be delivering many third-party programs that are permitted to use the Industrial Deemed Energy Savings Program infrastructure. This will ensure a consistent delivery of measure incentives to ensure that programs do not cannibalize each other and detract from achieving cost-effective energy savings.

b) Program delivery and coordination

i. Emerging Technologies program

The long-term energy efficiency vision of California may be attained through the long-term and continuous development, verification, and acceptance of emerging technologies (ET) into the market. The achievement of long-term goals requires new technology as

well as information, training and market development to maximize the EE benefits of cutting-edge technologies. In recognition of the importance of emerging technologies, the program is poised to adopt the efficiency potential of new technologies through its programs. In addition, portfolio staff actively works to incorporate promising emerging technologies.

ii. Codes and Standards program

The program relies on the Codes and Standards program to help maintain an updated and relevant list of measures that will support savings. As codes and standards impact measures, the program will act to align itself with appropriate offerings. It is important to manage the measure life cycle to take full advantage of providing incentives before moving them into code. The program will coordinate with the Codes and Standards Planning & Coordination sub-program. Programs will include new offerings that will allow flexibility in adapting to changes in codes and standards, market trends, and technologies. Planned enhancements to Title 20 and 24 will be reflected in incentive levels and eligible measures and services. As the market moves toward “low energy” or “zero net energy” buildings, specific changes to each element of the bundling will be made to ensure the latest cost-effective technologies/services (e.g., LEDs) are made available as they transition from research and development to mainstream program offerings.

iii. WE&T efforts

Workforce Education & Training (WE&T) efforts support the education and training of a robust network of industry trade allies, vendors, engineers, design teams and others who can support the market transformation strategies of the Strategic Plan. In the Industrial Energy Efficiency Program, WE&T efforts will focus in the near term on supporting national ANSI Energy Management Certification development efforts, as outlined in the Strategic Plan. Programs will closely coordinate with key stakeholders to ensure that California is poised to adopt this national standard and be a leader in this effort. Specifically, prerequisite trainings will be offered in DOE systems trainings to lay the groundwork for certification level trainings. These education and training offerings take place through IOU’s energy centers and technology centers.

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

Marketing and outreach initiatives will include:

- Participation and membership in key trade associations affiliated with each high-priority sub-segment within the industrial sector, as appropriate;
- Attendance at key trade shows within the industrial sector;
- Building awareness and training of vendors of energy equipment and systems about the program eligibility requirements and participation procedures;

- Educating community based organizations (CBOs), faith based organizations (FBOs), other non-profit organizations, and other non-government organizations (NGOs) with unique access to certain industry segments;
- Informing enabling partners, such as financial institutions, law firms, and environmental organizations;
- Approaching other organizations with complementary value propositions from the customers' perspective, such as energy, water, materials management, recyclables, and corporate social responsibility;
- IOU-sponsored training events at the IOU's customer training centers and other convenient locations within the IOU's service territory;
- Hosting of IOU-sponsored webinars that provide sub-segment training and program adoption; and
- Development of case studies, web pages, and marketing materials that provide an overview of the IOU's energy efficiency programs.

Integrated and program-specific marketing efforts will complement and work in coordination with statewide ME&O to increase awareness, provide education, and drive ongoing engagement and participation in DSM programs and services among nonresidential customers. The statewide effort will provide the first level with IOU-specific programs providing reinforcement at a local level.

v. Non-energy activities of program

The program will offer customers educational information about the non-energy benefits associated with energy efficiency measures, such as improved safety, indoor air quality, productivity, comfort, and appearance.

vi. Non-IOU programs

The program will continue to engage with Air Quality Management Districts, CEC, ARB, DOE, water agencies, and other government agencies responsible for regulating the various aspects and operations of customer facilities participating in the programs, as appropriate and feasible.

vii. CEC work on EPIC

Not applicable.

viii. CEC work on codes and standards

Planned enhancements to Title 20 and 24 will be reflected in incentive levels and in eligible measures and services.

ix. Non-utility market initiatives

The program will support, educate customers, and/or facilitate such initiatives as AB32, renewables, ANSI certification, facility benchmarking, Continuous Energy Improvement, California Green Building Initiative, and other initiatives as directed. The IOUs will remain engaged in these efforts and work to influence the development of increasingly higher standards.

c) **Best Practices**

To maximize program effectiveness, best practices in program design and implementation will be employed and shared amongst IOUs.

Best practices in Program Design include:

- Regular communication amongst IOUs, which is critical to effective program design.
- Identification of qualifying products simply and effectively (Examples; ENERGY STAR®, CEE, FSTC website).
- Seeking input from industry in the development of new programs. The IOU programs are trying to change how an industry operates from manufacturer design to the customers' purchasing and maintenance practices.
- Industry participation that increases program volume and speeds market transformation.

Best practices in Program Implementation include:

- Striving to simplify messaging and participation for the customer. (Look for the ENERGY STAR label, purchase from a qualifying products list, etc.)
- Understanding the key motivators that drive an industry and using that information to market your program. Formulating certain outreach efforts that make your program visible to your customers and the market that is catering to your customers.
- Continuously communicating program marketing and advertising plans in advance to appropriate industry channels. Advanced notice allows industry partners an opportunity to leverage off of IOU marketing efforts and reinforce the messaging we are trying to deliver to our customers.

d) **Innovation**

Innovative aspects of the program include improving major program performance indicators, such as accuracy of energy saving calculation, higher realization rate, overcoming energy efficiency barriers, reducing application processing time and administrative costs, and integrated energy management.

For the new program cycle, California IOUs have implemented a new incentive structure that emphasizes peak demand reduction, addresses current economic downturn and better motivates customers to participate in energy efficiency incentive programs. During the 2013-2014 program cycle, the new incentive structure will be periodically evaluated and necessary changes may be made in order to enhance program benefits and performance, including measure bundling incentives. The IOUs will explore offering an audit to customers considering three or more measures in an effort to determine if the audit itself leads to implementation of deeper savings.

IOUs will continue working collaboratively on modifications to program Policies and Procedures to address ongoing changes in customer expectations, market conditions and program flexibility. Changes will (a) target ease of program understanding and participation, (b) measure eligibility, (c) increase of customer's economic benefits, and (d) identify policy restrictions that are barriers to participation. IOUs are implementing such process based on market studies conducted on the subject and preceding discussion of the policy change. Among other modifications that would be potentially discussed and implemented are

incentive caps and redesign of measure/equipment early retirement according to the CPUC concept.

Where possible, IOUs will use an integrated approach to addressing DSM opportunities. Innovative approaches will be used, such as merging energy efficiency and demand response analysis and converting recommendations to projects under Retrocommissioning and/or Calculated program. In addition, streamlining programs through processing and reviewing energy efficiency and demand response measures in a single application, providing analytical information about applicable distributed generation solutions, will maximize customer adoption rates for most cost-effective energy management opportunities.

e) Integrated/coordinated Demand Side Management

Once enrolled, participating customers will be encouraged to participate in other demand-side management opportunities, including demand response and distributed generation. Participating customers will also be encouraged to take a more comprehensive approach to demand-side management and strive for continuous improvement.

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

California's industrial sector faces a multitude of environmental and regulatory challenges that affect their competitiveness and, in some cases, survival. New regulations aimed at improving air quality, water quality and reducing toxic environmental pollutants are proving to be expensive and disruptive to business as usual, and in many cases will have the impact of increasing energy use in compliance.

To help deal with these challenges, the industrial program will coordinate with the regulating agencies and the programs they are operating to support mutually advantageous program designs, customer incentives, marketing opportunities, and implementation opportunities. IOUs will continue to offer targeted trainings to customers who share common regulatory challenges in an effort to educate customers on impending regulatory requirements for their business operation, and the most efficient solution options to consider for compliance. Future workshops may look at small and medium sized water and wastewater treatment options, steam system upgrades, and energy efficiency to meet AB32 industrial targets.

IOUs will pursue opportunities to partner with water agencies to offer joint energy and water conservation incentives to support projects that would reduce both resources. Partnering with other utilities will help reduce administrative cost and has a greater impact on societal benefits.

Where applicable, the Program will integrate topics such as GHG reduction and water conservation into targeted customer workshops, and marketing and communications, building on a strong track record from the past program cycle. Marketing and communications material will include savings opportunities and messaging.

g) Pilots

Not applicable.

h) EM&V

The IOUs are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2013-2014 after the program implementation plans are filed. This plan will include process evaluations and other program-specific studies within the context of broader IOU and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts will be developed collaboratively by the IOUs and Energy Division. Development of these plans will occur after the final program design is approved by the CPUC and, in many cases after program implementation has begun, since the plans need to be based on identified program design and implementation issues.

7. Diagram of Program

Please see the core program diagram.

8. Program Logic Model

Please see the Commercial Deemed Energy Efficiency Program logic model.

- 1. Program Name:** Industrial Continuous Energy Improvement Program
Program ID#:
Program Type: Core

- 2. Projected Program Budget Table**

Table 1 – reference the overarching program for budget details

- 3. Projected Program Gross Impacts Table – by calendar year**

Table 2 - reference the overarching program for gross impact details

- 4. Program Description**

- a) Describe program**

Continuous Energy Improvement (CEI) is a consultative service that is aimed at helping industrial customers engage in long-term, strategic energy planning. Corporate energy management is not currently part of normal business operations for the majority of IOU customers and with current economic pressures forcing customers to reduce costs and focus more on their core business, it is likely to be further marginalized. CEI proposes to reintroduce the importance of energy management by transforming the market (and reducing energy intensity) through a comprehensive approach that addresses both technical and management opportunities and creates sustainable practices through a high-level energy commitment from executive and board-level management. CEI applies the principals of well-known business continuous improvement programs, such as Six Sigma and International Standards Organization (ISO) standards, to facility and plant energy management: (1) Commitment; (2) Assessment; (3) Planning; (4) Implementation; and (5) Evaluation and Modification. At each stage of customer engagement, there are a variety of complementary IOU and non-IOU products and services that can be customized to fit different customer profiles and optimize the cost effectiveness of the delivered energy management solution.

In 2013-14, CEI will be expanded to include select group of mid-sized non-residential customers. Available options to help target these customers may include an individualized, small group, or mass-market remote deployment approach.

CEI will coordinate its services with the Energy Advisors subprogram offerings. CEI offers customers what can be considered the pinnacle of audit offerings, guiding senior management to instill energy considerations in all management/business operational decisions and in long-term energy planning.

The CEI program implements the following steps:

- 1. Commitment**

CEI begins with a high-level management commitment to improving energy performance, which increasingly can be combined with other environmental and regulatory commitments that energy users are developing in response to market and political pressures. A corporate commitment sends the top-down message to employees,

partners, shareholders and vendors that energy—like safety—is a priority issue requiring attention. Corporate commitment also paves the way for establishing the required company resources required to implement the steps of CEI. These resources can include capital, personnel like energy champions or teams, or technical systems and software required for energy management.

Gaining true customer commitment can take time, but it is critical. In implementation, IOUs will formalize the Commitment phase with more intensive customers through a CEI participation agreement. This agreement outlines the IOU CEI services being offered as well as minimum customer expectations.

2. Assessment

Following Commitment, a comprehensive assessment is critical to identifying not only technical opportunities but also systemic energy management practices and cultural shifts. These can improve overall facility management practices and sustain continuous improvements towards long-term company targets. A component to the assessment will also include tools to help identify Energy Efficiency (EE), Distributed Generation (DG), and Demand Response (DR) opportunities.

There are many tools and resources – IOU and non-IOU, free and licensed – available to support comprehensive customer energy assessment. They include ENERGY STAR’s Guidelines for Energy Management; customer energy management assessment software products like those developed by Envinta; benchmarking tools; Integrated Comprehensive Energy Audits; through the Industrial Energy Advisors sub-program, or local and third-party programs that can offer specialized technical expertise and assessment.

Based on screening criteria, IOUs will offer comprehensive energy assessment services utilizing, but not limited to, vetted sources like those described below, to develop a customer specific strategic energy plan.

- ENERGY STAR’s Guidelines for Energy Management is housed on the ENERGY STAR website and provides step-by-step guidelines to customers to support CEI in general. It also guides customers to ENERGY STAR’s numerous assessment tools. This option is a low-cost resource for smaller and medium customers interested in CEI.
- Energy Management Assessment Tools such as Envinta’s One-To-Five, Achiever, or Challenger software products offer professionally facilitated energy management assessment with company decision makers. They also explore management practices and company priorities to develop a CEI roadmap for energy goals and actions.
- Integrated Comprehensive Energy Audits provide an inventory of technical facility end-uses and energy efficiency, demand response and self-generation investment opportunities. For a full description, see the Industrial Energy Advisors sub-program plan.

- Benchmarking can measure the energy performance of a company, building, process, or piece of equipment to industry standards or comparable groupings. Benchmarking is a natural first step for the CEI process. Customers with multiple facilities find benchmarking useful to prioritize efficiency projects, track progress toward energy or greenhouse gas (GHG) improvement goals, or drive competition among similar benchmarked facilities. Units of measurement vary widely. For industrial buildings, the unit is energy used/square foot for a unit of time. Benchmarking can also be applied to other resources and environmental issues such as water use, CO₂, and emissions.

3. Planning

Strategic energy planning involves setting energy goals and action plans around energy efficiency, demand response, and generation, as appropriate. Planning for customers will typically involve Account Representatives and/or consultants. As discussed in the Strategic Plan and in Section 6.e below, strategic planning can also include complementary non-energy considerations, such as greenhouse gas (GHG) reductions, water efficiency, and waste-stream minimization, all of which have embedded energy components.

Data and findings from a comprehensive customer Assessment are critical in developing any comprehensive energy plan. These include the results from technical audits or assessments, facility benchmarks, energy management assessments, and assessments of company priorities. This information is analyzed and used to develop realistic and achievable company goals and the prioritized shorter-term tactics that are needed to achieve them. Energy plans should be living documents revisited and revised regularly.

Energy goals can vary widely and include elements such as resource utilization (“Company X will reduce its overall energy intensity by 3% over the next 3 years”), carbon reduction goals (“Company X will be carbon neutral by 2014”), or management-oriented goals (“Company X will implement energy teams by 2013”). Goals can be internal documents or can be made public through press releases as part of larger sustainability plans. Publicized goals are increasingly important for large and public companies.

CEI will assist customers in developing and implementing action plans to execute the prioritized near-term activities in support of their company’s energy goals, as well as the resources, staff and schedule for tracking. Action plans typically include activities such as (a) prioritizing process systems or facilities based on benchmarking or company drivers, (b) identifying internal resources required for plan implementation, and (c) developing project justification and incentive application documentation lists and detailed schedules.

4. Implementation

In the implementation stage, IOUs partner with customers to identify technical support and IOU and non-IOU resources available to support implementation of projects, such as rebates, incentives, third-party and government partnership programs, and state and national resources. These may include:

- Statewide Deemed rebates;
- Statewide Calculated incentives for new construction/tenant improvement, retrofit and retro-commissioning/repair;
- Third-Party and Government Partnership programs (described in the statewide and local third party filings);
- IOU and non-IOU financing options; and
- External and internal engineer support.

5. Evaluation and Modification

In any continuous improvement program, evaluation is an ongoing process of comparing actual performance against company goals, targets and action plans. It may include repeating the benchmarking and system or facility baseline process annually, assessing advancements in organizational and management practices that facilitate energy management improvements, or evaluating cost savings per unit of product. Regular evaluation will inform changes to goals and action plans moving forward.

b) List measures

CEI does not provide incentives to customers, but ultimately facilitates the customer's implementation of energy efficiency projects through incentive programs. However, depending on the outcome of the 2012 process evaluation, customer incentives may be offered.

c) List non-incentive customer services

CEI is a non-resource program that provides comprehensive strategic energy planning and consulting services for industrial customers. These services include energy management assessments, energy planning, baselining and benchmarking, project implementation support, customer recognition (e.g. "corporate sustainability awards"), and web-based energy resources.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

Table 3 – Refer to the overarching program for quantitative baseline metrics

b) Market Transformation Information

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment “H” are approved for this sub-program as applicable.

Table 4 – Refer to the overarching program for market transformation metrics

c) Program Design to Overcome Barriers

CEI is intended to address several market barriers that prevent wider adoption of energy efficiency practices. These barriers include:

- Lack of information: The CEI evaluation and modification process provides data that customers can use to reevaluate their commitment and/or modify their energy goals.
- Performance uncertainties: Through CEI’s comprehensive baselining and benchmarking assistance, customers will have access to real-time data that demonstrates how their facility is performing relative to their established goals.
- Organizational customs: The high-level customer commitment that is at the core of CEI increases the likelihood that corporate cultures that prevent successful implementation of comprehensive energy policies will be changed.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts.

Table 5

	Program Target by 2013	Program Target by 2014
Number of Engagements	1	1

e) Advancing Strategic Plan goals and objectives

The Industrial Energy Efficiency Program supports all three goals in the Strategic Plan for the Industrial Sector. General advancement of the goals is presented in the program implementation plan for the Industrial Energy Efficiency Program. More specific support of the goals in the Industrial CEI Program is presented here.

Goal 1: Support California Industry’s adoption of energy efficiency by integrating energy efficiency savings with achievement of GHG goals and other resource goals.

Strategy 1.1: Develop coordinated energy and resource management program for CA’s industrial sector, to enhance use of energy efficiency

The core deliverable through CEI is the development of a comprehensive energy management plan that customers can adopt as an operating strategy. This plan will allow customers to quantify and manage their GHG emissions in a responsible manner.

Goal 2: Build market value and demand for continuous improvement in industrial efficiency through branding and certification.

Strategy 2.2: Implement certification

Near-term: Plan pilot and recruit host sites (8-10 facilities)

The Continuous Energy Improvement sub-program will manage the statewide participation in the development of an industrial certification program. This certification program will be piloted in 2013-2014. It will leverage the various industrial sub-program tactics described throughout this program implementation plan to identify the best potential host sites. The lessons learned from this pilot will be used to expand the certification in the next program cycle.

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.

Near-term: 1) Identify and incorporate priority energy and other data; 2) Develop clearinghouse or integration system.

The Continuous Energy Improvement sub-program will support the development of an industrial clearinghouse by providing information on results and experience in the program, including case studies of innovative projects and best practices about implementing comprehensive energy management plans at industrial facilities.

6. Program Implementation

a) Statewide IOU coordination

i. Program name: Industrial Continuous Energy Improvement Program

ii. Program delivery mechanisms

CEI will be coordinated to unify the implementation of program aspects such as program name, program delivery mechanisms, marketing and outreach plans, and IOU program interactions. The Industrial CEI Program will coordinate with the core Industrial Energy Efficiency Program to provide mutual support.

The high-level focus of this statewide coordination effort will enable the capture of new innovations and opportunities for program improvement, correct program weaknesses that reveal themselves during implementation, and ensure achievement of statewide targets across IOU service territories. Therefore, statewide focus on program unity and continuous program improvement over the course of the two-year implementation cycle will be enabled.

Where applicable, the IOU's account representatives will support this activity within the statewide industrial sector, as well as third parties, government partnerships, and IOU local programs.

iii. Incentive levels

Not applicable.

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

As with other information and education programs, CEI will be delivered primarily by IOU customer energy efficiency staff and contractors, service and sales representatives, website and marketing and outreach efforts. Other channels of delivery may be developed.

The IOUs will continue to develop an in-depth segmentation of the industrial market. The results of this customer segmentation will support the development of targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers based on their needs and preferences. Such delivery channels will likely include increased customer outreach through trade and community-based associations, third parties, government partnerships and core IOU programs.

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

The program will leverage the programs offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to share program information and marketing collateral with industrial customers.

vi. Similar IOU and POU programs

Over the next two years, the IOUs will seek to increase their interactions with the POUs, as applicable, to promote the CEI concept throughout the state.

This may involve the creation of periodic California energy efficiency program summits that seek to increase awareness of the Strategic Plan and how programs could/should be designed to help meet its aggressive targets.

b) Program delivery and coordination

i. Emerging Technologies program

The CEI program management team will stay abreast of and incorporate relevant emerging technologies into audit recommendations. In addition, IOU field engineers, who play a large role in the delivery of CEI to industrial customers, are active contributors to the Emerging Technology (ET) process by their participation in ET Roundtable/Information meetings and continually seek to offer new technologies to customers.

ii. Codes and Standards program

CEI implementation will include information about pending new code that may affect planning or prioritization of retrofit or new construction projects.

iii. WE&T efforts

CEI implementation will integrate with WE&T efforts by providing CEI process, lessons learned, and case study input to energy engineering curriculum designers for community colleges and universities. This activity will be coordinated through the Statewide WE&T

program team and will ultimately be integrated into the web portal that team is now developing. IOUs will assess and support specialized WE&T training to help target working energy management professionals, industry professionals, and those pursuing education in universities and colleges.

IOUs will also continue with WE&T coordination to bridge the linkages and integrate sector strategy approaches. Program costs will be shared with WE&T.

iv. Program-specific marketing and outreach efforts

A broad range of marketing activities will be used to promote audits and elevate customer engagement. The Industrial CEI program will be promoted via direct communication between customers and Account Executives with the support of Project Managers from individual programs, as well as through traditional advertising activities, such as internet, bill inserts, brochures, trade shows, etc. Marketing activities will be coordinated between IOUs, Demand Response and Distributed Generation departments within each IOU.

Integrated and program-specific marketing efforts will complement and work in coordination with statewide ME&O to increase awareness, provide education, and drive ongoing engagement and participation in DSM programs and services among nonresidential customers. The statewide effort will provide the first level with IOU-specific programs providing reinforcement at a local level.

v. Non-energy activities of program

Integrated energy audits are a key tool for identifying non-energy opportunities for specific customers. The energy audits can identify non-energy benefits associated with recommended measures, such as improved safety, productivity, indoor air quality, comfort and appearance.

vi. Non-IOU programs

The program will continue to engage with Air Quality Management Districts, CEC, CARB, DOE, water agencies, and other government agencies responsible for regulating the various aspects and operations of customer facilities participating in the programs.

vii. CEC work on EPIC

Not applicable.

viii. CEC work on C&S

See Section 6.b.ii.

ix. Non-utility market initiatives

Education about federal tax incentives for energy efficiency investments is an example of non-IOU information and guidance that CEI will provide customers. In addition, the IOUs will participate in national efforts to develop and/or improve benchmarking tools and services that can be used by customers to better facilitate their adoption of sustainable energy management practices.

c) Best Practices

The CEI approach applies the principals of well-known business continuous improvement programs, such as Lean Six Sigma and ISO standards, to facility and plant energy management: Commitment, Assessment, Planning, Implementation, Evaluation and Modification in order to achieve widespread adoption of long-lasting sustainable energy management practices in the industrial market sector. This approach can now be successfully implemented given the two-year program cycle allowing longer term and deeper project development engagements with customers.

d) Innovation

CEI is a new way of packaging energy efficiency, demand response and self-generation products and services aimed at helping customers engage in long-term, strategic energy planning. It proposes to transform the market and reduce energy intensity through a comprehensive approach that includes addressing both technical and management opportunities.

Depending on the outcome of the 2012 process evaluation, CEI may consider customer incentives to accelerate project implementation (including IDSM projects), and reward customer for implementing strategic energy management.

e) Integrated/coordinated Demand Side Management

CEI includes project analysis and implementation support of recommendations of the Integrated Comprehensive Energy Audits, which provide customers with an inventory of facility end-use breakdown and energy efficiency, demand response and self-generation investment opportunities. Over the last few years, traditional DSM programs have learned that successful customer participation in one program leads to a likelihood of repeat participation in the same program. Additionally, this successful participation makes these customers likely candidates for other similarly related types of programs. While a successful program experience leads to repeat participation, there has been difficulty in cross-pollinating similarly related types of programs with these candidates due to program-specific silos. To overcome the historic siloing of DSM, the CEI sub-program will leverage lessons learned from IDSM efforts by offering comprehensive, coordinated marketing and program delivery.

A primary issue when integrating energy efficiency and demand response programs is that the two programs are at financial odds with one another, as both programs often reduce the potential for each other's financial incentives. For example, energy efficiency may reduce the overall baseline which the demand response program's incentives are based upon. Since benefits from long-term energy savings derived from technological measures outweigh the temporary demand reduction benefits derived from behavioral actions, the CEI sub-program will offer additional support and services for energy efficiency measures that enable demand response when customers enroll, or are already enrolled, in demand response programs. In so doing, the program seeks to maximize the potential for both types of programs.

A secondary issue when integrating energy efficiency and demand response programs is that communications of both types of DSM programs are often non-coordinated, since energy efficiency is typically technology-based and demand response is often focused on behavior.

Also, demand response efforts often happen prior to the summer “event season” and wane throughout the remainder of the year. To overcome these differences, the Program will offer integrated and coordinated year-round marketing through consolidated applications, collateral, web sites, and events, where applicable.

Through bundling program elements and offering one program application, customers will have the opportunity to enroll in demand response programs in addition to energy efficiency programs.

To support the integration of energy efficiency and demand response programs, the sub-program will focus on several tactics:

- Offering promotions and incentives for demand response in such a way as to stimulate energy efficiency first;
- Providing integrated and coordinated year-round marketing (e.g. applications, collateral, web sites, and events);
- Linking program eligibility requirements (e.g. customer size);
- Providing unified technical assistance through enhanced EE/DR Audits through the TA Program to allow for cross-harvesting opportunities;
- Providing integrated presence on IOU websites; and
- Regular coordination of meetings between energy efficiency and demand response program management.

CEI is recognized as a strategy to advance Statewide IDSM program’s goals and objectives. IOUs will increase IDSM messaging and coordination within CEI.

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

CEI implementation will include information on Non-IOU Programs to expose customers to funding, such as from air or water agencies, to support efforts. IOU CEI sub-program managers will partner, as appropriate, with CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to share program information, marketing collateral, and financial incentive analysis with customers. Conventionally, each government agency and IOU has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. For customers who are regulated by or interested in more than one resource issue, CEI will inform the customer about the mutual benefit of combining complementary resource programs.

In the effort to promote CEI, IOUs will seek out customers interested in complementary resource programs such as provided by water and air quality agencies. With respect to water conservation, IOU program managers will partner with the local water districts to produce co-branded marketing collateral, attend trade shows and release joint notices for programs with interactive water and energy effects.

g) Pilots

Not applicable.

h) EM&V

The IOUs are proposing to work with the Energy Division to develop and submit a comprehensive EM&V plan after the program implementation plans are filed. This may include process evaluations and other program-specific studies within the context of broader IOU 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.

Once results of the 2010-2012 evaluations are ready, recommendations will be reviewed for modifying the CEI PIP accordingly.

7. Diagram of Program

Please see the core program diagram.

8. Program Logic Model

Please see the Commercial CEI program logic model.

2013-2014 PIP Addendum

Program Name	California Statewide Program for Agriculture	Date Submitted	7/2/2012
Subprogram Name		Utility Name	San Diego Gas & Electric
Subprogram ID		IOU Program Contact	

This form is to be used to document any required changes to the Program Implementation Plans (PIPs). The following are triggers that will require a PIP change:

1. Changes to eligibility rules
2. Changes affecting incentive levels (indicate advice letter approval below if required)
3. Fund shifts (indicate advice letter approval below if required)
4. Portfolio Budget and Other Commission-Directed Changes
5. Changes to Program Theory/Logic Models
6. Addition or elimination of programs and/or sub-programs (indicate advice letter approval below)
7. Changes in program targets
8. Change in sub-program approach - unless the IOUs submit logic models for the sub-programs (to be defined) with IOUs
9. Changes in incented measures
10. Changes in adopted PPMs/MTIs (indicate advice letter approval below if required)

Identify Specific Trigger (above) requiring the PIP change

4. Portfolio Budget and Other Commission-Directed Changes	▼
---	---

Driver of Change:

Aim to reduce the complexity in IOUs' portfolios while increasing customer participation.

Description of Change (if advice letter approval required, indicate Commission resolution or approval and provide hyperlink to advice letter):

<p><i>The 2010-2012 Agriculture Energy Efficiency Program program implementation plan (PIP) reflects the following sub-programs:</i></p> <ol style="list-style-type: none"> 1. <i>Nonresidential Audits Program</i> 2. <i>Calculated Incentives Program</i> 3. <i>Deemed Incentives Program</i> 4. <i>Continuous Energy Improvement</i> 5. <i>Commercial Direct Install – (program is delivered through LGP and Third Party Channels)</i> 6. <i>Energy Efficiency for Entertainment Centers, third party program</i> 7. <i>K-12 Private Schools and Colleges Audit and Retrofit Program, third party program</i> 8. <i>California Preschool Energy Efficiency Program (CREEP), third Party program</i> <p><i>The new 2013-2014 Agriculture Energy Efficiency Program will be simplified and consist of the following sub-programs:</i></p> <ol style="list-style-type: none"> 1. <i>Customer Services Program</i> 2. <i>Commercial Calculated Incentives Program</i> 3. <i>Commercial Deemed Incentives Program</i> 4. <i>Continuous Energy Improvement (CEI)</i> 5. <i>Nonresidential HVAC</i> 6. <i>Commercial Direct Install</i>

PIP Section and/or Wording to be Changed or replaced:

Changes are throughout the 2013-2014 Statewide Agriculture Energy Efficiency Program

Replacement Language or Information

Refer to Description of Program of 2013-2014 Statewide Agriculture PIP for details on changes

Revised Energy Savings (If Any):

Refer to 2013-2014 Statewide Agriculture PIP for details

Other PIP Changes Required:

Refer to 2013-2014 Statewide Agriculture PIP for details of other changes

1. **Program Name:** Statewide Agriculture Energy Efficiency Program
Program ID#:
SDG&E Program Type: Core Program

2. **Projected Program Budget Table**

Table 1¹

Program Code	Program Name	Administrative Amount	Marketing Amount	Direct Install Amount	Incentive Amount	Total Budget Amount
	SW Agricultural Programs					
3234	SW-AG-Customer Services-Benchmarking	\$13,890	\$10,246	\$85,171	\$0	\$109,308
3237	SW-AG-Calculated Incentives-Calculated	\$148,938	\$46,311	\$499,898	\$990,042	\$1,685,189
3239	SW-AG-Deemed Incentives	\$30,393	\$31,590	\$219,195	\$438,621	\$719,800
	TOTAL:	\$193,221	\$88,148	\$804,264	\$1,428,663	\$2,514,296

3. **Projected Program Gross Impacts Table – by calendar year**

Table 2

Program Code	Program Name	Gross kW Savings	Gross kWh Savings	Gross Therm Savings
	SW Agricultural Programs			
3234	SW-AG-Customer Services-Benchmarking	0	0	0
3237	SW-AG-Calculated Incentives-Calculated	659	5,519,760	156,096
3239	SW-AG-Deemed Incentives	515	3,424,140	16,599
	TOTAL:	1,174	8,943,900	172,695

4. **Program Description**

a) **Describe program**

The Statewide Agriculture Energy Efficiency Program facilitates the delivery of integrated energy management solutions—including energy efficiency, demand response, and distributed generation—to California’s agriculture customers. The Program offers a suite of products and services (for example, through strategic energy planning support, technical support services, facility audits, pump tests, calculation/design assistance, financing options, and financial support through rebates and incentives). In addition, the program adopts and supports the strategies and actions of the Agriculture and Industrial chapters of the California Long-Term Energy Efficiency Strategic Plan (Strategic Plan).

The Statewide Agriculture Energy Efficiency Program targets end-users such as irrigated agriculture growers (crops, fruits, vegetable, and nuts), greenhouses, post-harvest processors

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.

(ginners, nut hullers, and associated refrigerated warehouses), and dairies. Traditionally food processors due to NAICS designation have received IOU services through the Industrial program offering. However, there are those facilities that are integrated with growers and their products, as is the case with some fruit and vegetable processors (canners, dryers, and freezers), prepared food manufacturers, wineries, and water distribution customers that may be addressed by this program's offerings.

To address the potential in these markets, the Statewide Agriculture Energy Efficiency Program offers four sub-programs. A brief description is provided below. For a detailed accounting of sub-program activities, refer to the sub-program's specific program implementation plan:

1. **Agriculture Energy Audit Program** provides online and onsite audits, including benchmarking (offices and other "commercial" building areas), focused and integrated comprehensive energy audits, pump tests, retrocommissioning (RCx) and may include Continuous Energy Improvement (CEI) audits/services across the agricultural segment depending on the IOU's market segment potentials and available resources. The Program provides an inventory of technical project opportunities and financial analysis information for a customer's short- or long-term energy plan, and overcomes both informational and technical customer barriers.
2. **Agriculture Calculated Energy Efficiency Program** offers customers a standardized incentive approach for customized and integrated energy efficiency, CEI and RCx projects, which may include comprehensive technical and design assistance. It overcomes information, technical, and financial barriers across the agricultural segment. As a more customized calculation method that can consider system and resource interactions, it will also be the preferred approach for supporting the integrated, whole system, and multi-resource management strategies of the Strategic Plan.
3. **Agriculture Deemed Energy Efficiency Program** provides IOU representatives, equipment vendors, and customers with an easy-to-use mechanism to cost-effectively subsidize and encourage adoption of mass market efficiency measures through fixed incentive amounts per unit.
4. **Agriculture Continuous Energy Improvement (CEI)** is a non-resource sub-program that includes a collection of strategic planning tools and resources for long-term integrated energy planning. CEI serves as a launching platform for other IOU and non-IOU programs and services. CEI offers analysis, benchmarking, long-term goal setting, project implementation support, performance monitoring, and potential energy management certification offered through evolving Department of Energy (DOE) and International Standards Organization (ISO) efforts. CEI aims to transform the market from a "project-to-project" approach toward a continuous improvement pathway. In support of the Strategic Plan, the CEI approach also sets the stage for non-energy resource integration, such as greenhouse gas (GHG) reduction, water conservation strategies, and regulatory compliance. CEI will be offered by the IOUs, based on their

market segment potential and resource availability. CEI services will be offered in the Energy Advisor sub-program as applicable.

The New Construction Whole Building Approach (WBA) will be extended to existing buildings as one example of the customized bundling outlined in the Strategic Plan. This approach will make available the tools and resources necessary for customers to adopt a comprehensive approach to energy efficiency. This approach may include the deployment of energy management and information systems in demonstration projects that can be used to quantify and analyze energy savings based on various forms of data, including interval meter data.

In addition to these four sub-programs, each of the four investor-owned utilities (IOUs) in the state also offers local programs that complement and enhance the core offerings in their region. The IOU local portfolio mix is designed to enhance energy efficiency and DSM opportunities for agriculture customers. Additional information regarding the local efforts can be found in the sub-program descriptions and in section 6.g of this program implementation plan. The portfolio mix includes water conservation education information.

Market Characterization

California's agriculture customer base consists primarily of a broad mix of smaller accounts and consumes approximately 7%² of total statewide electricity. The business models and energy efficiency needs for these market segments vary widely and thus require targeted marketing and program delivery strategies. A review of the primary segments addressed by this Program is included below.

Irrigated Agriculture

Irrigated agriculture represents an estimated 80% of the total electricity and 73% of total natural gas used by the agriculture segment. This energy is predominately used to lift, move, and pressurize irrigation water. Increased reliance on ground water is increasing energy intensity, giving high priority to improving the current average pumping efficiency from 53% towards the technical potential for 68-70% through optimizing pump operation. Increasing pressures from international competition, land and water use policy decisions, labor force uncertainties, and consolidation of smaller family farms into larger agribusiness enterprises make this segment increasingly receptive to new technologies and practices balanced by financial concerns from risks of crop failure.

Greenhouses

This specialty segment is in transition from the cut flowers industry to ornamental plants and vegetable transplants. Increased mechanization and consolidation in this segment presents opportunities for energy efficiency. Top opportunities for energy savings are in boiler improvements, building envelope improvements, and temperature control enhancements (for example, heat curtains).

² 1980-2005 California Electricity Consumption by Sector - California Energy Commission, http://www.energy.ca.gov/electricity/consumption_by_sector.html.

Post-Harvest Processing Facilities

Post-harvest facilities associated with or near agriculture growing facilities, process, package and store agriculture commodities, such as cotton ginneries, nut harvesters and bag-houses, and fruit and vegetable packing plants. Their operations are typically seasonal and driven by harvest schedules. Nut hullers are a growing market due to new more productive strains of almonds. Key technical opportunities in this segment include industrial refrigeration improvements and process improvements.

Dairies and Confined Animal Feeding Operations

California's more than 1,900 dairies are primarily located in Tulare, Fresno, Kern, Merced, Stanislaus, and San Joaquin counties. Dairy farms are consolidating, with larger farms facing increased regulatory challenges related to air and water quality, creating opportunities for the adoption of new technologies and practices. Energy efficiency opportunities are focused in refrigeration, ventilation, and waste handling. Benchmarking will be marketed as a key foundational activity to drive customer awareness and continuous energy improvement. Improved dairy waste management offers significant potential for distributed generation, as well as potential reduction of air and water quality problems and the capture and sale of greenhouse gas credits. Like dairies, feedlots and poultry operations for meat and egg production have drawn recent food safety and regulatory attention that may make them more receptive to new technologies and practices for improved efficiencies and waste to energy opportunities. Animal waste streams within this segment offer biogas development potential.

Food Processing, General

Food Processing includes breweries, meat and poultry processing, dairy processors (e.g., creameries), canned, dried or frozen fruits and vegetables, grain products, baked goods, sugar and confectionary products, oils, snack manufacturing, soft drink manufacturers and seafood processing. The market is characterized by a small number of large users representing a disproportionate percentage of the energy consumed, offering an ideal opportunity for delivering a large customer strategy. The segment has high energy-intensity in relation to profit margins and is highly seasonal, with the majority of natural gas and over half of the electricity used during the peak summer season. Increased global competition and environmental regulations like AB 32 position this market for reductions in energy, water, emissions, greenhouse gasses and raw materials. An integrated resource management strategy, focusing on long-term continuous improvements, is expected to improve energy efficiency performance in the segment. The majority of the energy savings potential comes from process system improvements such as in refrigeration, boilers and steam systems, compressed air and motors. Distributed generation and demand response opportunities include using waste heat/steam for production processes such as pasteurization, cooking and heating.

Food Processing, Wineries

California's more than 2000 wineries produce 90% of all US wine. The segment is comprised of a small number of very large wineries and conglomerates, and a large number of small and medium facilities. This environmentally progressive segment of tightly knit and organized peer-to-peer networks has established environmental programs and web-based environmental benchmarking tools, and has launched a winery carbon calculator to support

energy efficiency. The wine segment offers a model for other agriculture segments to follow. These efforts have been led by the California Sustainable Winegrowing Alliance (CSWA), which is eager to continue working with interested IOUs on outreach, education, training, and benchmarking. These efforts will promote best practices in resource management including energy, water, air and GHGs. Energy savings potential is predominantly in refrigeration, pumping, and water heating and treatment. The wine segment's demand peaks in summer and fall, related to refrigeration during crush, making refrigeration improvements especially attractive. Interest in emerging technologies has been strong.

Food Processing, Refrigerated Warehouses

Refrigerated warehouses are highly specialized, energy-intensive, technology-oriented facilities focused on staying competitive with operators in nearby markets. They are comprised of, or associated with, wholesale facilities, public and private refrigerated warehouses, food and beverage processors, and perishable product cooling and packaging operations. As they handle a wide variety of seasonal products, loads can vary dramatically between facilities. Significant energy savings opportunities exist in facility retrofits and retro-commissioning and improved new facility design, as captured in the Agriculture Strategic Plan. Activities identified in the Agriculture Strategic Plan include expanded education and training and best practices dissemination directed at facilities designers and operators, the refinement of the DOE-2.2R energy modeling tool utilizing national funding and support, and incorporating codes and standards. The ability to float refrigeration loads through peak periods with controls software has shown great initial success in the 2006-2008 program cycle for demand response.

Water Irrigation Districts and Agencies

The water and wastewater industry (North American Industry Classification System prefix 221) collects surface water or groundwater, treats water to agricultural or potable standards, transports water to local distribution networks, delivers water to end users, and finally, collects and treats wastewater for discharge into the environment. IOU customers in this sector include large public agencies and private water supply utilities, can include wastewater treatment districts, and integrated water and wastewater utilities. IOUs may address the last two sub-segments in Commercial or Industrial segments. Irrigation and power districts located in California's Central Valley are also large users of electricity and natural gas.

b) List measures

Technologies addressed through this program effort include pumping, refrigeration, process loads, process heating, lighting, and plug loads. Incentive levels will be offered through the Agriculture Calculated Energy Efficiency Program and the Agriculture Deemed Energy Efficiency Program, described in full in their respective Program Implementation Plans.

c) List of non-incentive customer services

The Statewide Agriculture Energy Efficiency Program includes a wide variety of non-incentive program services. These services are intended to support customer strategic planning, educate and train customers and the workforce about energy efficiency, and provide customized technical and project support. The service list may include and is not limited to:

- Energy Audits
 - Remote energy audits;
 - Integrated energy audits;
 - RCx audits;
 - Benchmarking (currently limited to portions of an agricultural facility with commercial spaces);
 - Pump tests and pumping systems technical support; and
 - Water leak detection services (new service).

- Continuous Energy Improvement (CEI)
 - Energy management assessments;
 - Energy planning;
 - Baselineing and benchmarking;
 - Project implementation support; and
 - Customer recognition.

- Customer Education and Training
 - DOE basic, intermediate and specialist training on agricultural and industrial pumps, motors, compressed air, and steam;
 - Other industrial process systems training;
 - Agriculture pumping efficiency seminars;
 - Workshops merging regulatory compliance with energy efficiency opportunities (such as with NO_x compliance and boiler retrofits); and
 - Integrated industry-focused workshops, such as for wineries, dairies, greenhouses, and food processors.

- Workforce Education and Training
 - The Statewide WE&T crosscutting program effort will be leveraged to deliver targeted training to the agriculture sector to support Superior Energy Performance (SEP), ANSI and ISO energy management certification;
 - Title 24 training, such as for refrigerated warehouses; and
 - Industrial refrigeration best practices (for designers), in support of the Strategic Plan focus on refrigeration.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as “Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market.”³ The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that

³ California Public Utilities Commission Decision, D.98-04-063, Appendix A.

new programs are needed to support the continuous transformation of markets around successive generations of new technologies⁴.

Market transformation programs differ from resource acquisition programs on 1) objectives, 2) geographical and 3) temporal dimensions, 4) baselines, 5) performance metrics, 6) program delivery mechanisms, 7) target populations, 8) attribution of causal relationships, and 9) market structures⁵. Markets are social institutions⁶, and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains⁷ as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market transformation progress⁸. According to York⁹, “Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are 3 ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy.”

Market transformation draws heavily upon diffusion of innovation theory¹⁰, with the state of a market usually 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 decades¹¹. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects¹². The ability to make causal connections between these market transformation effects and any particular program’s activities fades with time, as markets continually change and other influences come into play.

These challenges mentioned above are in reference to programs that were specifically designed to achieve market transformation; and these challenges are only compounded for programs that were primarily designed to achieve energy and demand savings. However, since the inception of market transformation programs almost two decades ago, many lessons have been learned about what the characteristics of successful MT programs are.

⁴ California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan*, p. 5. Available at <http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf>.

⁵ Pelozo, J., and York, D. (1999). “Market Transformation: A Guide for Program Developers.” Energy Center of Wisconsin. Available at: <http://www.ecw.org/ecwresults/189-1.pdf>.

⁶ Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) “From technology transfer to market transformation”. Proceedings of the European Council for an Energy Efficient Economy Summer Study. Available at http://www.eceee.org/conference_proceedings/eceee/2001/Panel_2/p2_7/Paper/.

⁷ Sebold, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

⁸ Gibbs, M., and Townsend, J. (2000). The Role of Rebates in Market Transformation: Friend or Foe. In *Proceedings from 2000 Summer Study on Energy Efficiency in Buildings*.

⁹ York, D., (1999). “A Discussion and Critique of Market Transformation”, Energy Center of Wisconsin. Available at <http://www.ecw.org/ecwresults/186-1.pdf>.

¹⁰ Rogers (1995) *Diffusion of Innovations*, 5th Ed.

¹¹ Example in bottom chart of this graphic from the New York Times: <http://www.nytimes.com/imagepages/2008/02/10/opinion/10op.graphic.ready.html>.

¹² Sebold et al (2001) p. 6-5.

First and foremost, they need to be designed specifically to address market transformation. “The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given to program designers.)”¹³ The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts¹⁴, but also reflects the CPUC’s directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful MT programs have involved multiple organizations, providing overlapping market interventions¹⁵. The Strategic Plan calls for coordination and collaboration throughout, and in that spirit the IOUs look forward to working with the CPUC and all stakeholders to help achieve market transformation while meeting all the immediate energy, demand, and environmental needs. Drawing upon lessons learned from past MT efforts, the Energy Center of Wisconsin’s guide for MT program developers¹⁶ suggests that the first step is not to set end-point definitions, progress metrics or goals. Rather, the first steps include forming a collaborative of key participants. As the Strategic Plan suggests, these may include municipal utilities, local governments, industry and business leaders, and consumers. Then, with the collective expertise of the collaborative, we can define markets, characterize markets, measure baselines with better access to historical data, and define objectives, design strategies and tactics, implement and then evaluate programs. The collaborative will also provide insights that will set our collective expectations for the size of market effects we can expect, relative to the amount of resources we can devote to MT. No one organization in the collaborative will have all the requisite information and expertise for this huge effort. This truly needs to be a collaborative approach from the start.

Attitudinal change is an important part of any market transformation effort. This change may be tracked with a battery of questions that probes customer attitudes, knowledge and awareness (AKA) of energy efficiency. In order to gauge an attitudinal based metric for this sector a battery of questions probing AKA among customers would have to be created and used to scale AKA. Examples of AKA would include knowledge of energy efficiency lighting and other specific measures. Evaluators could also draw from customer surveys used in past program evaluation studies to determine whether any response patterns would be a useful indicator of market transformation, moving forward. The dimensions of any scale need to be selected by the MT collaborative. The baseline response pattern to the AKA scale would need to be established early during the program cycle. Customers could be surveyed on an annual basis and changes in their AKA tracked along the scale. Responses of customers for a particular sub-program could be pulled out for separate analysis, as needed.

In addition, behavioral change is an important part of any market transformation effort. This change may be tracked with a battery of questions that probes customer past behavior and

¹³ Peters, J.S., Mast, B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume 1.* Available at <http://calmac.org/publications/19981215CAD0001ME.PDF>.

¹⁴ CPUC (2008) Strategic Plan, p. 5.

¹⁵ Nadel, Thorne, Saches, Prindle & Elliot (2003).

¹⁶ Pelosa & York, (1999).

intentions about energy efficiency. In order to gauge a behavioral- based metric for this sector, a battery of questions about energy efficient behaviors could be used to create a scale of Energy Behavior. Evaluators could also draw questions about specific behaviors from customer surveys used in past program evaluation studies, to determine whether any response patterns would be a useful indicator of market transformation, moving forward. The dimensions of any scale need to be selected by the MT collaborative. The behaviors that could be probed include maintenance behaviors to keep EE measures operating correctly, and behaviors that maximize energy efficiency of existing equipment. Customers could be surveyed early in the program cycle and their responses on the scale could serve as the baseline for subsequent behavioral change. Customers could be probed annually and their Energy Behavior change measured along the scale. Responses of customers for a particular sub-program could be pulled out for separate analysis, as needed.

Therefore, for the Agricultural sector, the following approach to quantitative baseline and market transformation information is as follows:

Program Performance Metrics (PPMs)

On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statewide energy efficiency programs and sub-programs. The Commission gave each PPM a metric type which indicated the reporting frequency: Metric type 2a indicates that the IOUs should report on the metric on an annual basis (unless indicated otherwise). Metric type 2b indicates the IOUs should report on the metric at the end of the program cycle.

Below are the approved PPMs and metric types for the Statewide Agricultural Energy Efficiency Program (Resolution E-4385, Appendix A, pp. 32-34).

SW PROGRAM / Sub-Program	PROGRAM PERFORMANCE METRIC (PPM)	Metric Type
COMMERCIAL / INDUSTRIAL / AGRICULTURAL COMBINED		
* Data to be reported in disaggregate form by SW program (commercial, industrial, and agricultural)		
	*1. Number and percent (relative to all eligible customers) of commercial, industrial and agricultural customers participating in sub-programs (NRA, Deemed, Calculated, and CEI) by NAICS code, by size (+/- 200 kW per yr or +/- 50K therms per yr), and by Hard to Reach (HTR)** ** "HTR" is as defined in the EE Policy Manual	2a
<i>Continuous Energy Improvement (CEI)</i>	*1. Number and percent of commercial, industrial, and agricultural CEI participants that meet short-term (2010-2012) milestones as identified by their long term energy plans.	2a
	*2. Lessons learned, best practices and plan to ramp up the CEI program are developed. (Y/N)	2b
	*3. Number and percent of commercial, industrial and agricultural customers that created an energy plan via CEI will be tracked by	2a

SW PROGRAM / Sub-Program	PROGRAM PERFORMANCE METRIC (PPM)	Metric Type
	program.	
<i>Non-Residential Audit Program (NRA)</i>	*1. Number and percent of commercial, industrial, and agricultural customers receiving non-residential audits by NAICS and SIC code.	2b
	*2. For commercial, industrial, and agricultural customers who received audits, the number and percent of adopted audit-recommended technologies, processes and practices. (Report disaggregated data by type of audit - Basic, Integrated, and Retro-commissioning audit.) *(1) **Data sources for reporting will come from (a) program tracking databases and (b) process evaluation to refine estimates. (1) – An audit completed in one portfolio may have measures implemented over several years and portfolios.	2b
<i>Deemed Incentives</i>	*1. Number and percent of new, improved, or ETP measures** installed in the commercial, industrial and agricultural programs. ** “ETP measure” defined as ET measures first introduced into the EE portfolio since January 1, 2006.	2a
<i>Calculated Incentives</i>	*1. Number and percent of new, improved, or ETP measures installed in completed calculated projects.	2a
AGRICULTURE		
	1. Number and percent of first-time** participants in energy efficiency programs. (Report disaggregate data by sub-program.) ***First time” means customer has not participated in energy efficiency programs since December 31, 2005.	2b
<i>Pump and Test Repair</i>	1. Percent of agricultural pump tests that lead to a repair or replacement.	2b

b) Market Transformation Indicators (MTIs)

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011 to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment “H” are approved for this sub-program as applicable.

c) Program Design to Overcome Barriers

The Statewide Agriculture Energy Efficiency Program builds on past program successes and best practices to overcome both market wide and segment specific barriers to efficiency, including:

- Market-wide barriers:
- Agriculture is a diverse and geographically widespread sector, dependent on regional resources for information, and traditionally needs significant experiences to warrant changing practices that has served them well for years.
- Capital constraints, combined with variable commodity pricing, limit the availability of funds for investing in projects.

- The Statewide Finance PIP includes plans to explore and develop additional finance tools to facilitate the adoption of integrated projects.
- Low energy costs relative to other operating expenses reduces the motivation to invest in energy efficiency.
- Lack of awareness of the benefits of energy efficiency, and uncertainty and skepticism over long-term energy and cost savings hinder investment.
- As in many industries, cyclical budgeting processes makes it difficult for customers to commit to a plan of action if their decision making occurs out of sync with budget planning.
- Food processing and industrial refrigeration barriers:
 - Few firms maintain facility level energy managers, and finding technically qualified staff is an ongoing challenge.
 - Regulatory compliance issues further strain limited internal resources.
 - International competition drives short-term survival attitudes versus a long-term continuous improvement approach.
 - The industrial refrigeration industry lacks design standards and best practices, resulting in substandard design and maintenance.
 - Huge capital outlay requirements in industrial refrigeration can delay or offset efficiency projects.
 - Efficient design alternatives can be lost in low-cost bidding scenarios.
 - Whole system opportunities are missed by individual equipment vendors.
 - Customers are often not aware of systems operating sub-optimally.

The Statewide Agriculture Energy Efficiency Program takes these barriers into account with the features described below for continuous improvement, trade ally workforce education and training, and technical support.

Continuous Energy Improvement

The long-term strategic energy planning approach of CEI, especially the emphasis on benchmarking, goal setting, and performance tracking, will help customers overcome short-term attitudes. CEI also fosters integration of non-energy business objectives into energy planning and leveraging of the co-benefits of water conservation, GHG reduction, and other relevant issues. This integration elevates the importance of energy efficiency and improves uptake and market penetration. In addition, top-down corporate attention and tracking of energy performance will positively affect facility staff performance.

Trade Allies/Workforce Education and Training

Customers in the agriculture and food processing markets often treat vendors, designers, and engineers as ad hoc outsourced technical resources. These customers ask for everything from new equipment design to emergency equipment repair or replacement. Because these transactions often happen without IOU knowledge, it becomes critical to continually inform and equip these vendors about efficiency technologies, practices, programs, and rebates. Vendor Participation Agreements, training, and outreach collaboration allow participating vendors to up-sell customers to efficient options and differentiate themselves on energy efficiency. IOUs gain an additional sales force in the field with customers, minimizing lost opportunities.

Technical Support Services

The role of the IOU as an unbiased, trusted energy advisor cannot be overstated, both in evaluating proposed vendor projects and in identifying new technical opportunities in retrofit and new construction projects. The combination of technical support and the availability and commitment of approved IOU incentive funds – based on a rigorous technical review and followed by an EM&V process – are essential drivers to overcome key customer barriers, including the lack of in-house technical resources and the tendency for efficiency options to get eliminated in low-cost vendor bidding scenarios.

Customer Services Program

The program is designed to deliver a coordinated and customer-specific audit service. The program features a statewide integrated demand-side management customer-specific solution that promotes energy efficiency, demand response, distributed generation and emerging technologies, as appropriate, to the customer's need(s).

The program is designed to support the goals of the Strategic Plan by providing customers with comprehensive building-specific information on cost-effective DSM opportunities. The IOUs believe this approach is the best way to influence market transformation, serve customers' needs, and increase adoption of DSM solutions.

d) Quantitative Program Targets

Table 5 - Program targets are provided at the sub-program level.

	Program Target by 2013	Program Target by 2014
Number of Audits	70	71

e) Advancing Strategic Plan Goals and Objectives

The teams of statewide agriculture program supported the development of the California Long-Term Energy Efficiency Strategic Plan (Strategic Plan), and the 2013-2014 program design integrates the goals and strategies of the Strategic Plan. Specifically, the following actions will be advanced during the 2013-2014 program cycle.

Goal 1: Establish and maintain a knowledge base sufficient to support development of all available, cost-effective, reliable, and feasible energy efficiency, demand reduction (and renewable) energy resources.

Strategy 1.1: Develop knowledge base of efficiency solutions.

Near term: Conduct an energy use characterization and efficiency potential study for the statewide agriculture market. Include potential for waste streams to offset energy consumption. Study plan (6/2009) and study completed (12/2010).

Near term: Collect data on key programs and measures best practices for energy efficiency in the agriculture sector. Study complete (6/2010).

IOUs will continue to coordinate with the California Energy Commission (CEC) and other resources to identify a study plan, scope, and deliverables for a statewide agriculture market characterization that considers integrated energy opportunities in the segment. If possible, the plan will be coordinated with other agriculture characterization plans planned or underway in the state focusing on renewable energy potentials, such as the California Department of Food and Agriculture's strategic plan for agriculture. The IOUs will defer to the Commission and the CEC to determine the best method and timeline for this study, and will ensure coordination between each IOU's EM&V groups towards study objectives.

Such a marketing characterization will support the development of future program baseline data and metrics to help set targets and show market progress. The resulting study will be posted on appropriate websites, including the IOU websites and the statewide websites.

To develop a "one stop shopping" clearinghouse of energy management and related information for the agriculture segment, the IOUs will organize and post all relevant existing technical information on the IOU and statewide websites, as needed. This information includes best practices, continuous energy improvement resources, emerging technologies data, tools, programs, and other information.

Strategy 1.2: Ensure workforce has information and training necessary to apply efficiency solutions.

Near term: Conduct workforce training needs assessment and next steps (12/2010).

Near term: Develop training curricula and modules identified by needs assessment. (12/2011)

IOUs will assemble technical sub-groups, including IOU and industry experts, to focus on the key technical areas identified in the Strategic Plan, such as pumping, refrigeration and process heating. Coordinating with Statewide WE&T Program, the Statewide Agriculture Energy Efficiency Program will develop a scoping document that outlines training objectives and partners. The group will identify priority topics, resource needs and industry partners for key workforce education and training, and will closely coordinate with the national ANSI Superior Energy Performance standards development work towards workforce certification. Additionally, IOUs will offer prerequisite training to support future Department of Energy certification classes.

Workforce training needs assessment will be included in the agriculture market characterization study, and results communicated to the Statewide WE&T team for coordination and development of a detailed WE&T plan and associated curricula. Furthermore, marketing for WE&T will be incorporated into program specific marketing and outreach efforts. Such efforts, pending timely completion

of the characterization study, are targeted for completion by the close of the 2010-2012 program cycle.

Strategy 1.3: Conduct research & development of new technologies and practices for agriculture efficiency.

Near term: Conduct an Energy Technologies/RD&D gap analysis. Identify and prioritize needed RD&D/ET projects. (12/2011).

Near term: Coordinate research activities across government, IOUs, agriculture extension and university programs, and equipment manufacturer proprietary efforts.

The IOU's ET teams will continue to closely coordinate with the CEC, universities and industry associations to identify key potential areas for emerging technologies development and research needs, such as, for agriculture, in irrigation pumping, refrigeration, and process heating applications. IOUs will identify the most promising technologies that can play a role of providing multiple solutions, both for energy efficiency and greenhouse gas mitigation, as well as water efficiency purposes.

Goal 2: California regulations, financing mechanisms, and incentive programs affecting the management of energy, air and water resources, solid waste, and climate change will be coordinated to mutual advantage.

Strategy 2.1: Set objectives and framework for agriculture to attain multi-resource management goals.

Near term: Establish a task force to coordinate resource management policies, action goals, and program designs targeting California's agriculture sector.

Near term: Identify where goal conflicts arise and resolve these conflicts.

Near term: Assess potential for integrated approaches.

In support of statewide regulatory coordination, the IOUs will establish a task force with the California Department of Food and Agriculture (CDFA), CEC, Environmental Protection Agency (EPA), and the California Air Resources Board (CARB). The task force will be empowered to coordinate strategies and goals, and also assess the potential for integrated approaches, on behalf of their agencies. In order to facilitate this complex, multi-agency coordination, intervention at the governor's level is likely to be required.

Strategy 2.2: Coordinate technical assistance, funding, and incentive mechanisms.

Near term: Identify the programs and major funding sources affecting the management of energy, air and water resources, and climate change.

Near term: Create a collaborative forum to facilitate sharing of information and coordination of programs.

As challenges to the national and state economies arise, deploying financial resources in support of energy efficiency and other resource efficiency will be

increasingly important. In support of financial coordination, IOUs will work with appropriate agencies, utilities, industry and private banking to assemble a comprehensive list of incentives, resources, funds, grants, loan products, and federal economic stimulus monies. This list will support energy and other resource management objectives, made available to customers through the planned Information Clearinghouse on Energy Design Resources.

In addition, financial resources will be integrated into marketing and outreach, education and training, and other program efforts, as appropriate.

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.

Strategy 3.1: Make information on efficiency solutions readily available to motivate efficiency improvements.

Near term: Develop resources, tools and methods for the agriculture sub-sectors.

Near term: Design and launch focused program for irrigation efficiency, refrigeration, and process heating.

The IOUs will post relevant market data, technical information, education and training resources, and benchmarking tools, other than proprietary material or information, on the planned Energy Design Resources or other statewide clearinghouse websites. This information will cover relevant technologies in agriculture and food processing segments, but will have a focus on irrigation efficiency, refrigeration, and process heating. The Continuous Energy Improvement Program will also support this strategy. On benchmarking, the IOUs will continue to work with industry associations (for example, the Wine Institute, Almond Board, and Farm Bureau) to prioritize benchmarking needs and to develop tools and methods, as well as to market benchmarking once resources are available.

Strategy 3.2: Conduct marketing & outreach to stimulate efficiency actions.

Near term: Develop ME&O strategy, addressing communication channels, partners, and effective messaging.

Near term: Begin pilot implementation.

For details on marketing and outreach planned to stimulate energy efficiency actions, please refer to Section 6.b.iv.

Strategy 3.3: Resolve metrics for embedded energy in water savings.

Near term: Update evaluation measurement & verification protocols to define energy impacts of water efficiency actions.

Near term: Design and conduct appropriate water/energy efficiency pilots for agriculture.

In support of the significant efforts underway in California to conserve water resources and to optimize public funds where energy and water converge, the IOUs will work with the Commission, water resources boards, and others to resolve metrics around embedded energy in water conveyance and treatment. Furthermore, IOUs will explore opportunities for saving energy on-site related to water, such as that in heating, cooling, pumping, and treating water. Lessons learned from current water-energy pilots, underway in one IOU's territory, will be shared with the other IOUs. The IOUs are willing and available to work with the Commission to advance these important multi-resource efforts through studies, pilots and partnerships with water agencies as appropriate.

6. Program Implementation

a) Statewide IOU Coordination

i. **Program name:** Statewide Agriculture Energy Efficiency Program

ii. Program delivery mechanisms

The Statewide Agriculture Energy Efficiency Program will ensure the program is continuously updated and enhanced throughout the three-year implementation cycle. This also includes coordination with crosscutting program elements, including Emerging Technologies, Codes and Standards, Workforce Education and Training, Marketing and Outreach, and Non-IOU programs and market initiatives. Each designated IOU program lead will be responsible for representing key updates from each crosscutting program element in order to discuss opportunities for statewide program enhancements, modifications and further coordination as needed. IOU leads will then be responsible for incorporating program modifications at the IOU level to support statewide consistency when appropriate. Such items will be tracked in the meeting minutes to facilitate a record of statewide initiatives.

In addition, the four agriculture sub-programs will be coordinated statewide to unify program implementation including delivery mechanisms, incentive levels, marketing and outreach plans, and IOU program interactions. The two coordination systems (one for the broad core program and one designed for the five sub-programs) will interact with and support one another. The broad, high-level coordination effort is described below, focusing on how the IOUs will work together to effect the continuous improvement of the Statewide Agriculture Energy Efficiency Program.

The Statewide IOU Coordination process for the Statewide Agriculture Energy Efficiency Program will be as follows:

- **Designate an IOU Program Lead** – The coordination process will begin with each IOU designating a Statewide Agriculture Energy Efficiency Program lead. The IOU lead will represent one agriculture sub-program and liaise with the crosscutting program element managers, investigating new innovations, special accomplishments, and challenges experienced by sub-program managers in all IOUs. Where such innovations or challenges may impact the Statewide Agriculture Energy Efficiency Program across multiple sub-programs or the statewide program as a whole, the IOU lead will present such information to a quarterly Steering Committee meeting.

- **Establish protocols for Steering Committee Meetings** – The IOUs will coordinate to establish protocols around scheduling meetings, agenda setting, interstate travel, meeting minutes and tracking of action items identified.
- **Hold Quarterly Steering Committee Meetings** – The Agriculture Steering Committee will be comprised of all designated IOU leads (including at least one lead for each of the five sub-programs), and possibly other contributing stakeholders identified by the IOUs. At the quarterly Steering Committee meeting, individual innovations, challenges, and accomplishments experienced in one IOU or by one sub-program will be shared with all IOUs. The Steering Committee will evaluate these individual IOU and sub-program experiences, hear ideas for course corrections and overcoming challenges, replicate successful innovations for consistency statewide, resolve differences in implementation to stay unified, and measure the agriculture program’s progress against statewide metrics and goals.
- **Adopt Program Enhancements** – After the Steering Committee agrees that a particular implementation policy or innovation has merit on a statewide level, each IOU lead will distribute the information to their sub-program managers for adoption and integration. Therefore, the IOU lead will act as a conduit, feeding sub-program information up to the statewide Steering Committee and distributing measures for adoption back to the sub-program managers. This feedback loop will assure consistency and unity in programmatic improvements across the IOUs. In some cases, it may be necessary to invite the sub-program managers to the Steering Committee meeting to get their feedback and ensure they receive the same message.
- **Evaluate Program Enhancements Against Statewide Targets** – To complete the adaptive management loop, the Steering Committee will track the program’s accomplishment of statewide targets and goals to ensure that adopted program enhancements are generating their intended results. The Steering Committee will determine whether further course corrections are needed, and if so, rely on the above coordination process to generate the improvements necessary to stay on track.

The high-level focus of this statewide coordination effort will enable the capture of new innovations and opportunities for program improvement, correct program weaknesses that reveal themselves during implementation, and help ensure achievement of statewide targets across IOU service territories.

iii. Incentive levels

Details on the incentive levels are discussed with each of the four sub-programs.

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

The IOUs will continue to develop in-depth segmentation of the agricultural market. The results of this customer segmentation will support the development of targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers, based on their needs and preferences. Such delivery channels will likely include increased customer outreach through trade and community-based associations, third parties, government partnerships and core IOU programs. More specific marketing information is provided in each of the agriculture sub-program plans.

To specifically address this highly diverse and dispersed group of agriculture, food processing and related water customers, IOUs will continue to foster strategic partnerships with industry and commodity groups, as well as with regional farm and food associations. These partnerships engage in a multi-faceted approach to marketing energy efficiency practices and programs to targeted users. These strategies leverage both past program successes as well as best practices studies that have confirmed that the targeted market segments rely substantially on local and industry-specific organizations for information and support.

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

The Statewide Agriculture Energy Efficiency Program will support integrated marketing opportunities for distributed generation from biogas, biomass, solar, fuel cells, and wind, as well as agriculture-based community-scale generation projects. These efforts support customer needs and wants, state renewable energy targets (through newly available small generator Power Purchase Agreement contracts), AB 32 greenhouse gas reduction targets, and emerging carbon markets and offset programs (such as the Chicago Climate Exchange or through the California Climate Action Registry). Consistent with California's preferred loading order, however, the IOUs will continue to aggressively market and support energy efficiency first, as California's most cost-effective energy resource, while also being mindful of the customer's ultimate interests and goals.

vi. Similar IOU and POU programs

IOU program activities will be coordinated with other agencies' and organizations' territories containing a substantial agriculture base, as opportunities present themselves. This will ensure that California's agriculture customers receive consistent messages.

b) Program delivery and coordination

i. Emerging Technologies program (ET)

The long-term energy efficiency vision of California can be attained through the continuous development, verification, and acceptance of new technologies into the market. IOU portfolio staff actively works with statewide emerging technologies staff to identify new emerging technologies, support evaluation and demonstration, develop and promote case studies, and market results to applicable customers towards total market penetration. The programs coordinate specifically with universities to supply market-ready and viable technologies into the ET portfolio.

The IOUs will use a formal technology integration process for incorporating emerging technologies into the program. This process will be designed to track technologies/tools to be assessed, timeline to deployment, integration, codes and standards actions, expected actions of other players (such as manufacturers and ENERGY STAR) and other related information. The statewide program management team will work with other partners to update and execute the technology integration process, based on developments in

technology, the program, and the market context. This process will be updated regularly to reflect current conditions.

ii. Codes and Standards program

The Statewide Agriculture Energy Efficiency Program relies on the Codes and Standards Program to help maintain an updated and relevant list of measures that will support agriculture savings. As codes and standards evolve, the program will act to align itself with appropriate offerings. It is important to manage the measure life cycle to take full advantage of providing incentives before moving them into code. The program will coordinate with the Codes and Standards Planning and Coordination sub-program. Programs will include new offerings that will allow flexibility in adapting to changes in codes and standards, market trends, and technologies. Planned enhancements to Title 20 and 24 will be reflected in incentive levels and eligible measures and services. In the Statewide Agriculture Energy Efficiency Program, current work focuses on transitioning the market to accept new refrigerated warehouse code changes, and incorporating best practices and advanced refrigeration practices into that marketing and outreach effort. Towards that end, the Statewide Agriculture Energy Efficiency Program will continue to coordinate closely with crosscutting Codes and Standards, Workforce Education and Training, and industry partners and associations, and will utilize the Statewide Agriculture Steering Committee to enhance the coordination effort.

iii. WE&T efforts

Workforce Education & Training (WE&T) efforts support the education and training of a robust network of industry trade allies, vendors, engineers, design teams and others supporting the market transformation strategies of the Strategic Plan. In general, the Statewide Agriculture Energy Efficiency Program will interface with the WE&T Program Implementation Plan to serve the goals of the Strategic Plan.

WE&T efforts will include specific activities to support the various sub-programs. In addition, training on Title 24 code changes, industrial refrigeration best practices, and ANSI Superior Energy Performance certification will also be provided. The latter will be contingent on program developments occurring at the national level.

In the interim, the statewide agriculture program will support the same superior energy performance concepts and principals through Continuous Energy Improvement workshops available for customers and trade allies. Additionally, DOE process system trainings (pumps, motors, steam, and compressed air) will be offered by IOUs statewide to lay the groundwork for certification level classes, once they have been developed nationally and are ready for rollout. The IOUs will be coordinating closely with national efforts and have expressed openness to discuss piloting certification classes. As a result, California will be poised to adopt this national standard and be a leader in this effort.

The education and training generally takes place through IOU energy centers, technology test centers, and education and training program offerings. Working with the Statewide WE&T team, the agriculture program managers will also expand training opportunities to

local universities and academic institutions that have agriculture-based programs (e.g. Cal Poly Pomona and San Luis Obispo).

iv. Program-specific marketing and outreach efforts

The IOUs are currently engaged in in-depth market segmentation analyses. The results of this work will be shared among the IOUs and incorporated into detailed marketing and sales strategies to ensure the IOUs are targeting the right products to the right customer at the right time, and utilizing the preferred method of communication.

This foundational segmentation and integration of programs and services will provide insight into customer mindsets, behaviors, responses and motivations to achieve the most effective level of energy use. Based on this in-process segmentation analysis, the IOUs will be able to focus on providing consistent marketing and overall messaging focused on customers' business and personal goals, unique needs, and specific environmental considerations.

The results of this strategic planning effort will help define successful program outreach efforts to address the diverse agriculture, food processing and related water customers segments. Such efforts are customized to suit the unique needs of each segment and customer profile. See the marketing section of 5.c, Program Design to Overcome Market Barriers.

For example, IOUs will continue to foster strategic partnerships with industry and commodity groups, and regional farm and food associations to engage in a multi-faceted approach to marketing energy efficiency practices and programs to targeted users.

Specific efforts may include:

- Attending Farm Bureau meetings and providing information in monthly newsletters;
- Close partnerships with key industry associations and participation in their annual conferences, with an effort to develop conference speaking engagements;
- Presence at technical conferences, targeting customers and trade allies;
- Targeted integrated education and training to specific market sectors to support peer-to-peer interactions and industry advancement;
- Media campaigns focusing on trade magazine ads and articles, discussing IOU program information and case studies;
- Targeted customer efforts through assigned IOU account representatives and program engineers, third parties, and government partnerships;
- Phone and web-based customer support and outreach;
- Development of coordinated statewide agriculture and food processing resources into a centralized "one stop shopping" clearinghouse, on Energy Design Resources; and
- Market sector specific collateral that drives customers to account representatives and/or Web sites for additional support.

Such efforts have already shown success in California's IOU programs and are identified as best practices in the American Council for an Energy Efficient Economy (ACEEE) comparative analysis of national agriculture energy efficiency programs.

Where possible and applicable, the IOUs will coordinate statewide in these targeted marketing efforts and partnerships to ensure cost-effectiveness and a consistent approach to customer-facing activities. Cost-sharing at industry conferences, co-sponsoring workshops, and identifying opportunities for statewide media campaigns as well as co-development of web-based tools and resources will be pursued.

The Energy Design Resources website will be used as a statewide clearinghouse of best practices, technology information, case studies, updates on upcoming education and training, and to promote new tools and resources available to support the Continuous Energy Improvement approach, such as benchmarking and performance tracking tools.

Integrated and program-specific marketing efforts will complement and work in coordination with SW Marketing, Education and Outreach (ME&O) Program to increase awareness, provide education, and drive ongoing engagement and participation in DSM programs and services among nonresidential customers. The statewide effort will provide the first level with IOU specific programs providing reinforcement at a local level.

v. Non-energy activities of program

Refer to Section 6.f on “integration across resource types.”

vi. Non-IOU programs

There are a variety of programs that will be coordinated with and leveraged in support of the program objectives. These include:

- Connecting customers with the CA Climate Action Registry;
- AB 32 support through CO2 tracking in program resources;
- Regulatory program coordination, including EPA air quality standards, water quality standards, and new refrigerant regulations;
- Non-IOU financing resources, including from water utilities, industry and private banking, state and federal incentives, funds, grants, and loan products to support energy and other resource management objectives;
- Water/Energy efforts within California;
- ANSI, for the Superior Energy Performance Standard; and
- ISO international energy management standards.

The program will continue to engage with Air Quality Management Districts, the California Energy Commission, the California Air Resources Board, the Department of Energy, water agencies, and other government agencies on programs impacting regulatory compliance and resource management.

vii. CEC work on EPIC

Not applicable.

viii. CEC Work on Codes and Standards

As indicated in Section 6.b.ii, planned enhancements to Title 20 and 24 will be reflected in incentive levels and in eligible measures and services.

ix. Non-utility market initiatives

The Statewide Agriculture Energy Efficiency Program will coordinate with applicable market initiatives to leverage market momentum and areas of mutual advantage.

Modeling on the success of the IOU partnership with the wine industry California Sustainable Winegrowers Alliance, the program may leverage the following efforts:

- California League of Food Processing;
- California Farm Bureau Federation;
- California Citrus Grower;
- Almond industry sustainability energy planning;
- Wine Industry – CSWA Program initiative;
- Dairy Industry;
- Irrigation Districts; and
- ASHRAE / ARI efforts to develop refrigeration best practices.

c) Best Practices

- As described in prior sections, the Statewide Agriculture Energy Efficiency Program reflects the best of each IOU program’s successful components of statewide agriculture program offerings, and introduces new elements from other utilities and national efforts. These best practices include: Leveraging Local Agricultural Resources: i.e., industry associations and farm bureaus;
- Continuous Energy Improvement: An approach to transform the market and reduce energy intensity through addressing technical and management opportunities;
- Technical Assistance: Recognizes the need for personalized assistance for agriculture customers, which includes a full service approach starting from audits/pump tests to design and technical assistance, presentation of recommendations, resources to develop a long term plan, potential of project management assistance, with financial incentives and guidance on best practices.
- Vendor Partnerships: This strategy will be coupled with vendor support and educational workshops and classes provide the full breadth of support customers may need to influence their decision to implement energy efficient equipment and practices.
- Statewide Coordination: In order to take advantage of the statewide implementation of the program, the IOU program representatives will meet on a quarterly basis to improve program operations by sharing successes and areas of operational concerns.

d) Innovation

A bundled and integrated product and service offering will integrate with multiple resource management solutions, offering a new and customer-centric approach to programs. This is supported by innovative customer segmentation work by the Marketing and Outreach IOU teams. Significant innovative aspects of the Statewide Agriculture Energy Efficiency Program include:

Integration

The Statewide Agriculture Energy Efficiency Program integrates demand side management strategies, and develops methods and pilots to promote integration of interlinked environmental and resource management issues. By improving the coordination of these issues of paramount importance to the industries being served, more face-time will be

possible with large customers, projects will become more cost effective, and multiple problems will be solved concurrently. Specifically:

- Continuous Energy Improvement will foster a long-term energy management approach and support integrated demand side management.
- An innovative food processing pilot will integrate energy, air, water, GHG, and (potentially) waste streams.
- Integrated Comprehensive Energy Audits will provide targeted customers with integrated solutions in efficiency, DR, and DG, and may advise customers on other sustainability practices (for example, water conservation opportunities, CO2 reduction potential, and other programs references).
- IOUs will link customers with the California Climate Registry to identify the carbon footprint of a customer's plant.
- IOUs will promote innovative agriculture opportunities such as dairy biogas to energy, biogas injection, waste stream utilization, and community scale generation opportunities.

Marketing

- A market-sector approach to designing and delivering programs will allow IOUs to delve more deeply into market opportunities and overcome specific market barriers. This approach is supported by innovative market segmentation work currently underway at IOUs that will support development of new, precisely targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers based on their needs.
- Closer coordination with third parties, government partnerships, core programs, and other delivery channels will optimize portfolio performance.
- IOUs will increase outreach to new trade and community-based associations, leveraging best practices identified in ACEEE study of IOU agriculture programs.
- Expanded workforce education and training efforts with vendors, design teams, industry association members and other key market actors will help overcome many customer informational and transactional barriers
- Energy Design Resources, developed statewide by IOUs, will be expanded as a web-based hub of agriculture and food processing best practice information, training, modeling and performance tracking tools.
- Training will be provided on modeling and quantifying savings opportunities through tools such as eQUEST and Energy Pro.
- Non-IOU financing tools and resources will be coordinated and communicated to help customers leverage available sources of funds to complete targeted projects.

Implementation

- IOUs will coordinate on process improvements to statewide programs to ease participation barriers.
- Energy performance measuring and benchmarking assistance/services to customers will enable customers to compare themselves to "best in class" peers utilizing tools such as the U.S. EPA's ENERGY STAR Benchmarking tool.

e) Integrated/Coordinated Demand Side Management

An integrated portfolio is cost-effective, captures program delivery efficiencies, and serves the needs and wants of customers who prefer a single, informed IOU point of contact to help inform and prioritize their energy investment decisions based on their unique needs.

Consistent with Commission direction and with the Strategic Plan, the Statewide Agriculture Energy Efficiency Program includes integration of energy efficiency, demand response and distributed generation programs in integrated audits, marketing materials and industry-specific workshops. To this end, the statewide IOUs and the Statewide Agriculture Energy Efficiency Program has made progress in advancing integrated solutions.

The IOUs are placing major emphasis on marketing to get the right message to the right customer at the right time. Advanced customer segmentation is being used to develop detailed integrated marketing and outreach plans which outline multiple tactics, delivery channels and key messages to target to specific customers based on their specific needs. The IOU account representatives, who serve as the key customer point of contact, will be attending an integrated sales strategy and training program to ensure consistent delivery of portfolio offerings.

Education and training, particularly workshops organized around a customer segment, provides an ideal situation to integrate customer energy solutions. IOUs will provide integrated workshops to dairies, wineries, and food processors. These workshops will cover topics, such as resources analysis and methods, conservation, efficiency, demand response, and generation topics and resources. These workshops provide opportunities for IOUs to cross-sell solutions and share key information from other IOU departments (for example, sharing biogas injection information at dairy workshops). They also provide opportunities to look at water, air, carbon credit and waste management issues.

As appropriate, Workforce Education and Training (WE&T) will also cover integrated energy and system solutions, which will be increasingly important as Critical Peak Pricing matures. The Agriculture Program will coordinate with the WE&T group on curricula development and class planning.

The availability of a Continuous Energy Improvement approach, especially for the largest, most strategic customer accounts, will facilitate a thoughtful, integrated energy plan and will allow IOUs to stay engaged in supporting the progress of that plan.

Integrated comprehensive energy audits combine funds and resources of energy efficiency (EE) and demand response (DR) programs to provide integrated recommendations to customers. These audits provide customers with EE and DR recommendations and also provide general feasibility assessments for distributed generation (DG). Integrated comprehensive energy audits will be offered to customers with loads greater than 500 kW and all integrated audits will focus on EE, DR and DG options. In addition, the IOUs are developing an enhanced web-based integrated audit tool¹⁷ for customers and internal IOU

¹⁷ Integrated audit tool is referenced as a general term in the statewide PIPs; each IOU has a specific name for its tool. PG&E's tool is the Progressive Energy Audit Tool (PEAT). SDG&E, SoCalGas, and SCE's, tool is the California Integrated Customer Energy Audit Tool (CICEAT).

personnel. The integrated audit tool will be the principal tool to provide IDSM information to customers with loads less than 200 kW and will be used by the CSI program for determining EE opportunities prior to installation of solar equipment. It will be capable of generating customer reports that include specific information on the costs and benefits of IDSM programs.

Emerging Technologies and CEC collaboration is expected to include pilot projects and market acceleration assistance for market-ready products in the general categories of day lighting, lighting, HVAC, controls, and building envelope improvements.

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

California's agriculture and related food processing sectors face a multitude of environmental and regulatory challenges that threaten their survival and competitiveness. In 2009, a severe drought is impacting California's farmers and increasing water pumping costs. In addition, new regulations aimed at improving air quality, water quality and reducing toxic environmental pollutants are proving to be expensive and disruptive to business as usual. Both these are impacting energy use and compliance.

The Agriculture Energy Efficiency Program proposes to leverage these challenges to coordinate with the regulating agencies and the programs they are operating in order to support mutually advantageous program designs, customer incentives, marketing opportunities, and implementation opportunities. For example, the IOUs will continue to offer targeted trainings to customers who are sharing common regulatory challenges. In 2008 PG&E hosted three very successful workshops called NO_x – Comply and Save, which educated customers on impending regulations, requirements for their boilers, and the most efficient project options to consider for compliance. This workshop will be expanded statewide and offered at the other IOU energy centers. In addition, additional workshops will look at wastewater treatment options, refrigeration upgrades, and energy efficiency to meet AB32 targets.

IOUs will pursue opportunities to partner with water agencies to offer joint energy and water incentives to support projects that reduce both resources, which reduces project costs and improves payback.

An IOU is currently conducting a study to evaluate emerging water quality requirements in the state, and address best practices in comprehensive water related energy management in seven agriculture/food processing sub segments. The study will reflect statewide practice as much as possible. The results will be shared with the other IOUs, as well as posted on Energy Design Resources.

Where applicable, the program will integrate topics like GHG reduction and water conservation into targeted customer workshops, marketing and communications, building on a strong track record from the 2010-12 program cycle. For example, one IOU is currently conducting a series of winery workshops focusing on GHG reduction strategies, water

management, Energy Management 101, and Green Building which includes materials and water. Ads and articles featured water savings opportunities and messaging.

g) Pilots

Traditionally agricultural customers are a high cost group to provide significant energy education to. They are geographically dispersed and typically time constrained. Energy efficiency is not a primary concern, and although the IOUs have established high value relationships with these customers, many times it takes more to get them to accommodate new technologies.

IOU Test Strategic Approach for Agriculture Segment

The IOUs may implement a Test Strategic Approach (TSA). The TSA is based on identifying agricultural sub-segments where the IOU(s) have strong relationships with an industry or trade association. The objective is to leverage the trade association's needs with IOU's knowledge and experience with energy efficiency, demand response and self-generation opportunity and solutions and in collaboration with the trade association leadership, educate sustainability and energy efficiency solutions to their membership.

This model is based on a successful effort implemented by the California Association of Winegrape Growers with Pacific Gas and Electric. For more information on their efforts, website link:

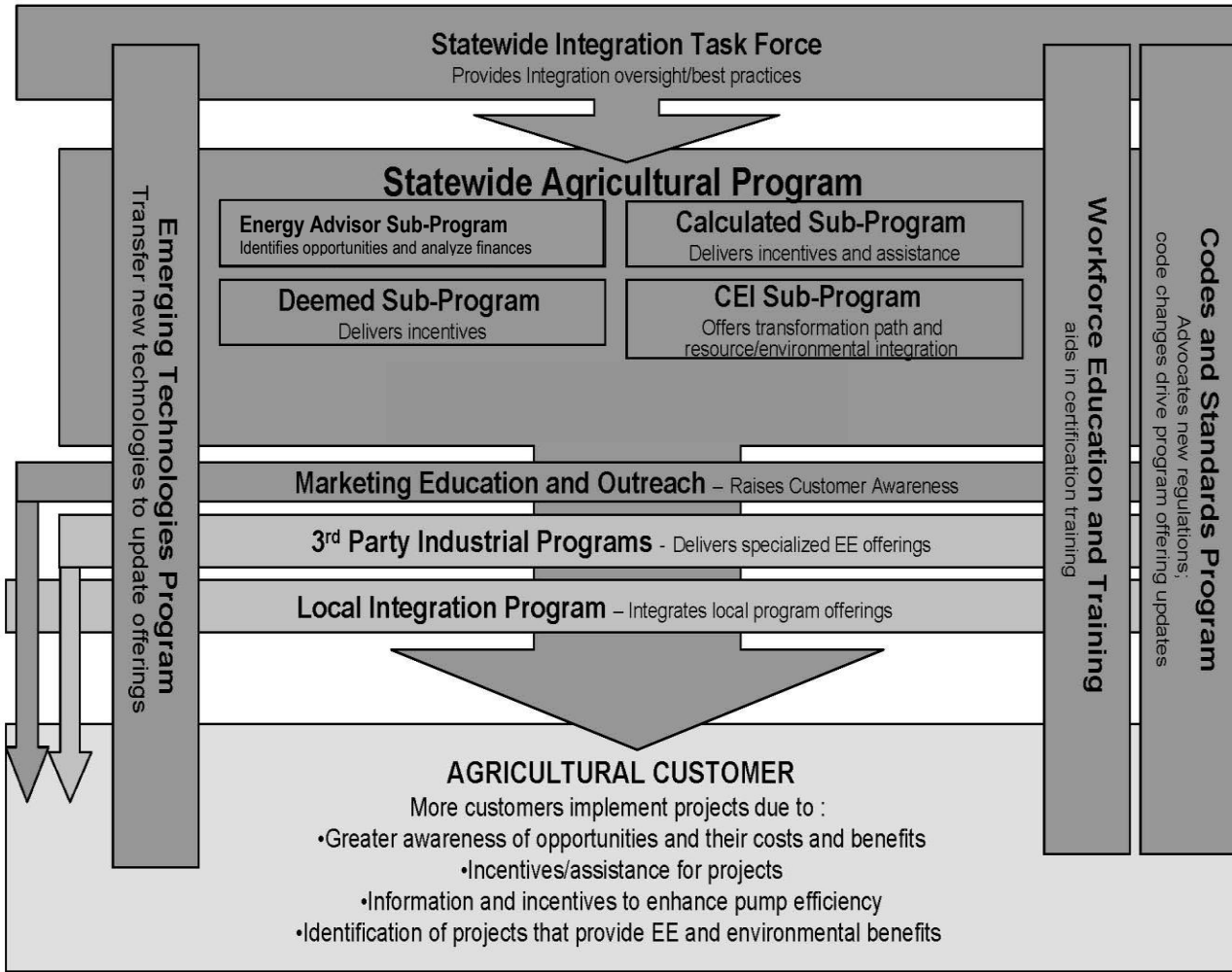
<http://www.cawg.org/CAWGProjects/SustainableWinegrowing/ProjectDescription.aspx>.

The IOU's intend on implementing methods to gather and retain more detailed performance and usage data on a pilot basis to determine the more effective methods to achieve savings. Exploring incentives for sub-metering is an option as is expanding the tool library in lieu of incentives.

h) EM&V

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

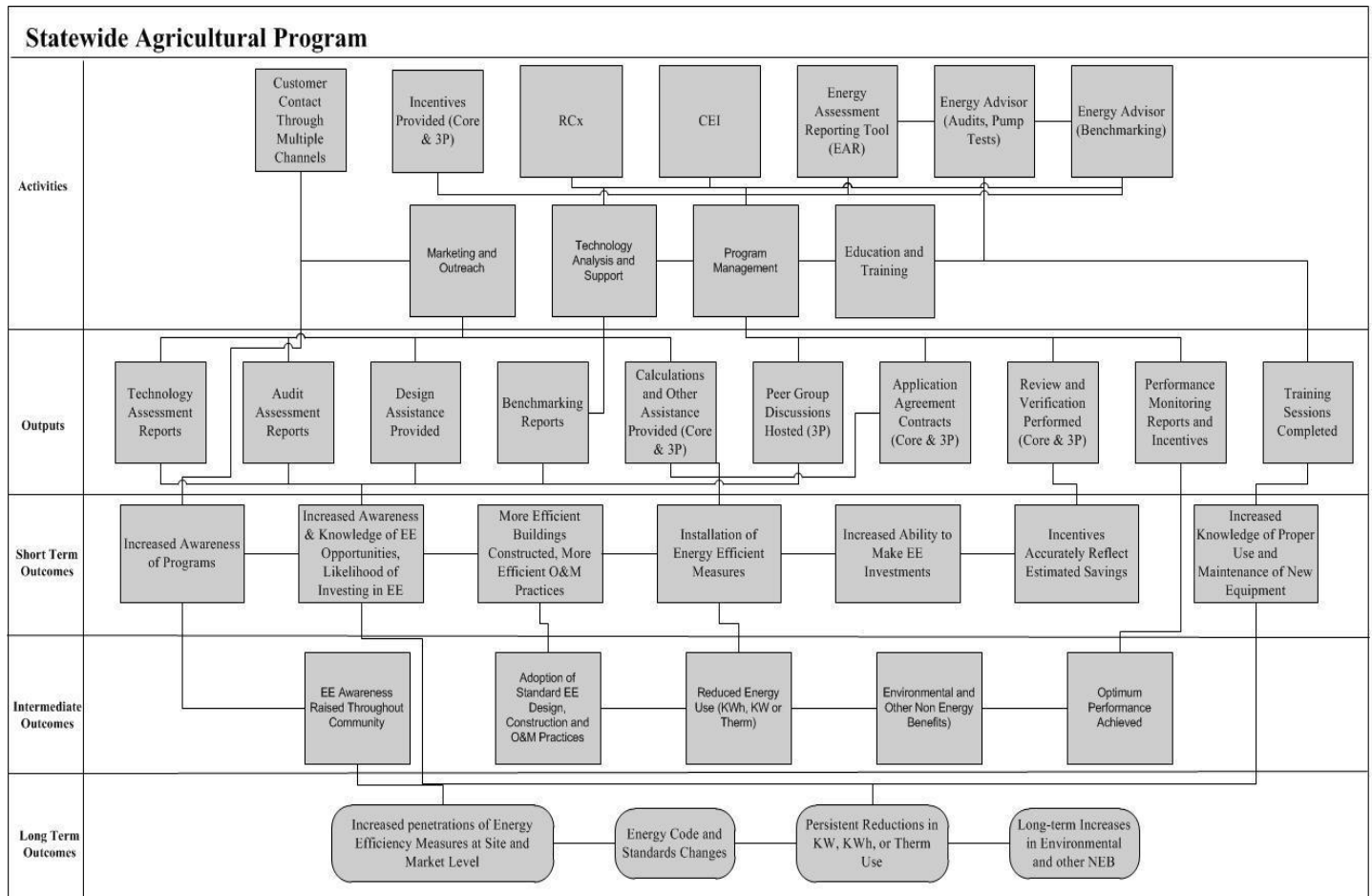
7. Diagram of Program



■ Statewide Programs ■ Local Programs

8. Program Logic Model

Note: On December 2, 2010, the Commission issued Resolution E-4385, approving Program Performance Metrics (PPMs) for Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company and San Diego Gas and Electric Company for 2010-2012 statement energy efficiency programs and sub-programs. In addition, this Resolution approved updated logic models for the statewide programs. Below is the approved logic model for the Agricultural Energy Efficiency Program.



- 1. Program Name:** Agriculture Customer Services Program
Program ID#:
SDG&E Program Type: Core

- 2. Projected Program Budget Table**

Table 1 – See the overarching program for budget details.

- 3. Projected Program Gross Impacts Table – by calendar year**

Table 2 - See the overarching program for gross impact details.

- 4. Program Description**

- a) Describe program**

The Statewide Investor Owned Utilities (IOUs) have created the Customer Services Program (CSP) to bring together under one program all services offered to support customer education and participation in energy efficiency, demand response and self-generation energy reducing opportunities and benefits, along with awareness of greenhouse gas and water conservation activities.

CPS was created to provide a streamlined and coordinated assignment of right-sized customer solutions. The key is to start the process with an initial analysis of a customer's needs, determination from the analysis which audit will service the customer with the highest cost/benefit, identify additional program support and key indicators that will motivate the customer to implement energy saving recommendations

The IOUs anticipate the restructuring of CSP will affect the way audits are provided. CSP will enhance the IOUs' ability to match customers' need(s) with the right audit service. This will result in an increased cost-effective delivery of these audit services with an increased expectation for customer adoption/installation of provided customer specific recommendations.

In its offerings, CSP will place an emphasis in deep energy saving measures and emerging technologies where appropriate. When the technologies and customer opportunities are correctly aligned, the customer will become more open to the benefits these technologies offer to their business and will therefore increase their acceptance and adoption.

Together the CSP offerings will work to support the achievement of Strategic Plan objectives across the agriculture sector.

The IOUs believe this approach is the best way to influence market transformation, serve customers' needs, and increase adoption of DSM solutions.

The Agriculture CSP package consists of five distinct offerings:

- **Benchmarking** is the first step for a customer to begin to understand the energy use of their building. Benchmarking is an initiative designed to educate and motivate customers to measure and track the energy use of their facilities, educate customers of the benefits of benchmarking their facilities and how they can track the impact of energy savings after implementing energy saving measures. To support the customer's efforts, the IOUs will offer technical support, hands-on workshops that will provide customers with information on how to benchmark, how benchmarking can be used as an energy management tool and what to do next after benchmarking.

The IOUs will develop or continue Benchmarking initiatives that supports the customers' ability to comply with AB1103's benchmarking requirements (upon its implementation), utilizing ENERGY STAR Portfolio Manager and IOU supported Automated Benchmarking Services.

The IOUs will also continue to offer customers technical support ranging from email and phone hotlines, hands-on workshops and web-based benchmarking educational and instructional materials.

The IOUs will continue their support to identifying, evaluating and making information about other benchmarking tools available.

The primary focus for benchmarking activities will continue to be centered on agriculture buildings (in alignment with the target building type of AB 1103).

- **Agriculture Continuous Energy Improvement (CEI)** Continuous Energy Improvement (CEI) is a consultative service aimed at helping agricultural customers (IOUs will target CEI services inline with market segment potential in their service territories and resource availability) engage in long-term, strategic energy planning. Corporate energy management is not currently part of normal business operations for the majority of IOU customers. With current economic pressures forcing customers to reduce costs and focus more on their core business, it is likely to be further marginalized. CEI proposes to reintroduce the importance of energy management by transforming the market (and reducing energy intensity) through a comprehensive approach that addresses both technical and management opportunities and creates sustainable practices which address energy savings, reduction of greenhouse gas emissions and water conservation, through high-level energy commitments from executive and board-level management.

CEI offers customers the pinnacle of audit offerings guiding executive management to levels of energy management self-actualization that makes energy and environmental issues a consideration in all management/business operational decisions and in long term energy planning. For additional information about CEI, please consult the Agriculture CEI Program Implementation Plan.

- **Non Residential Audits (NRA)** for the Transition Period will provide Integrated Comprehensive Energy Audits (ICEA) that focus on customer energy savings, cost/benefits, and the targeted delivery of financial and technical assistance. Audit information must communicate complex information in a simple and understandable way to enable customers in identifying energy efficiency, demand response and distributed generation opportunities. Audits use “ex ante” Deemed and Calculated methodologies for energy savings analysis information.

As stated above, NRA offers ICEA. In Appendix A, each IOU defines the sub-categories of ICEA that they provide.

In this program cycle, emphasis will be given to meeting requirements of the California Long Term Energy Efficiency Strategic Plan (Strategic Plan), streamlining the audit process, increasing its efficiency, lessening complexity, and increasing the effectiveness of influencing customer implementation actions through actions such as integration of the demand response technical audit component directly into NRAs offerings. In addition, the IOUs will investigate ways to implement meaningful financial measurements such as return on investment and/or simple payback metrics. The key is ensuring that financial tools selected provide the customer with meaningful information by ensuring cost assumptions are appropriate to the customer. Also, NRA will assume the audit and budget responsibilities for Demand Response’s technical audit services, as applicable. It is intended that these audits will be a critical component of the integrated comprehensive audit service offering.

- **Pump Efficiency Services** is designed to help agricultural customers make informed decisions about improving inefficient pumping systems and operations through recommendations derived from pump test audit or direct observations of processes. Pumping of water is estimated to account for more than 80% of the electric load and 73% of the natural gas requirement in California’s agriculture segment, and this load is growing as the state’s water users increase their reliance on pumping water to meet their needs. Pumping is also estimated to account for 20 to 25% of energy usage within the nation.

The Pump Efficiency Services program element, implemented by a team of trained in house or third party contractors, aims to overcome key informational, technical, and financial barriers to pump optimization by offering pump tests, retrofit incentives, and targeted education, training and technical support for customers and pump companies. Each IOUs database of pump test results will be used in the near-term to target pumps in need of retrofit as a means to capture savings. However, pump performance data aggregation at the statewide level will contribute to the development of metrics and targets for pump improvements, in support of a statewide pumping focus on agriculture, supporting their strategies and objectives.

The IOUs will continue to offer pump testing services at no or low cost and pumping system efficiency workshops through their energy education centers or other event opportunities during the Transition Period.

- **Retro-commissioning:**

The IOUs are planning to continue to enhance their core Retro-commissioning (RCx) programs. RCx is a systematic process for optimizing an existing building or system's performance by identifying operational deficiencies and making necessary adjustments.

The RCx element is designed to optimize existing building or system performance by identifying operational deficiencies and making necessary adjustments to correct the deficiency. RCx is offered to agricultural customers, based on the market segment potential and resources of the respective IOU. The range of projects may involve measures which reset, repair or replace existing system controls and components. Simple payback for these measures is usually short in duration and must meet customer expectations. Through the RCx assessment report, comprehensive projects are identified and referred to other sub-programs for completion (i.e., Calculated and Deemed Incentives). Energy savings from projects identified through RCx will be claimed in the Calculated Incentives Program.

Enhanced RCx program elements will explore and may include but not be limited to:

- Innovative approaches to measure identification, automated baseline capabilities, and savings quantification;
- Continuous commissioning and monitoring-based commissioning;
- Strategies to drive savings persistence;
- Appropriate alignment with retrofit activities; and
- Overall program incentives, targeting, and delivery.

The RCx program is a key offering in the Agriculture Calculated Sub-Program and a more detailed description of the program is provided.

The Transition Period will be used to develop and test the design strategy. The strategy focuses on simplifying the way audits are provided to customers. Through various assessment functions, the IOUs will work with the customer to identify the best, most cost-effective solution and the one with the greatest potential to motivate the customer to implement energy saving solutions (i.e. primarily EE, DR, and SG).

It is anticipated the program will allow the expansion of audit serves across diverse class of customers, potentially across all segments and will interconnect the customer with the wide and diverse range of programs offered. From a customer perspective, the impact on customer time and resources will be reduced, the audit analyses will include DSM, greenhouse gas reduction information, provide water conservation recommendation all in a single report. The resulting report will identify comprehensive solutions that will simplify the customer decision-making process.

The primary program objectives for 2013-2014 are:

- Support the Strategic Plan by offering integrated audits across a wide selection that address the full spectrum of energy solutions, including energy efficiency, demand response, and distributed generation (California Solar Initiative and distributed

generation), focusing on agricultural facilities as defined by each IOU's market potential and resource availability.

- Provide a focus on the “MUSH” market (municipalities, universities, colleges, schools, and hospitals) to test ideas for deep energy retrofit efforts. (P221)
- The continuation of delivering high value audit reports to the customer. Audit reports will be designed in such a way that they will provide the customer with information which motivates them to implement energy efficiency, demand response and consider renewable generation options.
- Enhance efforts to identify and provide financial analyses focused on deeper energy savings and technologies. Identify ways different financial metrics, such as return on investment and/or simple payback, can be provided where the values presented have meaning to the customer.
- The IOUs will explore and evaluate the potential of enhanced customer incentive options that are contingent on a customer's receiving an audit prior to applying to incentive programs.
- Incorporate new and/or emerging technologies appropriate for the customer's facility.
- Develop and implement enhancements to current Benchmarking workshops (currently limited to portions of an agricultural facility with commercial spaces) and continue providing Benchmarking and AB 1103 technical support through established and new delivery channels.
- Encourage Statewide consistency by offering a similar energy audits with the ultimate goal of offering customers the best energy management practices and technologies.
- Enhance the program offerings by including activities such as, but not limited to:
 - The highlighting of emerging technologies and deep energy savings opportunities and providing education on long-term energy planning/project management strategies (in coordination with CEI program).
 - Will continue existing water saving services and develop leak detection services and strategies which will offer the service to customers in all customer segments as determined by the IOUs to provide customer benefits and cost-effective to administer. The services will, be offered through the use of audit teams, in house and/or contracted, and may be required as a service in the delivery of all integrated comprehensive audits.
- The program will play a key role in exploring options regarding identifying deep energy savings, promotion of emerging technologies and providing the proper support to those customers who take advantage of more than three measures from Agriculture Deemed Incentive sub-program.
- The program will develop processes to help energy audit teams and customers identify facilities and services that will provide the greatest return on benefits from the audit. The IOUs may explore leveraging tools to complete energy audits, usage analysis,

assessments and/or building performance benchmarking as the first step in determining a customer's need.

- The program may also enhance tracking and audit component capabilities to support customer needs analysis, reduce program application barriers, maximize recommendation follow up and streamline audit report generation.

b) List measures

The program primarily offers non-resource, auditing services. It does not offer incentives, but ultimately influences the customer's implementation of energy efficiency, demand response, and self-generation opportunities in combination with incentive from the core Agricultural incentive programs (refer to the Agriculture Deemed and Calculated sub-programs for specific information). However, each IOU reserves the ability to offer incentives specific to the program's individual service offerings.

c) List non-incentive customer services

The Customer Services sub-program is designed to deliver a coordinated and customer-specific service. The program features a statewide integrated demand side management customer-specific solution that promotes energy efficiency, demand response, distributed generation and emerging technologies as appropriate to the customer's need(s).

Such activities include, but are not limited to: energy management assessments, energy planning, marketing and outreach, baselining and benchmarking, project implementation support, technical support, energy savings calculations, process evaluations and report generation, and web-based energy resources.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

Table 3 – Refer to the overarching program for quantitative baseline metrics

b) Market Transformation Information

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment "H" are approved for this sub-program as applicable.

Table 4 – Refer to the overarching program for market transformation metrics

c) Program Design to Overcome Barriers

The program offers services which change corporate/management cultures that prevent successful implementation of comprehensive energy policies. These offerings help overcome customers' lack of awareness of DSM opportunities by providing a customer focused, comprehensive package of energy solutions designed specifically to motivate the customer to implement recommendations. Information such as cost/benefit analysis (i.e. ROI or simple payback) and identification of appropriate IOU incentive and/or finance programs, can significantly enhance the financial benefit of the energy saving recommendation. CSP also provides customers with tools to measure the effects of implemented energy savings actions on their bottom line.

The program brings together audits and related services to implement energy saving activities.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts.

Table 5

	Program Target by 2013	Program Target by 2014
Number of Audits	70	71

e) Advancing Strategic Plan goals and objectives

The program is designed to promote DSM coordination and the integration strategies of the Strategic Plan. Foremost are recognition of the linkage between energy and environmental policy and the importance of integrating energy efficiency, demand response and distributed generation to support California's plan to reduce greenhouse gas emissions.

Specific near-term strategies proposed by the Strategic Plan that are addressed by the program include:

- Facilitate all State-Owned and Leased Buildings having a Retrocommissioning option

By offering a dedicated retro-commissioning program, a mechanism is created whereby IOUs can facilitate the achievement of this goal as a coordinated effort with the IOU Government and Institutional Partnership Programs.

- Strengthen Tools and Practices for Building Commissioning

Based on the IOUs' experience with managing the Retro-commissioning program, lessons learned and best practices can be integrated into the 2013-2014 offering. To increase market adoption of these program best practices, the IOUs will work in cooperation with the California Commissioning Collaborative to disseminate relevant

information to the retro-commissioning community and services may be extended to all segments as deemed appropriate by each IOU.

- Identify New and Improved Tools and Strategies to Reduce Energy Consumption in agricultural facilities.

Starting with energy conservation and proceeding to distributed generation and demand response opportunities, the benchmarking, CEI, NRA and RCx, demonstrate to the customer a comprehensive, site-wide solution for near and longer term energy consumption and clearly state the positive greenhouse gas effects of their actions. Addressing customer energy needs through long-term solutions allows consideration of technologies and projects that benefit the state and planet for a decade or longer (e.g., HVAC systems, industrial/ agricultural processes and equipment, facility envelope upgrades and enhancements). Recommendations for retrofit opportunities within existing agricultural facilities contribute to California's zero net energy goals. Once implemented, recommendations for operation and maintenance (O&M) practices on on-going commissioning will ensure that customer facilities continue to operate in an efficient manner.

- State/Local Governments and Major Corporations Commit to Achieve EE Targets

The program's offerings will seek to (1) gain corporate level commitment to energy efficiency as a core business operation; (2) develop corporate energy policies that establish measurable goals; (3) develop an actionable plan to achieve these goals; (4) guide customers to IOU programs that can help implement cost-effective EE projects; and (5) provide a feedback loop to measure performance. This codified process is designed to support the significantly greater energy efficiency performance desired by the Strategic Plan.

- Develop Tools to Reduce Energy in Agricultural Facilities.

As part of the implementation of specific program offerings, the IOUs will partner with energy industry peers, industry associations, and DOE/CPUC-sponsored labs and consultants to enhance the use of existing tools and explore new tools to help agricultural customers reduce initial energy usage at their facilities, then continue to operate their facilities in an efficient manner. Current tools used for benchmarking tools and resources include those developed by the EPA for ENERGY STAR and by Lawrence Berkeley National Lab (LBNL) with CEC funding:

- Management Standard for Energy SME2000-2008;
- LBNL Superior Energy Performance; and
- ISO-50001.

- Develop Business Models to Deliver Energy Management Solutions

The program's offerings will address the fundamental purpose to influence decision making practices from Agricultural, customers to consider energy usage and sustainability as a core part of their daily operations. This level of commitment will help achieve greater penetration of energy efficiency in the agricultural market sector.

In addition, the program's offerings promote acceptable practices of accounting, auditing, and evaluation by:

- Offering integrated and focused audits, benchmarking, savings calculation assistance for retrofit and retro-commissioning opportunities, and simplifying the audit-to-project documentation process to bridge the gap between educating customers about energy solutions to environmental issues and taking action;
- Guiding and supporting customers as they implement technologies, processes and practices to achieve energy efficiency savings; and
- Long term energy planning support.

6. Program Implementation

- Assess and identify the best way to support the use of the BEARS tool.
- Enhanced current Benchmarking workshops and continue providing Benchmarking and AB 1103 technical support through established and new channels.
- Emphasize and support integration in emerging technologies and deeper energy measure opportunities.
- In coordination with incentive programs, identify ways to streamline the end to end process for customers wanting to participate in IOU energy saving programs.

a) Statewide IOU coordination

i. Program name: Agriculture Customer Services Program

ii. Program delivery mechanisms

The program will employ a variety of delivery mechanisms or channels. Most of CSP's offering will use IOU customer energy efficiency staff and contractors, service and sales representatives, website and/or marketing and outreach efforts. Other delivery channels may also be developed.

In addition, where applicable, IOU customer account representatives or program management staff will support this activity within the statewide agricultural sector, as well as third parties, government partnerships, and local programs.

iii. Incentive levels

Not applicable.

iv. Marketing and outreach plans

A comprehensive audit marketing plan will be aligned and coordinated with the marketing plans for each of the IOUs, in order to maximize effectiveness, integrate offerings, and as appropriate refer customers to relevant DSM programs.

Additionally, IOUs may investigate piloting alternative channel marketing, such as social media tools, and outreach options that might include community-based organizations and/or third parties to recruit small businesses and influence them to take actions that result in energy efficiency improvements. IOUs may investigate and test efforts to leverage relationships with trade associations as a way to increase cost effectiveness of reaching customer groups.

The IOUs are currently developing an in-depth segmentation of the agricultural market. The results of this customer segmentation will support the development of targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers, based on their needs and preferences. Such delivery channels will likely include increased customer outreach through trade and community-based associations, third parties, government partnerships and core IOU programs.

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

The program’s energy recommendations will continue to recognize the regulations required by other bodies. For example, information about GHG reductions resulting from AB 32 may be incorporated into the customer recommendations and to factor into the projects cost-effectiveness and water conservation information will be included in the reports as appropriate.

Program offerings will collaborate and support the CEC’s AB 1103 mandate by assisting customers with technical and awareness activities. CSP will advance the introduction of the BEARS and California Rating Tool, where reasonable.

The program recognizes the efforts of the CEC’s Green Building Initiative programs, DOE’s “ISO plant certification” programs, EPA EnergyStar Portfolio Manager benchmarking, EPA Building Performance with Energy Star and other programs, USGBC LEED certification, and local and other government incentive programs and will leverage such activities to the customer’s benefit.

b) Program delivery and coordination

The sub-program will be coordinated with the following activities, as applicable:

i. Emerging Technologies program

The SW Management Team will stay abreast of and incorporate relevant emerging technologies into audit recommendations as appropriate.

ii. Codes and Standards program

Implementation will include information about pending new codes and standards that may affect planning or prioritization of retrofit or new construction projects. Audits reports will include customer recommendations that are consistent with current governing codes.

iii. WE&T efforts

Program implementation will integrate with WE&T efforts, as needed, by providing CSI process, lessons learned, and case study input to energy engineering curriculum designers for community colleges and universities. This activity will be coordinated through the Statewide WE&T program team and will ultimately be integrated into the web portal that team is now developing. IOUs will assess and support specialized WE&T training to help target working energy management professionals, industry professionals, and those pursuing education in universities and colleges.

IOUs will also continue with WE&T coordination to integrate sector strategy approaches, as required.

iv. Program-specific marketing and outreach efforts

In 2013-2014, marketing campaigns will provide a wide range of action-oriented solutions targeted to specific segments and subsegments of business customers. In addition, marketing efforts too will be “bundled” as menu of demand response, energy efficiency and conservation programs providing customers with a full array of EE and DR opportunities. By providing packaged energy management solutions for each industry segment, the IOUs will be better able to communicate with and serve customers.

Marketing activities will target business customers and select effective channels to reach entities such as: trade associations, local business groups and government entities to generate interest and program participation. In addition, direct customer contact by account executives, phone and e-mail support may be utilized.

Marketing collateral and messages for energy efficiency will be integrated with other IOU programs. Through additional market segmentation and feedback from customers, IOUs will further adjust approaches based on the varied needs of targeted customers. Additional sub-program marketing will be accomplished by leveraging local third-party programs. Specific IOU marketing budgets are provided in Table 1 of the core agricultural program.

Integrated and program-specific marketing efforts will complement and work in coordination with SW Marketing, Education and Outreach (ME&O) Program to increase awareness, provide education, and drive ongoing engagement and participation in DSM programs and services among nonresidential customers. The statewide effort will provide the first level with IOU specific programs providing reinforcement at a local level.

v. Non-energy activities of program

The IOU team will participate in Statewide and national efforts to develop and enhance audit, benchmarking and retrocommissioning, continuous energy improvement tools and practices. Such activities will likely occur in conjunction with ongoing industry efforts managed by the California Energy Commission (CEC), Consortium for Energy Efficiency (CEE), ENERGY STAR and the California Commissioning Collaborative (CCC).

CEI implementation will include non-energy activities such as recognition awards, local area or sector competitions, awareness campaigns, education about non-energy-related LEED points and definitions, and use of computerized financial analysis tools and cost estimating and forecasting tools

vi. Non-IOU programs

Reports will include information on non-IOU Programs to expose customers to funding, such as from air or water agencies, to support integrated efforts. CSP will partner with programs offered by CEC, ARB, Air Quality Management Districts, ENERGY STAR, and other government and quasi-governmental agencies to capitalize on opportunities to develop co-branded program information and marketing collateral target to agricultural - sector customers, as opportunities present themselves.

With respect to water conservation, IOU program managers will partner with the local water districts to co-brand marketing collateral, attend trade shows, co-release notices, for programs with interactive water and energy effects (ESPM, BEARS, California Rating Tool, Water Agencies and others)

vii. CEC work on EPIC

Not applicable.

viii. CEC work on Codes and Standards

The program will not be implemented with a direct linkage to codes and standards efforts. Although the program will reflect code regulation in its energy savings calculations as deemed appropriate.

ix. Non-utility market initiatives

Education about federal tax incentives for energy efficiency investments is an example of non-IOU information and guidance that where offerings will provide to customers. In addition, the IOUs will participate in state and national efforts to develop and/or improve benchmarking tools and services that can be used by customers to better facilitate their adoption of sustainable energy management practices.

c) Best Practices

The IOUs will continue to leverage best practices and lessons learned at regularly scheduled statewide program management meetings. These meetings are forums to discuss program design and implementation issues, and as appropriate, provide statewide collaborated

guidance in RFP solicitations and awareness of program offerings so customers operating multiple facilities across IOU service territories receive the same customer experience.

Other best practices approaches apply the principles of well-known business continuous improvement programs, such as Lean Six Sigma and ISO standards, to facility and plant energy management, in order to achieve widespread adoption of long-lasting sustainable energy management practices in the agricultural market sector. As stated above, these principles are: (1) Commitment, (2) Assessment, (3) Planning, (4) Implementation, (5) Evaluation, and (6) Modification. This approach will continue through the two-year program cycle for 2013-2014, allowing longer-term and deeper project development engagement with customers.

d) Innovation

For 2013-2014, the IOUs are identifying and evaluating program processes to increase effectiveness, simplification and increase the benefits the program delivers. Each IOUs set of lessons learned from these efforts will be shared and implemented to enhance energy savings benefits to all California IOU customers.

The program will engage in a process of continuing improve as a new standard way of packaging energy efficiency, demand response and self-generation products and services, aimed at helping customers engage in long-term, strategic energy planning. It proposes to transform the market and reduce energy intensity through a comprehensive approach that includes addressing both technical and management opportunities.

Depending on the outcome of the 2012 process evaluation, CEI may consider customer incentives to accelerate project implementation (including IDSM projects), and reward customer for implementing strategic energy management.

Other offerings may also consider specialized incentives approaches based on delivery, target markets and/or other opportunities.

e) Integrated/Coordinated Demand Side Management

The program will provide a comprehensive approach for integrated audit services. Its services will have the flexibility of meeting every level of a customer's audits needs from integrated comprehensive audits to targeted or focused audits, which centers on specific systems or processes, to assessments or general walk through audits or online "do-it-yourself" audits (currently for small business customers), which when properly applied can assist in identifying the areas of a customer's greatest energy interest, financial capabilities of the customer's ability to invest in improving its energy use, and identification of other programs that can be brought into the discussion to motivate a customer to move forward with the energy saving plan.

The scope of services offered can coordinate the audit to look for retrofit or retrocommissioning opportunities; with benchmarking tools, or long term planning. Audit reports can present a truly integrated analysis to customers, seamlessly providing them with information and recommendations regarding energy efficiency, distributed-generation, demand response, greenhouse gas emissions and water energy savings, Customers will be

referred to other IOU programs that will help them implement the recommendations resulting from the audit report and thus will be given a complete picture of their energy usage and options for reducing costs and using energy more efficiently.

f) Integration Across Resource Types

The program will focus on DSM integration.

Implementation will include information on Non-IOU Programs to expose customers to funding, such as from air or water agencies, to support integrated efforts. IOU managers will partner with the appropriate programs, when applicable, with government agencies to capitalize on opportunities to share program information, marketing collateral, and financial incentive analysis with customers.

Conventionally, each government agency and IOU has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. For customers who are regulated by or interested in more than one resource issue, CEI will provide information about the mutual benefit of combining complementary resource programs.

In the effort to promote program offerings, IOUs will seek out customers interested in complementary resource programs such as provided by water and air quality agencies. With respect to water conservation, IOU program managers will collaborate with the local water districts to produce marketing collateral, attend trade shows, and co-release brochures, for programs with interactive water and energy effects.

g) Pilots

Energy Audit services may consider the development of test markets especially in the introduction of new energy benchmarking or saving tools.

h) EM&V

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

Please see the core program diagram.

8. Program Logic Model

Please see the Commercial Customer Services Program logic model.

Appendix A

Statewide Audit Type Matrix

Audit Type	Detail	SCG	SDG &E	PG&E	SCE
Integrated Comprehensive Energy Audits	Phone	Yes	Yes	Yes	Yes
	Online (Web-Based)	Yes	Yes	Yes	Yes
	Onsite	Yes	Yes	Yes	Yes

- 1. Program Name:** Agriculture Calculated Energy Efficiency Program
Program ID#:
SDG&E Program Type: Core

- 2. Projected Program Budget Table**

Table 1 – reference the core program for budget details

- 3. Projected Program Gross Impacts Table – by calendar year**

Table 2 - reference the core program for gross impact details

- 4. Program Description**

- a) Describe program**

The purpose of the statewide Agriculture Calculated Energy Efficiency Program is to provide services to improve the energy efficiency of agriculture facilities in California, including financial incentives based on calculated energy savings. The energy savings are calculated for measures installed as recommended by comprehensive technical and design assistance for customized projects. Integrated projects are encouraged to combine energy efficiency and demand response. Eligible projects include new construction, retrofit, and retrocommissioning.

The Agriculture Calculated Energy Efficiency Program is part of a suite of programs within the Statewide Agriculture Energy Efficiency Program.

The Agriculture Calculated Energy Efficiency Program is utilized for projects where a rebate is not available through the statewide Agriculture Deemed Energy Efficiency Program, customized calculations provide the most accurate savings estimates, or interactive effects between measures are best captured through whole building or whole system modeling.

Because it presents a calculation method that can consider system and resource interactions, the program will become the preferred approach for supporting the integrated, whole system, and multi-resource management strategies of the Strategic Plan.

Key features in the process include:

- Energy audits of facilities and processes which recommend efficient design alternatives and detailing energy savings and CO₂ reductions;
- Calculations/estimates of energy savings for exceeding Title 24 code or industry standard practice baselines;
- Technical assistance from IOUs in energy audits and calculated savings;
- Submission of project proposal for IOUs review and approval;
- Pre-inspection by IOUs for approved retrofit projects;
- Post-inspections on approved and completed projects to verify performance; and
- Payment of incentives from IOUs.

Energy audits may be completed by customers directly or by authorized participants. Sponsors may include contractors, design teams, vendors, and energy service companies. The completed audit may then be submitted for review and approval.

For the energy audit feature, statewide consistent calculators are publicly available. The statewide IOU-created and maintained SPC Calculator can be used for retrofits and some new construction applications and is available online. For whole building construction projects, IOUs accept both Energy Pro, available for license, and the IOU-sponsored eQuest, available for free on the statewide Energy Design Resources website at www.energydesignresources.com, among others. Calculations must be submitted in open, unlocked, native format for review and consideration in the IOU's programs.

Retro commissioning (RCx) is also eligible in the program for delivering energy savings. RCx is a systematic process to identify and correct operational problems or inherent repair and maintenance deficiencies that lead to excessive energy use. Unlike retrofits, which focus on equipment replacement, or operations and maintenance, which deal with routine maintenance, retrocommissioning focuses on identifying and correcting problems that may not be readily identified by a standard energy audit.

O&M items with an effective useful life greater than three years can also be identified through this assessment. Additionally, opportunities often exist to optimize existing systems to operate more efficiently than originally designed with minimal new capital outlay.

RCx will be offered as a bundle of products/services. RCx providers will perform several tasks to identify measures. These tasks include, but are not limited to:

- Initial benchmark;
- Collect data to quantify the owner's operational requirements;
- Perform detailed on-site audits to evaluate operational deficiencies and/or operational optimization opportunities inclusive of improved and enhanced preventive maintenance and repair programs;
- Define measures, quantifying implementation costs and savings;
- Assist customers with measure implementation;
- Verify completion of measures;
- Provide post installation documentation and training as well as other persistence techniques; and
- Post project benchmark.

b) List measures

The broad range of measures eligible for incentives is summarized in the table below along with the current incentive levels. For detailed measure incentives, *see* Section 6.a.iii below.

The following measure categories are eligible for Calculated Incentives:

- Lighting
- AC & Refrigeration
- Motors and Others
- Gas measures

c) List non-incentive customer services

The Agriculture Calculated Incentives Program is primarily an incentive program designed to achieve energy savings through measure implementation; however it does provide such non-incentive measures as technical and calculation assistance to help customers navigate through the application process. This assistance ensures that the sub-program captures lost opportunities by not allowing projects to fall behind schedule simply because the customer does not have the resources to shepherd the project through the process.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment “H” are approved for this sub-program as applicable.

Table 3 – Refer to the overarching program for quantitative baseline metrics

b) Market Transformation Information

By its nature, market transformation occurs as a result of numerous factors including projects/programs; not single project or sub-program. Therefore, all metrics and goals are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

Table 4 – Refer to the overarching program for market transformation metrics

c) Program Design to Overcome Barriers

The Calculated Energy Efficiency Program includes numerous features designed to overcome these barriers, as identified and discussed below.

Integrated Demand Side Management Approach

The program offers California’s agriculture segment a statewide suite of products and services to help overcome market barriers to optimize energy management and meet the goals of the Strategic Plan. It overcomes multiple barriers through the implementation of strategies and tactics that provide an integrated solution to the customer, offer education and outreach to create awareness and promote continuous energy efficiency improvement. The program also enables a facility to attain resource management levels that exceed industry standards and gain them market and worldwide recognition.

CEI Program Offering

The Continuous Energy Improvement (CEI) program compliments the Calculated Energy Efficiency Program by helping customers implement energy efficiency measures that have been identified through energy efficiency audits or in-depth facility/process assessments. Such assessment may be jointly provided by the IOUs and the U.S. Department of Energy (DOE) or ANSI. It focuses on improving production and optimizing energy efficiency and

provides integrated resource management solutions including GHG reduction. This approach overcomes such barriers as lack of awareness of energy efficiency opportunities and provides highly skilled workforce of energy efficiency, process optimization, and resource management.

Marketing and Outreach

To increase awareness of the program, a statewide centralized clearinghouse may be developed to give customers access to information on operating best practices in energy efficiency, industry relevant technical assistance, baselines, case studies, tools and computer based training. This clearinghouse addresses the issue of availability of information and qualified industry specialists to fully assess a building, system or process and help customers understand how energy efficiency can impact their emissions, resource consumption or waste discharge streams. A clearinghouse helps alleviate the problem often run into by Non-Residential customers of getting incorrect or out-of-date information from some local networks. It will also enable design engineers to specify energy efficient measures to exceed industry accepted baseline standards when constructing new or retrofitting existing buildings or systems, instead of specifying only what they know or what they are familiar with.

The Statewide Program information and services will primarily be delivered through account representatives, IOU call centers hotlines, local government partnerships, third parties, and IOU internet sites. Information may also be made available through industry events, through industry organizations, and through advertising in industry and trade publications. Other avenues to reach out to customers and identify energy efficiency opportunities include non-resource programs that provide education and outreach, workforce education and training, or through IOU Emerging Technologies Programs.

Education and Training

Highly skilled energy management professionals may conduct technical training and seminars to educate the public as well as develop a highly trained energy efficiency workforce that is accessible to industry.

Emerging Technologies

In collaboration with ET and the CEC, ET may conduct studies, pilots, and demonstrations to prove the viability of promising emerging technologies and lower the risk of investment which in turn will speed up market penetration.

Financial Assistance

Rebates and incentives properly priced and based on energy savings quantified through technical assessments or basic audits, can help customers overcome internal financial hurdle rates. Skilled energy efficiency personnel may also assist customers and provide additional information about other opportunities for project assistance, such as State or Federal funds available for energy efficiency projects, tax incentives or other local sources of project funding.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts.

Table 5

	Program Target by 2013	Program Target by 2014
Projects	5	5

e) Advancing Strategic Plan Goals and Objectives

The Agriculture Energy Efficiency Program supports all three goals in the Strategic Plan for the Agriculture Sector. General advancement of the goals is presented in the program implementation plan for the Agriculture Energy Efficiency Program. More specific support of the goals in the Agriculture Calculated Energy Efficiency Program is presented here.

Goal 1: Establish and maintain a knowledge base sufficient to support development of all available, cost-effective, reliable, and feasible energy efficiency, demand reduction (and renewable) energy resources.

The Agriculture Calculated Energy Efficiency Program supports strategies to develop a knowledge base of efficiency solutions, foster workforce education and training, and encourage applications of new technologies.

Goal 2: California regulations, financing mechanisms, and incentives programs affecting the management of energy, air and water resources, solid waste, and climate change will be coordinated to mutual advantage.

The program supports strategies to attain multi-resource management goals and to coordinate technical assistance, funding and incentive mechanisms.

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.

The program supports strategies to make information on efficiency solutions readily available as well as conduct marketing and outreach to stimulate efficiency actions.

6. Program Implementation

a) Statewide IOU coordination

i. Program name: Agriculture Calculated Energy Efficiency Program.

ii. Program delivery mechanisms

Agriculture Calculated Energy Efficiency Program will be coordinated on a statewide level to unify the implementation of program aspects such as program name, program delivery mechanisms, incentive levels, marketing and outreach plans, and IOU program interactions. The Agriculture Calculated Energy Efficiency Program will coordinate with the core Agriculture Energy Efficiency Program to provide mutual support.

The high-level focus of this statewide coordination effort will enable the capture of new innovations and opportunities for program improvement, correct program weaknesses that reveal themselves during implementation, and ensure achievement of statewide targets across IOU service territories. Therefore, statewide focus on program unity and continuous program improvement over the course of the implementation cycle will be enabled.

iii. Incentive levels

A broad range of measures is eligible for the Calculated Energy Savings Program. The current incentives for these measures are standard across the IOUs participating in the Statewide Agriculture Calculated Energy Efficiency Program.

Current incentives are as follows:

- Lighting, \$0.05/kWh and \$100/kW
- Air Conditioning & Refrigeration I, \$0.15/kWh and \$100/kW
- Air Conditioning & Refrigeration II, \$0.09/kWh and \$100/kW
- Other, \$0.09/kWh and \$100/kW
- Therms, \$1.00/therms, Capped at 50% of project cost

The IOUs are exploring innovative means of improving the Calculated Incentive sub-program based on Energy Division and market direction. One possible method to comply with the Energy Division's guidance to "achieve deeper energy savings retrofits and packages of measures" is to institute a scaled incentive mechanism that would provide higher incentives for more comprehensive projects. The IOUs are soliciting input from stakeholders and may institute a scaled incentive mechanism for the Calculated Incentive sub-program.

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

The Calculated Energy Efficiency Program may be marketed through IOU Account Executives, as well as through trade allies, educational, outreach and other marketing activities. Marketing activities will target business customers, ESCOs, trade associations, local business groups and government entities to generate interest and program participation. The Program may also provide direct customer contact by account executives, demand response program outreach, phone and e-mail support.

Marketing campaigns may provide a wide range of pro-active solutions targeted by segmentation research. In addition, marketing efforts may be integrated in a menu of demand response, energy efficiency and conservation programs. This menu will provide customers a full array of EE and DR options. By providing packaged energy management solutions for each industry segment, IOUs will better communicate with and serve customers.

Marketing efforts may incorporate a variety of marketing tactics/activities to promote the solutions in the program. Education, awareness and outreach efforts may use targeted multi-media communication channels. This will ensure the message reaches the intended audiences with enough frequency to create awareness, educate and engage the customer to motivate attitude and behavior changes. The marketing strategies may include, but are not limited to, a mix of print, radio, TV, direct mail, e-mail, personal contact, trade shows, trade association meetings, customer workshops and seminars. The strategy will also include energy related and other community events and partnerships with business and industry organizations, specialized collateral, case studies, website links and information with regular updates, bill inserts, press releases, and newspapers.

Market outreach to raise awareness of EE programs available may use a number of multi-media strategies, including:

- Account representatives may make a regular and consistent customer calling effort to key customers within this sector;
- IOU representatives, program management representatives, and field engineers may be available to provide additional expertise;
- Participation and membership in one or two key trade associations affiliated with each high priority sub-segment within the agriculture market sector;
- Attendance at the key trade shows for each high priority sub-segment within the agriculture market sector;
- IOU-sponsored training events at the IOU's Customer Training Centers and other convenient locations within the IOU's service territory;
- Hosting of IOU-sponsored webinars that provide sub-segment training and program adoption; and
- Written collateral pieces that provide an overview of the IOU's Energy Efficiency programs will be linked into the appropriate IOU's DSM web page.

The ideal marketing mix will be assessed for maximum awareness and participation. Marketing and outreach coordination may be coordinated, to the extent possible, among the IOUs utilizing the statewide coordination process described above. Furthermore, agriculture facilities are recognized as large energy and water consumers. IOUs will develop proposals, as appropriate, to facilitate water-energy nexus projects.

The IOUs are currently developing an in-depth segmentation of the agricultural market. The results of this customer segmentation will support the development of targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers, based on their needs and preferences. Such delivery channels will likely include increased customer outreach through trade and community-based associations, third parties, government partnerships and core IOU programs.

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

The Agriculture Calculated Energy Efficiency Program will scan the programs offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to share program information and marketing collateral with

agriculture customers, to the extent possible. In the past, each government agency and IOU has operated natural resource and energy programs independently, missing opportunities to serve customers who manage more than one resource type.

Regarding water conservation, IOU program managers will partner with the local water districts to co-brand marketing collateral, attend trade shows, co-release notices, for programs with interactive water and energy effects. Similarly, with ARB and Air Quality Management Districts, IOUs will offer customers Calculated sub-program incentives for energy efficient equipment that may also reduce water and GHG emissions.

vi. Similar IOU and POU programs

The IOUs will be delivering many third-party programs that utilize the Agriculture Calculated Energy Efficiency Program infrastructure. This will ensure a consistent delivery of measure incentives to ensure that programs do not cannibalize each other and detract from achieving cost-effective energy savings.

b) Program Delivery and Coordination

i. Emerging Technologies (ET) program

California's long-term energy efficiency vision can be attained through long-term and continuous development, verification, and acceptance of new technologies into the market. The achievement of long-term goals requires new technology as well as information, training and market development to maximize the energy efficiency benefits of cutting edge technologies. In recognition of the importance of emerging technologies, the calculated sub-program will consider higher initial incentives for emerging technologies being newly introduced to the market place. Once the new products have taken hold in the market, the incentives will be adjusted to reflect market conditions. In addition, portfolio staff actively works to incorporate promising emerging technologies from the ET program.

ii. Codes and Standards program

The Calculated sub-program relies on the Codes and Standards program to help maintain an updated and relevant list of measures that will support savings. It is important to manage the measure life cycle to take full advantage of providing incentives before moving them into code. The program will coordinate with the Codes and Standards Planning & Coordination sub-program. As codes and standards impact measures, the program will act to align itself with appropriate offerings. Programs will include new offerings that will allow flexibility in adapting to changes in codes and standards, market trends, and technologies. Planned enhancements to Title 20 and 24 will be reflected in incentive levels and eligible measures and services. As the market moves toward "low energy" or "zero net energy" buildings, specific changes to each element of the bundling will be made to ensure the latest cost effective technologies/services (e.g., LEDs) are made available. These technologies will begin as R&D, transition to Emerging Technologies, then to Incubation and finally to Mainstream.

iii. WE&T efforts

Workforce Education & Training (WE&T) efforts support the education and training of a robust network of industry trade allies, vendors, engineers, design teams and others who can support the market transformation strategies of the Strategic Plan. In the Agriculture Energy Efficiency Program, WE&T efforts will focus in the near term on supporting national ANSI Energy Management Certification development efforts, as outlined in the Strategic Plan. Programs will closely coordinate with key stakeholders to ensure that California is poised to adopt this national standard and be a leader in this effort. Specifically, prerequisite trainings will be offered in DOE systems trainings to lay the groundwork for certification level trainings. These education and training offerings take place through IOU's energy centers and technology centers.

iv. Program-specific marketing and outreach efforts

Marketing and outreach initiatives may include but not limited to

- Participation and membership in one or two key trade associations affiliated with each high priority sub-segment within the agriculture sector, as appropriate;
- Attendance at key trade shows within the agriculture sector;
- IOU-sponsored training events at the IOU's Customer Training Centers and other convenient locations within the IOU's service territory;
- Hosting of IOU-sponsored webinars that provide sub-segment training and program adoption; and
- Development of case studies, web pages, and marketing material that provide an overview of the IOU's energy efficiency programs.

Integrated and program-specific marketing efforts will complement and work in coordination with SW Marketing, Education and Outreach (ME&O) Program to increase awareness, provide education, and drive ongoing engagement and participation in DSM programs and services among nonresidential customers. The statewide effort will provide the first level with IOU specific programs providing reinforcement at a local level.

v. Non-energy activities of program

The program provides a significant challenge to integrating DSM initiatives to non-energy activities due to the general industry structure, the nature of market sector resource use, limited resource savings potential specific to smaller businesses, and limited bandwidth. Therefore, integrated audits across the various energy efficiency program offerings, with complementary options available through other entities (for example, water agencies) may identify the opportunities recommended to the specific agricultural customer.

Concerning water conservation, IOU program managers will contact the local water districts to share marketing collateral, attend trade shows, and mutually release notices for programs with interactive water and energy effects. IOUs will also offer Calculated sub-program incentives to ARB and Air Quality Management District customers. These incentives include energy efficient equipment that may also reduce both water and GHG emissions.

In addition, the program will offer customers educational information about the non-energy benefits associated with energy efficiency measures, such as improved safety, indoor air quality, productivity, comfort, and appearance.

vi. Non-IOU programs

The program will continue to engage with Air Quality Management Districts, CEC, ARB, DOE, water agencies, and other government agencies responsible for regulating the various aspects and operations of customer facilities participating in the programs, as appropriate and feasible.

vii. CEC work on EPIC

Not applicable.

viii. CEC work on C&S

Planned enhancements to Title 20 and 24 will be reflected in incentive levels and in eligible measures and services.

ix. Non-utility market initiatives

The program will support and educate customers. It will also facilitate initiatives (for example, AB 32, renewables, ANSI certification, facility benchmarking, Continuous Energy Improvement, and California Green Building Initiative). The IOUs will remain engaged in these efforts and work to influence the development of increasingly higher standards.

c) Best Practices

The RCx program builds upon the initial feedback from the current RCx program and expands its reach into the Agriculture segment.

d) Innovation

For the 2013-2014 program cycle, California IOUs will implement an incentive structure that emphasizes advanced controls that enable demand response motivating customers to participate in energy efficiency and demand response incentive programs as well as enrollment in demand response programs.

IOUs will continue working collaboratively to modify program policies and procedures to address ongoing changes in customer expectations, market conditions and program flexibility. These changes will improve program understanding and participation, promote measures eligibility, increase customer economical benefits, and reduce policy restrictions identified as barriers to participation. IOUs are implementing such processes based on market studies and policy discussions conducted on the subject. Among modifications that would be potentially discussed and implemented are incentive caps and redesign of early retirement measures and equipment in conformance with Commission guidelines.

IOUs are planning to elaborate and utilize positive experience obtained using the SBD Simplified tool to include energy efficiency retrofit projects. Such tools substantially reduce

application processing and review time and minimize number of hand-offs without sacrificing accuracy of energy saving calculations.

IOUs will use an integrated approach to addressing DSM opportunities (for example, merging energy efficiency and demand response analysis, and converting recommendations to Retrocommissioning and/or Calculated programs). In addition, streamlining programs through processing and reviewing energy efficiency and demand response measures in a single application, and providing analytical information about applicable distributed generation solutions, will maximize customer adoption rates for the most cost-effective energy management opportunities.

IOUs will consolidate various calculating software such as SPC Software, Engage and other measure specific calculating tools to standardize calculating methodologies. This will ensure that calculations will be more uniformed and consistent amongst all stakeholders. This will not limit the use of nationally recognized standard DOE toolsets for certain measures.

IOUs are planning to continue and expand their core RCx program in multiple target markets.

The IOUs are exploring innovative means of improving the Agricultural Calculated Incentive sub-program based on Energy Division direction. One possible method to comply with the Energy Division's guidance to "achieve deeper energy savings retrofits and packages of measures" and to "raise incentive levels for Emerging Technologies", is to institute a scaled incentive mechanism that would provide higher incentives for more comprehensive projects. The IOUs are soliciting input from stakeholders and may institute a scaled incentive mechanism for the Agricultural Calculated Incentive sub-program.

e) Integrated/Coordinated Demand Side Management

The IOU's have identified integrated Demand Side Management (IDSM) as an important priority. As a result they have proposed the establishment of a Statewide Integration Task Force (Task Force). The program plans 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)

California's agriculture sector faces a multitude of environmental and regulatory challenges that affect their survival and competitiveness. New regulations aimed at improving air quality, water quality and reducing toxic environmental pollutants are proving to be expensive and disruptive to conventional businesses, and complying with these regulations may actually cause increased energy use.

To help deal with these challenges, the program will coordinate with the regulating agencies and their programs to support common program designs, customer incentives, marketing opportunities, and implementation opportunities. IOUs will continue to offer targeted trainings to customers who share common regulatory challenges in an effort to educate customers on impending regulatory requirements for their business operation, and the most

efficient solution options to consider for compliance. Future workshops may look at small and medium sized water and wastewater treatment options, steam system upgrades, and energy efficiency to meet AB32 targets.

IOUs will partner with water agencies to offer joint energy and water conservation incentives to support projects that reduce both energy and water consumption. This partnering will reduce administrative costs and increase the program's societal benefits and impacts.

The Program will integrate applicable topics such as GHG reduction and water conservation into targeted customer workshops, marketing efforts, and communications to build on efforts from the previous program cycle.

g) Pilots

Not applicable.

h) EM&V

The IOUs are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan after the program implementation plans are filed. This plan will include process evaluations and other program-specific studies within the context of broader IOU and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts will be developed collaboratively by the IOUs and Energy Division. Development of these plans will occur after the final program design is approved by the CPUC and, in many cases after program implementation has begun, since the plans need to be based on identified program design and implementation issues.

7. Diagram of Program

Please see the core program diagram.

8. Program Logic Model

Please see the Commercial Calculated Energy Efficiency Program logic model.

1. Program Name: Agriculture Deemed Energy Efficiency Program
Program ID#:
SDG&E Program Type: Core

2. Projected Program Budget Table

Table 1 – reference the core program for budget details

3. Projected Program Gross Impacts Table – by calendar year

Table 2 - reference the core program for gross impact details

4. Program Description

a) Describe program

The purpose of the statewide Agriculture Deemed Energy Efficiency Program is to provide services to improve the energy efficiency of agriculture facilities in California, including financial incentives based on deemed energy savings. The energy savings are deemed for installed measures. Integrated projects are encouraged to combine energy efficiency and demand response.

The Agriculture Deemed Energy Efficiency Program is part of a suite of programs within the Statewide Agriculture Energy Efficiency Program.

Key features of the program include:

- Information and technical assistance from IOU on energy efficiency measures and savings potential;
- Application via mail, fax, internet and phone by customer for eligible measures;
- Reservation of financial incentives by IOU , if requested by customer;
- Pre- and post-installation inspection by IOU , as determined by SCE based on prior participation and other factors; and
- Payment of incentives from IOU.

b) List measures

Itemized retrofit measures have prescribed energy savings and incentive amounts. These measures are categorized under the following end uses:

- Lighting
- Air conditioning
- Food service
- Refrigeration
- Agricultural Process
- Motors
- Plug loads.

5. List non-incentive customer services

The deemed sub-program is primarily an incentive program designed to achieve energy savings through measure implementation; however it does provide such non-incentive measures as technical consultation and application preparation assistance to help customers navigate through the application process. This assistance ensures that the sub-program captures lost opportunities by not allowing projects to fall behind schedule simply because the customer does not have the resources to shepherd through the process.

6. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

Table 3 – Refer to the overarching program for quantitative baseline metrics

b) Market Transformation Information

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment “H” are approved for this sub-program as applicable.

Table 4 – Refer to the overarching program for market transformation metrics

c) Program Design to Overcome Barriers

The Agriculture Deemed Energy Efficiency Program is designed overcome several barriers. The program directly addresses key market factors that lead to higher energy costs for California businesses. Providing a menu of prescribed common measures simplifies the process of reviewing project proposals and provides a "per-widgit" rebate that reduces the cost of retrofitting outdated and inefficient equipment. This element makes it attractive for customers to spend money in the short run in order to achieve lower energy costs in the long run.

Using itemized energy efficiency measures is intended to overcome barriers that inhibit many agriculture customers from adopting energy efficiency alternatives. The barriers are addressed by itemizing common energy efficiency measures and rebates, stimulating the supply of high efficiency equipment and products (through higher demand), and offering rebates that help offset higher start up and down payment expenses for energy efficient retrofits.

Furthermore, to ensure equity to all business customer segments, this program will continue to offer statewide-consistent, cost-offsetting itemized rebates to help customers with the cost of installing new energy efficient equipment.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts.

Table 5

	Program Target by 2013	Program Target by 2014
Projects	N/A	N/A

e) Advancing Strategic Plan Goals and Objectives

The Statewide Agriculture Energy Efficiency Program supports all three goals in the Strategic Plan for the Agriculture Sector. General advancement of the goals is presented in the program implementation plan for the Statewide Agriculture Energy Efficiency Program. More specific support of the goals in the Agriculture Deemed Energy Efficiency Program is presented here.

Goal 1: Establish and maintain a knowledge base sufficient to support development of all available, cost-effective, reliable, and feasible energy efficiency, demand reduction (and renewable) energy resources.

The Agriculture Deemed Energy Efficiency Program supports strategies to develop a knowledge base of efficiency solutions, foster workforce education and training, and encourage applications of new technologies.

Goal 2: California regulations, financing mechanisms, and incentives programs affecting the management of energy, air and water resources, solid waste, and climate change will be coordinated to mutual advantage.

The program supports strategies to attain multi-resource management goals and to coordinate technical assistance, funding and incentive mechanisms.

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.

The program supports strategies to make information on efficiency solutions readily available as well as conduct marketing and outreach to stimulate efficiency actions.

7. Program Implementation

a) Statewide IOU coordination

i. Program name: Agriculture Deemed Energy Efficiency Program

ii. Program delivery mechanisms

Agriculture Deemed Energy Efficiency Program will be coordinated on a statewide level to unify the implementation of program aspects such as program name, program delivery mechanisms, incentive levels, marketing and outreach plans, and IOU program

interactions. The Agriculture Deemed Energy Efficiency Program will coordinate with the core Agriculture Energy Efficiency Program to provide mutual support.

The high-level focus of this statewide coordination effort will enable the capture of new innovations and opportunities for program improvement, correct program weaknesses that reveal themselves during implementation, and ensure achievement of statewide targets across IOU service territories. Therefore, statewide focus on program unity and continuous program improvement over the course of the three year implementation cycle will be enabled.

iii. Incentive levels

Incentive levels are based on measure type and will be set at uniform amounts across the state. Higher incentive levels will be provided for Emerging Technologies to spur traction in the market as feasible. The scale of increased incentive for emerging technologies will be evaluated on a measure by measure basis dependent on kW, kWh, equipment cost, other market factors and cost effectiveness.

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

The Agriculture Deemed Energy Efficiency Program will be marketed through IOUs account executives, as well as through trade allies, educational, outreach and other marketing activities. Marketing activities will target agriculture customers, ESCOs, trade associations, local business groups and government entities to generate interest and program participation. In addition, direct customer contact by account executives, phone and e-mail support will be provided.

Marketing efforts will incorporate a variety of marketing tactics/activities to promote the solutions in the program. Education, awareness and outreach efforts will rely on a combination of targeted multi-media communication channels and targeted communication channels to ensure the messages reach the intended audiences with enough frequency to create awareness, educate and motivate attitude and behavior changes. The marketing strategies may include, but are not limited to, a mix of print, radio, TV, direct mail, e-mail, personal contact, trade shows, trade association meetings, customer workshops and seminars, energy related and other community events and partnerships with business and industry organizations, specialized collateral, case studies, website links and information with regular updates, bill inserts, press releases, and newspapers.

Market outreach to raise awareness of energy efficiency programs available will use a number of strategies, including:

- Account representatives will make a regular and consistent customer calling effort to key customers within this sector;
- IOU representatives, program management representatives, and field engineers will be available to provide additional expertise;
- Participation and membership in key trade associations affiliated with each high priority sub-segment within the agriculture market sector;

- Attendance at the key trade shows for each high priority sub-segment within the agriculture market sector;
- IOU-sponsored training events at the IOU's customer training centers and other convenient locations within the IOU's service territory;
- Hosting of IOU-sponsored webinars that provide sub-segment training and program adoption; and
- Written collateral pieces that provide an overview of the IOU's Energy Efficiency programs will be linked into the appropriate IOU's DSM web page.

The ideal marketing mix will be assessed for maximum awareness and participation. Marketing and outreach coordination will be coordinated, to the extent possible, among the IOUs utilizing the statewide coordination process described above.

The IOUs are currently developing an in-depth segmentation of the agricultural market. The results of this customer segmentation will support the development of targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers, based on their needs and preferences. Such delivery channels will likely include increased customer outreach through trade and community-based associations, third parties, government partnerships and core IOU programs.

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

The Agriculture Deemed Energy Efficiency Program will scan the programs offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to share program information and marketing collateral with agricultural customers, to the extent possible. Conventionally, each government agency and IOU has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type.

With respect to water conservation, IOU program managers will partner with the local water districts to co-brand marketing collateral, attend trade shows, co-release notices, for programs with interactive water and energy effects. Similarly, with ARB and Air Quality Management Districts, IOUs will offer customers program incentives for energy efficient equipment that may also reduce air and greenhouse gas emissions.

vi. Similar IOU and POU programs

The IOUs will be delivering many third-party programs that are permitted to use the Agriculture Deemed Energy Savings Program infrastructure. This will ensure a consistent delivery of measure incentives to ensure that programs do not cannibalize each other and detract from achieving cost-effective energy savings.

b) Program Delivery and Coordination

i. Emerging Technologies (ET) program

The long-term energy efficiency vision of California may be attained through the long-term and continuous development, verification, and acceptance of new technologies into the market. The achievement of long-term goals requires new technology as well as

information, training and market development to maximize the EE benefits of cutting edge technologies. In recognition of the importance of emerging technologies, the program is poised to adopt the efficiency potential of new technologies through its programs. In addition, portfolio staff actively works to incorporate promising emerging technologies.

ii. Codes and Standards program

The program relies on the Codes and Standards program to help maintain an updated and relevant list of measures that will support savings. As codes and standards impact measures, the program will act to align itself with appropriate offerings. It is important to manage the measure life cycle to take full advantage of providing incentives before moving them into code. The program will coordinate with the Codes and Standards Planning & Coordination sub-program. Programs will include new offerings that will allow flexibility in adapting to changes in codes and standards, market trends, and technologies. Planned enhancements to Title 20 and 24 will be reflected in incentive levels and eligible measures and services. As the market moves toward “low energy” or “zero net energy” buildings, specific changes to each element of the bundling will ensure the latest cost effective technologies/services (e.g., LEDs) are available. These technologies will begin as R&D, transition to Emerging Technologies, then to Incubation and finally to Mainstream.

iii. WE&T efforts

Workforce Education & Training efforts support the education and training of a robust network of industry trade allies, vendors, engineers, design teams and others who can support the market transformation strategies of the Strategic Plan. In the near term, WE&T efforts will focus on supporting national ANSI Energy Management Certification development efforts, as outlined in the Strategic Plan. Programs will closely coordinate with key stakeholders to ensure that California is poised to adopt this national standard and be a leader in this effort. Specifically, prerequisite trainings will be offered in DOE systems training to lay the groundwork for certification level trainings. These education and training offerings take place through IOU’s energy centers and technology centers.

iv. Program-specific marketing and outreach efforts

Marketing and outreach initiatives will include:

- Non-contracted vendors are a key delivery channel of the Deemed sub-program. Emphasis will be placed on building awareness with more vendors in the territory. Training vendors how to participate effectively in the program will also be a focus in the new program cycle.
- Community Based Organizations (CBOs), Faith Based Organizations (FBOs), Non-Profit organizations, and Non-Government Organizations (NGOs) with unique access and following are expected to be emphasized as a delivery channel.
- Trade associations and industry networks.
- Enabling partners (financial institutions, trade associations, service providers, law firms, environmental organizations, etc.).

- Unique channels that offer complementary value propositions from the customers' perspective (for example, energy, water, materials management, recyclables, and corporate social responsibility).
- IOU-sponsored training events at the IOU's Customer Training Centers and other convenient locations within the IOU's service territory.
- Hosting of IOU-sponsored webinars that provide sub-segment training and program adoption.
- Development of case studies, web pages, and marketing material that provide an overview of the IOU's energy efficiency programs.

Integrated and program-specific marketing efforts will complement and work in coordination with SW Marketing, Education and Outreach (ME&O) Program to increase awareness, provide education, and drive ongoing engagement and participation in DSM programs and services among nonresidential customers. The statewide effort will provide the first level with IOU specific programs providing reinforcement at a local level.

v. Non-energy activities of program

The program will offer customers educational information about the non-energy benefits associated with energy efficiency measures, such as improved safety, indoor air quality, productivity, comfort, and appearance.

vi. Non-IOU programs

The program will continue to engage with Air Quality Management Districts, CEC, ARB, DOE, water agencies, and other government agencies responsible for regulating the various aspects and operations of customer facilities participating in the programs, as appropriate and feasible..

vii. CEC work on EPIC

Not applicable.

viii. CEC work on C&S

Planned Title 20 and 24 enhancements will be reflected in incentive levels and in eligible measures and services.

ix. Non-utility market initiatives

The program will educate and support customers, and/or facilitate such initiatives as AB 32, renewables, ANSI certification, facility benchmarking, Continuous Energy Improvement, California Green Building Initiative, and other initiatives as directed. The IOUs will remain engaged in these efforts and work to influence the development of increasingly higher standards.

c) Best Practices

To maximize program effectiveness, best practices in program design and implementation will be employed and shared amongst IOUs.

Best practices in Program Design:

- Regular communication among IOUs.
- Identify qualifying products simply and effectively (Examples; ENERGY STAR®, CEE, FSTC website).
- Seek input from industry in the development of new programs. The IOU programs are trying to change how an industry operates from manufacturer design to the customers' purchasing and maintenance practices.
- Industry participation increases program volume and speeds market transformation.

Best practices in Program Implementation:

- Strive to simplify messaging and participation for the customer. (Look for the ENERGY STAR® label, purchase from a qualifying products list, etc.)
- Understand the key motivators that drive an industry and use that information to market the program. Make certain outreach efforts make the program visible to customers and the market catering to customers.
- Always communicate program marketing and advertising plans in advance to appropriate industry channels. Advanced notice allows industry partners an opportunity to leverage off of IOU marketing efforts and reinforce the program messaging.

d) Innovation

Innovative aspects of the program include improving major program performance indicators (for example, increasing the accuracy of energy saving calculations, higher realization rates, overcoming energy efficiency barriers, reducing application processing times and administrative costs, and integrated energy management).

For the new program cycle, California IOUs have implemented a new incentive structure that emphasizes peak demand reduction, addresses current economic downturn and better motivates customers to participate in energy efficiency incentive programs. During the 2013-2014 program cycle, the new incentive structure will be periodically evaluated and necessary changes may be made in order to enhance program benefits and performance, including measure bundling incentives. The IOU's will explore offering an audit to customers considering three or more measures in an effort to determine if the audit itself leads to implementation of deeper savings.

IOUs will continue working collaboratively on modifications to program policies and procedures to address ongoing changes in customer expectations, market conditions and program flexibility. These modifications include changes that have been and will be targeting ease of program understanding and participation, measures eligibility, increase of customer economical benefits and policy restrictions identified as barriers to participation. IOUs are implementing such processes based on market studies conducted on the subject and after discussion of the policy change. Among potential modifications are incentive caps, and redesign of early retirement measures and equipment.

Where possible, IOUs will use an integrated approach to addressing DSM opportunities. These approaches include merging energy efficiency and demand response analysis and

converting recommendations to Retrocommissioning and/or Calculated program projects. In addition, streamlining programs through processing and reviewing energy efficiency and demand response measures in a single application, providing analytical information about applicable distributed generation solutions will maximize customer adoption rates for most cost-effective energy management opportunities.

e) Integrated/Coordinated Demand Side Management

The program will integrate the portfolio of IOU offerings to include energy efficiency, demand response and distributed generation and other resources, such as air and water as they connect to energy. This supports not only cost effectiveness of the portfolio and the CA Loading order, but also customer requirements. It also advances significantly the Strategic Plan's goals. On a broader scale, IDSM also includes the integration of third party programs and Local Government Partnerships (LGP) delivery channel with the statewide agriculture program.

f) Integration Across Resource Types (energy, water, air quality, etc.)

California's agriculture sector faces a multitude of environmental and regulatory challenges that threaten its survival and competitiveness. New regulations aimed at improving air quality, water quality and reducing toxic environmental pollutants are proving to be expensive and disruptive to business as usual. Both these are impacting energy use and compliance.

To help deal with these challenges, the agriculture program will coordinate with the regulating agencies and their programs to support mutually advantageous program designs, customer incentives, marketing opportunities, and implementation opportunities. IOUs will continue to offer targeted trainings to customers who share common regulatory challenges to educate customers on impending regulatory requirements for their business operations, and the most efficient solution options for their compliance. Future workshops may look at small-and-medium sized water and wastewater treatment options, steam system upgrades, and energy efficiency to meet AB32 targets.

IOUs will pursue opportunities to partner with water agencies to offer joint energy and water conservation incentives to support projects that would reduce both resources. Partnering with other IOUs will help reduce administrative cost and has a greater impact on societal benefits.

The Program will integrate applicable topics (for example, GHG reduction and water conservation) into targeted customer workshops, and marketing communications, based on work done in the earlier program cycle.

g) Pilots

Not applicable.

h) EM&V

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

IOU and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts will be developed collaboratively by the IOUs and Energy Division. Development of these plans will occur after the final program design is approved by the CPUC and, in many cases after program implementation has begun, since the plans need to be based on identified program design and implementation issues.

7. Diagram of Program

Please see the core program diagram.

8. Program Logic Model

Please see the Commercial Deemed Energy Efficiency Program logic model.

1. Program Name: Agriculture Continuous Energy Improvement Program
Program ID#:
SDG&E Program Type: Core

2. Projected Program Budget Table

Table 1 – reference the overarching program for budget details

3. Projected Program Gross Impacts Table – by calendar year

Table 2 - reference the overarching program for gross impact details

4. Program Description

a) Describe program

The purpose of the Statewide Agriculture Continuous Energy Improvement (CEI) Program is to help agriculture customers engage in long-term, strategic energy planning. Target agriculture customers will be identified and approached selectively.

The program features:

- Management assessment of energy priorities;
- Integrated comprehensive energy audits with recommendations on energy efficiency, demand response, and self-generation;
- Benchmarking of energy usage and other resources;
- Development of a strategic plan with actions for implementation;
- Implementation including incentives from each IOU; and
- Evaluation of performance leading to modifications for continuous improvement

The CEI Program is part of a suite of programs within the Statewide Agriculture Energy Efficiency Program. The CEI will be designed to complement statewide agriculture energy audit and incentive programs, namely:

- Statewide Agriculture Energy Efficiency Program;
- Agriculture Deemed Energy Efficiency Program;
- Agriculture Calculated Energy Efficiency Program; and
- Agriculture Energy Audit Program.

The audit and planning services of the IOUs will be provided at no charge to the participating customer. Costs for capital investments by the customer will be shared by the IOUs to the extent they are tied to measures installed under the agriculture programs.

The program seeks to help transform energy markets and reduce energy intensity. The program represents a comprehensive approach that addresses both technical and management opportunities. Background information on continuous improvement and details on implementation are provided below.

A CEI approach applies the six principals of well-known business continuous improvement programs, such as Six Sigma and International Standards Organization (ISO) standards, to facility and plant energy management: Commit, Assess, Plan, Implement, Evaluate, and Modify.

At each stage of customer engagement, there are a variety of IOU and non-IOU products and services that can be offered to fit different customer profiles and optimize the cost effectiveness of each IOU's portfolios.

In implementation, IOUs will screen customers for certain CEI services based on factors such as customer energy use, complexity, number of facilities, energy decision making structure, environmental commitment or demonstrated motivation to take action. Screening criteria and specific product offerings will be IOU-specific.

In 2013-2014, CEI will be expanded to include select group of mid-sized nonresidential customers. Available options to help target these customers may include an individualized, a small group, or a mass-market, remote deployment approach.

CEI will coordinate its services with the Agriculture Energy Audit sub-program offerings. CEI offers customers what can be considered the pinnacle of audit offerings guiding senior management to instill energy considerations in all management/business operational decisions and in long-term energy planning.

CEI Commitment

CEI begins with a high level management commitment by the customer to improving energy performance, combined with other environmental and regulatory commitments being developed by energy users in response to market and political pressures. A corporate commitment sends the top-down message to employees, partners, shareholders and vendors that energy is a priority issue requiring attention. The message also paves the way for establishing the company resources required to implement the steps of CEI. These resources can include capital, personnel, i.e., energy champions or teams, or technical systems and software required for energy management.

Gaining true customer commitment can take time, but is critical. In implementation, IOUs will formalize the Commitment phase with more intensive customers through a CEI participation agreement, which outlines the IOU CEI services being offered as well as minimum customer expectations.

CEI Assessment

After the CEI Commitment, a comprehensive assessment identifies not only technical opportunities, but also systemic energy management practices and cultural shifts. This can improve overall facility management practices and sustain continuous improvements towards long-term company targets. A component to the assessment will also include tools to help identify Energy Efficiency (EE), Distributed Generation (DG), and Demand Response (DR) opportunities.

There are many tools and resources, both IOU and non-IOU, free and licensed, available to support comprehensive customer energy assessment. They include ENERGY STAR®'s *Guidelines for Energy Management*, customer energy management assessment software products like those developed by Envinta, benchmarking tools, Integrated Comprehensive Energy Audits through the Agriculture Customer Services Program, or local and statewide third parties who can offer specialized technical expertise and assessment.

Based on screening criteria, IOUs will offer comprehensive energy assessment services utilizing, but not limited to, vetted sources like those described below, to develop a customer specific strategic energy plan.

ENERGY STAR®'s Guidelines for Energy Management

ENERGY STAR®'s Guidelines for Energy Management is housed on the ENERGY STAR® website and provides step by step guidelines to customers to support CEI, and also guides customers to ENERGY STAR®'s numerous assessment tools. This option is a low cost resource for smaller and medium customers interested in CEI, with details available at http://www.energystar.gov/index.cfm?c=guidelines.guidelines_index.

Energy Management Assessment Tools

Envinta One-To-Five, Achiever, Challenger: A professionally facilitated energy management assessment with company decision makers. The assessment explores management practices and company priorities to develop a CEI roadmap for energy goals and actions. Available tools are:

- Each IOU's website tools
- EPA website tools
- DOE website tools.

Integrated Comprehensive Energy Audits

Integrated Comprehensive Energy Audits provide an inventory of technical facility end-uses and energy efficiency, demand response and self-generation investment opportunities. For a full description, see the Energy Audit sub-program [plan](#).

Benchmarking

Benchmarking can measure energy performance of a company, building, process, or piece of equipment to industry standards or comparable groupings. Benchmarking is a natural first step for the CEI process. Customers with multiple facilities find benchmarking useful to prioritize efficiency projects, track progress toward energy or green house gas improvement goals, or drive competition among similar benchmarked facilities. Units of measurement vary widely. For commercial buildings, the unit is energy used/square foot for a unit of time. For agriculture or agriculture facilities, however, benchmarking utilizes energy/unit of production for a unit of time.

Benchmarking can also be applied to other resources and environmental issues, such as water use and CO2 emissions.

The statewide IOUs can currently utilize a variety of benchmarking tools and resources including those developed by the EPA for ENERGY STAR and by Lawrence Berkeley National Lab with CEC funding:

- ENERGY STAR® Portfolio Manager *Commercial* Benchmarking: Benchmarks customer facility against a national database of similar NAICS codes for an ENERGY STAR® score (0-100), kBTU/sq ft-yr, lbs CO₂/yr;
- ENERGY STAR® *Cement Plant* Energy Performance Indicator;
- ENERGY STAR® *Auto Assembly Plant* Energy Performance Indicator; and
- LBNL BEST *Winery*: Benchmarks a winery's energy and water use against a theoretical best practice winery and allows user to model efficiency improvements.

Other benchmarking tools are under development including:

- ENERGY STAR® *Food Processing* Energy Performance Indicator;
- ENERGY STAR® *Glass Manufacturing* Energy Performance Indicator;
- ENERGY STAR® *Pharmaceutical Manufacturing* Energy Performance Indicator;
- LBNL BEST *Dairy Processing*: Benchmarks a dairy processors energy and water use against a theoretical best practice facility allows modeling of improvements;
- Management Standard for Energy SME 2000-2008;
- DOE sponsored ISO Plant Certification; and
- LBNL Superior Energy Performance.

In implementation, the statewide agriculture program teams will continue to partner with energy industry peers, industry associations and DOE/Commission sponsored labs and consultants, to enhance the use of existing tools, and develop new tools for key California industries. Benchmarking will be coordinated with the Agriculture Energy Audit sub-program.

CEI Planning

Strategic energy planning involves setting energy goals and action plans around energy efficiency, demand response, and generation as appropriate. Planning for customers will typically involve Account Representatives and/or consultants. As is discussed in the Strategic Plan and in the PIP Integration Section, strategic planning can also include complementary non-energy considerations as well, such as greenhouse gas reductions, water efficiency, and waste-stream minimization, all which have embedded energy components.

Data and findings from a comprehensive customer assessment are critical in developing any comprehensive energy plan, including the results from technical audits or assessments, facility benchmarks, energy management assessments, and assessments of company priorities. This information is analyzed and used to develop realistic and achievable company goals and prioritized shorter-term tactics needed to achieve them. Energy plans should be living documents revisited and revised regularly.

Energy goals can vary widely and include elements such as resource utilization (“Company X will reduce it’s overall energy intensity by 3% over the 2013-2014 program cycle”), carbon reduction goals (“Company X will be carbon neutral by 2014”), or management oriented goals (“Company X will implement energy teams by 2013”). Goals can be internal

documents or can be made public through press releases as part of larger sustainability plans, which is increasingly important for large and public companies.

CEI will assist customers in developing and implementing action plans to execute the prioritized near-term activities in support of their company's energy goals, as well as assistance with planning for the resources, staff and schedule for tracking. Action plans typically include activities such as prioritizing process systems or facilities based on benchmarking or company drivers, identifying internal resources required to implement plans, develop project justification and incentive application documentation lists and detailed schedules.

CEI Implementation

In the implementation stage, IOUs partner with customers to identify technical support and IOU and non-IOU resources available to support implementation of projects, such as rebates, incentives, third party and government partnership programs, and state and national resources, including:

- Statewide Deemed rebates;
- Statewide Calculated incentives for new construction/tenant improvement, retrofit and retrocommissioning/repair;
- Third Party and Government Partnership programs (described in the statewide and local third party filings);
- IOU and non-IOU financing options and owners engineer support; and
- External and internal engineer support.

CEI Evaluation and Modification

In any continuous improvement program, evaluation is an ongoing process of evaluating actual performance against company goals, targets and action plans. It may include repeating the benchmarking and system or facility baseline process annually, assessing advancements in organizational and management practices that facilitate energy management improvements, or evaluating cost savings per unit of product. Regular evaluation will inform changes to goals and action plans moving forward.

CEI will be available to all Non-Residential customers meeting certain eligibility criteria to justify the cost of the offering. Criteria will include but not be limited to customer energy use, complexity, number of facilities, energy decision making structure, environmental commitment and demonstrated motivation. Marketing and outreach plans include training of the IOU in-house staff and customer groups. Collateral materials such as fact sheets, how-to documents, and Power Point slides will be produced and distributed during sales calls, public events or trade shows.

b) List measures

Integrated energy audits under the CEI program will include the full range of applicable end-uses and measures for those end-uses. This will include process changes. The energy audit provides a tool that will lead customers to the measures and incentives offered in the other agriculture programs. However, depending on the outcome of the 2012 process evaluation, customer incentives may be offered.

c) List non-incentive customer services

Activities conducted under the CEI Program are non-resource activities with no associated incentives. These activities include: marketing and outreach, savings calculation assistance, retrofit project scoping, technical assistance, and incentive application assistance.

5. Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

By its nature, market transformation occurs as a result of numerous factors and programs, not single sub-programs. Therefore, all metrics are proposed at the program level. Please refer to the quantitative baseline and market transformation discussion, presented in the overall program PIP.

Table 3 – Refer to the overarching program for quantitative baseline metrics

b) Market Transformation Information

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms were presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per Energy Division Guidance on June 19, 2012, the MTIs to be found in Attachment “H” are approved for this sub-program as applicable.

Table 4 – Refer to the overarching program for market transformation metrics

c) Program Design to Overcome Barriers

CEI is intended to address several market barriers that prevent wider adoption of energy efficiency practices. These barriers include:

- Lack of information – The CEI evaluation and modification process provides data that customers can use to reevaluate their commitment and/or modify their energy goals.
- Performance uncertainties – Through CEI’s comprehensive baselining and benchmarking assistance, customers will have access to real-time data that demonstrates how their facility is performing relative to their established goals.
- Organizational customs – The high-level customer commitment that is at the core of CEI increases the likelihood that corporate cultures that prevent successful implementation of comprehensive energy policies will be changed.

d) Quantitative Program Targets

The targets provided herein are best estimates, but nonetheless are forecasts.

Table 5

	Program Target by 2013	Program Target by 2014
Number of Engagements	N/A	N/A

e) Advancing Strategic Plan Goals and Objectives

The Agriculture Energy Efficiency Program supports all three goals in the Strategic Plan for the Agriculture Sector. General advancement of the goals is presented in the program implementation plan for the Agriculture Energy Efficiency Program. More specific support of the goals in the Agriculture Deemed Energy Efficiency Program is presented here.

Goal 1: Establish and maintain a knowledge base sufficient to support development of all available, cost-effective, reliable, and feasible energy efficiency, demand reduction (and renewable) energy resources.

The Agriculture CEI Program supports strategies to develop a knowledge base of efficiency solutions, foster workforce education and training, and encourage applications of new technologies.

Goal 2: California regulations, financing mechanisms, and incentives programs affecting the management of energy, air and water resources, solid waste, and climate change will be coordinated to mutual advantage.

The program supports strategies to attain multi-resource management goals and to coordinate technical assistance, funding and incentive mechanisms.

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.

The program supports strategies to make information on efficiency solutions readily available as well as conduct marketing and outreach to stimulate efficiency actions.

6. Program Implementation

a) Statewide IOU coordination

i. Program name: Agriculture Continuous Energy Improvement Program

ii. Program delivery mechanisms

The Agriculture CEI Program will be coordinated on a statewide level to unify the implementation of program aspects such as program name, program delivery mechanisms, marketing and outreach plans, and IOU program interactions. The Agriculture CEI Program will coordinate with the core Agriculture Energy Efficiency Program to provide mutual support.

The high-level focus of this statewide coordination effort will enable the capture of new innovations and opportunities for program improvement, correct program weaknesses that reveal themselves during implementation, and ensure achievement of statewide targets across IOU service territories. Therefore, statewide focus on program unity and

continuous program improvement over the course of the two-year implementation cycle will be assured.

iii. Incentive levels

Not applicable.

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

As with other information and education programs, CEI will be primarily delivered by IOU customer energy efficiency staff and contractors, service and sales representatives, website and marketing and outreach efforts. Other channels of delivery may be developed.

The IOUs are currently developing an in-depth segmentation of the agricultural market. The results of this customer segmentation will support the development of targeted integrated marketing and outreach plans outlining multiple delivery channels that target customers, based on their needs and preferences. Such delivery channels will likely include increased customer outreach through trade and community-based associations, third parties, government partnerships and core IOU programs.

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

The program will scan the programs offered by CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to share program information and marketing collateral with agriculture customers.

vi. Similar IOU and POU programs

Over the next two years, the IOUs will seek to increase their interactions with the POUs, as applicable, to promote the CEI concept throughout the state. This may involve the creation of periodic California energy efficiency program summits that seek to increase awareness of the STRATEGIC PLAN and how programs could/should be designed to help meet its aggressive targets.

b) Program Delivery and Coordination

i. Emerging Technologies (ET) Program

The audit program management team will stay abreast of and incorporate relevant emerging technologies into audit recommendations. In addition, IOU field engineers, who deliver IEAs, are active contributors to the Emerging Technology process by their participation in ET Roundtable/Information meetings and continually seek to offer new technologies to customers.

ii. Codes and Standards Program

CEI implementation will include information about pending new codes and standards that may affect planning or prioritization of retrofit or new construction projects.

iii. WE&T efforts

CEI implementation will integrate with WE&T efforts by providing CEI process, lessons learned, and case study input to energy engineering curriculum designers for community colleges and universities. This activity will be coordinated through the Statewide WE&T program team and will ultimately be integrated into the web portal that team is now developing. IOUs will assess and support specialized WE&T training to help target working energy management professionals, industry professionals, and those pursuing education in universities and colleges.

IOUs will also continue with WE&T coordination to bridge the linkages and integrate sector strategy approaches. Program costs will be shared with WE&T.

iv. Program-specific marketing and outreach efforts

A broad range of marketing activities will be used to promote audits and elevate customer engagement. The Agriculture CEI program will be promoted via direct communication between customers and Account Executives with support of Project Managers from individual programs, as well as through traditional advertising activities, such as internet, bill inserts, brochures, trade shows, etc. Marketing activities will be coordinated between IOUs, Demand Response and Distributed Generation departments within each IOU.

Integrated and program-specific marketing efforts will complement and work in coordination with SW Marketing, Education and Outreach (ME&O) Program to increase awareness, provide education, and drive ongoing engagement and participation in DSM programs and services among nonresidential customers. The statewide effort will provide the first level with IOU specific programs providing reinforcement at a local level.

v. Non-energy activities of program

Integrated Comprehensive Energy Audits are a key tool for identifying non-energy opportunities for specific customers. The energy audits can identify non-energy benefits associated with recommended measures, such as improved safety, productivity, indoor air quality, comfort and appearance.

vi. Non-IOU programs

The program will continue to engage with Air Quality Management Districts, CEC, CARB, DOE, water agencies, and other government agencies responsible for regulating the various aspects and operations of customer facilities participating in the programs.

vii. CEC work on EPIC

Not applicable

viii. CEC work on C&S

The program will not be implemented with a direct linkage to codes and standards efforts

ix. Non-utility market initiatives

Education about federal tax incentives for energy efficiency investments is an example of non-IOU information and guidance that CEI will provide customers. In addition, the

IOUs will participate in national efforts to develop and/or improve benchmarking tools and services that can be used by customers to better facilitate their adoption of sustainable energy management practices.

c) Best Practices

A CEI approach applies the principals of well-known business continuous improvement programs, such as Six Sigma and International Standards Organization (ISO) standards, to facility and plant energy management: Commit, Assess, Plan, Implement, Evaluate, and Modify.

d) Innovation

The program seeks to help transform energy markets and reduce energy intensity. The program represents a comprehensive approach that addresses both technical and management opportunities.

Depending on the outcome of the 2012 process evaluation, CEI may consider customer incentives to accelerate project implementation (including IDSM projects), and reward customer for implementing strategic energy management.

e) Integrated/Coordinated Demand Side Management

CEI includes project analysis and implementation support of recommendations of Integrated Comprehensive Energy Audits, which provide customers with an inventory of facility end-use breakdown and energy efficiency, demand response and self-generation investment opportunities. Over the last few years, traditional DSM programs have learned that successful customer participation in one program leads to a likelihood of repeat participation in the same program. Additionally, this successful participation makes these customers likely candidates for other, similar programs, but because of siloing – thinking of programs as separate, unrelated efforts – this has proved difficult. To overcome this, the CEI sub-program will leverage lessons learned from IDSM efforts by offering comprehensive, coordinated marketing and program delivery.

A primary issue when integrating energy efficiency and demand response programs is that the two programs are at financial odds with one another, as both programs often reduce the potential for each other's financial incentives. For example, energy efficiency may reduce the overall baseline by which the demand response program's incentives are based upon. Since benefits from long-term energy savings derived from technological measures outweigh the temporary demand reduction benefits derived from behavioral actions, the CEI sub-program will offer additional support and services for energy efficiency measures that enable demand response when customers enroll, or are already enrolled, in demand response programs. In so doing, the program seeks to maximize the potential for both types of programs.

A secondary issue when integrating energy efficiency and demand response programs is that communications of both types of DSM program are often non-coordinated, since energy efficiency is typically technology based and demand response is often focused on behavior. Also, demand response efforts often happen prior to the summer "event season" and wane

throughout the remainder of the year. To overcome these differences, the Program will offer integrated and coordinated year-round marketing through consolidated applications, collateral, web sites, and events, where applicable.

Through bundling program elements and offering one program application, customers will have the opportunity to enroll in demand response programs in addition to energy efficiency programs.

To support the integration of energy efficiency and demand response programs, the sub-program will focus on several tactics:

- Promotion and incentives for demand response in such a way as to stimulate energy efficiency first;
- Integrated and coordinated year-round marketing (e.g. applications, collateral, web sites, and events);
- Linking of program eligibility requirements (e.g. customer size);
- Provide unified technical assistance through enhanced EE/DR Audits through the TA Program to allow for cross-harvesting opportunities;
- Integrated presence on IOU websites; and
- Regular coordination meetings between energy efficiency and demand response program management

CEI is recognized as a strategy to advance the statewide IDSM program's goals and objectives. The IOUs will increase IDSM messaging and coordination within CEI.

f) Integration Across Resource Types (energy, water, air quality, etc)

CEI implementation will include information on non-IOU Programs to expose customers to available funding, such as from air or water agencies to support efforts. IOU CEI sub-program managers will partner, as appropriate, with CEC, ARB, Air Quality Management Districts, and other government agencies to capitalize on opportunities to share program information, marketing collateral and financial incentive analysis with customers.

Conventionally, each government agency and IOU has operated natural resource and energy programs independently, missing opportunities to serve customers who must manage more than one resource type. For customers who are regulated by or interested in more than one resource issue, CEI will inform the customer about the mutual benefit of combining complementary resource programs.

To promote the CEI, IOUs will seek out customers interested in complementary resource programs such as provided by water and air quality agencies. Concerning water conservation, IOU program managers will partner with the local water districts to produce co-branded marketing collateral, attend trade shows, and co-release notices for programs with interactive water and energy effects.

g) Pilots

Not applicable.

h) EM&V

The IOUs are proposing to work with the Energy Division to develop and submit a comprehensive EM&V plan after the program implementation plans are filed. This may include process evaluations and other program-specific studies within the context of broader IOU 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.

Once results of the 2010-2012 evaluations are ready, recommendations will be reviewed for modifying the CEI PIP accordingly.

7. Diagram of Program

Please see the core program diagram.

8. Program Logic Model

Please see the Commercial Continuous Energy Improvement program logic model.