2013-2014 Energy Efficiency Programs
Statewide Integrated Demand-Side Management Program
Program Implementation Plan

1. **Program Name:** Integrated Demand-Side Management Program
   Program ID: SCG3734
   Program Type: Statewide Core Program

2. **Projected Program Budget Table**

Table 1: Total Projected Program Budget by Category

Program #	Main/Sub Program Name	Administrative Amount	Marketing Amount	Direct Implementation Amount	Incentive Amount	Total Program Budget Amount
	SW Integrated Demand Side Management Program					
3734	SW-IDSM-IDSM	$71,924	$24,900	$553,177	$0	$650,000
	TOTAL:	**$71,924**	**$24,900**	**$553,177**	**$0**	**$650,000**

3. **Projected Program Gross Impacts Table**

Table 2: Total Projected Program Savings by Subprogram

Program #	Main/Sub Program Name	2013-2014 Gross kW Savings	2013-2014 Gross kWh Savings	2013-2014 Gross Therm Savings
	SW Integrated Demand Side Management Program			
3734	SW-IDSM-IDSM	0	0	0
	TOTAL:	**0**	**0**	**0**

IDSM is a non-resource program.

4. **Program Description**

a) Description

The California Long Term Energy Efficiency Strategic Plan (Strategic Plan) encourages programs that integrate the full range of demand-side management (DSM) options including energy efficiency (EE), demand response (DR), and distributed generation (DG) as fundamental to achieving California's strategic energy goals. This program implementation plan (PIP) presents the coordinated effort of Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), San Diego Gas and Electric Company (SDG&E) and Southern California Gas Company (SoCalGas), (together referred to as "the IOUs") to integrate DSM options in full collaboration with the Commission's Energy Division. This PIP is in compliance with Decisions (D.) 09-09-047, which approved the IOU IDSM Statewide program; the 2013-2014 Guidance Decision (D. 12-05-015) that required continuation of IDSM activities; and the 2013-2014 Final Decision (D.12-11-015) which approved the 2013-2014 IOU budgets.
The IOUs have identified integrated DSM (IDSM) as an important strategic DSM policy priority. Each IOU has proposed activities, pilots, and other programs (Strategy 1.2) in response to the Strategic Plan DSM Coordination and Integration Strategy. Through these approaches, IDSM program implementation will be advanced significantly

In addition to the IOUs' individual IDSM pilots, projects, programs, and activities, the IOUs will maintain the Statewide Integration Task Force (Task Force) comprised of utility staff and third party program administrators, as needed. Energy Division staff and expert outside stakeholders can also participate in on a regular or as-needed basis. Task Force responsibilities include activities that promote, through statewide-coordination the IDSM goals and objectives as identified in the California Energy Efficiency Strategic Plan (D. 09-09-047), the 2013 – 2014 Guidance Decision (D.12-05-015), and the Decision approving the 2013 – 2014 EE program portfolio (D. 12-11-015),. The IOUs believe that Strategy 1.1 of the Strategic Plan—"Carry out integrated marketing of DSM opportunities across all customer classes" — should be coordinated with the statewide Marketing, Education and Outreach (ME&O) efforts (*see* SW ME&O PIP filed in a separate application in R.09-11-014) and implemented at the local level by the IOUs focused on particular segment and customer-specific strategies. The Task Force will coordinate closely with the ME&O statewide team established in the Strategic Planning process to ensure a consistent customer-focused communications approach and to gain knowledge from statewide and local marketing and outreach best practices.

In 2013-2014, the IDSM Task Force established in the 2010-12 portfolio period and consisting of IOU and ED representatives (Task Force) will continue to expand its role as a coordinating body across many proceedings, programs, and across the IOUs to identify gaps, best practices and to improve efficiencies around delivery of programs in a comprehensive manner to customers. Taskforce representatives will strive to actively participate in all applicable proceedings to help develop of a record in each proceeding that will aid in developing policies, funding opportunities, and mechanisms to promote IDSM.

The budget for DSM Coordination and Integration will provide cost coverage for positions at each utility to lead internal task forces, represent the utilities at the statewide task force level, facilitate training, and support subject matter experts. It will also fund expenses associated with the Task Force's deliverables and the coordination of the specific IOU integration activities. The IOUs will determine how to appropriately allocate energy efficiency funds to ensure IDSM tools provide customers with information that supports all demand-side resources, consistent with IDSM objectives, while remaining compliant with energy efficiency funding guidelines.

The Guidance Decision (D.12.05.015) directs the IOUs to continue and expand integration efforts in the following areas:

- **<u>Increased</u> Coordination:** Increased coordination across different proceedings with the IDSM Task Force as lead
- **IDSM Funding**: Consideration of appropriate funding from the other proceedings to support IDSM efforts
- **Increased Involvement of Stakeholders**: Inclusion of stakeholders and experts in the efforts of the IDSM Task Force
- **Information on IDSM Projects**: Detailed information on the pilot programs and projects

- **Audits**: Continued development of the integrated audit tool
- **IDSM Marketing**: Increased integrated marketing efforts and improved reporting / communication with the Energy Division
- **IDSM Tracking Databases**: Improved databases for tracking integrated projects

b) Statement of Problem and Solutions to Overcome the Problem

The California Energy Efficiency Strategic Plan, the 2013 – 2014 Guidance Decision (D.12-05-015), and the Final Decision approving the 2013-2014 EE Portfolio (D.12-11-015 require the utilities to focus on integration of DSM activities and programs on a statewide and local level by customers, utilities, regulators, and legislators.

The CPUC's Strategic Plan envisions "energy efficiency, energy conservation, demand response, advanced metering, and distributed generation technologies [as being] offered as elements of an integrated solution that supports energy and carbon reduction goals immediately, and eventually water and other resource conservation goals in the future." The State Legislature has proposed Assembly Bill AB51,[1] requiring the Commission to integrate the DSM programs within its jurisdiction in order to enable offerings of integrated packages that will maximize savings and minimize costs to ratepayers.

In order to ensure that the utilities' IDSM activities meet the Strategic Plan's vision, the Task Force will continue to identify and promulgate best practices, address implementation and policy issues, and design effective metrics to measure progress on IDSM progress, and report to the CPUC as described below. The utilities will work with Energy Division to identify a workable meeting/conference call and reporting schedule for 2013-2014.

This Task Force does not replace the individual IOU governance of DSM programs and is not intended to duplicate reporting or regulatory activities. Rather, the Task Force will specifically look for integration opportunities, identify integration barriers, and work through the IOU program staff to promote the advancement of integration, using lessons learned and best practices to establish a continuous improvement process.

The Task Force will focus on include the eight tasks as defined in D. 09-09-047:

1. **Development of a proposed method to measure cost-effectiveness for integrated projects and programs including quantification and attribution methods that includes GHG and water reductions benefits and the potential long-term economic and electric/gas hedging benefits.**

   a. Description:

[1] Assembly Bill No. 51, Amended in Assembly June 1, 2009, Amended in Assembly May 5, 2009, Amended in Assembly April 14, 2009, California legislature—2009–10 regular session; An act to amend Section 399.4 of the Public Utilities Code Relating to Energy.

The Commission has approved the California Standard Practice Manual, which serves as the reference document for cost-effectiveness tests and methodologies for EE programs. Rulemaking (R.) 07-01-041 is considering identifying and approving a cost-effectiveness methodology for DR programs, and R.08-03-008 is considering cost-effectiveness methodologies to measure the cost benefit of DG programs. To effectively integrate DSM program design, a set of internally consistent cost-effectiveness methodologies need to be developed for integrated projects, and for program efforts that seek to combine all of these demand side resource options within an integrated portfolio. Cost effectiveness is being considered in R.09-11-014.

b. Tasks and Timelines:

- Under contract to the IOUs, Black and Veatch completed a white paper on integrated cost effectiveness and presented observations and recommendations via public workshop in 2011. The progress of this activity has been on hold pending guidance from the Energy Division.
- The IOUs and the CPUC will work together on next steps for integrated cost-effectiveness efforts.

2. Development of proposed measurement and evaluation protocols for IDSM programs and projects.

a. Description:

In order to effectively evaluate IDSM programs, activities and pilots, specific protocols need to be developed to document and attribute energy savings, demand reductions, and CO2 reductions from various DSM customer activities. The Task Force will coordinate with IOU and ED EM&V resources to develop a proposal of appropriate metrics for assessing integration.

Draft EM&V protocols will also be applied to the IOU IDSM pilot programs. This exercise will allow for immediate feedback as to the feasibility of the draft IDSM EM&V protocols.

b. Tasks and Timelines:

- The Task Force will explore a phased approach to developing appropriate EM&V protocols for IDSM programs and projects. ED EM&V resources will collaborate with the IOUs to develop a white paper that will be publicly vetted.
- The IOUs and CPUC will work together on next steps for integrated EM&V efforts.

3. Review IDSM enabling emerging technologies for potential inclusion in integrated programs.

a. Description:

The Commission has approved various research and development (R&D) and Emerging Technologies (ET) programs in both Energy Efficiency and Demand Response proceedings that promote IDSM. The Task Force will be the appropriate forum to discuss the applicability of these new technologies and initiatives in the context of IDSM. The ET program will undertake a coordinated effort to support innovation in EE, DR, and renewable/self-generation. ET program staff will coordinate with the IDSM Task Force to review and vet proposed emerging technologies that can be funded and integrated across DSM programs.

The ET program will focus on integrating hybrid and renewable technologies as well as study and assess interactive effects, especially for technologies like lighting and HVAC. The program will launch demonstration showcases and scaled field placement featuring integrated energy systems for proof-of-concept, technology and usability assessment, market exposure, and public awareness. The IDSM Task Force will track the results of the ET program's technology integration and help chart its future course and monitor the inclusion of integrated ET products into customer projects.

b. Tasks and Timelines:

- Both the IOUs and the Task Force will track emerging technologies that have some combination of EE, DR, and/or renewable self-generation capabilities, or other integrated relationships to potentially pilot integrated product offerings (in addition to marketing) to customers.
- The IOUs will leverage emerging-technology efforts through various channels to offer and promote multiple integrated measures such as efficient lighting, HVAC equipment, or pumps coupled with controls that will provide both energy savings and auto-DR capabilities. The IOUs will explore leveraging existing or emerging technologies that individually or as a system combine EE, DR, DG, AMI, or water-savings potential as part of an integrated program offering.

4. Development of cross-utility standardized integrated audit tools using PG&E's developed audits as a starting point.

a. Description:

Program evaluation studies have identified energy surveys and customer site audits as powerful tools to create awareness of energy conservation potential. The IOUs currently offer integrated audits to medium and large customers (generally with demands upwards of 200 kW) that include appropriate EE, DR, and DG/CSI project and/or program recommendations. Integrated audits are described in the Commercial, Industrial, and Agriculture Statewide PIPs under the Customer Services sub-program.

Currently, DR and EE contribute funding to audit tool development and implementation. Generally no funding is provided by the solar/DG programs. Where appropriate, the Task Force will work with ED staff to identify opportunities for sharing costs across EE, DR, and DG in the development and implementation of integrated audits.

Standardization of Audit and Survey Tools

The IOUs continue to standardize statewide audit and survey tools portfolio, as well as customize audit recommendations based on customer profiles, operating characteristics, market sector potential, and cost-effectiveness. The IOU will consider more meaningful ways to implement the audit and survey tools for the customer and identify choices of potential measures in various DSM programs or technologies specific to a particular customer.

b. Tasks and Timelines:

- An online tool development timeline for each utility can be found in the Commercial PIP.
- Continue statewide coordination on online and onsite audit tool efforts.

Progressive Energy Audit Tool (PEAT) Description

The PEAT is an interactive tool that enhances information provided to a customer about energy usage, behavior, and IDSM technology recommendations as customer data and household/business characteristics become more available during continuous communication and engagement. While each IOU refers to this tool by a different name, it is generally known as the online audit tool developed in the 2010-12 portfolio period.

PEAT is accessible for residential and nonresidential customers whose electricity demand is less than 200 kW. The audit tool will be the principal conduit to provide IDSM information to customers, replacing several survey/audit products and their associated software programs which currently collect data, do data entry, and generate customer reports. More specifically, the tool will be able to generate customer reports that include specific information on the costs and benefits of IDSM programs.

Projected Design and Functionality

The online tool was developed in the 2010-2012 portfolio period and will be enhanced in the 2013-14 cycle. Enhancements may be performed in phases, evolving as new internally or externally developed tools become available for acquisition. The online tool will likely evolve based on smart grid, smart meter roll out at IOUs, building customer interfaces, and applications may extend the development beyond the 2010-2012 and 2013-2014 portfolio periods.

Where appropriate, the Task Force will continue to share best practices on a statewide basis, and will work with ED staff to identify opportunities for sharing

costs across EE, DR, and DG in the development and implementation of integrated audits. It is expected that DR, EE and solar/DG programs will share costs representing their portion of the integrated audits and integrated services to customers based on measures identified. Currently DR and EE contribute funding to audit tool development and implementation, but generally no funding is provided by the solar/DG programs, unless funds are provided as carryover from the 2012 online tool development funds.

5. **Track integration pilot programs to estimate energy savings and lessons learned and develop standard integration best practices that can be applied to all IOU programs based on pilot program evaluations and the results of additional integration promoting activities (i.e., EM&V and cost-benefit results).**

   a. ***Description:***
   The Task Force will be the principle governance structure to track the integrated efforts of the IOUs and develop SW metrics to evaluate their success. The Task Force will identify pilots, projects, programs, and activities being conducted by individual IOUs that might be replicated in other parts of the state. The Task Force will not limit their efforts simply to integrated pilot programs or projects with special funding, the Task Force will also track integrated program offerings and integrated projects with customers.

   For example, the Task Force will work with the Continuous Energy Improvement (CEI) teams on a IOU and Statewide basis as CEI works to further integrate activities in the program (see the "Integrated/Coordinated Demand Side Management" section of the CEI Program description found in the Commercial, Agriculture, and Industrial PIPs).

   Part of this effort will include using new integrated audit tools being developed by IOU market sector programs that provide baseline data and information regarding the appropriate combinations of DSM technologies for a site. In turn, the Task Force will coordinate with market sector efforts to provide feedback on the development of these tools to ensure they are truly integrated. Although the Task Force will not run or manage specific programs, it will offer recommendations, based on its findings, on new approaches and activities that could be added to existing programs to enhance the integrated nature of the offerings. Task Force recommendations made to IOU program managers to promote integrated programs or projects will be included (whether the other program managers accept Task Force recommendations or not) in the IDSM reports for ED. Additionally, the proposed IDSM cost-effectiveness framework, once adopted, will be applied in real-time to the pilot programs within this funding cycle.

   In addition to the formal Task Force, internal IOU teams will actively participate in discussions of pilots, perform assessments based on data collected from the

pilot program managers, and return recommendations based on lessons learned to the management-level staff of the Task Force. The Task Force will establish a regular review process for pilot progress and ensure that best practices are identified in a report and shared with portfolio managers for all DSM areas and Energy Division staff. IDSM is a regular agenda item for management reviews within each IOU, and information and lessons learned can be shared with the other IOUs.

As the IOUs are conducting IDSM pilots, launching integrated programs, and implementing integrated projects with customers and the continued research is collaboratively vetted and shared, the Task Force will also look at developing best practices for IDSM for future integrated programs, activities, and projects. The Task Force will establish a formal process for sharing best practices with internal IOU staff, Energy Division staff, and interested stakeholders.

Per the Commission's direction, the table below describes all Integrated Demand Side Management pilot programs and projects. The offerings address CPUC guidance on resource comprehensiveness, design characteristics, promotion of emerging technologies, and the testing of integrated cost-effectiveness and evaluation methodologies that support IDSM objectives. For more information on SCE's Food Processing Pilot, see the IDSM Food Processing Pilot PIP within the Third Party Program.

Integrated Pilots

Pilot Program	Demand Side Resources Included (1)	Enabling Technologies Included (2)	Emerging Technologies Included (3)	Existing or New Construction (4)	% of ZNE Anticipated (program / avg project)		Anticipated Savings kWh (program / avg project)		Anticipated Savings KW (program / avg project)		Anticipated Savings Therms (program / avg project)		Program Cycle Budget Allocation (6)	Estimated Avg Cost Per Building	Accounts Included in the Pilot (7)	Notes
SCE- Zero Net Energy	EE, DR, DG	AMI, Battery Storage	X	NC	75	80	4000	200	10	0.5	3000	150	400,000	20,000	30	Have looked at AMI; including any enabling or emerging technologies that make sense for a specific project
SCE- Sustainable Communities	EE, DR, DG	AMI, Battery Storage	X	NC	10	1	N/A	N/A	N/A	N/A	N/A	N/A	1,100,000	55,000	8	Have looked at AMI; including any enabling or emerging technologies that make sense for a specific project
SDG&E Behavioral Pilot	EE	AMI Data	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,900,000	$10/year	at least 100K	Comparative usage pilot continuation
SCG - Sustainable Communities	EE, DG	AMI, Fuel Cells	X	NC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	650,000	N/A	N/A	Other Enabling Technologies as appropriate based on project characteristics

b. ***Tasks and Timelines:***

- During the 2013-2014 portfolio cycle, the IOUs will work with Commission Staff to ensure that an adequate level of detail is provided in their reports on Integrated Demand Side Management pilots, programs, projects and activities.
- The Task Force will work with other statewide teams to identify opportunities and projects to target where there are integrated offerings available and projects underway.
- The Task Force will work across the IOUs to identify and share best practices and lessons learned associated with the integrated programs, projects, pilots and activities identified and tracked.

6. Develop regular reports on progress and recommendations to the Commission.[2]

a. Description:

The Task Force will communicate regularly with Energy Division through meetings and reports.

Consistent with IOU reporting requirements, each utility will provide a written report that will include updates on the status/progress on the eight IDSM activities.

b. Tasks and Timelines:

- Since Q1 2010, the IOUs have provided quarterly reports accessible through EEGA; discussions are ongoing to determine the appropriate reporting requirements for 2013-2014.
- The Task Force (including IOU and Energy Division representatives) meets, in person, as needed, for a deep dive discussion on some of the key area of interest in the report and will continue in 2013-14.
- The Task Force, including subcommittees, holds planning and coordination conference calls to discuss progress on integrated activities and will continue in 2013-2014.

7. Organize and oversee internal utility IDSM strategies by establishing internal Integration Teams with staff from EE, DR, DG, marketing, and delivery channels.

a. Description:

The Task Force will facilitate IDSM planning and be the primary source of assistance to help inform internal IOU staff of integrated program activities, oversight, and coordination. The Task Force will not oversee the individual IOU Integration Teams, but will coordinate with these groups. The IOUs will establish internal integration teams with representatives from EE, DR, Energy Savings Assistance Program (ESAP), distributed generation (DG)/Solar, green programs, marketing and delivery channels.

[2] Heading remains consistent with CPUC directive in D. 09-09-047.

Deliverables of the Integration Team:

- Facilitate and communicate to promote inclusion of EE, DR, solar and other offerings (e.g., DG, Rates) into comprehensive energy cost reduction offerings to customers
- Coordinate with the marketing teams to promote integrated offerings including a centralized marketing function and consistent messaging
- Develop and implement sales and program training for integrated offerings including a targeted customers approach and sales training plan with a consideration of lessons learned from other IOU training efforts. Elements will include:
  - Training sales representatives from all appropriate delivery channels and program staff on IDSM integration to improve the sales effectiveness of programs
  - Incorporating IDSM into external events and internal training of customer-facing sales staff, as appropriate
- Coordinate responses to Commission directives, inquiries and data requests
- Coordinate development and delivery of integrated programs to create seamless market-segment-based customer solutions
- Coordinate/track delivery and progress of integrated pilots and activities
- Participate in regulatory proceedings and filings to maintain consistent, coordinated message
- Review and provide comments on regulatory filings. SCE will develop and begin implementation of an IDSM Action Plan that sets goals, strategies, and tactics across the organization to facilitate and optimize efficiencies gained through the utilization of integrated approaches. SoCalGas, where the service territories overlap significantly, will endeavor to partner with them in this to find synergies and economies of scale.

In order to educate and share best practices and experience with integrated products, marketing, and sales; integrated sales training will be developed, or in some cases continued, for the IOU customer facing, marketing and the program teams.

b. Tasks and Timelines:

These tasks are ongoing within each utility.

8. Provide feedback and recommendations for the utilities' integrated marketing campaigns including how the working group will ensure that demand response marketing programs approved as category 9 Demand Response programs are coordinated with EE integrated marketing efforts.

a. Description:

Regular coordination meetings currently exist to review EE, DR, DG and ESAP/LIEE results with internal marketing management and discuss course changes that might be needed. Integrated marketing is defined as marketing efforts that seek to integrate demand side energy management options to the greatest extent possible (DR, DG, and EE/ESAPLIEE) and in a way that make sense for each customer. The Task Force will enhance this process to promote program integration across the DSM campaigns. A specific feedback process will be designed, but the Task Force may also forward its recommendations to EE, DR, ESAPLIEE and DG program management responsible for developing marketing IDSM strategies for use in regular reviews and reports in addition to ad hoc contacts to plan and modify programs. Any Task Force recommendations made to other IOU program managers to promote integrated programs or projects will also be included, whether the other program managers accept Task Force recommendations or not, in the quarterly regular reports on IDSM activities to ED. At the meetings, the Task Force will also use the opportunity to educate and train management and portfolio managers on best practices for increased integration of DSM programs and offerings to customers. Integrated marketing campaigns will also ensure that DR marketing programs approved as category 9 programs are coordinated with EE integrated marketing efforts.

All IOUs are conducting residential and non-residential outreach events, developing and delivering collateral, and utilizing website updates and campaigns to cross market programs. Research on customer approach has also been conducted on the effectiveness and appropriate order, timing, and combination of bundling of programs to customers. In addition, the utilities held a statewide coordination and communication meeting in May 2011 to discuss integrated efforts and best practices and identify opportunities to coordinate and collaborate. Additional statewide coordination meetings were held in 2012.

<u>Integrated Local Marketing Education and Outreach Strategy</u>

The IOUs' integrated marketing plans are designed to generate ongoing customer engagement in EE, DR and other DSM programs and services, by providing residential and non-residential customers with the right message, through the right channel, at the right time. The plans will leverage and complement the SW ME&O activities, which will be designed to "provide general energy education and demand side management program information," (D.12-05-015, OP 117a) while "prompting residential and small business customers to immediately take action." (OP 117f)

In 2013-2014, a new Statewide ME&O campaign will focus on creating awareness and educating customers about energy management and integrated DSM. The IOUs expect to leverage the increased interest generated by the SW ME&O campaign and use that point of contact and education as a step towards deeper EE engagement. The IOU's local integrated 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 whole-house 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.

Integrated Local Marketing Education and Outreach Messaging
In order to provide customers with relevant messages, the IOUs will use segmentation and internal data analysis to help refine our current understanding of customers' IDSM needs, by appropriate customer segment and target offerings appropriately. By cross-selling DSM programs and services that are meaningful to the customer, the IOUs will encourage customers to take action.

When appropriate, integrated messaging 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.

In addition to cross-selling DSM programs and promoting bundled solutions through integrated campaigns, integrated messaging will be designed to motivate customers to enroll in web-based billing and analysis tools. This action will enable and encourage customers to better understand and manage their energy usage by taking advantage of the online tools. It will also provide the utilities with additional opportunities to continue to cross-sell DSM programs and services.

Integrated Local Marketing Education and Outreach Tactics
Local integrated marketing campaigns leverage multiple tactics and multiple communications to present customers with a holistic view of programs and service offerings, and clearly present the actions customers can take to participate. To reach California's diverse customers, the IOUs will use a mix of communication channels and languages. When possible, the IOUs will utilize the customer's preferred method for receiving communications. Marketing channels may include, but are not limited to: customer call centers, business account representatives, direct mail, email, IOU and 3rd Party websites, bill inserts, outreach events, partnership activities, social media, and ethnic advertising.

Integrated Local Marketing Education and Outreach Reporting
To increase and showcase marketing integration, IOUs will continue to conduct regular coordination meetings to share integration results, review best practices, and identify potential areas for improvement. For example, in May 2012, the IOUs presented an overview of their marketing integration efforts at the Quarterly

IDSM Task Force meeting. Additionally, IOUs will continue to submit updates of their integrated marketing activities within their quarterly report.

b. Tasks and Timelines:

- The Task Force will continue to work in 2013-2014 with the statewide ME&O effort to ensure integrated messaging and coordination at a statewide level and will identify areas of integration with other demand-side programs by identifying and developing a product planning/review process that involves ME&O members of the IDSM Task Force.
- In 2013-2014, the Task Force will conduct internal review of local utility marketing efforts where there are opportunities to integrate messages and campaign, resource, and program offerings that promote demand side integration of AMI, DR, EE, and DG resources.
- The IOUs will continue to share information with the Task Force on local IOU integrated marketing, training, and education efforts. The IOUs will report all integrated marketing activities in the quarterly reports and will highlight integrated marketing efforts at the regular IDSM Task Force meetings.

c) Program Goals, Strategies and Measurable Objectives

The primary purpose of the Task Force is to facilitate the integration of the full range of IOU DSM program options for California. To achieve this purpose the Task Force will pursue several objectives:

1. Determine membership and identify key liaisons and stakeholders

   Initial Task Force membership will include representatives from each of the utilities, non-utility representatives as appropriate, and from the Commission's Energy Division. Utility membership will include people representation from strategic planning, EE, ESAP, DR and DG programs as well as emerging technologies, marketing, delivery channels and regulatory coordination, and possibly advanced metering. Statewide membership may be expanded to include representatives from the municipal utilities, the California Energy Commission (CEC) and other stakeholders. The Task Force may have regular representation from each of the leads of the other SW Program working groups, such as Industrial, Agricultural, Commercial, Residential, ME&O, WE&T, and New Construction.

   The Task Force will coordinate and work with Energy Division staff through regularly scheduled phone calls, reports and in person meetings, as needed. As issues come up related to best practices and approaches with particular market segments and projects, the Task Force members will agree on subject matter experts to share with and educate the team.

   In the 2013-2014 period, the IDSM Task Force will make strides to include subject matter experts and other external stakeholders in the discussions of the

eight specific directives in order to get perspective and additional feedback on the various topics and subjects. As directed, the IOUs will work in collaboration with the CPUC to identify and invite stakeholders to participate where and when appropriate.

The Task Force will coordinate and communicate with teams associated with other programs and proceedings. Included in this effort is the ESA Integration Working Group; the Task Force and the ESA Integration Working Group /subcommittee work together to maintain directional alignment and to identify and report on best practices across the EE, ESAP and other proceedings.

2. Continue to identify and describe progress of:
    - Existing utility activities, efforts, programs and pilots,
    - IDSM best practices, and
    - IDSM metrics (including pilots) and cost effectiveness methodologies

3. Identify key issues affecting successful integration, such as cost-effectiveness, enhancing progress on technical innovations and regulatory jurisdictional issues. The Task Force will work with ET and program planning staff to develop potential solutions to the issues raised, and then follow through to see that the solutions are represented in future program modifications.

4. Develop metrics and reporting mechanism for tracking success of integrated efforts (EM&V protocols) consistent with the EM&V development plan described earlier in section 4.A.2.

5. Develop proposals for policy and program initiatives necessary to forward IDSM.

6. Establish program-funding protocols.

7. Identify and recommend adoption of enabling/supporting policies for inclusion in appropriate DSM programs and reports consistent with descriptions in prior sections of this PIP.

8. Identify and propose changes to inhibiting policies, metrics, and reports consistent with descriptions in prior sections of this PIP.

Tasks and Timelines
Goals defined above will involve ongoing efforts of the Task Force.

d) Target Audience(s)
The target audience for this statewide IDSM program effort is IDSM stakeholders including, but not limited to, the IOUs, CPUC, CEC, DSM solutions providers (e.g., EE service providers, DR aggregators, CSI installers) and utility customers.

e) Identify If and How this Program will Provide any Elements of Workforce Education and Training (WE&T)

The Task Force can be utilized as a repository of experts and best practices that promote IDSM for IDSM related WE&T efforts. Similar to its efforts with the SW ME&O Task Force, the IDSM Task Force will take the following actions related to WE&T:

- The Task Force will work with the larger Statewide WE&T effort to ensure integrated coordination at a Statewide level.
- The Task Force will conduct internal review of local utility education and training efforts to identify opportunities to integrate these activities.
- The Task Force will share information on local IOU integrated training and education efforts.

To date, the Task Force has collaborated with the WE&T SW team to develop the acceptable protocol for integrated training at the training centers. This includes a definition of "integrated training" identified in coordination with the IOU statewide WE&T Task Force that is included in the SW WE&T PIP.[3] The Task Force will continue to identify and report best practices. Any IOU budgets associated with Integrated WE&T are included in the WE&T PIP.

Tasks and Timelines

The Task Force will work with the WE&T team on these efforts on an ongoing basis. Specific timelines are not known at this time, but will be developed in collaboration with ED once the WE&T Needs Assessment Study is available.

5. Program Rationale and Expected Outcome

The Strategic Plan calls for an ongoing task force to establish a blueprint for integration. A statewide non-resource program is an effective means of coordinating such a blueprint.

a) Quantitative Baseline and Market Transformation Information

Program Performance Metrics (PPMs)

[3] The IOU ECs propose two ways that educational program can be identified as "integrated".

1. Integration through a balance of building systems content
   Course content includes material on at least two building systems (i.e. mechanical, building envelope, lighting, solar, water, etc.) their relevance to one another, and how an integrated systems approach optimizes overall demand management with impacts that address energy efficiency, demand response, and smaller renewable energy systems.
2. Integration through technology content
   Technologies discussed can be used to fulfill at least two of the three subjects of Integrated Demand Side Management (EE, DR, and DG). IDSM technology examples would include dimming ballasts, energy management systems, controls, or any technology with a work paper that includes both kW and kWh savings. Energy efficiency technologies result in permanent load reduction. Demand response technologies have the ability to respond to a demand response event for temporary load reduction. Distributed generation technologies deliver power to an individual building or set of buildings.

The IOUs have evaluated 2010-2012 PPMs in Resolution E-4385 for applicability to the 2013-2014 program cycle and propose to work collaboratively with Energy Division to develop revised program targets and PPMs as appropriate for the 2013-2014 program cycle. The IOUs' will propose revisions in an advice letter, per additional guidance from Energy Division.

Table 3.1: Short-Term 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 Integrated Demand Side Management Statewide Program (Resolution E-4385, Appendix A):

PROGRAM PERFORMANCE METRIC (PPM)	Metric Type
1. Awareness and knowledge among relevant IOU program staff (to be specified – e.g. account reps, engineers that administer the audit (3rd party); program designers and managers) regarding how IDSM relates to and impacts their efforts and programs	2b
2. Number and percentage of integrated audits provided to each customer class and NAICS code.	2b
3. A status report that identifies how well "integrated" (EE, DR, DG) all IOU demand-side energy program offerings and components are (e.g., CEI, Commercial, Agricultural, Industrial, Residential, Audits) including lessons learned, best practices, improvement plans, and how the program portfolio is addressing strategic planning goals / objectives. D.09-09-047 also provides directives regarding integration, as well as the IDSM program objectives specified in the PPM Worksheet. The report will review how the IOUs have developed internal and external frameworks that support integration of IDSM programs and technologies. (Y/N)	2b
4. Number and percent of integrated audit participants (identify NRA participants) in all customer classes (Residential, Commercial, Industrial, Agriculture) that implement recommended DSM measures / participate in other DSM programs (EE, DR, DG – Track which categories implemented / participated in) or other recommended technical process and practice improvements. (If possible, identify whether participants received incentives or not.)* *Data sources for reporting will come from (a) program tracking databases and (b) process evaluation to refine estimates.	2b
5. Program participant awareness of IDSM practices in each of the market sector subprograms.	2b

6. Program participant awareness of IDSM practices in each of the market sector subprograms.	2b

Table 3.2 Long Term PPMs

SoCalGas includes long term PPMs per Energy Division guidance received in December 2012. As stated in the Joint Utilities' comments to the Commission in R. 09-11-014 dated November 21, 2011, and discussed between IOUs and ED on January 9, 2013, IOUs plan to finalize long term PPMs in further discussions with involved stakeholders and propose updates to Energy Division at a later date.

MTI Index#	RE-CATEGORIZED Metric (LTPPM - or SPI) [E-4385 Appendix B original text except for noted edits]	Unresolved Issues
IDSM-1	MT Indicator 1: Percent of customers who are aware of online and onsite integrated audits Percent of CA residents who know where they can get an integrated online audit. Percent of CA residents who know where they can obtain an integrated on site audit. Percent of CA businesses who know where they can get an integrated online audit. Percent of CA businesses that know where they can get an integrated on site audit	
IDSM-2	"MT Indicator 2: Percent of customers in each customer class who have received an integrated audit and percent of these customers (by audit type) who have implemented one or more of the audit recommendations (indicate how many incentivized vs. non-incentivized) 1. Percent of customers in sectors A, B, and C who have received an integrated audit.	

b) Market Transformation Information

Per Resolution E-4385, a subset of market transformation indicators (MTIs) for statewide energy efficiency programs and subprograms was presented at a public workshop on November 7, 2011, to allow for public comments and discussion before being finalized. Per guidance from Energy Division received in December 2012, the approved Market Transformation Indicators for 2013-2014 are filed as a Joint IOU matrix, included as Appendix F.

c) Program Design to Overcome Barriers

As stated in the Strategic Plan, "Historically, demand side management (DSM) options for energy consumers have been "siloed" activities within regulatory bodies, utilities, environmental organizations, and among private sector service providers. The current narrow focus on a single product offering does not maximize energy savings nor minimize the costs of program delivery." The Task Force and associated integration efforts within each utility is working to overcome this and other barriers to maximize benefits for customers and reduce costs for ratepayers.

d) Quantitative Program Targets

Not applicable for this non-resource program.

e) Advancing Strategic Plan goals and objectives
In support of the Strategic Plan,[4] the IOUs will evaluate the DSM pilot programs and determine what components will lead to successful DSM integration, consistent with the strategies in the Strategic Plan. The Task Force will discuss the applicability of these Emerging Technologies and initiatives in the context of IDSM. The ET program will undertake a coordinated effort to support innovation in EE, DR, and renewable / self-generation. ET forums will be used by the Task Force to review and vet proposed ET technologies that can be funded and integrated across DSM programs. Lastly, through coordinated DSM marketing, the Task Force will promote program integration across the DSM campaigns in order to maximize EE, DR, & DG opportunities.

6. Program Implementation

a) Statewide IOU Coordination
This is a statewide program.

i. Integrated Demand Side Management

ii. All program delivery mechanisms

As described earlier in this document, the Task Force does not replace the individual IOU governance of DSM programs and is not intended to duplicate reporting or regulatory activities. Rather, the Task Force will work with different programs and delivery channels and will specifically look for IDSM opportunities, identify barriers, and work through the IOU program staff to promote the advancement of IDSM, using lessons learned and best practices to establish a continuous improvement process.

iii. Marketing materials and message

The Task Force will work with the Statewide and internal IOU M&O teams to leverage statewide awareness and coordinated program messaging; and, explore utilizing educational efforts that direct customers to local utility integration efforts and offerings.

iv. IOU program interactions with CEC, air resources boards, air quality management districts, local government programs, other government programs, community-based organizations, non-governmental organizations, manufacturers, retailers, trade and business associations, as applicable.

The IDSM Task Force will explore opportunities to interact with other programs/ organizations that could include municipal utilities, local and state governments,

[4] California Long Term Energy Efficiency Strategic Plan, Section 8,4 pp. 72-73.

water districts and DSM solutions providers to offer integrated services, obtain input/feedback, share knowledge/best practices, and generally promote IDSM efforts and activities. Expansion of Task Force participation may be in the form of periodic expert input and ad hoc workshops as needed to solicit input from the broader group of participants in a fair and equitable manner. Future program milestones, lessons learned, and best practices can be shared with outside stakeholders to further IDSM activity outside of IOU programs.

v. Similar IOU and POU programs

The IDSM Task Force will coordinate with all IOU SW programs and will interact with other programs/ organizations, municipalities and DSM solutions providers to offer integrated services. Future program milestones, lessons learned, and best practices can be shared with outside stakeholders to further IDSM activity outside of IOU programs.

b) Program Delivery Mechanisms
The Task Force will not be involved in direct implementation but will develop and provide the knowledge necessary to promote integrated program delivery mechanisms.

c) Marketing Plan
The Task Force will not be providing direct marketing services, but the coordination of marketing will be an integral part of integrated approaches and will be included in each individual program's approach where applicable. In addition, as described in Task 8, above, the Task Force will work with the Statewide and internal IOU M&O teams to leverage statewide awareness and coordinated program messaging; and, explore utilizing educational efforts that direct customers to local utility integration efforts and offerings.

d) Best Practices
The Task Force's involvement in reviewing utility integration activities, pilots and practices (e.g., Zero Net Energy, Food Processing) will lead to the establishment of Integrated Best Practices.

e) Innovation
Individual utilities are working on integrated approaches locally to meet customer needs on a comprehensive, solutions-based level and coordinating and tracking of these integrated pilots and activities.

f) Integrated/Coordinated Demand Side Management
The basis of this program is entirely integrated and coordinated demand side management on a statewide basis with local efforts feeding into the overall strategy.

g) Integration Across Resource Types
Where possible, the Task Force will continue to identify opportunities for integrating across non-energy areas such as water conservation, electric vehicle infrastructure, and

gas saving technologies. Most likely, this information will come from pilots and other customer-focused activities and will be considered future pilots and best practice recommendations.

h) Pilots

The Task Force will be the principal governance structure to track the integrated efforts of the IOUs and develop SW metrics to evaluate their success. The Task Force will identify pilots, projects, programs and activities being conducted by individual IOUs that might be replicated in other parts of the state. As described in section 4.b.5, above, integrated pilots and activities will continue to be identified and tracked by the Task Force in Quarterly Reports. A critical component of evaluating these pilots, projects, and program activities is identifying what data should be captured to optimally evaluate the ongoing success of these pilots and IDSM activities. The Task Force will coordinate with ED staff to ensure that an adequate level of data is collected. Currently several integrated pilot program Advice Letters have been submitted to Energy Division for review and approval. Once the programs that will be going forward are identified, the IDSM Task Force will identify which pilot programs will be monitored to provide the data and information needed to address the integration promoting tasks to potentially be included in the Statewide IDSM Program. The IDSM Task Force will also play a role in helping the IOUs identify Program Performance Metrics (PPMs) for integrated pilot programs which will help achieve IDSM strategic planning goals identified in the Strategic Plan, subsequent decision directives, and this PIP. The PPMs are currently being developed as part of a statewide effort, including metrics for the Statewide IDSM Program, and will play a key role in assessing the ongoing success of these programs. The IDSM Task Force will clearly identify the integrated pilot programs to be monitored in efforts to inform the implementation of the IDSM programs when PPMs are submitted for the IDSM Program on May 23, 2010. Being mindful of the PPMs, the Task Force will determine how best to monitor and evaluate the pilots and various IDSM activities. Informed by the key eight activities identified in this PIP, the Task Force will include a detailed description for how the integrated pilot programs will be utilized for data gathering and developing the recommendations required from the Task Force in a detailed EM&V plan as described below. However, final EM&V plans for the 2010 – 2012 have not been finalized; therefore, all EM&V plans will be consistent with those plans once adopted for this program cycle.

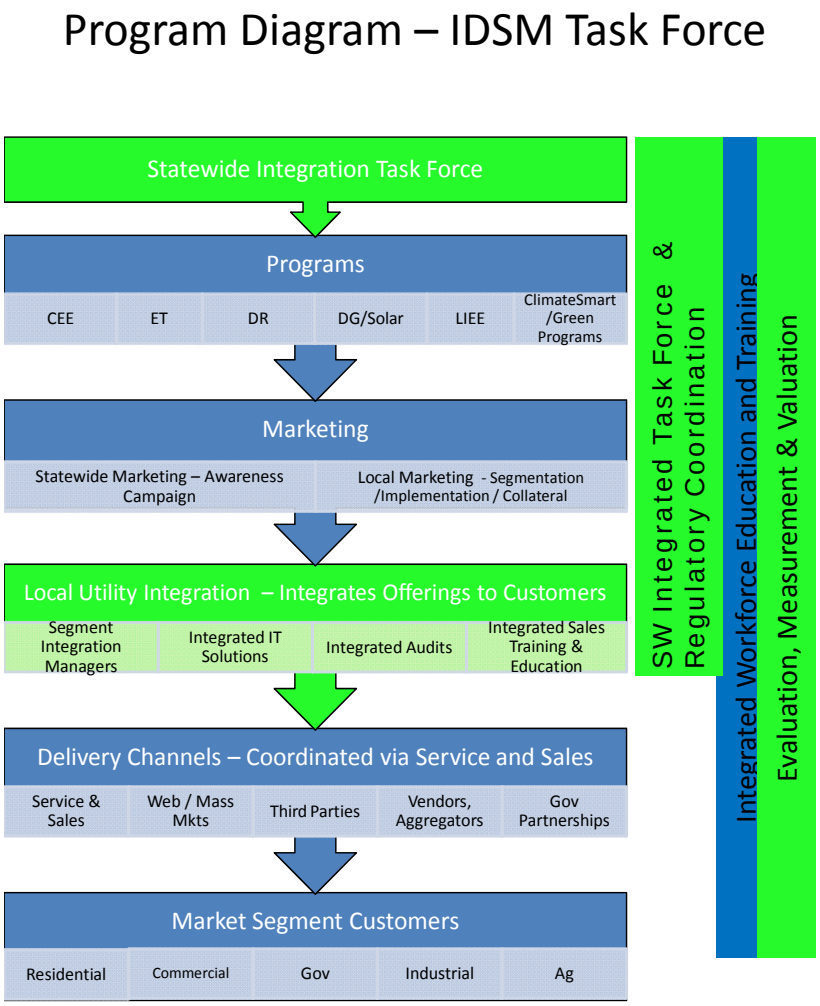
i) EM&V

The Task Force will continue tracking and measuring the metrics described in Section 5 of this PIP, leveraging evaluation studies and resources where appropriate. The IDSM Omnibus Process Evaluation is being reviewed and the IOUs will consider recommendations contained in the report for improving future IDSM offerings. Subsequent evaluation needs will be determined at the conclusion of the Omnibus Evaluation.

The IOUs are pursuing activities identified in the December 2012 version of the Omnibus Evaluation. These activities, summarized below, are also described in earlier sections of this PIP:

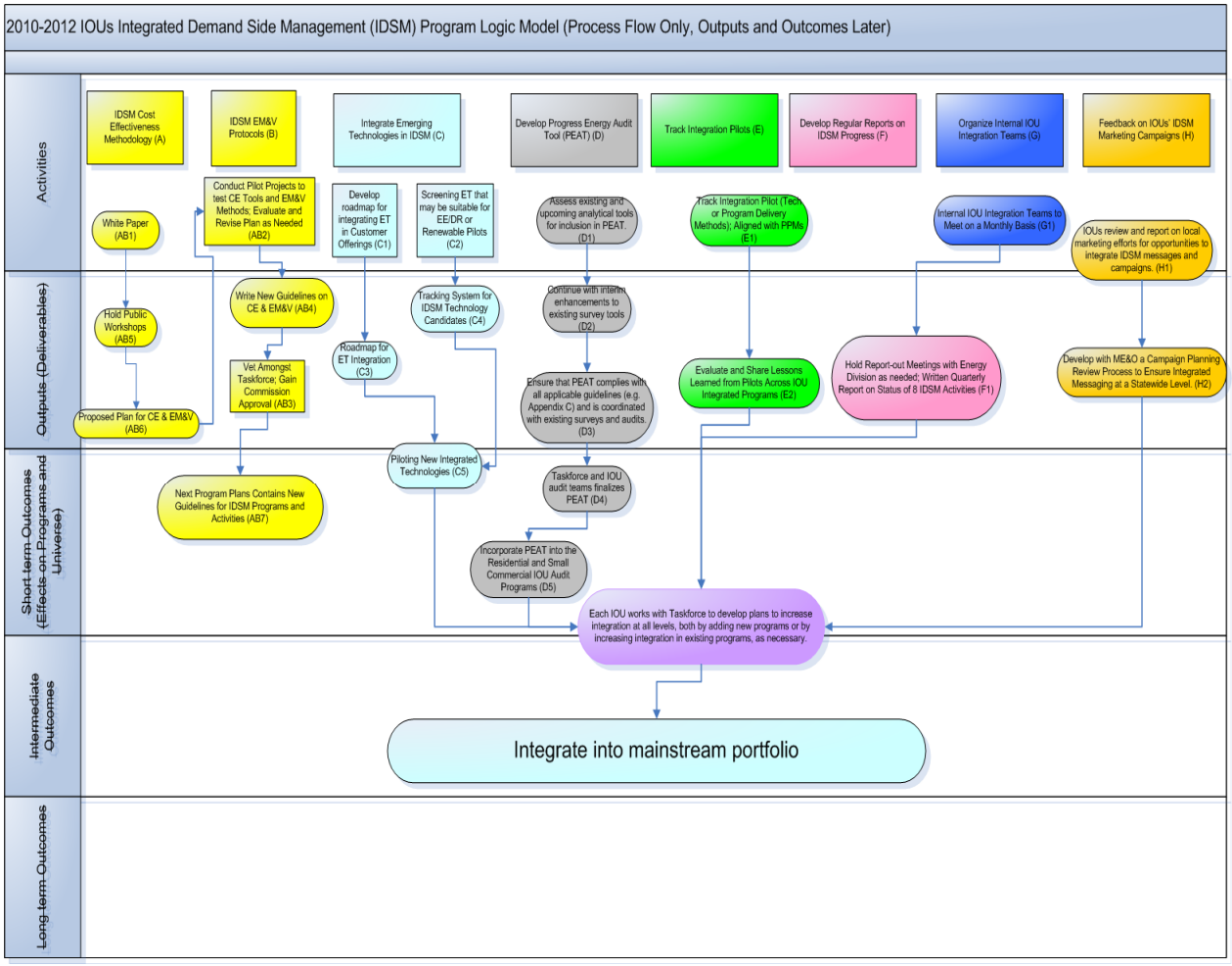
- Coordination among utilities to review our integrated training programs and leverage lessons learned to improve our integrated training offerings.
- Incorporating subject matter experts on AMI in integration-related teams and meetings.

7. Program Diagram



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 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 Integrated Demand Side Management Program.



9. Local Sustainable Communities Case Studies Program

The SoCalGas IDSM Program is made up of two major, but related, components.

1. The previously addressed Statewide IDSM effort
2. The Sustainable Communities Case Studies Program

SoCalGas' Sustainable Communities (SC) program provides the framework for the design and building of communities that support the environment through energy- and resource-efficiency. SC helps to enhance quality of life by protecting and preserving natural resources and improving economic development. Incentives and other assistance are available to developers, building owners, and design teams that construct highly energy-efficient buildings with sustainable design, and long-term energy-efficiency.

This highly innovative program will be SoCalGas' flagship program providing the path for all other programs in meeting California's long-term energy efficiency goals, including zero net energy homes by 2020. This program will enable market transformation resulting in measurable energy efficiency, integrated demand response, distributed generation, renewables and natural resource savings while optimizing long term ecological, social and

economic health of California. It accomplishes this by comprehensively integrating the "vertical" development (buildings and their components) with the "horizontal" development (land and utility and transportation infrastructure) over the full planning horizon. This holistic approach to program design and implementation is coupled with a new management model and evolutionary improvements in energy, water and air quality savings over the project life.

Another key feature of SC's flagship approach is its longer-term focus and crosscutting implementation to avoid trapping the key market players in the usual "organizational silos." SC achieves this through the unique partnership between SoCalGas and the Master Developer by developing early market interventions deployed by 3rd party implementers upstream of the usual core programs. This innovation produces more productive and resilient market change with greater cost-effectiveness.

Sustainable Design and Construction Training

A training program and training materials will be developed for participating builders and contractors. The training, for both residential and non-residential building, will cover all relevant issues including sustainable design and construction impacting energy efficiency, solar, water, waste, utility infrastructure (smart grid and AMI), and transportation.

A metric of this service will be determined in tracking the impact early intervention and training have on increasing energy-efficient design of residential structures. Developing training goals and objectives, curriculum and tracking of buildings energy performance will be used to measure success of the training. The minimum specifications will be covered in the training developed to help encourage and monitor innovative design and exceeding building performance targets set by the developer and utilities. The utility will support training developed and provided by developer's consultants for builder subcontractors.

The incorporation of a Learning Center within the development is proposed to help educate and build awareness of energy efficiency, renewable generation and sustainable measures that have been incorporated into the development. The Learning Center will create a powerful teaching tool due to its interactive software and real time graphics. This tool could demonstrate the community's energy savings compared to non-efficient developments, showcase the development's green features and show environmental impacts and equivalent comparisons. In addition, kiosks will contain renewable energy education and incorporate actual data related to utility owned on-site generation. The center would be strategically located within the community near a school, library, or public center. This location could also be used for utility hosted energy workshops highlighting energy efficiency and green building design.

Sustainable Design Assistance

Design assistance will be provided to participating engineers, architects, planners, and builders. The program will encourage innovative and less traditional approaches to meeting and exceeding sustainability goals. Design assistance will occur much earlier in the

development process than traditional utility offerings to embrace this flagship program's crosscutting nature and to better leverage its holistic ambitions and goals.

Residential Modeling Procedure and Protocol Development

Because builders will be required to submit documentation illustrating how their designs will meet the sustainability requirements, this program will develop the modeling procedures and other requirements for this documentation. Sustainability targets would be set at 35% above Title 242 for all residential building and would also include participation in the New Solar Homes Partnership program to foster development of renewable energy on each residential building. Similar energy performance targets would be established for commercial projects with corresponding participation in the CSI program.

2 Title 24 2005.

Figure 1: Sustainable Communities Crosscutting Approach

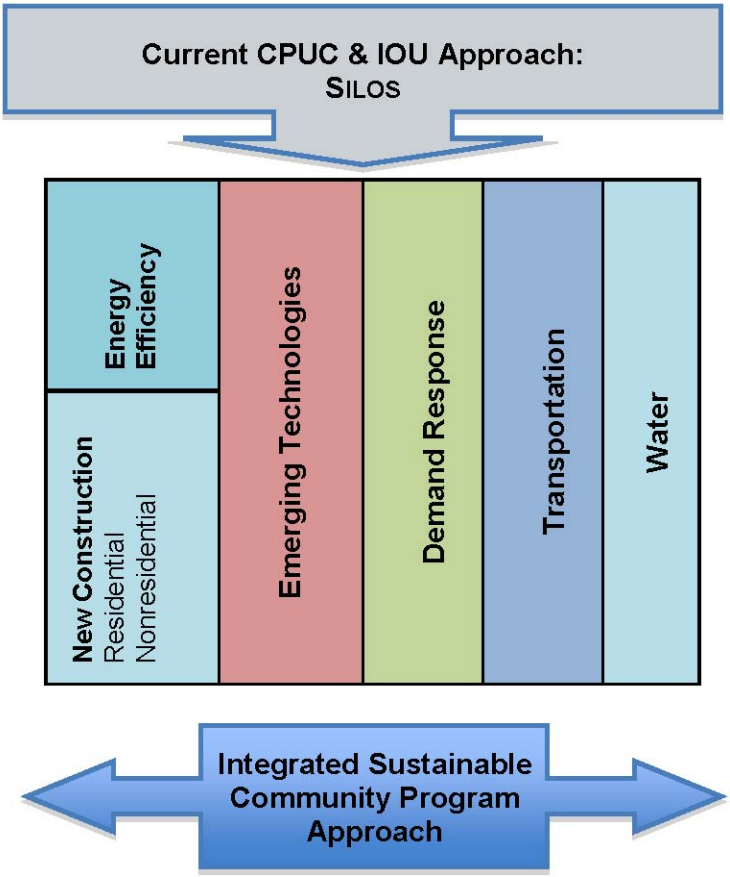
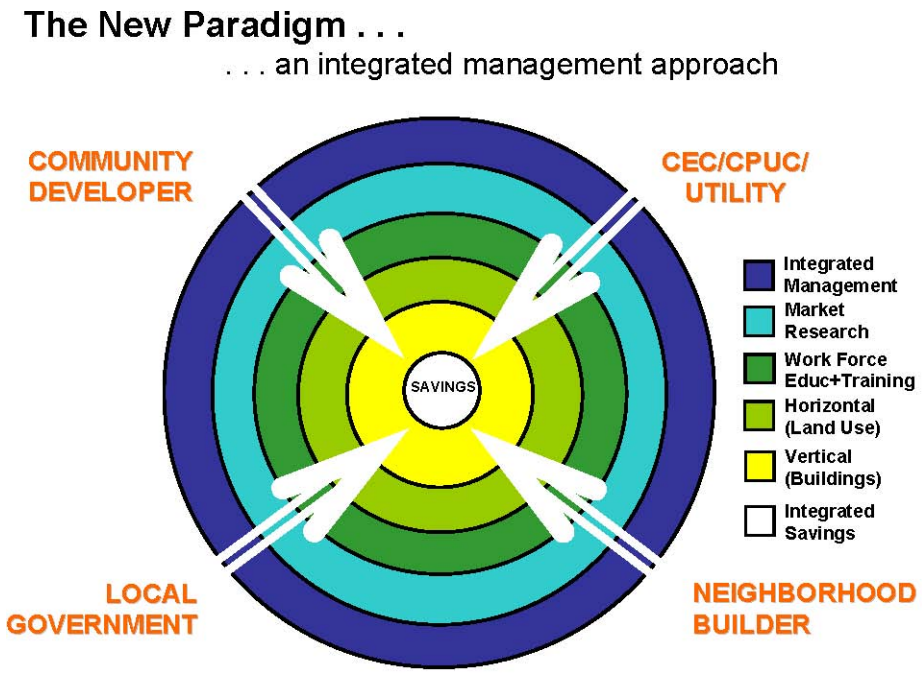


Figure 2: Sustainable Communities Integrated Savings Approach



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

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

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

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

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

Program Design to Overcome Barriers

- SoCalGas program offerings work in silos and result in lost savings opportunities at the community level.
- The Pilot will work directly with the Community Developer to achieve integration across community energy end-uses such as buildings, transportation, water, and generation. This allows 100% participation by the community and encourages the developer to be innovative and aggressive in setting energy efficiency and renewable energy goals.
- Working through the Community Developer will enable SoCalGas to influence multiple types of consultants (architects, landscape architects, urban designers, transportation engineers, mechanical and electrical engineers), trades (mechanical, electrical, plumbing, roofing, and renewable installers) and supply chain partners

such as manufacturers as well as local governments.

- Program cycles are too short for stakeholders with long-term planning and development horizons. 3-year program cycles ignore market conditions and long project lead-times.
- Master-planned communities typically have twenty year planning horizons which is much longer than typical IOU program timelines. This program resolves this by proposing a sufficient timeline that allows for full program integration into the development plan. Master-planned communities typically have twenty year planning horizons. Front-loading the program recommendations will maximize market transformation and allow the program benefits to properly deliver over the full length of the master development process.

  For example, Rancho Mission Viejo's Ranch Plan went through a decade of science-based planning, and processing; development of the first planning area (PA1) will commence once the market recovers, hopefully by 2010 (www.TheRanchPlan.com). Another example is Otay Ranch, a large master planned community in Chula Vista went through a ten-year planning process, opened in 1999, and ten years later still is nowhere near completion despite being San Diego County's top selling planned community. (http://otayranch.com/about/aboutIndex.shtml). This program resolves this by proposing a sufficient timeline that allows for full program integration into the development plan.

- IOUs and non-governmental organizations lack the coordinated efforts that are needed to accomplish the goals. Disincentives exist at the CPUC, CEC, and IOUs that delay and inhibit effective and persistent market transformation:

  Incentives availability is unpredictable for long-term stakeholders, and they are unable to utilize or secure them for projects.

  Current organizational "silos" at IOUs and CPUC associated with various rulings make it impractical to do an integrated and comprehensive sustainable communities program. This creates missed opportunities for EE and DR savings up and down the energy supply and demand chains.

  Utility customers are seeking integrated solutions addressing their entire energy infrastructure needs from smart appliances, smart meters, smart grid functionality including vehicle-to-grid capability, to promoting grid-enabled renewables. Existing program structures prevent appropriate creation and delivery of an integrated market solution.

<u>Advancing Strategic Plan goals and objectives</u>
SoCalGas' Sustainable Communities (SC) program supports the Statewide Strategic Plan, and promoting a sustainable future for Southern California. By addressing environment concerns and energy and resource efficiency, the program seeks to support the residential 2020 goals of zero net energy in new construction. Coupled with the focus on sustainable

design and green building practices, the program is uniquely positioned to influence the design and construction of sustainable communities in its broadest definition. Consistent with The California Long Term Energy Efficient Strategic Plan, Residential New Construction will reach "zero net energy" (ZNE) performance for all new single and multi-family homes by 2020, and commercial new construction will increasingly embrace zero net energy performance (including clean, on site distributed generation), reaching 100% penetration of new starts in 2030. Near term, by 2011, 50% of new homes will surpass 2005 Title 24 energy efficiency standards by 35%; 10% will surpass 2005 Title 24 standards by 55%..

Residential

To support the CLTEESP objectives, SoCalGas proposes a separate *Sustainable Communities Case Studies* program that focuses on the Ranch Plan being developed by the Master-planned community company.

The program guides the target community toward this goal by setting beyond-code minimums in the interim, which facilitates building to ZNE in the target timeframe.

The Pilot will incorporate a Learning Center within the development to educate builders and homeowners as well as provide the Community Developer access to SoCalGas' full gamut of energy efficiency programs.

The program will provide design assistance for builders, during which SoCalGas will push for the incorporation of innovative building practices.

The pilot integrated approach will include a comprehensive array of strategies including energy-efficiency measures, educational opportunities for demand response, onsite renewable distributed generation (as applicable), and smart meters.

Commercial

New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.(Goal 1)

Codes and Standards: Adopt aggressive and progressive minimum energy codes and standards for buildings and plug loads, effective code compliance and enforcement, and parallel, tiered voluntary energy efficiency standards (Strategy 1). The Pilot sets increasingly rigid energy efficiency goals that provide a workable path to achieving this goal. Specifically, at least 75% of commercial square footage must be 20% better by 2012.

Innovation

Sustainable Communities will be SoCalGas' flagship program providing the path for all other programs to meet California's long-term energy-efficiency goals, including net-zero energy homes by 2020.

SC enables enhanced market transformation resulting in measurable energy efficiency, integrated demand response, distributed generation, renewables and natural resource savings while optimizing long-term ecological, social and economic health of California. It accomplishes this by comprehensively integrating the "vertical" development (buildings and their components) with the „horizontal development (land and utility and transportation infrastructure) over the full planning horizon. This holistic approach to program design and implementation is coupled with a new management model and evolutionary improvements in energy, water and air quality savings over the project life.

Master-planned communities typically have twenty-year planning horizons which is why weaving the vertical program elements with horizontal elements are so critical to its success. This program is unique in its breath and the level of integration to achieve long-term savings for: electricity, natural gas, water, wastewater, carbon emissions, and greenhouse gases.

Sustainable Communities recognizes that master-planned community developments provide a "proving ground for interrelated pilot program offerings. This program will help SoCalGas and the CPUC to better understand barriers and opportunities with different stakeholders as part of a pilot/program rather than from numerous disjointed efforts. In addition to establishing SoCalGas as a leader in promoting sustainable development, SC provides the CPUC the opportunity to establish their leadership and overall policy guidance in support of these innovative programs.

The process for developing sustainable, livable land-use practices and building design is creative, technical and, participatory. The basic principles of sustainable development merge similar objectives to protect and restore the natural environment while providing nurturing, high-quality communities for people to work and live in.

The common fundamental characteristic throughout the program is its focus on performance approaches rather than prescriptive approaches to fully integrate building systems with infrastructure enabling SoCalGas into California's Smart Grid. The Smart Grid concept overlaps various functions such as smart meters, smart appliances, demand response, self-generation, highly efficient PV systems and transportation.

Integrated/coordinated Demand Side Management
Fundamental to SC's innovative design is it fully embraces an IDSM methodology by closely "knitting EE, DR, DG and renewables across development components. Its very nature speaks to integration to form synergistic impacts that are typically unattainable through EE business as usual.

At a minimum, all marketing materials will be developed to support energy-efficient design process in helping cross promote demand response to educate customers on the availability of IOU DR programs/Smart Meters etc. Additional work will take place during the three-year program cycle to evaluate closer linkages between EE and DR via Program Managers and success with this concept with various case study projects. Additionally, this feedback

mechanism establishes a means to facilitate technology approaches that enable SC to crosscut organizational silos in achieving its strategic vision.

Integration across resource types (energy, water, air quality, etc.)
SC is a comprehensive program with a cross-cutting focus on energy-design, green building practices, and increased utilization of renewable resources. Infrastructure, transportation planning, energy, water, materials, and waste are all addressed in the program rather than as separate elements. This provides the opportunity for exponential energy- and resource-savings throughout the community – giving SoCalGas and developers the ability to shift to cleaner forms of energy to power our communities. The key difference is that SC approaches the market with the Master Developer as its focus. Rather than address market barriers at the tail end of the market cycle, SC deals with barriers earlier in the development process thereby enhancing and improving its leverage to create substantially greater impacts as displayed in the table below. The pilot will engage with CEC, DOE, MWD and other government agencies responsible for various aspects of New Construction in California.

Integrated Community-Based Solutions
The main elements addressed by the participating projects will be structured around three key concepts – Environment, Resources, and Energy – with a detailed focus to the following principles:
Sustainable site design

- Energy efficiency
- Advanced renewables integration
- Pollution reduction
- Water efficiency
- Indoor air quality
- Resource preservation
- Smart Grid
- Integrating local Governments
- Transportation.
- Smart Land-Use Options (ex: mixed housing, walk-ability / bike-ability)

These energy- and land-use practices, sensitive to both the human community and natural environment, will be achieved through the *Sustainable Communities Case Studies* program and will allow the utility to initiate a collaborative partnership with the design community, developers, builders and related industries.

Master-planned community (to be determined)
To support the *Case Study* program concept and to integrate it into the *Sustainable Communities* program, SoCalGas proposes a separate *Sustainable Communities Case Studies* program that will focus on a to be selected Plan being developed by a Master-planned community developer.

These projects will be comprised open space, residential units, commercial construction, schools, hospitals and other related development.

The project will be developed with sustainability as its guiding principle and addresses. This would include:

- Interdependence of humanity and nature
- Intergenerational stewardship
- Optimized value
- Design with natural systems
- Conservation of natural resources
- High-performance design technologies
- Resource-efficient healthy materials
- Elimination of waste
- Multi-model transportation
- Innovation, education, and ongoing evolution

The project will also address quantitative environmental metrics of:

- Energy use
- Air pollution
- Greenhouse gases
- Water use
- Storm water and runoff

The tools developed, results achieved and lessons learned from the pilot have direct application Statewide and will be shared to further advance sustainable development elsewhere in California. This provides a much-needed proving ground serving to enrich sustainable community development at a cost-effective level unattainable through traditional approaches.

Project Opportunities

Utilizing the first plans as a case study will provide both short- and long-term opportunities for energy savings and other benefits in a cost-effective environment. It will also provide a comprehensive mix of energy-efficient market potential for multiple residential, commercial, and retail sectors. It will provide a model to successfully implement the programmatic initiatives found in the Strategic Plan.

Working through the community developer will enable the IOU to influence multiple types of consultants (architects, landscape architects, urban designers, transportation engineers, and mechanical and electrical engineers), trades (mechanical, electrical, plumbing, roofing, and renewable installers), and supply chain partners such as manufacturers as well as local governments.

Project Funding

2013-2014 Energy Efficiency Programs
Statewide Integrated Demand-Side Management Program
Program Implementation Plan

The Sustainable Communities Model developed by CTG Energetics, Inc. and the selected Master-Planned Community Sustainability Team, is the core controlling element in the analysis of the Project. Funding for the development and maintenance of the Sustainable Communities Model is needed to support the case study and evaluate the energy and environmental impacts, and sustainable design decision making for the choses project. This Sustainable Communities Model will be the core controlling element in the analysis of the project. The Sustainable Communities Model® (SCM) quantifies total environmental impacts (including energy use, water use, greenhouse gas emissions, air pollution emissions, stormwater, transportation impacts, solid waste, and other factors) allowing communities to optimize planning and design decisions that result in the greatest environmental benefit for the least cost. The SCM takes a quantitative, systems-based approach towards sustainability. This enables a project's design team to "connect" each specialty's detailed analyses together to explore and optimize environmental impacts that cross disciplinary boundaries. The landscape architect can explore the impacts that various planting palettes has on building energy use (shading, microclimate modification, evaporative cooling), water consumption, carbon sequestration and embodied environmental impacts such as the amount of embodied energy/carbon in water. The SCM is scalable over a wide range of community sizes, and can been applied to "communities" ranging from municipalities, to large master planned developments/re-developments, to academic and corporate campuses, down to individual buildings.

Funding for the development and maintenance of the Sustainable Communities Model is needed to support the case study and evaluate the energy and environmental impacts, and sustainable design decision making for both the phases and the broader project. The funds are anticipated to support five key areas of the Sustainable Communities Model:

1. Implementation of the entire project in SCM to facilitate further investigation and analysis
2. Support of on-going plan design changes (densities, unit types, etc.)
3. Development and refinement of peer review and referencing methodologies to support the environmental benefit calculations, and
4. Development of new calculations and modules needed to support specific decision points for the project (e.g. large scale photovoltaic, cogeneration, district heating and cooling, etc.)

Additional funding will be required to cover:

- An on-site HERS-certified inspector during the build-out of the project. This inspector will perform the required tests and inspections and will ensure consistency and quality in the Planning Area 1 homes.
- Full-time, on-site technical support for 3rd party inspections and tests of building to ensure quality, program compliance, energy savings, and measurement and verification.
- Sales training
- Timeline of completion
    - The program will roughly be scheduled through the end of 2014, but the master development and results will continue for up to 20 years, or 2034.

- Timeline of results
    - Some results will be available annually; a more comprehensive study will be completed at the end of the program cycle.
- The Statewide IDSM program is tasked with developing an appropriate cost effectiveness methodology for integrated projects/pilots. The methodology will be used for this pilot as it becomes available.

The Green Energy Systems (GES) program (see Statewide New Construction PIP, Savings By Design for an example) will explore the potential for utility ownership of major energy efficiency equipment to facilitate the installation of the highest efficiency HVAC systems in commercial buildings. The program recognizes that building owner financing is constrained and without utility ownership, the system design will not maximize energy savings. The objective of GES is to capture energy efficiency opportunities that would otherwise be lost for the 20 to 30 year life of the HVAC equipment. This pilot will build on the success of the Sustainable Communities program that incorporates utility ownership of clean energy generation systems on customer facilities.

Under GES, SoCalGas will seek to identify projects with the following characteristics:

- The project is of sufficient size to warrant the effort (>$2,000,000 investment)
- The building is intended to be owner occupied or owner managed
- The HVAC system is a central plant configuration

If an appropriate project is identified, with an owner willing to enter into a contractual agreement with the utility to own and operate the building's HVAC central plant, then the utility will file an advice letter for approval of incremental capital and maintenance costs and will demonstrate that the project meets the following criteria of the project is cost effective as a stand-alone energy-efficiency project and delivers incremental energy savings beyond what the building owner would otherwise have installed.

If approved, the utility will sub-contract out the design, construction, and operation of the facility but will serve as project manager to ensure it is constructed and operated at the design efficiency levels.

Savings By Design:	Neighborhood Retail, Business Park, and Offices, Fire/Police Stations, churches and Civic.
California Advanced Homes:	Single family detached, single family attached, multi-family apartments and Assisted Living Community.
New Solar Homes Partnership Program:	Single family detached, single family attached, multi-family apartments.
Zero Net Energy Homes:	Single family detached, single family attached, multi-family apartments.

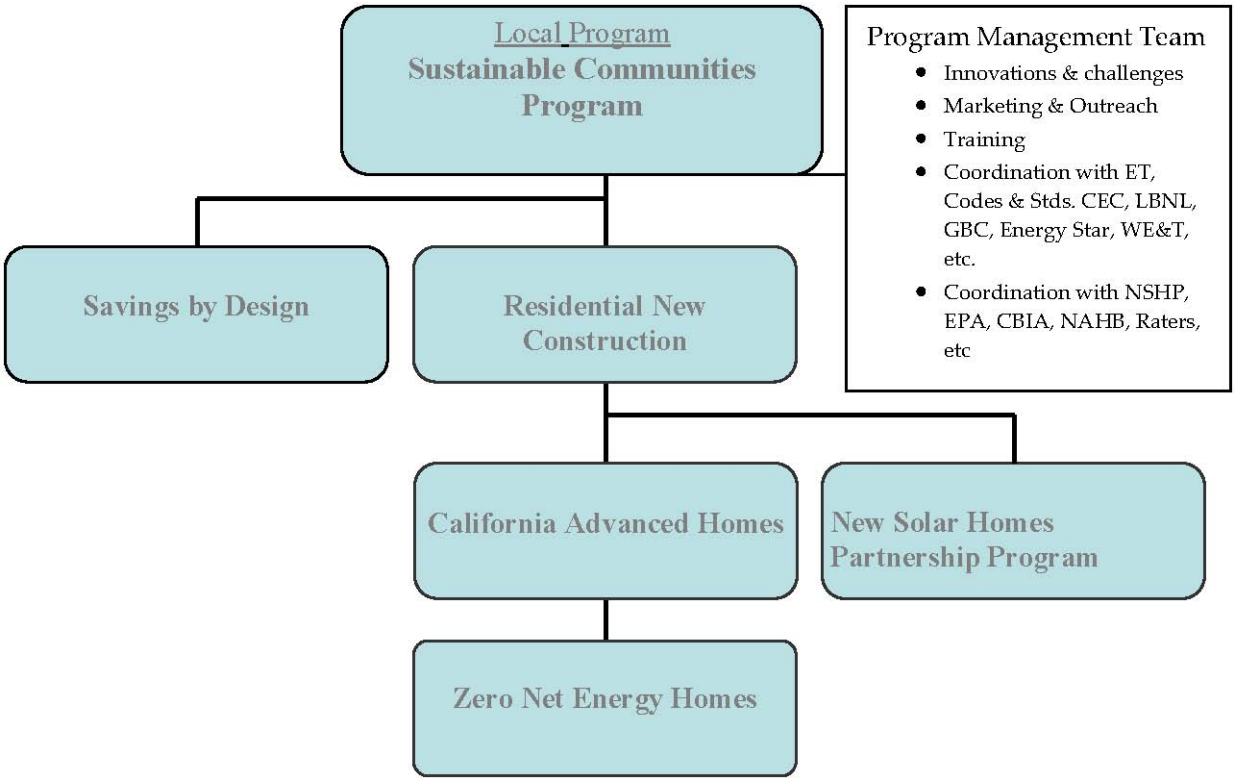
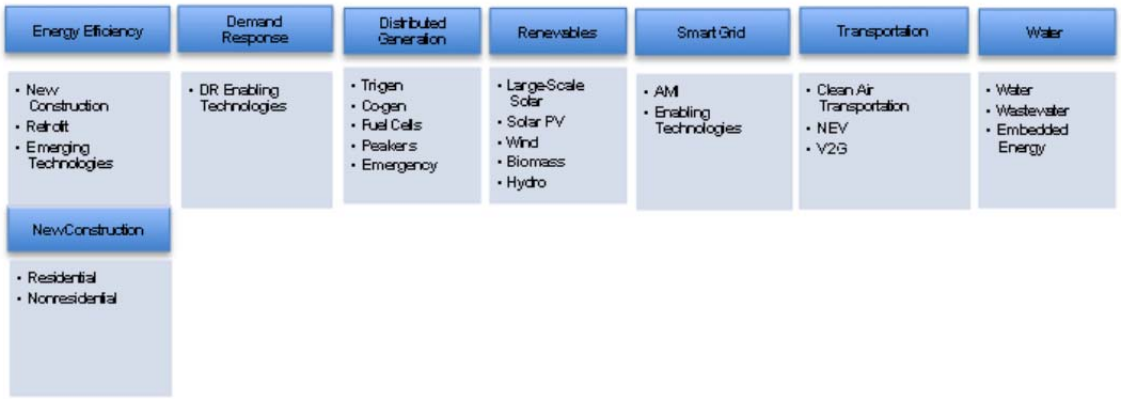


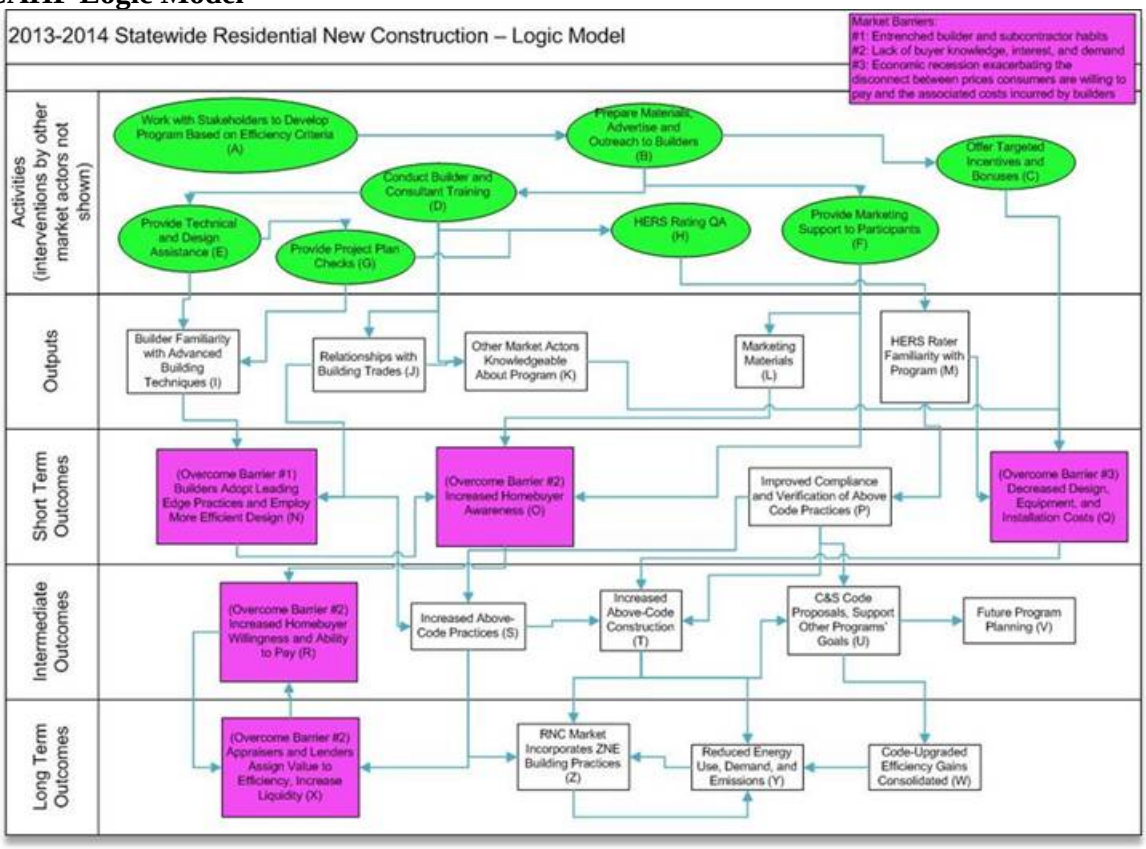
Figure 2: Sustainable Communities Program Linkages



Master Developer	
OPPORTUNITIES	**CHALLENGES**
Integrated community-based approach	Funding format and prescriptive incentives not conducive
Reduce energy consumption and increase renewables	Added costs viewed as too high vs. return
Influence multiple stakeholders	Current incentive programming focused only on homeowner and builder
Implement research and pilot programs	Master Developer not included in existing incentive structure
Stimulate market transformation	Funding cycles too short for Master Developer timeframes

8. Program Logic Models

CAHP Logic Model



2013-2014 Energy Efficiency Programs
Statewide Integrated Demand-Side Management Program
Program Implementation Plan

Attachment 1

In compliance with the 2013-2014 Final Decision, each IOU provided a matrix of budget figures broken down by funding source (energy efficiency, demand response, distributed generation, etc.) for: IDSM marketing, IDSM pilots, integrated Continuous Energy Improvement, IDSM online and on-site audits, IDSM training, and IDSM data tracking. IOUs have formatted these budget matrices using the template provided by Energy Division. Each IOU will also include a narrative description of the technologies being promoted and how the efforts support IDSM goals.