Sustainable Communities Program Process Evaluation

Final Report

Project 0701f Sustainable Communities Program Process Study

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1. INTRODUCTION

As requested by Southern California Edison (SCE), the HESCHONG MAHONE GROUP, INC. (HMG) submits this report describing the methodology used to conduct a limited-scope process evaluation for the Sustainable Communities Program (SCP). A new pilot program for PY2006-2009, SCP was designed to assist the developers of large projects to achieve energy savings beyond the core new construction program requirements and incorporate sustainable building practices beyond energy efficiency. The program underwent significant design changes, evolving from a resources program to a non-resource program.

In addition to the objectives of assisting projects further along the sustainability continuum, during the pilot phase, the program aimed to:

- Evaluate sustainability market and electric energy savings potential
- Include a program effectiveness review
- Incorporate substantive comments into program improvement modifications as appropriate

While this study is a culmination of input from staff and participant interviews, a developer roundtable, and a peer review, the SCP program manager had established a continuous feedback loop throughout the evaluation process and incorporated evaluation recommendations throughout the pilot period. Hence, the significant design changes in the program and departure from the original Program Implementation Plan (PIP).

Typically, process evaluation study recommendations are incorporated into a subsequent program funding cycle. However, because of the pilot nature of the 2006-2008 SCP and a key objective being "to evaluate the sustainability market," the SCP was able to respond to feedback, lessons learned, and evaluating the sustainability market and their needs.

Furthermore, the SCP is unique in that there is no known similar program that is taking on not only a mix of building types, but also

- Incorporates state of the art and non-traditional measures
- Closes the gap on market's perception of the nexus between energy efficiency and sustainability/green
- Innovative nature of intervening during the community design phase
- Assesses the impact of energy efficient community designs
- The program manager is now managing all new construction programs and is in a leadership position to influence the integration of SCP with other core programs

This program could potentially set the example for future sustainable communities program and could be the common denominator between the energy and green building programs and communities.

1.1 Sustainable Communities Program Summary and Evolution

At its core, SCP is designed to encourage the construction of sustainable and energy efficient buildings and communities. The program targeted projects committed to integrating a broad spectrum of both traditional and non-traditional energy saving measures. Working with a consultant and SCE core new construction programs, SCP, in its pilot phase, aimed to provide expertise to enhance a developers design process by using an integrated design approach that addresses energy savings and sustainability beginning at the conceptual development phase.

To qualify for SCP, projects committing to at least 15% (for single- or multi-family residential) or 20% (for commercial) greater than the 2005 Title 24 Standards were considered for acceptance into the pilot. Certification through a green building rating system (i.e. LEED® Silver) was encouraged.

Originally, the program offered the following financial incentives to help offset any increased costs:

- $0.07 per saved kWh ($100k cap per project)
- 50% of LEED registration and certification fees
- $280 per unit (multi-family projects)

The incentives were in addition to the Savings By Design or Residential New Construction program incentives.

However, because the participating projects were not able to complete within the program timeframe, no incentives were provided. Based on this and staff and customer feedback, the program was converted from resource to non-resource allowing a greater emphasis on influencing the design process through technical assistance, which was deemed the greatest value by participants.

Throughout the pilot, the SCP continued to provide customized technical assistance to participating large, mixed-use, multi-family, and multiple building construction projects. Technical assistance consisted of:

- Design Charrettes and Team Integration
- Project-Specific Green Building Support
- Energy Benchmarking and Modeling
- Innovative Energy System Design Assistance
- Commissioning Plans and Specifications
- Education and Training
- LEED® Specifications & Documentation Support
- Coordination with other incentive programs

Throughout the pilot, the program staff and feedback continued to define the needs of the market to:

- Determine where SCP could have the greatest impact, not only on the buildings, but on the community design as a whole
- Define the technical assistance and tool requirements necessary for developers to analyze options to provide metrics to encourage projects along with both state of the art technology and design concepts
- Identify potential opportunities for expansion of the program

The program is managed by SCE and is implemented by Kema.

1.2 Summary of the Process Evaluation

The purpose of the evaluation is to provide a formative assessment of SCE's Sustainable Communities program based on staff and customer feedback. The intent was to produce findings for key decision makers to enhance program design and implementation for PY2009-2011.

The SCP process evaluation and resulting recommendations were derived from four sources:

- Interviews with SCP and new construction program staff
- Interviews with SCP participants
- Recommendations resulting from an SCP Developers Roundtable meeting
- A review of a similar peer program's process evaluation and recommendations

HMG interviewed SCP program staff to gain an understanding of their current and planned program activities, issues, and goals as well as opportunities for expansion into various market segments. The Cadmus Group conducted interviews with SCP participants to gather their insights and recommendations for improving the program.

HMG reviewed Sempra's SCP evaluation process to compare feedback and recommendations with the direction of SCE's SCP. Finally, Kema provided notes summarizing a developer roundtable held to get comments from participants whereby HMG reviewed them for either support for participant interviews or for new information.

Study findings were presented to the SCP Program Manager throughout the course of the project, allowing the program to incorporate the study insights into PY2009-2011 SCP draft plan. As indicated, due to the continuous feedback loop between the study and SCP, many study recommendations have already been integrated into the program design and process.

The study concentrated on the following study subjects:

- Program process evaluation
- Identifying program recruitment opportunities
- Concept testing of potential PY2009-2011 design improvements
- Learning from peer program experiences

For the first study subject, program process evaluation, we conducted an analysis of program's current process in order to identify opportunities to enhance program integration, streamline program documentation requirements, and enhance program process procedures. The process evaluation focused on opportunities for improving program integration between internal core programs as well as external complimentary programs. We studied streamlining program documentation requirements in support of program integration through a review of similar utility programs' documentation procedures. Also, feedback from SCE staff and program participants was solicited to provide plausible opportunities for the program to consider.

To achieve the second research objective identifying program recruitment opportunities, the study focused on exploring opportunities to recruit program participants in various market sectors through enhanced coordination with external complementary and internal core programs. The goal of this effort was to determine the best growth potential to reach new customers, either by market sector type or project type.

Concept testing to obtain feedback on changes under consideration for the 2009-2011 program, the third research objective, focused on proposed program improvements derived from the program manager and implementer's experience with program participants and the process to date. We developed a series of questions to solicit feedback from participants on the relative value that assistance could offer in the future.

Finally, a review of findings from a similar program's process evaluation was carried out to identify recommendations in support of the fourth research objective, to determine best practices and lessons learned that could be applied to the SCE SC Program.

The overall data collection effort consisted of multiple stages. In the first stage, HMG interviewed SCP program staff to gain an understanding of their current and planned program activities, issues, and goals as well as opportunities for expansion into various market segments. In the second stage, The Cadmus Group conducted interviews with SCP participants to gather their insights and recommendations for improving the program. The third stage entailed identifying similar programs with enough experience and evaluation feedback to garner a set of best practices and/or recommendations for program design or improvements.

Upon completion of the interviews, we organized responses by interview segment and analyzed by topic. Using the responses as our guide, we looked for themes and patterns across the multiple interviews. Finally, we added our interpretation by theorizing the development of the interview patterns and meanings.

1.3 Process Evaluation Report Structure

The following sections are provided in the report:

- Program Theory and Logic Model - This section provides a program theory model and narrative, providing the program intent, goals, and success factors.
- Staff Interview Results - This section details the information gathered from staff and contractor interviews.

- Participant Interview Results - This section details the information gathered from staff and contractor interviews.
- Peer Program Review - This section gives an analysis of similar programs or program components that can be considered for program improvement
- Conclusions and Recommendations - This is section provides findings and suggestions resulting from the staff interviews, participants interviews, and the peer programs review.

2. PROGRAM THEORY AND LOGIC MODEL

To support the SCP program, a logic model, also known as a program theory model, was developed to provide a succinct and useful program conceptualization. A program theory model was created describing:

1. the explicit and implicit assumptions made by program stakeholders about the actions required to obtain greater energy efficiency, and
2. how these actions will lead to specific outcomes that result in the program accomplishing its goals.

Chen (1990)[1] first described program theory as "a specification of what must be done to achieve the desirable goals, what other important impacts may also be anticipated, and how these goals and impacts would be generated. A discussion of program theory and logic models can be found in Chapter 4 of the *California Evaluation Framework* (The TecMarket Works Team, 2004)[2].

2.1 Program Description

Saving energy and capturing resource and societal benefits are the primary reasons behind all energy efficiency programs. The SCP achieves these results by assisting the developers of large projects to achieve energy savings beyond core program requirements and incorporate sustainable building practices beyond energy efficiency. Providing assistance to developers early in the planning and design process can lead to significant electric energy savings and electric demand reduction in two ways; by influencing the design and layout of the community and by influencing the design of the all building types (oftentimes the primary use building type will qualify for a core program, but not the secondary use building types) to achieve energy savings beyond the requirements of core programs. This knowledge and process can also be applicable to future projects.

An important note is that this logic model represents the program at the end of the program cycle as it changed from its original resource program status to non-resource. Originally, the program was intended to offer incentives and count energy savings, but in the end the projects were so far out in terms of completion that the program evolved to a non-resource program. The non-resource program provides design/technical assistance, training, and resources very early in the planning and design process to influence design to achieve energy savings beyond core program requirements and to incorporate sustainable/green building practices.

2.2 Program Goals

The SCP is designed to encourage and support the construction of sustainable and energy efficient buildings and communities. The SCP is an innovative pilot program focusing on

[1] Chen, Huey-Tsyh. *Theory-Driven Evaluations.* Sage Publications, Inc. 1990.

[2] TecMarket Works Framework Team. *The California Evaluation Framework.* Southern California Edison Company. 2004

large, mixed-use, and/or multiple building construction projects willing to commit to aggressive energy efficiency and sustainable design goals. Projects accepted into the pilot receive design assistance and financial incentives.

Desired results include the following:

- Identify and define market
- Develop marketing materials and effective marketing distribution channels
- Recruit ten (10) projects to enroll in SCP and receive design assistance
- Develop technical resources for participants
- Establish cross-promotional mechanisms with internal core programs
- Establish cross-promotional mechanisms with external complementary programs
- Increase program awareness and participation
- Increase industry knowledge of sustainable design practices

2.3 Market Barriers

Previous research studies point to a number of challenges for ensuring program success. These studies have revealed the following critical difficulties that have hindered program success:

- Clear delineation among and coordination with internal core programs was a challenge in terms of advancing projects in existing programs beyond core program requirements and into SCP to achieve higher savings. Coordination barriers include lack of clarity in the complementary nature of the programs and lack of internal training/awareness of the SCP program benefits. Navigating numerous programs is a barrier that will drive developers to choose one program only.
- Industry perception of “green” building and the disconnect between energy efficiency programs and green programs. Many developers get confused by having green programs and energy efficiency programs. Lack of cohesive cross promotional efforts can be a barrier in that developers may chose one or the other.
- The additional effort required from the design team is costly to the developer. Oftentimes, the design team lacks the expertise in achieving extraordinary energy savings or achieving LEED or Build It Green requirements. The barrier includes additional learning and design time for the design team.

2.4 Program Strategies and Activities

The SCP is designed to overcome the barriers identified above by incorporating the following elements:

- Conduct market research to gain an understanding of market needs and potential to influence program design
- Based on market research and group input, develop marketing materials and identify marketing distribution channels such as conferences and meetings.

- By offering an enhanced bundled package of SCE services to recruit 10 projects to participate and receive design assistance to achieve 20% (for commercial) beyond Title 24 and LEED Silver
- Leverage internal SCE core programs and services to distribute information and promote the SCP
- Coordinate with and leverage external complementary green programs (LEED, Build It Green, other agencies) as well as statewide coordination
- Offer training and technical resources to increase knowledge of sustainable building practices.

2.5 Relationship to Other SCE Programs and Activities

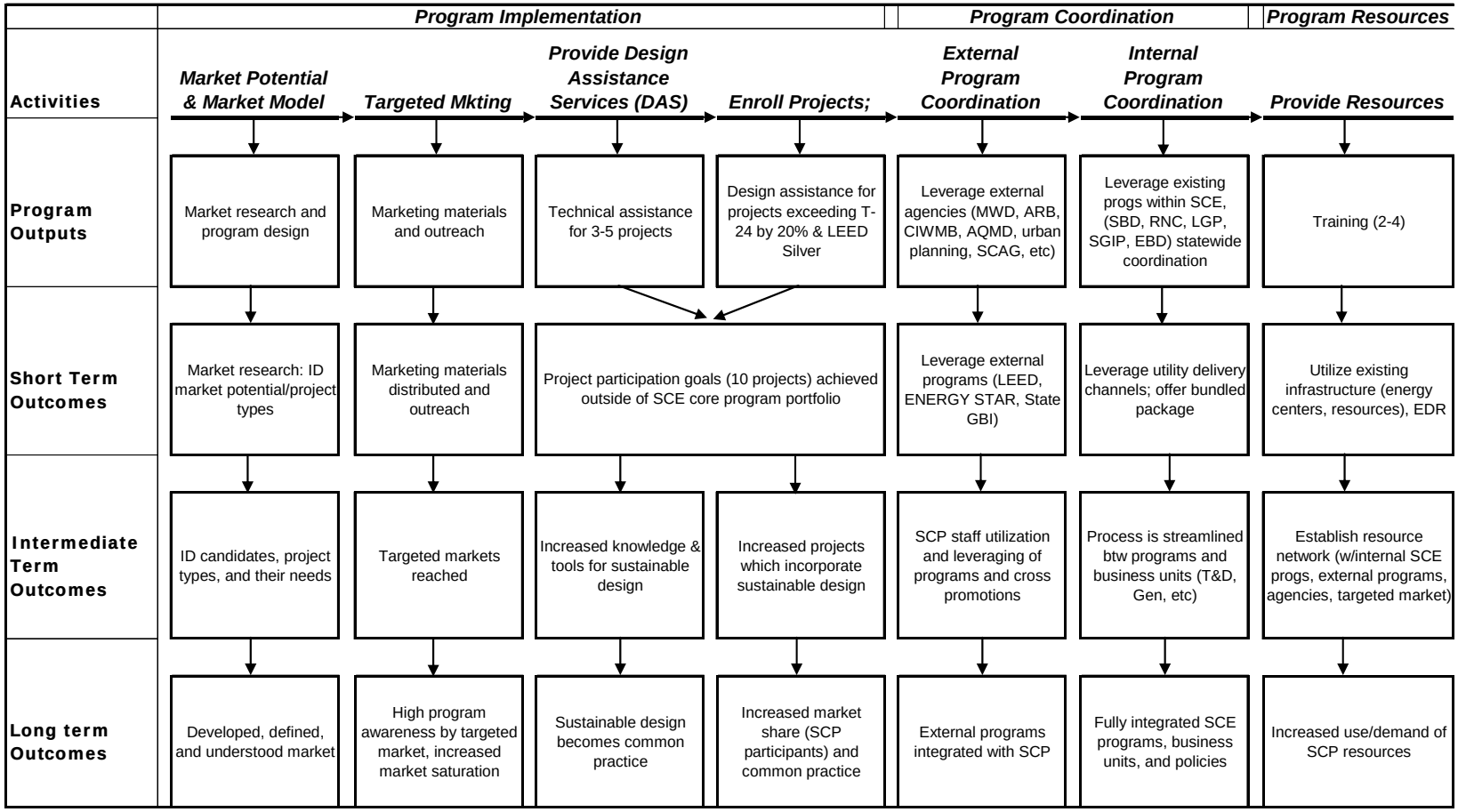
SCE's SCP is a complementary and next step to many of SCE's core programs including the CANPH and SBD programs. SCP can also be seen as an additional customer service offering for SCE's public affairs or service planning groups. The program implementer, Kema, and other core program staff and implementers provided expert design/technical assistance through the SBD and CANHP programs.

2.6 External Influences

Presently, energy efficiency is an integral and crucial part of Title 24 and green building programs. The green building programs should take advantage of the utility programs to provide expertise and incentives to meet or exceed their energy efficiency requirements.

2.7 Logic Model

The table below portrays the SCP theory of how the activities, outputs, short and long term outcomes expected for the 2006-2008 SCP program are related.



3. PROGRAM INDICATORS

Performance indicators for the program have been identified and are presented in this section. The table below provides anticipated success criteria, its relevant program goal, and potential indicators.

Program Goals	Potential Indicators	PY06-08 Success Criteria
Identify and define market	Quantify pool of potential participants	List of potential participants
	Defined project types qualifying for program	List of potential participants by project type
	Deep understanding of market needs and issues	Industry focus groups on market needs and issues
Develop marketing materials and effective marketing distribution channels	Type, quality, and quantity of marketing materials and information distributed	Marketing brochure
	Number of leads resulting from marketing and outreach efforts	List of interested leads
	Number (net changes) of market developers who are aware of the program	X% increase in awareness of program
Increase program awareness and participation	Number and quality of design assistance provided	Recruit 10 participants who receive design assistance
Increase industry knowledge of sustainable design practices	Measure of increased skill and knowledge of sustainable design	X% change in skill and knowledge
	Number of participants that have incorporated sustainable design as a standard practice for future projects	X project that carries sustainable design model to future project, X repeat customers
Establish cross-promotional mechanisms with internal core programs	Number of SCE core program projects upgraded to SCP	X project that upgrades to SCP
	Assessment (consistency, accuracy, quantity, and effectiveness) of information flow and distribution channels through core programs	Consistent distribution of information flow through core programs
	Number of participants resulting from cross promotions from complementary programs	X interested lead from internal cross promotion from core programs
	Quality of experience of participants working with multiple programs	Satisfactory customer experience participating in more than 1 SCE program
Establish cross-promotional mechanisms with external complimentary programs	Number and quality of complimentary programs	X project that uses SCP to meet green/external program goals
	Assessment (consistency, accuracy, quantity, and effectiveness) of information flow and distribution channels through complementary programs	Consistent distribution of information flow through external programs/agencies
	Number of participants resulting from cross promotions from complementary programs	At least X interested lead from internal cross promotion from external programs/agencies
	Quality of experience of participants working with multiple programs	Satisfactory customer experience utilitizing SCP to achieve external program/agency goals

4. STAFF INTERVIEW RESULTS

This section describes data collection and analysis activities for the program staff interview portion of the process evaluation conducted by HMG.

As a pilot program, SCP direct personnel were limited to two individuals who were interviewed for the study. The remaining program staff respondents were involved with the core SCE new construction programs, including Savings by Design (SBD) and the California New Homes Program (CANHP). The SBD staff had the least experience in working with the SC program and their responses are primarily from a frame of reference from SBD projects. Also, CANHP staff indicated very little experience with SCP because they were relatively new to SCE. However, the CANHP implementer interviewed had a deeper experience with working with SCP qualified projects through customer assistance in achieving SCP program requirements.

4.1 Staff Interview Respondents

The interviews were conducted according to an interview guide written by HMG and approved by SCE. The staff interview guide is listed in Appendix A - Staff Interview Guide. The questions were designed as open-ended. Structured as an interview guide versus a survey, the interviewer was given leeway to explore additional relevant topic threads that interviewees brought up. The interviews gave Sustainable Communities implementers and SCE staff of synergistic programs an opportunity to give their frank opinions, anonymously, for the study. The interview questions explored program staff's views on issues including:

- The role of program incentives in encouraging participation and improving energy efficient design
- The role of program services – technical assistance - in encouraging more efficient and sustainable buildings
- Perceived value of technical assistance
- Perceptions of program procedures (applications and project documentation requirements, energy analysis, incentive payments, verification, etc.)
- Perception on effectiveness of intra-operations coordination
- Suggestions on improved work flow procedures
- Suggestions on improved inter-departmental coordination
- Perceived market view of the energy efficiency and green/sustainability nexus
- Perceived influence of the Sustainable Communities program on participating projects
- Opportunities to increase program participation with existing or new market segments
- Other ideas/suggestions for program improvement

Sustainable Communities program staff (SCE program manager and consultant implementer) and complementary program staff (Savings by Design program staff, and California New Homes Program (CANHP) consultant staff) were identified and recruited for an in-depth interview that drew out detailed information about program activities, issues, and goals. A total of 7 interviewees were identified of which six (6) were responsive to telephone interviews. Individuals came from the following positions:

- Sustainable Communities Program manager
- Sustainable Communities Program implementer program manager
- Savings by Design program staff
- Residential New Construction (CANHP) program manager
- Residential New Construction Multifamily Program implementer

From these groups, the SCP program manager and contractor both had extensive experience and provided the most specific feedback. The Residential New Construction Multifamily Program implementer also had extensive experience working with SCP multifamily projects, particularly in providing design assistance, and was therefore able to provide additional valuable insight. The remaining staff interviewees had very limited first-hand experience in working with SCP projects and their feedback was more general and related to their core programs (SBD and CANHP).

4.2 Energy Efficiency and Sustainability

To gain a sense of staff's assessment on sustainability building practices, feedback was gathered on the following issues:

- How developers view energy efficiency in terms of sustainability and their understanding of the energy efficiency-sustainability nexus
- How the program influenced projects in terms of greater sustainability
- How the program could be better integrated into the sustainable community

4.2.1 Energy Efficiency and Sustainability Nexus

According to most of the CANHP and SBD staff respondents, the building community varies in their understanding and interest in the relationship between energy efficiency and sustainability. Few developers the new construction programs had contact with were perceived to be working towards understanding the energy savings and resulting carbon reduction from their projects. Some developers were perceived to be solely concerned with how program incentives could help reduce the cost associated with upgrades. While one respondent indicated that developers who have participated in SBD and with a greater understanding of the energy code see energy efficiency as a marketing advantage, while those with less understanding of the energy code see it as a necessary evil[1]l.

[1] Consistent with SBD process studies whereby SBD staff indicated that developers with a greater understanding of the energy code tend to think of energy efficiency positively.

To overcome this market barrier, SBD representatives responded that they strive to help builders understand the importance of energy efficiency as it relates to sustainability. A common theme from all staff interviews was that the building community does not associate energy efficiency from a performance, quality, or sustainability perspective as common practice. This finding is substantiated in two Northwest studies (2000 NEEA[1], 2001 NEEA[2]).

SBD staff respondents felt that although customers are accustomed to participating in SBD, they don't necessarily consider their projects as sustainable or green. Staff interview respondents indicated that the customer disconnects between energy efficiency and sustainability was due in part to the lack of focus in sustainability in earlier program years. Green is perceived by the industry as a popular trend spurring builders to follow without thinking it through in terms of energy efficiency. Staff cites that the reason for this misconception is the lack of a common message between energy efficiency and sustainability. While most developers learn about energy efficiency from utilities, their information on sustainability is gathered from other places (media, discovery programs, cities, etc.).

In contrast the overall builder community characterized above, the majority of program participants believed that energy efficiency and sustainability are strong selling points to potential customers and occupants[3].

4.2.2 Sustainable Communities Program Influence

In response to the question of how SCP influences projects, staff indicated that because many projects are still in progress, the final outcome of the program influence is unknown. However, staff indicated that the participating projects were definitely influenced by the program, citing several examples. This includes a particular project development in which a developer of a master planned community required all housing developments to achieve 35% beyond Title 24 as a result of program participation. Another project example provided by respondents indicated that SCP brought valuable concessions to a very contentious community approval process and helped to overcome NIMBYism. These examples indicate an initial substantial program influence over large projects in terms of reaching deeper energy savings. Most staff respondents indicated that all projects participating in SCP were planning to achieve deeper energy savings than originally planned as well. However, staff realized this early intervention to influence large scale developments will be tested by current market realities with a continuing decline in the new construction market.

One staff respondent indicated that the SCP gave multifamily projects a higher bar to aim for, and kept their focus on energy efficiency, but also satisfied customer requests for sustainability/green building practices.

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[1] Cole & Weber. 2000. *Regional Public Information Program for the Efficient Building Practices Initiative*. MPER #00-056. Portland, OR: Northwest Energy Efficiency Alliance

[2] Kunkle, R. and Lutzenhiser, L & Weber. 2001. *New Commercial Office Buildings: Developing Strategic Market Transformation Initiatives for Energy Efficiencye*. MPER #01-087. Portland, OR: Northwest Energy Efficiency Alliance

[3] See Section 5.10. Energy Efficiency and Green Sustainable Development

4.2.3 Sustainable Communities Program Integrations with the Sustainability Community

When asked how SCP could be better integrated with the sustainability community, staff indicated that through outreach and working with projects, they make every effort to increase the program visibility within the green community such as USGBC, Urban Land Institute (ULI), etc. Several staff indicated that offering program tools, such as Autodesk® Green Building Studio®[1], to developers through green organizations, such as the U.S. Green Building Council Chapters, boost the perceived value of SCP to the established green building programs. One staff asserted that if the availability of the tools through green building programs were more prominent as a public resource, it would help to establish SCP and energy efficiency as fixtures in the green building community.

Several staff mentioned that the LEED consulting community has a fair amount of distrust of energy efficiency as it relates to utility programs. One staff suspected the distrust may be a result of developers' perception that energy efficiency program paperwork will slow down their construction process and that the incentives aren't worth the effort. However, this contradicts a 2008 SDG&E Study[2] in which Savings By Design program participants noted that the utility program paperwork is simpler than other green building programs, with specific mention of LEED paperwork being quite time-consuming in comparison.

4.3 Sustainable Communities Program Market Potential

Staff was asked which market sectors have the most potential to be influenced by SCP and what strategies would they recommend to reach these markets. Responses varied (by program) indicating a lack of consensus on current market conditions. SCP respondents indicated that master-planned communities were the most important market to target. In contrast, SBD respondents felt that master-planned communities were on the decline and built out. While these perceptions are anecdotal evidence from the field, it makes sense that because SBD staff work primarily with non-residential buildings and SCP works with whole communities and has worked with master-planned communities that these perceptions of market conditions differ. Both discussions are summarized.

One staff person focused on the importance of targeting master planned communities. The respondent citied that SCE has never worked with projects from an energy efficiency community design perspective. Therefore there is an internal learning curve about the design strategies, tools, as well as the needs of the developers. . The respondent indicated that SCP will be involved in a project from the entitlement phase through schematic design to optimize the overall design of the project and not just the systems or buildings. The staff respondent again mentioned that because SCE does not have experience in this arena, the next program cycle will be a learning experience to investigate the needs and strategies to influence the land use design. The issue here is that previously, SCE programs targeted the building design and construction and now SCP will target the land

[1] http://usa.autodesk.com/adsk/servlet/index?id=11179508&siteID=123112

[2] Heschong Mahone Group, Inc. 2008. *SDG&E New Construction Process Evaluation Study Report.* San Diego, CA. San Diego Gas & Electric Company.

use design before building design is considered. This will entail looking at density, orientation of lots, street widths, vegetation/landscaping and water systems. It could also entail designing the land use for community-wide PV systems. SCP has the task of identifying the land use strategies that impact energy use and to determine what tools, strategies, and incentive (both technical and perhaps financial) to guide and influence land developers to design a most sustainable community.

A SBD respondent indicated that because master-planned communities are in a state of decline due to the current economic slowdown. Thus, SCP should change its focus from large-scale new communities to infill, redevelopment, and mixed use projects. Further, several SBD staff pointed out that there is an increase in mixed-use, infill, and multifamily projects, all of which have a tendency toward whole community design. SCP staff suggested that SCP is in a position to intervene during the planning phase of redevelopment and mixed-use projects. For example, SCP staff cited a prime opportunity for SCP to influence the Old Town Newhall plan to transform their downtown area into a mixed-use, pedestrian-oriented urban village with up to 1,092 residential units and 1-million square feet of new commercial space[1]. A portion of this growth will be attributed to new development, while some will also include revitalization of existing buildings.

A SBD staff member recommended that SCP incorporate an element for rehabilitating existing buildings. The respondent felt many communities are built-out, new construction is on the decline due to the economy, and the nature of infill and redevelopment often entails a combination of existing building rehabilitation and new construction, SBD staff further suggested that providing assistance to improve the sustainability of the community as a whole (new and existing) would increase the potential for the program because there is currently no whole community, integrated design approach program with a green element for these projects. This gap in the market provides an opportunity to influence this type of development as well as for greater energy savings potential.

SBD staff also indicated that although many of the projects that they work with aspire to achieve LEED certification at any level, the SCP would have broader appeal if it focused on providing guidance, incentives, and technical assistance on how to achieve varying levels of LEED certification or other green programs such as Build It Green. According to SCP staff, the program will explore how SCP could support LEED-ND Neighborhood Design principals including smart growth, urbanism and green building for environmentally responsible, sustainable development.

In addition, SBD staff felt that making a stronger connection with organizations such as BOMA, USGBC and AIA will help put SCP on their radar. They also suggested spotlighting the program through coordinated sponsorships with other programs including presentations at conferences and meetings, to establish SCP as "the" go to source to help meet energy efficiency goals of green building programs.

Below is a summary table of recommendations resulting from the staff interviews of where they feel SCP should focus on recruitment efforts. While SbD and CANHP has focused on the buildings within mixed-use, infill, redevelopment, and master-planned communities, SCP will both explore and develop it's offerings to optimize the design of the "horizontal environment," or the land use well before the core programs intervene at

[1] http://www.oldtownnewhall.com/city/otn/development/index.php

the building design phase. Also, other SCE programs target existing buildings including Standard Performance Contracting (SCP), Express Efficiency, Designed for Comfort, and Multifamily Retrofit.

Potential SCP Offerings to Explore	**Current Offerings to further Develop**
Master-planned communities land use design and infrastructure SCP targets these communities in advance of building design to influence the design of the community and infrastructure This will entail looking at density, orientation of lots, street widths, vegetation/landscaping and water systems. It could also entail designing the land use for community-wide PV systems. SCP has the task of identifying the land use strategies that impact energy use and to determine what tools, strategies, and incentive (both technical and perhaps financial) to guide and influence land developers to design a most sustainable community.	Master-planned communities building design SbD and CANHP currently target the buildings in these communities
	LEED – ND Neighborhood Development Develop SCP land use/design principals to support LEED-ND principals for consistency and to cross promote program
In-fill, redevelopment: SCP should explore the needs of projects planning infill and redevelopment that include a mix of building types and vintages as well as fixed or constrained community design opportunities	Building design within infill and redevelopment: SbD and CANHP currently target the buildings in these communities
Existing buildings: Undergoing extensive rehabilitation that would trigger title 24 – Either develop SCP component to specifically address existing buildings and their associated infrastructure/common areas or refer them	Existing buildings: Determine the applicability of existing SCE programs such as SCP, Express Efficiency, Designed for Comfort, and Multifamily Retrofit in relation to existing buildings as part of an SCP applicant's whole project

to SCE's existing programs: SPC or Express Efficiency	efficiency planning?

4.4 Marketing and Outreach Strategies

Despite the program's pilot phase (and limited budget), SCP met its goals for number of projects in the program pipeline. According to SCP staff experience, projects were not difficult to find, highlighting how the program met an important gap of services not offered in other programs. In fact, large projects came to SCP for assistance and for PY2009-2011, SCP has proposed the budget be increased from PY2006-2008 figures to meet customer participation requests. According to one respondent, the problematic issue for the program is having the capacity and budget to serve the demand, instead of the traditionally stated utility program issue of increasing program participation.

In finding the balance to meet customer needs for assistance in sustainability, staff indicated that future outreach efforts should be commensurate with the program goals and the vision of SCE to integrate energy efficiency into the green building community. Below is a summary of respondent recommendations on marketing and outreach strategies that encompass targeting relevant project types and design teams, early intervention, sharing peer experiences, offering comprehensive customer solutions, and cross promotional strategies externally (sustainable community) and internally (SCE programs).

4.4.1 Targeting Relevant Project Types

In terms of recommendations for increased success, staff suggested marketing to specific building/community types, such as mixed use and redevelopment as well as new developments, early in the planning phase. During the 06-08 program cycle, SCP worked with these varying project types, however, in some cases, the projects were too far along in the land use and building design process to successfully influence the energy efficiency of the projects. They indicated that SCP must be creative in bringing comprehensive solutions to more common projects currently underway including redevelopment, infill, and mixed use.

4.4.2 Early Influence and Easily Insertable Process

A common issue that staff referred to was developer concerns that sustainability would hinder their construction schedule. To overcome this issue, staff suggested that the program not only be designed to be easily inserted into the design and construction process, but also the importance of intervening in a projects planning/early design phases so as to be incorporated into the construction schedule early on rather than through later decisions and change orders. While SCP aims to target projects early in the design phase, this wasn't always possible in the pilot phase because some of the projects interested in participating in SCP were past the phase where either the land use or building design could be influenced when the SCP pilot was launched. In terms of timing, this is a common problem for new program initiatives not exactly coinciding with the appropriate

and intended intervention phase of a project. This issue should be remedied when SCP is in motion for another funding cycle or two whereby it penetrates the targeted markets prior to any land use or building design phases.

One staff indicated that with progressively more stringent building codes, it is becoming increasingly challenging to optimize building design whereby if a community design is not addressed early in the design phase, there are lost opportunities left on the table. Therefore, only by moving SCP to a very early intervention in community design will they be able to maintain sufficient savings in these projects.

4.4.3 Shared Experience

Staff also shared that their experiences in working with projects through Savings by Design indicate that some developers don't want to be the first at new strategies and are influenced by leaders who share their experience and success. One staff suggested co-hosting developer round tables with trusted organizations such ULI and USGBC to encourage participants to share successes and challenges.

Staff suggested that case studies are valued technical assistance in terms of sharing peer experience and expertise. Also, staff indicated that as program staff expertise grows, projects benefit from the experiences of an increasingly larger pool of projects. In other words, they suggested that success stories from one project can easily migrate to another project. This suggests that the program should look to create case studies from successful projects, successful either in terms of the resulting savings, cost-analysis and sustainability features, or even just in the process.

4.4.4 Coordinated Solutions

The SBD staff indicated that while some projects strive to meet minimum program requirements, there is a trend for deeper commitments along the continuum of energy efficiency from green to zero energy. Because of this trend, SBD staff suggested that SCP could provide technical expertise to projects that wish to move beyond energy efficiency in the continuum by offering information on available renewable and green building programs. According to respondents, developers want a central place to request project needs - one contact, one application, and a progression of rewards to reflect their expanding efforts - all measured on one yardstick.

Recommendations provided below that promote program comprehensiveness, integration, and cross-promotional strategies serve to support the National Energy Efficiency Best Practices Study (sections in Appendix C) in terms of coordinating among programs with related and complementary goals, simplifying participation, bundling services (internally and externally, increasing delivery efficiency through one portal, leveraging combined synergies, clearly defining complementary program roles and responsibilities as well as leveraging relationships from complementary organizations and trade allies

4.4.5 Equip Design Team with Marketing Expertise and Tools

Training

A common concern among staff was that there is still a learning curve requirement on the energy efficiency design side among the building design community. To address this, staff suggested energy efficiency building and community design training. One staff observed that the market is currently inexperienced and unknowledgeable about energy efficiency building design as it relates to the 2005 code, and much less knowledgeable about the 2008 code requirements and sustainable community design concepts. They also suggested training beyond energy efficiency to include design strategies, calculators, and tools for greenhouse gas emission reductions and water efficiency, etc.

Further, they suggested that training should also focus on the design process and the importance of integrated design to overcome the common silo mentality, establishing goals, and thinking high-performance, rather than compliance. This training should be a precondition for participating in the program.

One staff emphasized the importance of operations and maintenance as a critical factor, beyond design and construction, in ongoing energy savings. To staff, there is also a disconnect between design and construction and operations and maintenance of a building to maintain efficiency. They felt that adding an operations and maintenance element to the program will help to ensure the longevity of the energy efficiency and green elements of the project that is consistent with sustainability philosophy.

Tools

Several staff suggested that SCP should offer the use of, or training on, a life cycle costing tool to show long term savings. Offering tools and guidelines will help to establish the program as a resource and a place of expertise. One staff recommended offering tools and sample documents for interested parties (beyond participants) in hopes that they are influenced even if they don't participate in the program and that they will participate in the future if they learn more about sustainable community design through these tools. The same staff also suggested that they want to offer a deeper level of tools and guides for participants only.

4.4.6 External and Internal Cross Promotional Strategies with Other Agencies and Programs

When asked about how SCP could be better integrated with complementary programs staff suggested establishing partnerships with agencies such as water, landscaping and other programs that offer rebates/resources to cross promote programs, resources, and comprehensive sustainability concepts.

Staff recognized the challenges associated with internal SCE program and departments and indicated that better integration among new construction, T&D planning, public affairs, and right-of-way was not only critical in terms of minimizing customer confusion, but also to identify and influence large projects early in the entitlement phase.

4.4.7 Cross Promotion with Other Utilities

Staff also recognized the importance of coordinating with Southern California Gas Company (SoCalGas) to share projects and savings. They indicated that rather than competing over projects for a similar program, sharing projects could yield energy savings for both utilities and perhaps cost sharing. There is a proposed agreement between SCE and SoCalGas for PY2009-2011 on how the two utilities will distribute energy and gas savings for projects enrolled in their respective CANHP. This provides a starting place for increased coordination and cross-promotional opportunities between the two utilities.

4.5 Incentives and Offerings

4.5.1 Owner and Design Team Incentives

When asked whether they felt if the program incentives promote added value to the building design process, for the design team and/or the owner, all staff indicated that while incentives were important to the developer and design team, the added value came in the form of technical support. They indicated that the technical assistance enabled participating projects to exceed core program minimum energy savings. The technical support provided valuable expertise and guidance to the design teams to show them how their projects could most cost-effectively save energy beyond the core program minimum requirements. This educational influence helps both developers and design teams think beyond compliance and program minimums and to embrace "high performance" design paradigm that could be applied to future projects. Providing the expertise and skills enables the design team to apply this knowledge and helps to transform the market to thinking differently about their design choices. Staff responded that developers perceive that program incentive levels are not substantive enough – in some cases they say that they are not worth the paperwork and process it takes to participate in a program. In staff's experience, incentives are credited in sparking initial owner/developer interest, program technical assistance is considered the most valued program offering to participants. Technical assistance helps the developers "manage" the process and helps to keep the design team on the same page, and provides technical expertise to help projects move further on the sustainable continuum. This level of assistance is valuable in terms of solving problems for the developer, helping to take the burden off of them to manage the process, and providing expertise to the design team.

SBD staff suggested that increased owner incentives would help offset the cost of more detailed design and higher efficiency measures that go beyond the resource new construction programs. One respondent observed that design team members were confused because SCP did not offer an incentive for their extra effort in achieving even greater energy efficiency and sustainability than required by existing programs. Staff suggested providing SCP design team incentives in addition to Savings by Design (SBD) or California New Homes Program (CANHP) incentives. Contrary to the developer incentive, design team incentives are perceived as necessary.

SBD staff suggested changes to incentive structures included:

- Tailoring incentives to each submarket, acknowledging the "one size fits all" approach is limiting to customers. By defining each submarket's carrot, the program

can better design incentives to suit each market. For example, "build and sell "developers are not well-suited for programs marketed on life cycle costing benefits. Instead, incentives need to address split incentive issue faced by those customers.

- Providing additional incentives to achieve LEED certification. In staff's experience, many developers strive to achieve LEED, but abandon it because of the cost and labor involved in the certification process. According to staff, incentives could help to offset these costs.

In contrast to the feedback provided above, some staff were confused as to the complementary nature of the SCP program in relation to SBD and CANHP, suggesting that additional staff training is needed to insure that all program staff are equally knowledgeable on how the SCP program functions and is integrated with the core programs. For example, the SCE Codes and Standards (C&S) program recently provided a C&S Bootcamp workshop to the Design and Engineering Services Group – a similar SCP session may prove helpful for the new construction programs' staff.

4.5.2 Technical Assistance

Staff unanimously indicated that developers find the technical assistance valuable, but also need help navigating the various tools, services, analysis, and programs while attempting to achieve the SCP goals. Staff suggested that developers need more guidance and expert intervention to respond to design teams that inform them that achieving the advanced goals is not possible. As indicated in the section about developers' perception of energy efficiency versus green, energy efficiency is not a priority for developers in the green context. Therefore, staff suggested that SCP provide the needed technical expertise to defend the value of energy efficiency in relation to other sustainable measures.

When asked what kind of incentive (benefit) was valuable and where was it mostly applied, unanimously staff indicated that technical assistance was valuable to LEED consultants of whom, many are still moving through the sustainability learning curve. It's critical that the program technical assistance influence the LEED consultant to maximize the energy efficiency element.

Staff cited that while some design teams appreciate the expertise, some are threatened by it. Staff's perception was that this negative response to technical assistance could be because designing green is out of the design team's comfort zone and it may make them look less competent in front of their builder clients. Also, some design teams feel that free design assistance is taking away from their ability to charge for this service, or to provide value-added services.

All staff agreed that it's critical that technical assistance be offered very early in the design process in order to impact the design process itself as well as the site orientation and horizontal design considerations. Once a project gets to the SBD or CANHP program, these items are fixed. Ensuring that potential projects are aware of the technical assistance and when it is critical is key to the success of the program.

4.5.3 Suggested Additional Program Offerings

Project Roadmap Development

Especially with delayed projects, staff suggested that SCP address the issues of how to deal with projects that have a longer term build out timeframe (e.g. 20 years). They indicated that providing progressive program steps and a plan for various portions of the projects as determined by build out time will help to minimize confusion over what code to be beholden to as well as a roadmap for changing teams.

Toward Zero Energy Goals

Several staff pointed out that SCP should spend its efforts on going after zero net energy goals by providing one new construction program that follows a continuum from minimum program requirements to net zero energy. SCP technical assistance should help to push projects to much deep energy savings and strategies that push the envelope and the incentives are structured commensurately.

Participant Recognition

Most respondents noted that developers respond to recognition for extraordinary efforts and therefore suggested that SCP provide greater recognition benefits for participants. Oftentimes, recognition establishes a long-term commitment to sustainability. SCE can influence industry trade associations to create sustainability awards, or recognition from local governments, or showcased in industry or community publications, etc.

4.6 Program Procedures

4.6.1 Applications

Some staff indicated that they were not familiar with the applications or the application process. However, most responded with the suggestion to streamline the application process and integrate it with complementary program applications and processes. Consistent suggestions include one application, one process, one contact for SCP, CANHP, and SBD programs.

Below is a list of specific suggested improvements to the application and process.

- Because the letter of interest does not work well for large developments with long term build out, update it to address this issue.
- The application should include a confidentiality agreement.
- The design assistance agreement needs to be less formal but should include the agreed upon type of assistance to manage expectations and to ensure that everyone is on the same page.
- Clearly define who the signatory is and their responsibilities.
- Develop a two-stage application: Phase 1 could be a higher level and integrated application for multiple programs. Phase 2 application could provide program specific details.

- Create a Web-based application

4.6.2 Design Assistance

Some interviewees indicated that they were unfamiliar with the design assistance and related process.

When asked what they would change about the design assistance process, most staff were confused about who is supposed to provide design assistance and when. Because the core program staff of CANHP and SBD work primarily with the buildings, staff felt that the building design assistance should come from core programs and the land use/community design assistance come from SCP. Therefore, SCP would come first and refer the projects to the core programs at design development. A defined design team with defined areas of expertise (building type) and when each expert is slated to provide the technical assistance would minimize this confusion. Also, staff suggested that clearly defining the design assistance budget, hours, or deliverable for each project will help the developers use this service more wisely.

However, there were two schools of thought on the core programs providing the building design assistance. The SBD respondents indicated that they have the resources to provide this technical assistance, whereby CANHP does not on the residential side.

In terms of changing the design assistance, a reoccurring issue among respondents was how to deal with mixed use projects. They indicated that currently, there is only a piecemeal way of linking residential and nonresidential project elements, but did not have any suggestions for addressing mixed-use projects.

4.6.3 Other Procedures

When asked what other SCP procedures they would like to see changed, staff indicated that program documentation must be clearly defined and streamlined. Unless there is a combined application, they indicated that the SCP program should not be accountable for upholding core program protocols and/or documentation.

4.6.4 Enhancing Coordination with Other SCE Programs

One staff indicated that the responsiveness of the core programs could be improved. Because the programs were not well-integrated, staff felt that each program had different priorities and their staff did not extend effort beyond their goals to further reach to SCP goals.

Several staff indicated that improved SCE internal communications would benefit all programs. They felt that other SCE staff were still not familiar enough with SCP to promote it and were confused about the process and offerings. While there was some communication about SCP, it took a long time to begin the program coordination effort.

Through core programs, staff indicated that there is not enough time or budget for design assistance for giving the SCP projects the attention that they deserve. Through

Affordable Housing Energy Efficiency Alliance (AHEEA)[1], HMG was able to provide a high level of design assistance to multi-family projects. However, since AHEEA is over, there will be significantly less time that the program staff can provide to a project. Staff suggested that the solution is to have the SC program make more money available for design assistance.

Staff felt they needed more education so they could better talk about SCP to their potential projects. They also needed a more clear definition of the program, including who is administering it, what are the processes and protocols, and who plays what role. Clearly, there was a need for more coordination with SBD staff. SBD staff indicated that very far into the program cycle, the SBD reps did not understand the program. They suggested regular and consistent coordination is key to keeping them updated on program offerings and procedures, reminding them that the program exists and is an extension of the core programs, and encouraging them to promote the program to potential participants.

Staff also requested better coordination among SCP and core programs whereby roles are clearly delineated among programs. They wanted to see program roles be more explicit and protocols established. They also indicated that internal confusion also led to customer confusion.

One staff suggested that they would have benefited from better understanding SCE's role in the program and how this role should be consistent and unchanging. Consistent meetings with implementers could have helped to improve success and clarify roles.

One staff suggested that coordinated training among programs would help to unify programs internally and establish a united program front not only to cross promote programs, but also to minimize customer confusion.

One staff intends to coordinate with service planning staff consistently to ensure they are conversant about the program and are promoting it to projects early enough in the design process. This coordination could identify potential participants.

[1] AHEEA was a 2006-2008 SCE-funded non-resource program providing free design assistance to affordable housing projects.

5. PARTICIPANT INTERVIEWS RESULTS (CADMUS)

Because HMG served as the California New Homes Program (CANHP) contractor/implementer, HMG had first hand experience (in an extension of SCE new construction staff) with working with multifamily projects that participated in the SCP. This created a conflict of interest in HMG interviewing SCP participants and thus the interviews and analysis were conducted by the Cadmus Group. Their interim results and findings are provided in this section[1].

These interviews were intended to gain valuable feedback on the program's current operation and participants' perceptions, and to provide feedback to assist further program design and implementation plans. The interviewees were the complete sample of participants provided by SCE. To our knowledge, none of these participants had completed the program at the time of the interviews and many of them were still in early phases of their projects, or had put the projects on "hold" due to severe conditions in the development markets.

The purpose of these interviews is to give SCE directly-applicable information on:

- Which existing incentives and services are most effective and highly valued
- Where process improvements should be made
- Market perception of energy efficiency and sustainability/green development
- Suggestions for engaging SCP more in the green and builder markets

The interviews were conducted according to an interview guide written by HMG, edited by the Cadmus Group, and then approved by SCE. The list of participants interviewed and the interview guide are provided in the Appendix. The interview questions were designed to be mostly open-ended. Structured as an interview as opposed to a survey, the interviewer was given leeway to explore additional relevant topic threads that interviewees brought up. These interviews gave SCP participants an opportunity to express their opinions, anonymously, about the program and its delivery. The interviewer took pains to explain his non-affiliation with the actual program to encourage frank discourse by the interviewees.

The interview questions explored participants' views on issues including:

- The overall impressions of the program including its strengths and weaknesses
- How the program was marketed in the context of SCE's broader portfolio of programs
- Perceptions of how the program was administered and run
- Role of program incentives in encouraging participation

[1] Cadmus's participant results and findings are currently being reviewed by SCE. To avoid conflict of interest, HMG was not involved in the data collection, analysis, and reporting of the participant study portion.

- Perceived value of the program's technical assistance
- Perceived market view of the energy efficiency and green/sustainability measures
- Perceived influence of the Sustainable Communities Program on participating projects
- Opportunities to increase program penetration into new market segments
- Feedback on suggested additions to program offerings

SCP participants were identified and recruited each for a 30-45 minute interview that elicited detailed information about participants' experience and benefits received from participation in the program. A total of 7 telephone interviews were conducted, representing 100% of the identified participants provided as interview candidates by SCE.

5.1 Who are the participants?

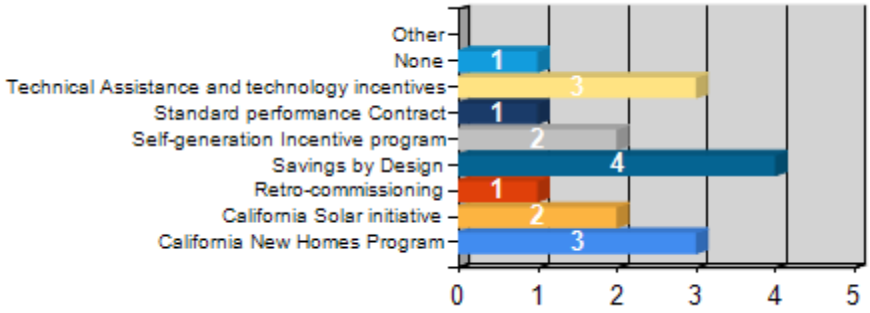
The interviewees included key staff from the firms and projects shown in the following table:

Project	Project description
A	12 bldg office campus
B	325 unit residential and small commercial. LEED NC silver
C	Mixed use live/work artist complex. LEED NC silver
D	Multifaceted renovation LEED NC & H
E	22 story 542 unit tower w/mixed use base, LEED NC Gold
F	60 unit multifamily going LEED H Silver or Greenpoint.
G	Office building, later hotel and more offices. LEED CS

It is important to reiterate that none of the participants interviewed had completed the entire SCP process, so they could not offer empirical observations about the entire program. However, gathering information from these participants is especially useful from a formative evaluation perspective because it provides the opportunity to make mid-course changes in the program that can make it more effective and successful as it progresses.

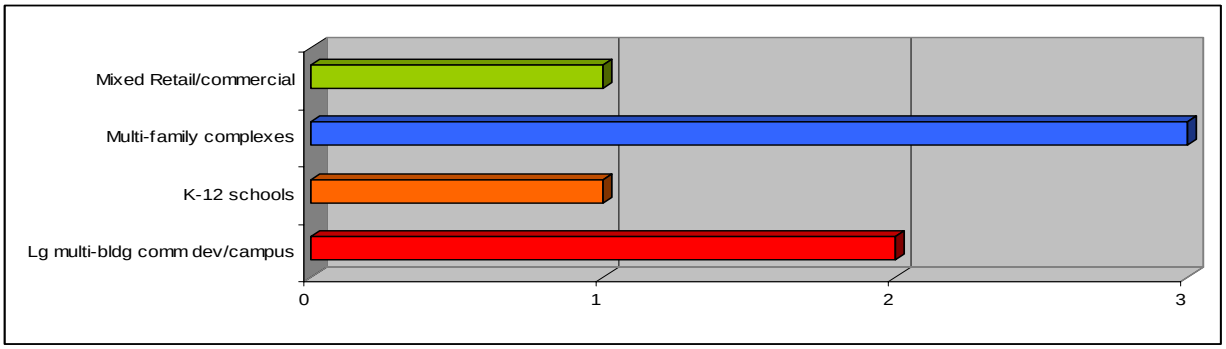
Participants were asked which, if any, other SCE programs they had participated in. Only one respondent said his firm had not participated in another program. Several SCE program were mentioned. The most common was the Savings by Design Program, with California New Homes and Technical Assistance and Technology Incentives a close second. Only one of the participants said they had not participated in any other SCE programs.

Which of the following SCE programs has your organization participated in?



5.2 Types of Participant Projects

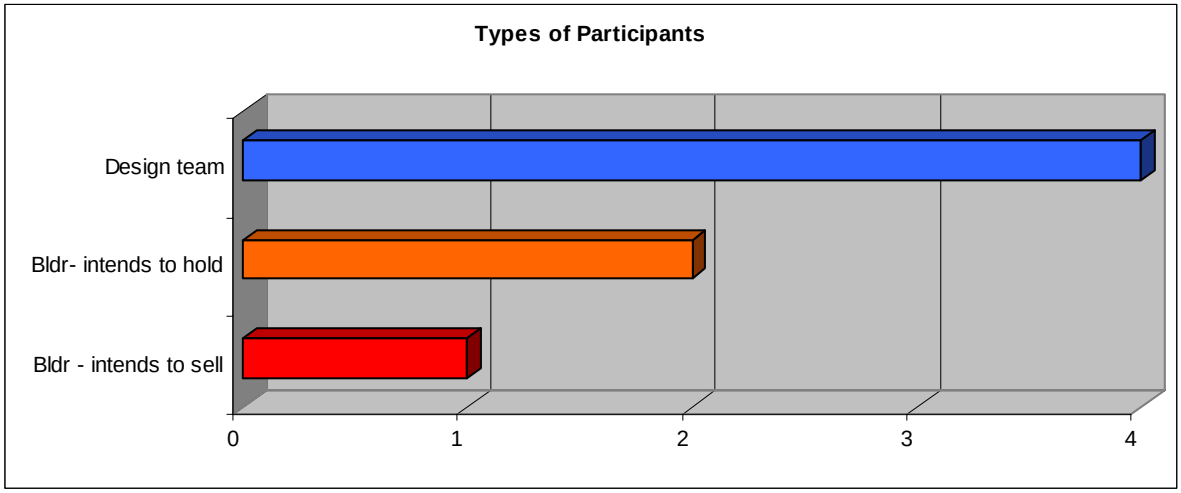
The range of projects participating in the Sustainable Communities Program was fairly broad. The largest category was multi-family complexes.



The program's focus on project orientation and site design (also referred to as "horizontal development") tended to be more pertinent to larger projects that included many buildings. Aside from this predisposition to larger projects, the program appears to have fairly broad applicability.

As the figure below shows most of the participants in the program were design team members, but three of the seven were builders/developers.

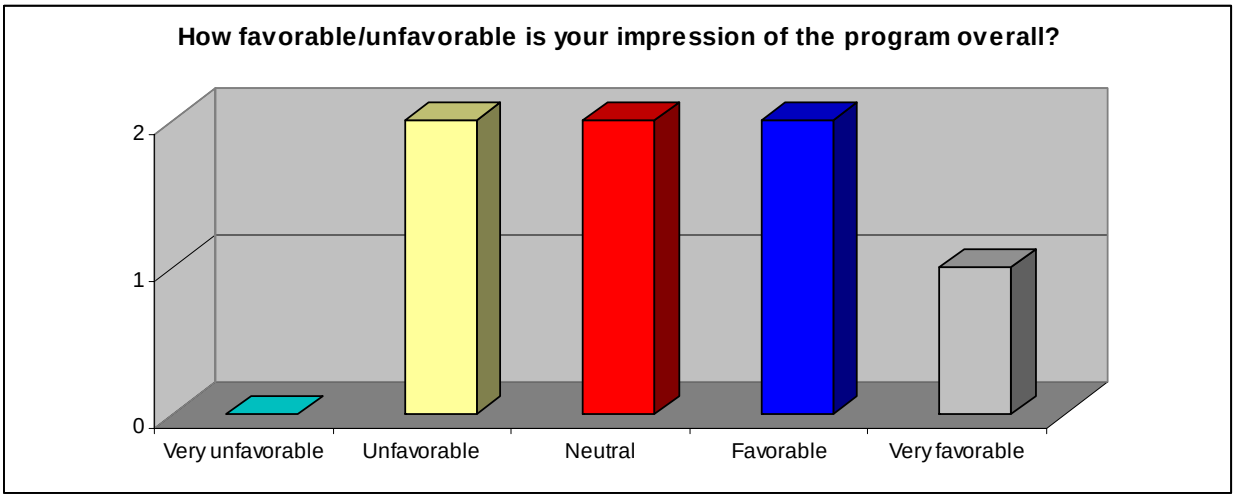
How would you describe your company's role in this project?



Most (four of seven) respondents were design teams working with a developer or builder. Typically these design teams had been chosen specifically for their "green" qualifications and their LEED expertise. In interviews where we spoke to the builder, it appeared that they also tended to focus on "green" oriented developments. Typically the individuals we interviewed were those most closely connected with the project management. In some cases that was a relatively junior person, but in others it was a senior partner or CEO.

5.3 Participants' Overall Program Impressions

Participants reported almost uniformly distributed impressions of the SCP. Three respondents reported a favorable impression, while two reported a somewhat unfavorable impression. In general, respondents agreed with the SCP's goals. Those who expressed less favorable overall impressions usually linked their opinion to the sense that the program was relatively new and communications about the program had been insufficient. One participant summarized their view about the SCP as, "Attempting to be helpful, but program needs more clarity about what it can do."



Several participants provided observations about communications being an area that needed improvement. One of the biggest drawbacks participants noted was their inability

to get critical information in a timely manner. This was particularly true in the case of forecasting the size and certitude of the incentives offered. Respondents reported having to pursue the implementers to learn whether they would be eligible, and if so what the size of the incentive would be. Delays in providing information about incentive amounts had the unintended effect of discrediting those architects or consultants engaged to liaise with the SCP. In one case, it almost caused the developer to retreat from all other SCE programs on the basis that these initiatives were too time-consuming and unpredictable.

While all respondents agreed that the primary value of the program was the financial incentive, they also valued the technical services that this program offered. More than other programs offered by SCE, the participants found that the Sustainable Communities Program had been effective in offering helpful information, particularly technical assistance. Respondents noted that SCP offered more help with LEED requirements and one respondent felt that the SCP was more active liaising directly with the client.

Asked how the program could be improved by integrating elements of other programs, the interviewees provided these comments about improving the SCP:

- SCP should offer incentives for energy efficiency as Savings by Design (SbD) does.[1]
- SCE should incorporate incentives for solar.
- SCP should emulate California New Homes and Solar Initiative by estimating the incentive awards at the outset of the program.
- SCP should offer upfront ability to forecast incentive amount.

5.4 Program Strengths and Weaknesses

As noted above, participants generally appreciated the intent of the program: as one respondent put it, this program was helping developers to "save money (as developers and designers tried) to do things better." In general, most participants felt that the technical assistance offered had been very helpful. The assistance given to both designers and developers regarding "green requirements" and LEED issues was highly prized. One particular program strength was its ability to offer rebates on LEED fees.

Program weaknesses identified by respondents included lack of coordination between SCP and other SCE programs. One participant noted the "lack of coordination with other programs, such as the California Green Standard and Energy Star." Pointing out that at least some of these programs were apparently mutually exclusive; he remarked that "by choosing one (program), you say 'no' to other programs." This same drawback was alluded to in the National Energy Efficiency Best Practices Study, published in July 2008 (referred to hereafter as the BPS). The BPS recommended that "In designing an integration strategy, [the program administrators should]…seek to include programs with

[1]National Energy Efficiency Best Practices Study, published by Itron for the California Best Practices Advisory Committee, July 2008

[1] This response was indicative of a lack of understanding about the program and the incentives offered.

related and complementary goals." Several participants felt the program should provide more ability up front to forecast incentive amounts and, overall, communicate program requirements with greater clarity.

On the question of which of the program's twin benefits was most valuable, financial incentives or technical assistance, the participants split evenly. However, respondent's comments suggested the availability of incentives was *sine qua non* for attracting participants to the program. Without incentives, the program would not have been considered by most of the participants. After they were engaged in the SCP though, most participants came to value the technical assistance and, when interviewed, half of them stated that this was the SCP's most valuable benefit. A typical response was that "the incentives were important for involvement, but once [we started working with SCP implementers] the program's technical assistance proved useful."

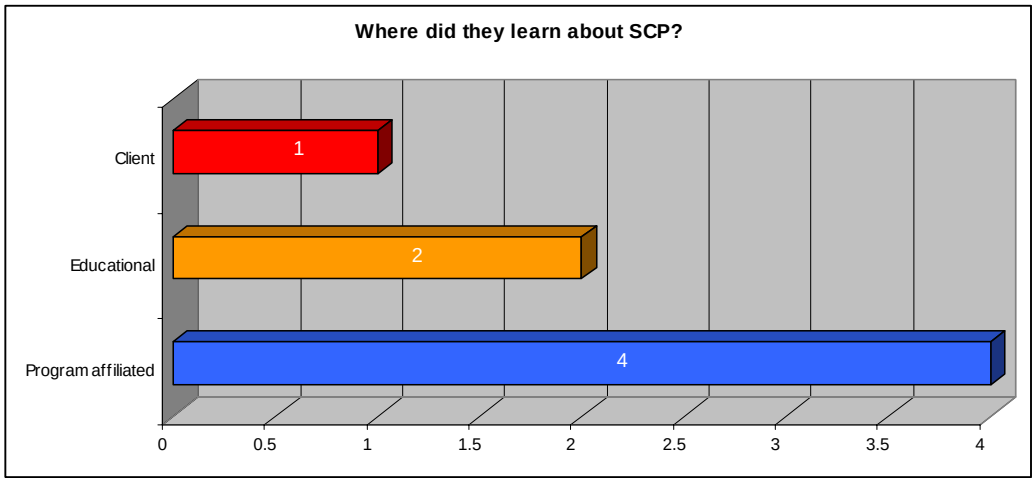
Several respondents commented broadly about the administrative burden associated with the diverse requirements of SCE's programs. Many respondents could not understand why each program had differing intake forms and requirements that they felt were often contradictory. This was compounded by the fact that different utilities offered programs of interest to the participants, but their paperwork and participation processes differed from SCE's. This last comment was not directly aimed at SCP, but more generally related to all utility programs.

5.5 Program Marketing

Another important aspect of the SCP that was considered during the interviews was the marketing of the program, and the presentation of its goals and processes.

In this aspect of the interviews, we looked at how the participants learned of the program, what influenced their decisions to participate, and whether there was confusion with other programs available through SCE. Finally, we considered the question of whether this program would have benefited from a more coordinated marketing program integrated with other programs and joint marketing.

Most participants were influenced to enroll in the program by experts directly connected to the program. Individuals directly associated with implementing the program accounted for 57% (4 clients) of the referrals; referrals from the educational community brought in another 29% (2 clients); and one participant learned about the SCP through their own efforts.



Asked what influenced their decision to participate, aside from the program's own benefits (technical services and incentives) it was clear that the personal commitment of the respondents was a leading motivator for participation. Since the program was very new, it did not have a "reputation" that might otherwise have influenced participation positively, or adversely.

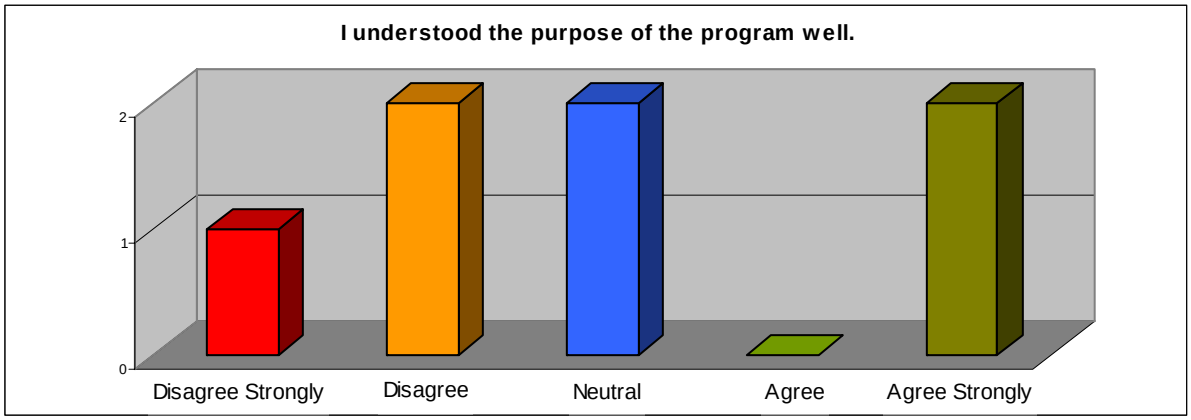
One important line of inquiry about the effectiveness of program marketing involved possible confusion for potential participants resulting from a lack of clear distinction between SCP and other SCE programs, such as SbD. SCE was concerned that separate promotions for these distinct programs might have impeded effective "cross-selling" among the programs and detract from effective marketing of programs including SCP. When asked about this issue, participants provided only limited evidence of such problems. One respondent who alluded to such problems expressed some frustration that he had heard about the SCP program, but "not from the Savings by Design representative even though we [the participant] have a tight relationship with them."

More common were concerns the participants had about how they could determine what different programs had to offer, which ones they were eligible for, and which ones would be most beneficial to them. Several participants reported difficulties trying to determine which incentives would be most suitable for their projects or whether they could qualify for multiple programs. Complicating the situation was confusion noted by some respondents about programs offered by SCE and Southern California Gas (SCG), providers of natural gas.

One of the central questions these interviews attempted to answer was how best to present the program to the marketplace: Was it better to deliver these kinds of programs in a differentiated manner with marketing efforts stressing the uniqueness of the offering or was it more effective to combine this program into a broader "portfolio" of related, but partially differentiated, programs presented to the marketplace as part of an integrated package of options from which they could choose an "a la' carte" selection? The respondents were very clear in their responses to this question. They overwhelmingly agreed that the program should be offered as part of a portfolio of programs with the ability to "mix and match" incentives and services to meet their specific needs.

5.6 Program Administration

We asked a series of questions to obtain feedback on how the program was perceived once participants had signed up. Though many of the responses indicated a sense that the broad objectives of the program had been accepted and supported by the participants, beyond sharing this aspirational goal, many respondents appeared to be unclear about how the program sought to achieve its ends. The following figure shows that a majority of the participants did not agree that they understood the purpose of the program well once they got involved in it.



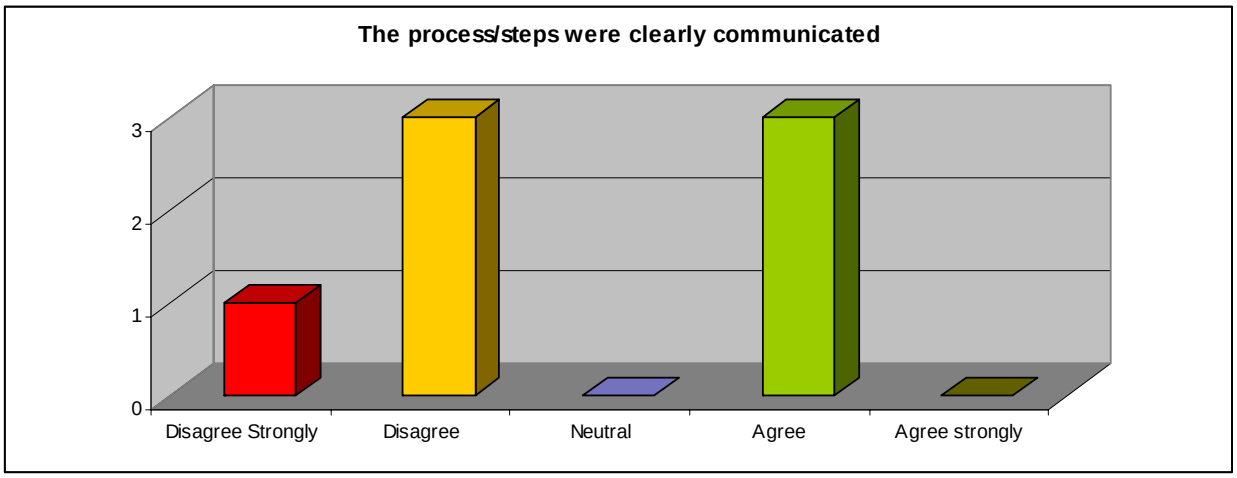
This indicated that respondents, for the most part, felt that communication of the SCP's purpose had not been sufficient. Many said they were unclear about how the program was going to reach its goal. The respondents offered suggestions on how the purpose and approach could be communicated more effectively including:

1. A chart comparing the program features, its eligibility criteria, estimated incentive ranges, and available service offerings for all of the SCE programs.

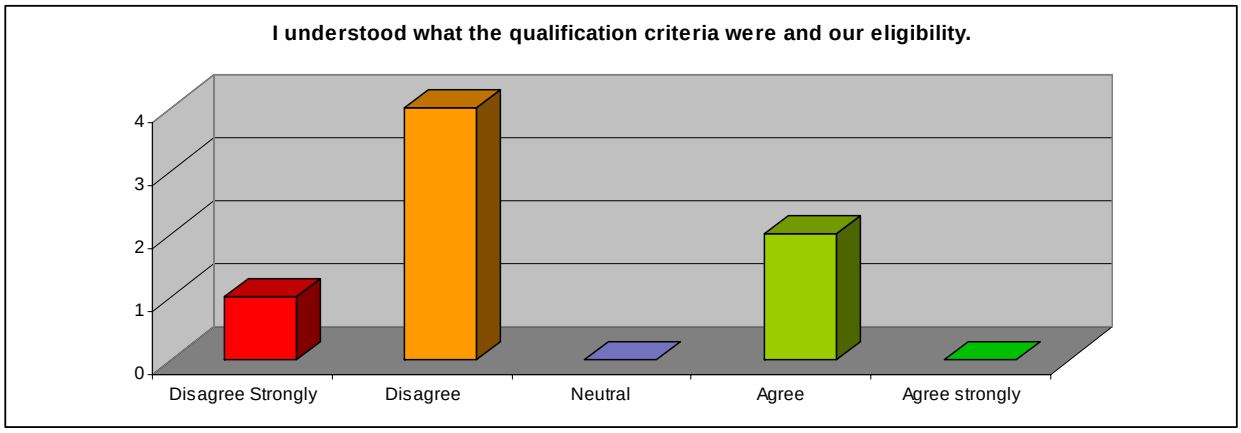
2. A well publicized informational meeting to introduce this program along with other programs.

3. Case studies to track actual performance that could be calculated as "real savings."

Asked if they agreed that program process steps were clear, more than half the respondents said they did not feel they were, as shown in the following figure.



The interviews also sought to learn whether the dynamic process of communicating with the participants had functioned adequately to inform them of their application status and eligibility. Five respondents felt that they had not had the qualifications adequately conveyed to them, nor had they been sure of their eligibility. One respondent said he had repeatedly asked the implementer whether his firm's project was eligible and what amount of incentives would they might be able to secure through the program. After a considerable delay, he was told that his project did not qualify for an incentive. He was unable to ascertain why the project had failed to qualify and was thus more reluctant to consider participating in the program in the future. The two remaining respondents said they had been adequately informed.



When asked whether they agreed that ongoing communication had kept them abreast of new developments, the majority of respondents (5 of 7) disagreed and two felt satisfied with the ongoing communications efforts. In summary, feedback on program administration indicates that there are opportunities, particularly involving communications, to improve delivery of the SCP. This may become more important if the program targets additional markets and offers additional services.

5.7 Program Alignment with Developers' Processes

We also sought to explore how well the SCP was aligned with the developer's own processes. When asked to indicate their level of agreement with the statement that the SCP was easy to align with their project's process and schedule, most respondents

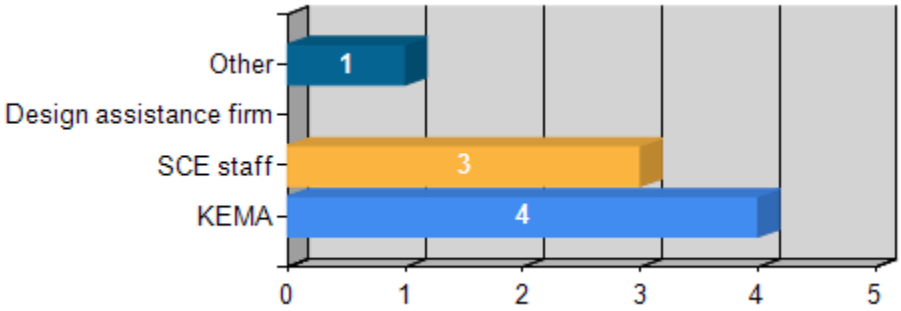
disagreed or neither agreed nor disagreed. These responses suggested that there were some incompatibilities between the program processes and their normal development process, but the participants' supplemental responses suggested that this had not been much of an issue in most cases.

The respondents' feedback suggested that participating in the program was usually done with minimal disruption to participants' projects. This was partly due to the limited design changes made in response to the program (as discussed later). Based on the feedback from respondents, we believe this was due, at least in part, to the fact that engagement with SCP did not occur early enough in several projects to affect the design process. This is contrary to SCE's underlying desire to use SCP to intervene early in the design process, with the expectation that more green/sustainable design choices will be considered and implemented. Proper "alignment" in this case might have provided earlier design recommendations which could have been accommodated in the development process. One respondent did articulate this dynamic indicating that, "To impact the (project's) design it's important to get involved in the development process at a very early stage."

5.8 Effectiveness of Working Relationships

Another important determinant of how well the program is performing is the effectiveness of working relationships participants had through the program. To assess this, participants were asked with whom they had worked the most, and how effective the relationship had been.

The responses below indicate that KEMA was the most prominent contact with whom participants worked, but SCE staff was a close second. Often the participants recalled names of one or two individuals in the organization they were familiar with.



The only concern we heard voiced about these working relationships was from one respondent who indicated that his direct competitor had been engaged as the implementer (KEMA) and was effectively in charge of determining eligibility and incentive awards. Moreover, the participant was forced to reveal business details to the implementer that might have had a deleterious impact on their business plans as a direct result of having to share them with a competitor. Even though only a single respondent voiced this concern, this appeared to be a problem that could become more serious as the program expands and firms that might be competitors with KEMA were considering participation.

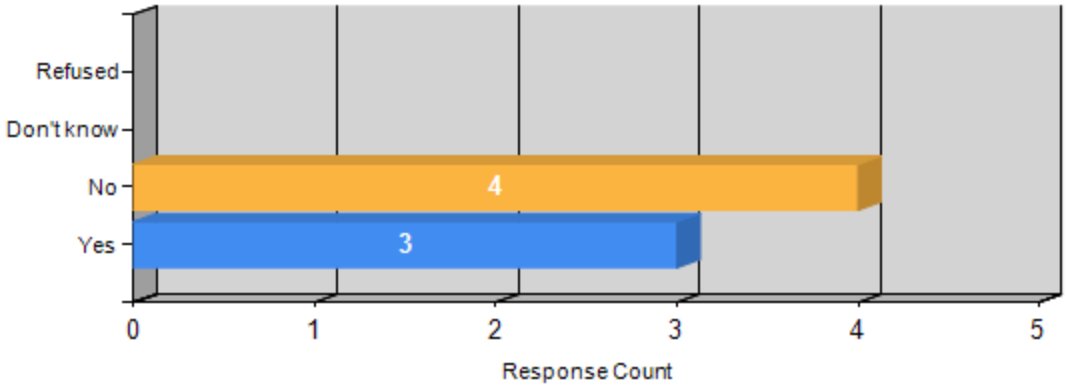
Other feedback on interactions with SCE or KEMA was minimal. Most respondents were satisfied with the working relationships with both organizations.

5.9 Effectiveness of Program in Achieving Goals

In the end, it will be important to determine whether the program achieved its goals. Since the program is still rather new and no projects had been completed at the time of our interviews, emphasis on this aspect of the program was only included to provide some indication that SCP's design was having some impact, even if it might take more adjustment to make it fully effective. The emphasis of these questions was not to elicit quantitative data to allow us to assess the program's impact, but rather to gather some qualitative information about the movement of the program towards achieving its goals.

A first test of the program achieving its goals would be SCP's effectiveness instigating project design changes accommodating the program goals. Here, the response was nearly evenly split, indicating that in some cases the changes did occur, but in slightly more than half the projects they did not (see following figure).

Did you change your project design as a result of the program influence?



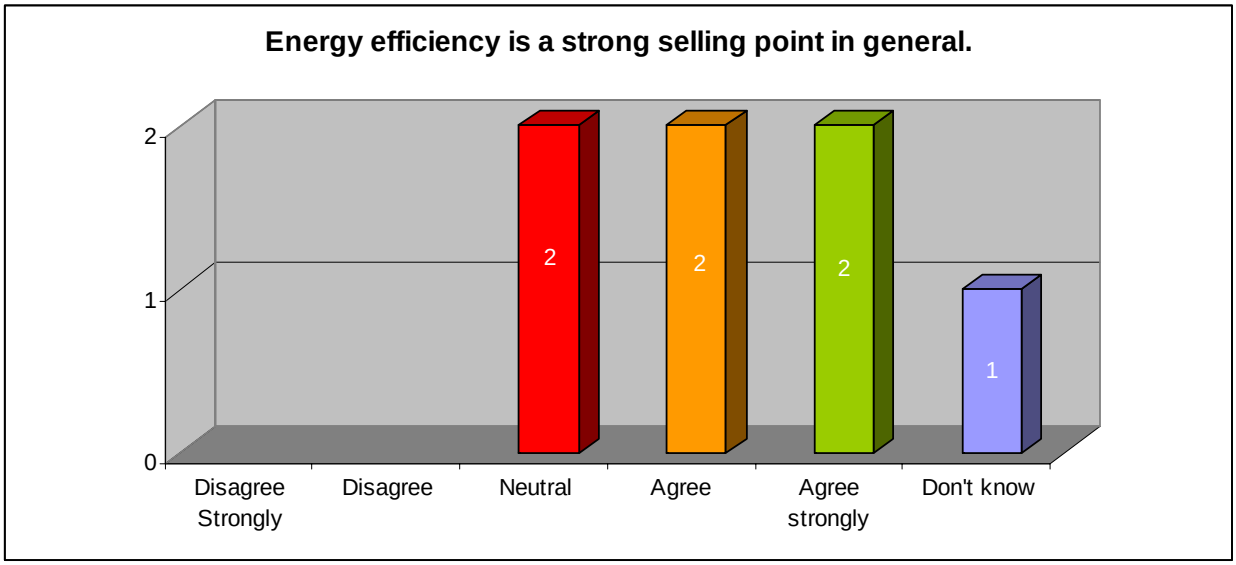
One reason the program did not influence project design very often may have been the timing of the program's impact on the development process. Some respondent's comments suggested that in most cases the developers or designers learned of the program too late to allow substantive changes to occur. One participant cited late entry into SCP as the reason their accommodation of the program's goals had been limited to outdoor landscaping. Another indicated that Savings by Design had produced changes in the planned development, but SCP had only contributed "advice." One respondent credited changes to the roof, the addition of solar energy, and internal venting as a direct result of the program's intervention.

To assess longer-term impacts, we asked respondents whether participating in the program would influence future projects. In conducting the interviews, however, it became clear that projecting influence beyond the current projects was not feasible since each of these projects had represented special circumstances and builders and/or designers were reluctant to project future actions based on this single instance of collaboration.

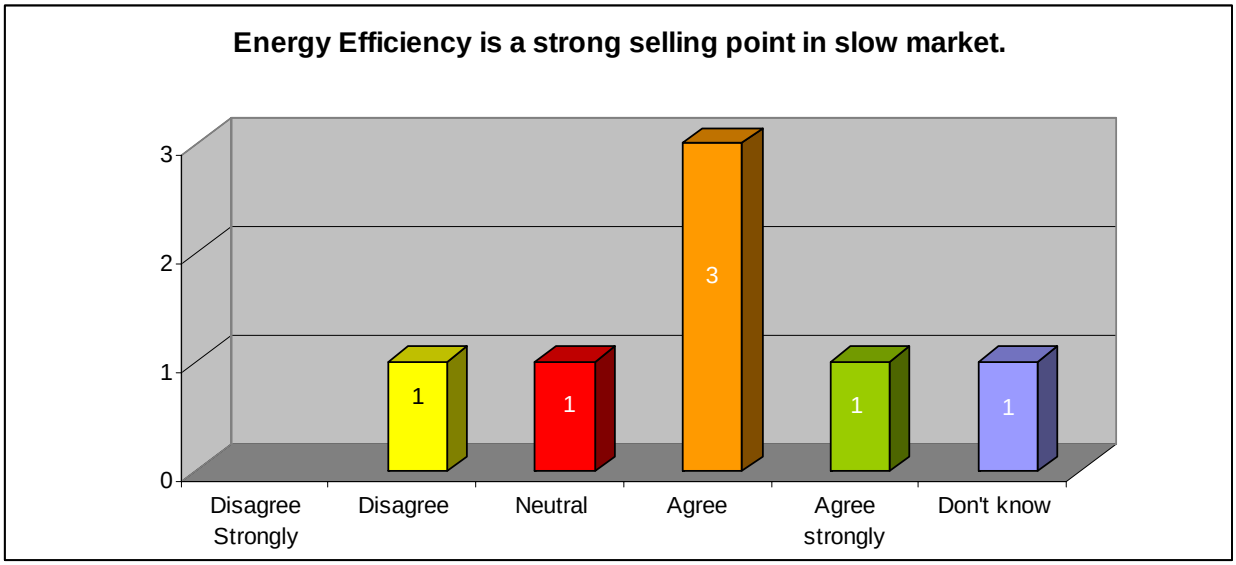
5.10 Energy Efficiency and Green Sustainable Development

The participants were asked several questions related to energy efficiency and "green" or sustainable development. First, we requested views on the strength of market demand for both energy efficiency and green/sustainable development. The following bar graph

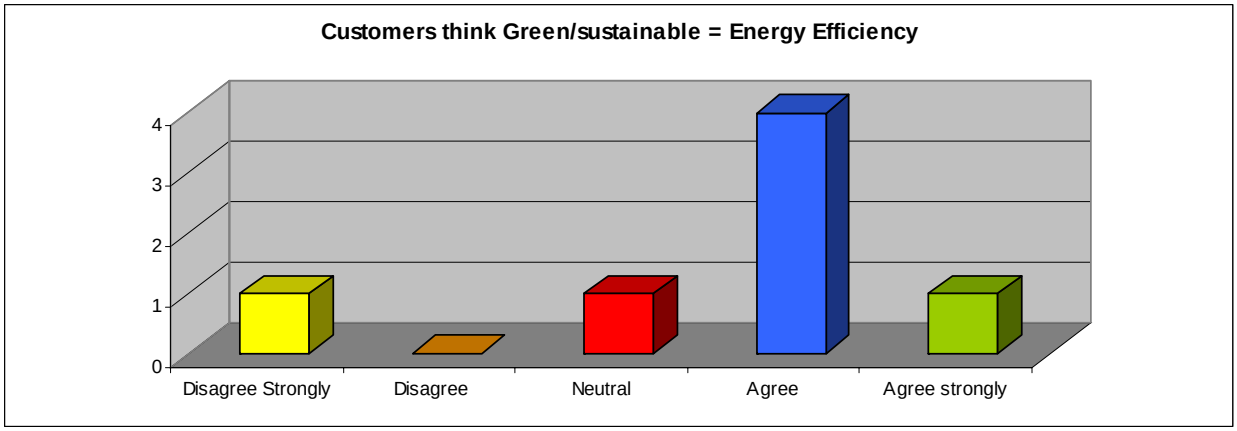
shows that participants generally agreed that energy efficiency was a strong selling point and none disagreed.



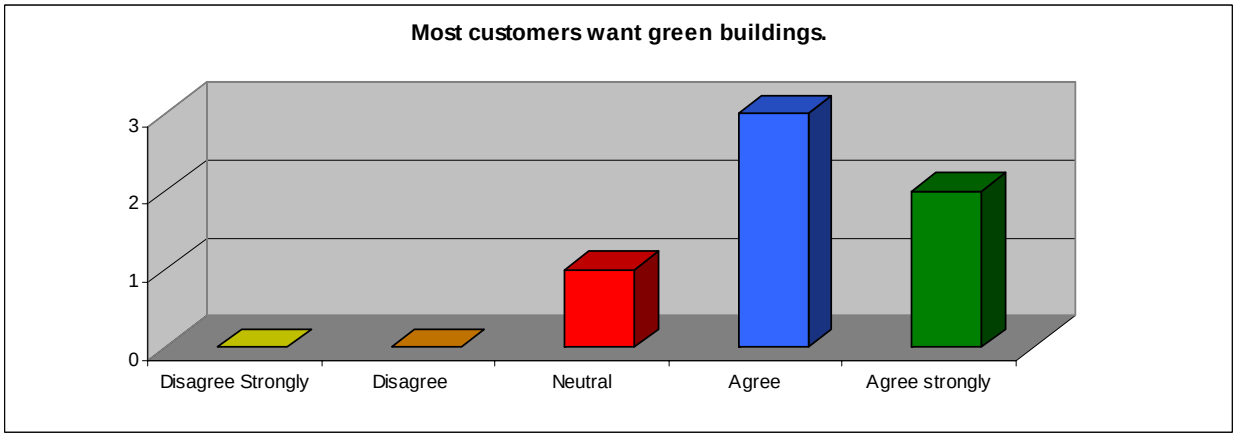
When asked if they thought this still held true under slower market conditions the positive responses weakened somewhat. Nevertheless, the majority still agreed that energy efficiency would be a strong selling point.



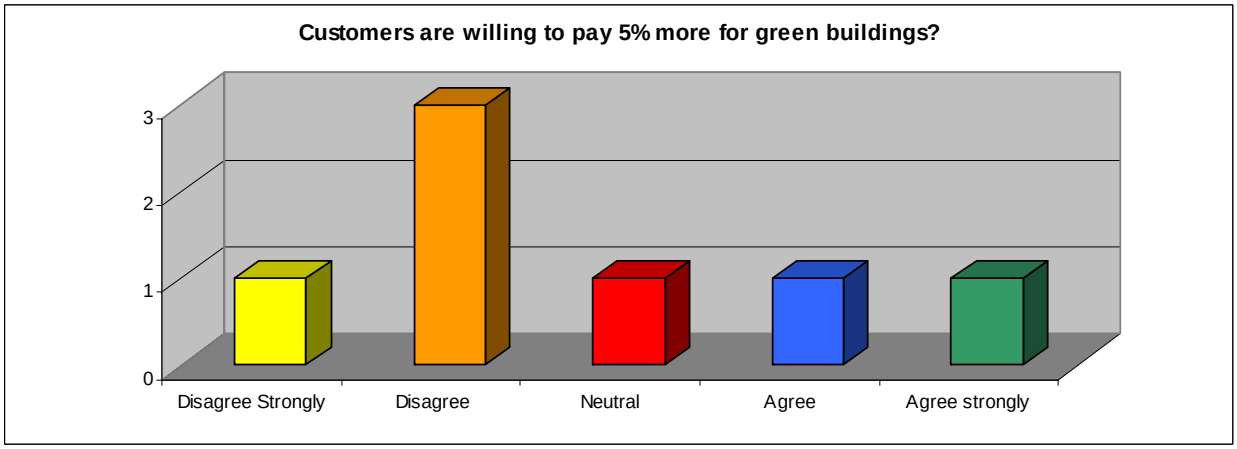
In a related question we tried to ascertain, based on program participants' knowledge, whether their customers distinguish buildings that are green/sustainable from those that are energy-efficient. As shown below, five of the participants agreed that customers viewed these two concepts as the same. Only one disagreed.



Now, we shifted our focus to ascertain the demand for green/sustainable development. Did most of their buyers "want green buildings?" Here we found near-unanimity around the notion that customers wanted green buildings, with five respondents agreeing that they did. One respondent neither agreed nor disagreed and one offered no response.



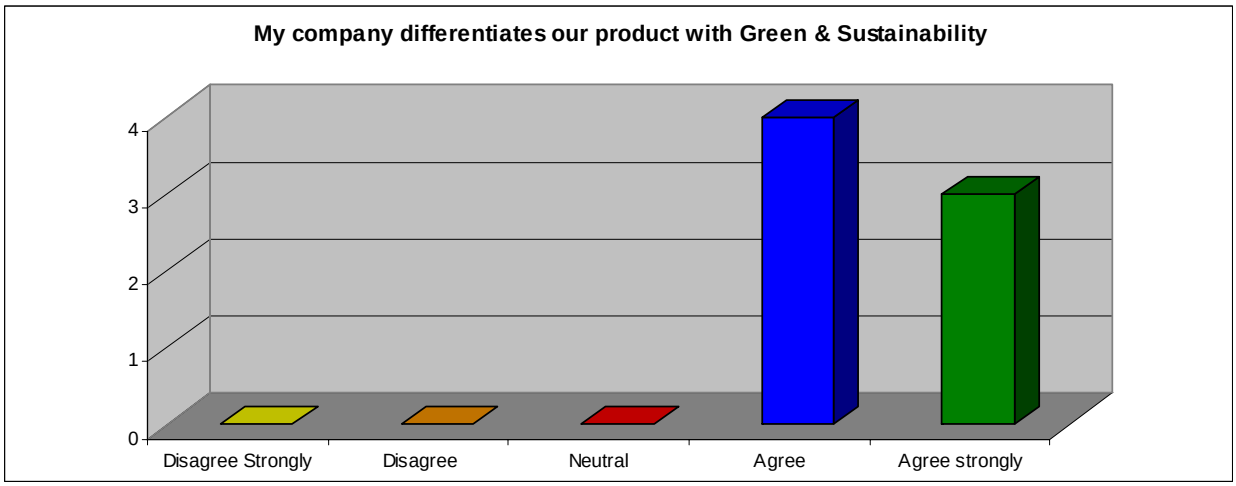
When additional costs for green buildings were considered, the respondents' views on market acceptance declined. As shown in the figure below, only two of the seven participants agreed that customers were willing to pay up to 5% more for green buildings. Five of the seven were either neutral or disagreed that customers would be willing to pay 5% more for green buildings.



Asked about barriers to the green building and sustainable development market, respondents cited

- Higher costs or the perception of higher costs
- Concern over reliability of new technology that has not been tested
- Conflicts with allowable local design standards
- Concerns over higher maintenance costs due to unfamiliarity with new technologies
- Refusal of lenders to recognize savings, hence unwilling to finance energy efficiency

The participants were asked whether they differentiate their projects as green/sustainable. As shown in the following figure, representatives of all the participating firms agreed that they did differentiate their projects with a focus on green and sustainability. This is not very surprising given that these companies were participating in the SCP.



To better understand how decision-making inside design firms and among developers affected project design, the interview included a number of questions designed to reveal how green and sustainable issues were handled internally.

What the interviews revealed is that, for the design and development firms participating in SCP, sustainability (usually in terms of LEED certified) was firmly integrated into the thinking and planning at all levels of the company. Most firms answered that the responsibility for seeking and promoting sustainable designs and practices was shared across the hierarchy of the companies. In some cases there were special champions for certain market segments, but the responsibility for sustainable solutions was pervasive across all levels of the firms.

Only one firm had a separate function for sustainability. Some firms had internal teams to address these issues, but by and large these considerations were “mainstreamed.” Respondents also reported no difficulties with championing issues up through the organization.

5.11 Measures Favored by Developers and the Market

Given the current make up of the participants, the interviews also sought to establish potential for this program in new market segments. Towards this end, we asked participants to identify in what kinds of projects they thought energy efficiency would be most important. They provided the following responses:

- Energy efficiency should be important in all ... especially in residential.
- Mostly office buildings - very important. Although rent is still most critical, sentiment is changing to focus more on energy efficiency.
- Schools require energy efficiency, next are corporations, and then commercial tenants want energy efficiencies leading to lower operational costs. Tenant improvements, or targeted development, are also sensitive to energy efficiency.
- Residential developments are more interested in energy efficiency than commercial projects. The commercial segment is just awakening to the implications of energy efficiency, unless they're intrinsically "green."
- Developers that use triple net leases have incentives to incorporate energy efficiency. Warehouses are particularly impacted, also schools.
- Rentals have greater sensitivity to energy efficiency, since energy costs are typically borne by the landlord.

When asked what measures were practical and cost-effective to install, the builders and developers responded with these items:

- Energy-efficient appliances
  - HVAC
  - heat pump
  - tinted windows
  - ENERGY STAR appliances
  - retrofitting HVAC equipment
- Windows and exterior walls
  - low-e windows
  - insulation, especially roof insulation
  - reflective coating on plywood
- Lighting and air quality
  - lighting upgrades
  - natural daylight, good indoor air quality

- no VOC paints

- Planning and design
- building commissioning
- energy optimization plan
- local energy metering
- bamboo flooring

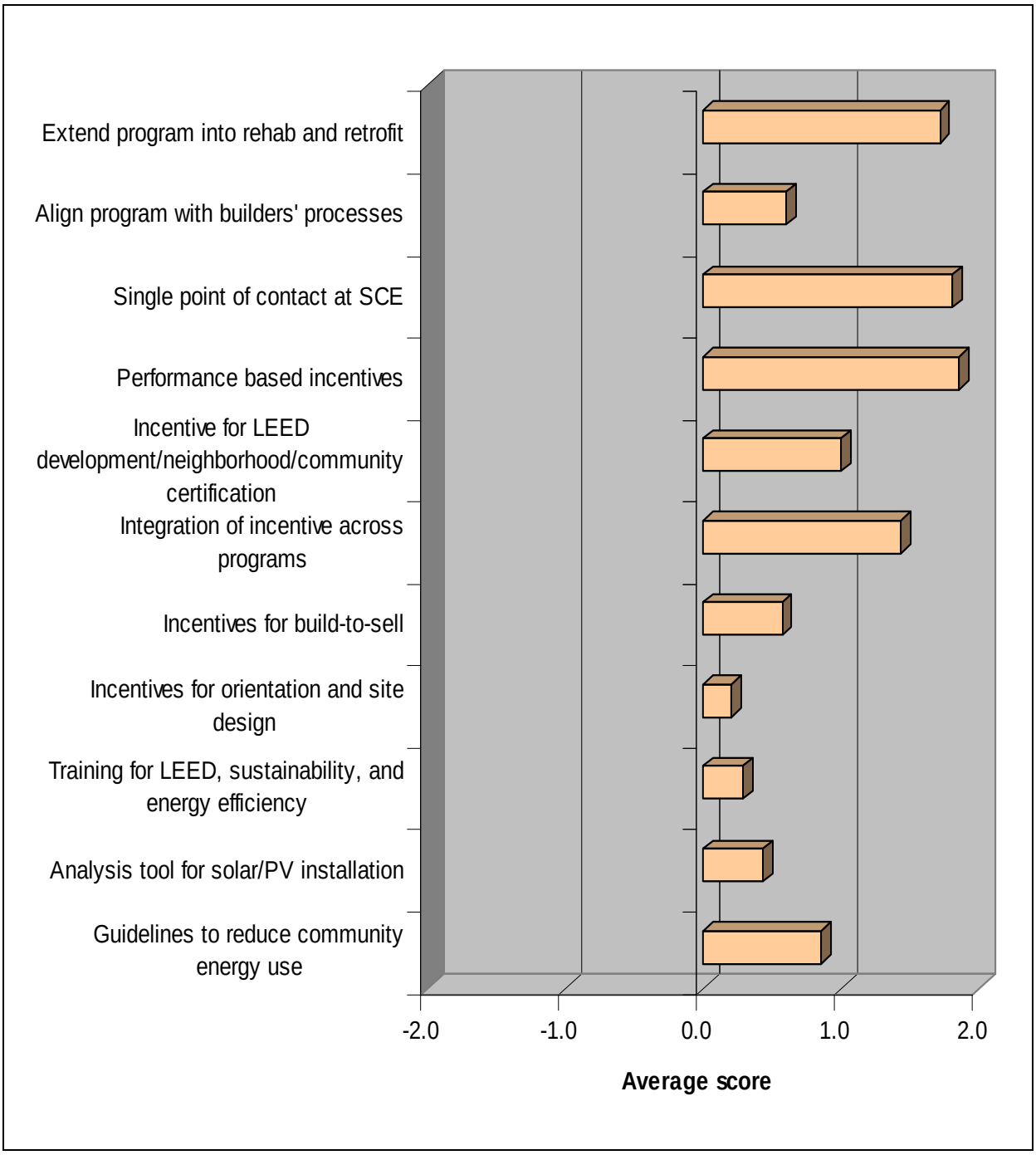
- Marketing
- “life style selling”
- show how “green” is affordable

The above mentioned measures were seen as the “low hanging fruit” that was easy to install or implement, but provided a good value for the buyers and building operators. This question was then followed by a question about what was the most appealing from a marketing perspective, and what elicited the best response from buyers and operators. Participants suggested these items:

- Marketing that energy costs are lower, thus incurring a lower cost of ownership
- LEED accreditation – valuable for some people – mostly those that know about it already
- Ability to control indoor ambience and improved air quality
- Healthy and productive spaces including maximized lighting
- Reduction of exposure to toxics
- Things that can demonstrate how they lower the utility costs
- Mechanical lighting efficiencies
- Visible energy efficiency and/or more efficient appliances

5.12 Concept Testing

Finally, interviewees were asked to rate several potential new aspects and/or directions for the program on a five-point scale, ranging from strong disagreement (-2) to strong agreement (+2). These potential changes have been discussed by SCE and the interviews provided an opportunity to get feedback from the targeted community. The following figure shows the average of the responses.



All the potential program modifications received positive average ratings, indicating they were considered to be desirable *on the average*. However, some received negative ratings by one or more respondents who considered them to be undesirable changes. Highlights of the ratings are summarized below:

- The strongest support was for "performance-based incentives" that would give additional points and incentives for performance that exceeded current requirements and approached "aspirational" performance levels.
- Having a single point of contact at SCE for the program received the second highest rating followed closely by the option of extending the SCP

into the retrofit and rehabilitation market. Many felt that there was a strong market demand in this sector.

- The suggestion to provide a modular approach to mixing and matching the incentives across various programs was also very well received. This suggestion is closely related to suggestions expressed in the findings of the July 2008 BPS, which called for "bundling" related programs and allowing participation in multiple programs, with a concomitant integration of the incentive structures.
- The options receiving the lowest ratings were providing design team training for LEED and providing incentives for orientation and site design where entities doing layout and construction differ.

In addition to responses regarding specific program changes under consideration, the respondents provided several suggestions during the interviews representing a cross section of useful recommendations. Two of them addressed changes included in the list above: providing a single point of contact at SCE for all programs and using uniform program applications across all SCE (and other utility) programs. The other recommendations included the following:

- Provide case studies to establish the results from implementing various SCP measures
- Provide information on "real" savings to be expected from individual measures
- Distribute information comparing the eligibility, services/benefits, and incentive levels for all the SCE programs
- Conduct an annual informational meeting to introduce SCP and other SCE programs
- Provide more effective help matching potential participant needs to appropriate SCE programs and incentives
- Make available a carbon calculator for developers
- Increase alignment of SCP criteria with LEED for Neighborhoods guidelines (see similar recommendation in the BPS).
- Increase the incentives within SCP for solar and energy-efficiency measures (see similar recommendation in the BPS).

6. PEER PROGRAM EVALUATION PROCESS REVIEW

HMG intended to review the IOU Statewide Sustainable Communities Program, however, PG&E is still in the process of designing their program (design will be final upon CPUC approval of budget in 2009). Since the SCE program is the same as the SDG&E program, HMG was able to glean some well-received practices and some recommendations from the SDG&E process evaluation surveys for SCE's consideration. HMG also contacted more progressive utilities and program implementers (NYSERDA, VEIC, ETO, and NEEA) across the country in an attempt to find similar programs for a further peer review. However, it appears that SCE and SDG&E/Sempra are in the forefront in incorporating sustainability in their program offerings and will likely be the programs to set best practices for other program designers and implementers to follow.

The goal of this peer program process evaluation review is to provide SCE program designers with a summary of the structure of SDG&E's program, the core recommendations for the program's improvement based on a similar process evaluation, the rationale behind the recommendations, and a comparison of SCE SCP's efforts, plans, and recommendations in relation to SDG&E's program. This information will provide insight on the similarities and differences of the two programs as well as issues that program staff and participants want to see addressed. Below is a summary of recommendations resulting from the Sempra program process evaluation.

6.1 Summary of SDG&E Sustainable Communities Program Process Evaluation Recommendations

From SDG&E's process evaluation interviews with program staff and participants, HMG gleaned the following comments and recommendations that are consistent with and support the findings and recommendations resulting from staff and participant interviews associated with the SCE SCP process evaluation.

Best Practices	Rationale	Relevance to SCE SCP's Process Evaluation
Offer an additional "kicker" incentive for the design team of which 50% is payable upon completion of the design work.	Thinking out of the box and going beyond core program requirements takes more time. The designers are motivated by and value the design team incentives and appreciate being paid a portion early in the design process. This is critical to compensate or reward the designers for their often uncompensated extra effort and time in achieving and documenting program goals and requirements.	While no respondents requested early incentive payments, they did indicate the importance of providing design team incentives for projects especially when they take extraordinary steps to achieve deeper energy savings.
Offer recognition for owners and design teams who go design "out of the ordinary" projects appreciate and value utility endorsement and recognition. Create industry awards, write articles, and/or publish case studies to showcase outstanding owner-developers and their projects.	Utility, industry, or peer recognition helps designers win projects, builders to sell buildings, and owners to enhance their company's image and sell their projects. Plus, the utility endorsement helps justify the efficiency investment. Oftentimes, recognition establishes a long-term commitment to sustainability.	Staff interviews revealed that developers are motivated by industry recognition.

Best Practices	Rationale	Relevance to SCE SCP's Process Evaluation
Provide early energy design charrettes to influence design (horizontal and building). Invest resources into the early design process by offering to host an early sustainable design charrette explore all feasible or "out-of-the-box" ideas at an early enough stage.	Early intervention in the design process will reduce cost and increase receptivity by incorporating design concepts at an early enough stage that they could conceivably be incorporated into the project. This effort should involve the full design team and include the engineers (whose recommendations and calculations are often critical for the developer to make a decision). This is where the sustainable goals are established and the design team is tasked with designing and constructing the building to meet these goals.	While the Sempra programs primarily focus on the buildings and SCP is extending to the land use or horizontal environment, early intervention and guidance (perhaps in terms of design charrettes or assistance) is key to influencing participant project design and minimizing costs.
Harness the hierarchy of influencing the decision-makers. Recognizing the owners as the most influential drivers in any program participation and in the decisions to design more energy efficient buildings. Architects are the second most influential, especially for projects with inexperienced owners.	This hierarchy of influence over a project needs to be harnessed early in the design process – through a charrette – and the remainder of the design team needs to be brought in to a) understand the sustainability goals of the project, b) contribute to the design and equipment solutions to meet the goals, and c) to identify each design team participants role in executing these goals.	SCP staff interviewees revealed the importance of tailoring assistance/training to the varying participants as well as mentioning the importance of influencing a project over a long period of time (20 year build out). Both of these support the SDG&E program recommendation of understanding the hierarchy of decision-makers and the critical intervention points in terms of maintaining sustainability goals throughout a long term project.

Best Practices	Rationale	Relevance to SCE SCP's Process Evaluation
Push higher efficiency and offer green program options. Provide a continuum of incentives: greater incentives for greater efficiency including unconventional measures, solar, and green. With green programs, offer a menu of green program choices, rather than just promoting and incentivizing LEED. Offering LEED or nothing is not an incentive for developers to move further toward green on a continuum.	Offering ascending goals and incentives help to push cutting edge projects to the next level. Offering a comprehensive program that covers everything from energy efficiency to zero energy with green measures and solar included provides building blocks and the option and encouragement of reaching higher levels.	Consistent with this recommendation, SCP is addressing program design to influence deeper energy savings, unconventional measures, as well as LEED and other green certifications or rating systems.

Best Practices	Rationale	Relevance to SCE SCP's Process Evaluation
Streamline the program and processes. Having numerous programs is confusing to developers. Clarify and join programs - don't have separate programs - have one with varying incentive levels and one application process. SbD is well known and respected - build green, sustainable, PV/Solar, mixed-use, res/non-res into one program. Have one application and increasing incentives with increasing performance.	One program, application, and process would entice owner-developers to add building blocks to their core program efforts if the process is simple and streamlined.	A cornerstone of the 09-11 SCP program is internally streamlining and integrating the SCP program with core new construction programs as well as internal coordination with other SCE departments that also touch the same developer customer.

7. CONCLUSIONS AND RECOMMENDATIONS

Based on the interviews, the developer roundtable, and Sempra's SCP process evaluation review, consistent themes emerged that helped define recommendations for strategies to enhance the programs. Recommendations are presented in the following sections:

- Staff interview-based conclusions and recommendations (HMG)
- Participant interview-based conclusions and recommendations (The Cadmus Group)
- Additional recommendations

7.1 Staff Interview-Based Conclusions and Recommendations (HMG)

The staff interviews concentrated on the list of issues below. Our conclusions regarding staff responses to the main issues are below.

- **Perception of how participants valued program incentives (financial and technical) :** Staff concludes that while incentives brought the projects to the new construction energy efficiency programs, technical assistance was considered the most valuable aspect after the customer started involvement with the program. Staff felt that additional incentives are key to overcoming the cost of the additional effort for SCP.
- **Perception about program procedures:** The role and the complementary nature of the SCP need to be clearly defined among SCE core programs and staff. The application process needs to be streamlined so as to not confuse all program participants.
- **Suggestions on internal and external coordination:** Staff feedback indicated some respondents were unfamiliar with SCP details[1]. Both internal and external outreach, coordination, and integration need to be improved. Recommendations include a SCE information session for new construction programs' staff.
- **Staff suggestions on market potential:** Targeting master planned communities as well as infill, redevelopment, and mixed use communities are viewed as key areas where SCP can influence whole communities.
- **Perception of developers understanding of the link between energy efficiency and sustainability:** For the most part, there exists a gap in the understanding of the role of energy efficiency and green in the sustainability context.

Based on these interviews, below are a set of recommendations for improved program design and delivery. It's important to note that these interviews were based on their

[1] See Section 4.2.3

perception of the initial program design and processes and their understanding of the market at the time the interviews were conducted during fall 2008. During and subsequent to these interviews, the program design evolved as a result of feedback and experience. Therefore, some of there recommendations have already been incorporated and are noted as such.

Recommendations provided below that promote program comprehensiveness, integration, and cross-promotional strategies serve to support the National Energy Efficiency Best Practices Study (sections in Appendix C) in terms of coordinating among programs with related and complementary goals, simplifying participation, bundling services (internally and externally, increasing delivery efficiency through one portal, leveraging combined synergies, clearly defining complementary program roles and responsibilities as well as leveraging relationships from complementary organizations and trade allies

7.1.1 Early and Well-Defined Intervention Points

There was widespread agreement with one of the fundamental goals of SCP, that intervention was needed at the earliest possible stages in the project in order to be most effective. In order to influence the community design, it is crucial to intervene early in the planning stages. While this was a widespread recommendation from interviewees (both staff and participants), most likely timing of the pilot didn't exactly coincide with the participating project design windows which influenced this recommendation. Once the program is implemented for a longer period, it will have the time to find the right window of opportunity.

The recommendation related to early intervention is to clearly identify and communicate (via developer marketing materials and through local government planning and building department processes) when the critical points are that the SCP program can change a project's direction:

- Land use/community design
- Design team criteria and selection
- Building design

For each of these intervention points, projects often require interaction with other SCE departments (such as T&D) and external organizations (such as city planning departments). Thus, it would be highly beneficial for SCP to establish communication channels with these internal and external agencies for notification on potential projects.

7.1.2 Address Long-Term Build Outs

For projects with longer term build outs (20 years), delayed due to economic or other issues, or a change in personnel (project managers, design team, etc), providing a "general plan" for the project that will establish the project goals and philosophy in terms of sustainability and a plan for continued commitment, while addressing dynamic issues such as code changes, technology improvements, etc. The "plan" could be in the form of a template that the developer could tailor to reflect the original project goals.

7.1.3 Design Team Selection and Design Assistance Needs Assessment

A key lesson learned in the pilot phase was that because of varying capabilities and needs of a design team, moving forward, the program could have valuable input and influence on establishing and helping to select the design team for projects. As is planned for the next funding cycle, SCP intends to

- Provide qualifications and experience requirements for developers to recruit and select their design teams
- Conduct each participants design team needs assessment to determine the level of assistance required

The recommendation related to this already planned activity is to conduct training for the design community communicating the qualifications and experience requirements that SCP will be promoting and providing a curriculum (either provided by SCE or other entities) and path for those that don't meet the qualifications, but desires to expand their sustainable/energy expertise.

In the absence of being able help select the design teams, SCP will help the developers in terms of assessing the capacity of the design teams to effectively advise the developer on sustainability. SCE could develop a matrix that matches SCP technical assistance to gaps in the design team selection criteria established to select teams.

When establishing the design team qualifications, energy efficiency could be a prominent component and perhaps could inspire those who do not possess those qualifications to seek them out through training.

7.1.4 Sustainable Communities Forums

To minimize confusion among SCE and green programs, SCE could host a Sustainable Communities Forum whereby the program participants of large projects would be introduced to:

- SCP
- All of the potentially applicable SCE programs and services
- The green program offerings
- Local government including planning and building departments
- Other utilities programs and services (water, etc)

Like large customers, these communities could be assigned a representative that would serve as the main point of contact, identify the project needs and match them up with the appropriate utility programs and services and coordinate with other agencies/governments as their programs and services relate to the needs and requirements of the SCP.

7.1.5 Sustainable Building Lifecycle Plan

A key component of sustainability is continued energy and environmental management beyond the completion of construction. In PY2009-11, SCP intends to influence the land use and community design as well as the buildings. The program could expand their

tailored technical assistance to provide a template roadmap for developers/building owners to continue sustainable/green/efficiency practices throughout the building lifecycle: land use/community design, building design, construction, and verification/commissioning, benchmarking, operations and maintenance, and rehabilitation. The program can create a sustainability guide for customers (developers and building owners), either done under the auspices of SCP or Energy Design Resources. Potentially, this document could also address the behavioral factor (occupants) and provide guidance on how to help occupants properly use the building, facilities, equipment properly to further conserve.

7.1.6 SCP Toolbox and Training

A consistent theme among interviews suggests that SCP develop new tools for participants. While many tools exist in the market, what might be effective is for participants to have one place to go for all the "best" tools with an explanation of why they are valuable and how to pick the right tool and how to use it. As part of the SCP technical training, staff could train participants on the use of these tools. Further, this toolbox could be integrated with the efforts of Energy Design Resources. This toolbox could potentially contain:

- A Green Calculator[1] - a model that takes inputs for a specific project or community and provides an estimated energy impact number in return. The Green Calculator could be designed to be simple and easy to use for building and community applications. It is divided into three major categories each with a corresponding tab: materials, water, and trees. The materials tab allows the user to input and compare materials and building assemblies. The water tab estimates embodied energy of water, depending on your region, allowing for comparison of irrigation, appliances, and fixtures. The trees tab takes into consideration reduced cooling loads due to shading and evapotranspiration, based on climate type.
- An Investment Calculator[2] - a spreadsheet that could compare side by side community and or building design option cost analysis including simple payback, lifecycle cost analysis, net present value, return on investment, and internal rate of return. This spreadsheet could take into consideration first cost, incremental costs, new construction and rehabilitation, incentives, funding, financing, tax, or other financial benefits as well as operations and maintenance cost savings
- A sustainable communities design guidelines and analysis tool (several available) that can guide developers and their land use planners to design and assess their community layout options.

[1] Energy Design Resources is currently developing an Excel-based Green Calculator program. EDR also offer Green Building Studio, a web-based energy analysis service that performs whole building analysis, optimizing energy efficiency, and working toward carbon neutrality.

[2] Energy Design Resources offers eValuator, a Windows™-based program that calculates the lifecycle benefits of investments that improve building design.

7.1.7 Net-Zero Communities

Net-zero communities and buildings have become an important goal for the AB 32 Climate Change Scoping Plan and the CPUC Energy Efficiency Strategic Plan. SCP is the perfect venue to influence not only PV and net zero at the building level, but also at the community level. Working with developers so early in the community design process, SCP has the opportunity to guide a community to develop a community-wide PV system to supply its energy needs.

7.1.8 Offer Performance-Based Incentives

Both staff and participants proposed that SCP offer performance-based incentives to both the developer and the design team. These incentives would be above and beyond the core program incentives and could potentially be paid early to offset the cost of the upfront design and coordination costs for both the developer and design team.

SCP has transferred from a resource to a non-resource program and will no longer offer incentives. However, the new construction core programs offer performance-based incentives: SbD (currently) and CANHP (proposed for 09-11)

Proposed incentives to cover LEED, BIG, etc, costs are being address by pushing the green element down to the core construction programs and providing additional "bonus" incentives for these efforts and certifications.

A next frontier for the program is to determine the incremental cost for sustainable community design for changes made from "business as usual" to a "sustainable design", whereby the costs might be fewer housing units due to alternative street grid or design or by optimizing building orientation, etc.

7.1.9 Internal Coordination: Offer Customers A Comprehensive Package of Services

A consistent message given by customers is to make program participation simple. By providing a seamless and comprehensive package of programs with the ability to select various components allows a builder/developer to more easily choose from a range of strategies depending on their intended level of effort. For example, they could choose to participate at varying levels ranging from a minimum of meeting core energy efficiency program requirements or they could move along the continuum to pursuing more "out of the box" energy efficiency measures/design strategies, or seek to achieve a green[1] certification (LEED, BIG/GPR), or ultimately pursue solar/PV/zero energy options. The idea here is that no matter what the developer's goals are, SCE acts as a united front to meet the customer's needs. Internally, SCE can create a mechanism that customers can see the nexus among all of the internal programs and be able to select the options appropriate for their project. This would require educating all SCE staff that comes in contact with the same customers about their program options to minimize internal

[1] The term green refers to design and construction that encompasses more than energy efficiency and participates in a green certification program including but not limited to LEED and Built it Green's Green Point Rated certification programs. In the context of SCP, sustainability is an umbrella term that encompasses both energy efficiency and green as well as PV/solar.

confusion. Cleary define roles and program boundaries within SCE staff and consistent coordination is required to ensure they are conversant about the program and are promoting it to projects early enough in the design process.

Collectively, the appropriate programs representatives should meet with decision makers face to face and act as a united front in solving the developers' problems, rather than as silo programs. In addition to SCP, programs that are relevant to these types of development could include California New Homes Program, Savings By Design, Multifamily Retrofit, Multifamily Comprehensive Program, and other green programs. This customer-solution oriented approach could provide a comprehensive approach to mix-use, mixed- vintage projects.

A recent development for PY2009-2011, a re-organization for the new construction program has placed the SCP manager as manger of the new construction programs which will substantial impact on integration of the three new construction programs and creating synergies that did not previously exist.

7.1.10 External Coordination: Focus on Synergies with External Programs

Similar to internal coordination, SCP should be carefully coordinated and integrated with external green program and agency requirements. Perhaps coordinating a diagram of the various programs and their synergies and benefits would help owners/developers understand each program's role and to solidify the relationship between SCE's SCP (and other core programs) and external programs such as LEED, Build it Green, and other agency programs. Further, it allows developers understand the nexus among green, energy efficiency, and sustainability and to help create a sense that green, energy, water, and PV, are part of a larger sustainability pie.

Appendix D - Green Program Matrix provides an example of a matrix that depicts an energy efficiency program in relation to other green programs and establishes that energy efficiency (or the program) is a common denominator for all the programs.

7.1.11 Streamline Program Processes

The most prevalent concern about program processes involved confusion around more than one application and program name. If one comprehensive package of services in not possible, then perhaps one comprehensive new construction application with various sections pertaining to different programs is possible. For projects participating in more than one SCE program, uniting the various contacts and establishing one central point of contact for all inquiries would help to minimize the confusion. One person could act as the representative and parse our various activities among SCE program managers depending on the project needs.

Prior to the completion of this report, the new construction programs were already undergoing discussion options to streamline the application/process and with the abovementioned new management desire to integrate programs, not only will the application become streamlined, but also the new construction team will become more well-versed in a package of comprehensive, solution oriented solutions to meet developers needs.

7.1.12 Market Potential – Mixed Use and Rehab

While several staff proposed that SCP should target mixed-use projects, the program has been and will continue to work with mixed use projects.

However, with current economic conditions and a decline in new construction, infill projects may include both new construction and varying degrees of rehabilitation of existing buildings. This could provide an opportunity for SCP to provide "comprehensive sustainable community solutions" to new construction as well as existing buildings. The existing buildings provide an opportunity for substantial energy savings, but can result in a long-term lost opportunity if not address. SCP could either promote existing SCE retrofit programs (SPC, Express, Designed for Comfort) etc, or create a similar, performance-based requirements and incentives for existing buildings.

Adding a rehab element would increase the potential for the program because there is currently no whole community, integrated design approach program with a green element for these projects to turn to. This is definitely a gap in the market as well as an opportunity for huge potential energy savings. Also, given the economic downturn, the decline of new development, and the potential for energy savings, the existing buildings market is a prime target.

7.2 SCP Participant Interview-Based Conclusions and Recommendations

7.2.1 Conclusions

This report was intended to provide SCE information on the four issues below, as well as provide feedback on other aspects of the program that may not have been identified in advance. Our conclusions regarding the four main issues are the following:

- **Which existing SCP incentives and services are most effective and highly valued:** The SCP incentives and the technical services were BOTH essential to the program. The program's incentives were essential for enlisting participation of the development and design community. But thereafter, the quality of technical resources that the SCP brought to the projects was nearly as important in determining the participant's opinion of the program.
- **Where process improvements should be made:** For many of the participants the program lacked a clear definition and predictability with respect to delivering measureable benefits. Overall, process improvements appeared to be needed in program presentation, clarity of eligibility standards, and sufficiently well defined and communicated benefits. From a broader perspective, a need for improvements in the process of integrating and coordinating SCP with other SCE program offerings was a common theme expressed by participants as well as best practices researchers (see similar recommendation in the BPS).
- **Market perception of energy efficiency and sustainability/green development:** The marketplace sees value in energy efficiency, but is less certain about the value of "green" or sustainable development. Buyers do

not make a clear distinction between energy efficiency and green/sustainable building features. Buyers want evidence of real cost savings and are especially unlikely to pay a premium for energy-efficient and green buildings without that evidence. SCP participants indicated a desire to see renewable energy incentives added to the program and less of a need to go through supplemental programs to obtain energy-efficiency incentives.

- **Suggestions for engaging SCP more in the green and builder markets:** The potential for making fundamental sustainable design changes was unfulfilled in many of the projects because participants were not engaged in SCP early enough. Improvements need to be made in reaching out to and engaging the design community at an earlier stage so that sustainable design improvements can be made in a timely way. This step would be supported by providing evidence about the actual costs and benefits of green/sustainable design through tools such as case studies.

7.2.2 Recommendations

Overall, the CADMUS Group found from the participants' perspective that communication of the SCP's processes, eligibility requirements, services, and incentives was insufficient. Many of the proposed revisions to the program were well received and the participants identified other desirable changes. Based on the information from these interviews, we offer the following recommendations:

- **Provide information and tools to allow potential participants to assess benefits and costs associated with SCP projects:** We recommend that a range of products be developed and promulgated to potential participants that will help them assess the costs of participating in the SCP, accurate estimates of likely financial incentives, and benefits. Credible information on benefits will be helpful in recruiting builders/developers to participate in the SCP and for participants to communicate the benefits to buyers/renters. One source of useful information that should be leveraged in the findings from projects as they become available, through products such as case studies.
- **Summarize and communicate information about the alternative programs offered by SCE:** Based on feedback from participants, we recommend that a guide to SCE's programs be developed and made available to prospective participants. This simplified guide should provide information on types of projects qualifying, incentives offered, services available, application process, contacts, and other key information. We suggest that a special forum, such as an informational conference, be held and that SCE participate in meetings or conferences of key industry groups to present this comparative information and respond to questions about the program options.
- **Simplify the SCP participation process and enhance coordination among programs:** We recommend establishing a single point-of-contact for the program at SCE. In addition, SCE should examine the possibility

of increasing standardization of the application and other paperwork required for SCE's programs that address the segments targeted by SCP. Overall, we recommend developing a more comprehensive management and marketing effort covering all sustainable, energy-efficiency, and renewable energy programs directed at new buildings. Efforts should be made to make it possible for participants to obtain incentives and services seamlessly across a range of relevant SCE programs supported by the existing portfolio of offerings. This suggestion parallels the findings of the National Energy Efficiency Best Practices Study. This study noted (in Section 2.2.4) that the concern over energy and the environment had led to a broader perspective and that programs should likewise, integrate other types of related programs into their framework, such as Demand Response programs, Green Pricing, LEED certification, Renewable Energy, Distributed Generation, Related Loan programs and Tax Credits, etc.

- **Institute performance-based incentives:** The participants were very receptive to the concept of incentives tied directly to performance levels, rather than artificially limited by ranges of performance.
- **Extend SCP to include major renovations and retrofits:** Existing buildings offer a large potential for energy savings and green building enhancements. However, they present special challenges for many reasons including the difficulty of identifying them early, constraints imposed by structural and other physical factors, and different perspectives that owners are likely to have on costs and benefits. Yet, the magnitude of this untapped market makes it worth exploring creative approaches for expanding application of the basic concepts of the Sustainable Communities Program to promote energy efficiency and sustainable building practices.

8. APPENDIX A - STAFF INTERVIEW GUIDE

Staff Interview Guide

The purpose of these interviews is to give SCE directly-applicable information on:

- Which existing services and potential new services are most highly valued
- Where improvements should be made.

The questions are designed as open-ended. This is an interview guide and not a survey, so the interviewer should explore additional relevant topic threads that interviewees may bring up. The interviews will also give SCP staff an opportunity to give their frank opinions, anonymously, for the study.

Hello, this is Julieann Summerford from the Heschong Mahone Group. I'm calling to ask you some questions about Sustainable Communities, which should take 15 minutes. Is now a good time? If not, when should I call you back?

The answers you give may be used in the report we submit, but your answers will be anonymous.

Personal Details

First I'd like to confirm some details about you:

3. What is your job title?
4. What do your job duties for Sustainable Communities typically involve?

Program Incentives

5. Do you feel the program incentives promote added value to the building design process, for the design team and/or the owner? If so, what type of value?
6. Would you make any changes to the incentive structure for the program?
7. What type of value do you feel the program's technical assistance provides to customers?
8. What other types of program offerings do you feel would be beneficial for program participants?

Program Procedures

9. Do you feel any changes should be made in the following program procedures:
   a. Applications?
   b. Energy analysis/design assistance?
   c. Incentive payments?

d. Other procedures?

10. Do you have any suggestions in enhancing coordination with other SCE programs? (perceptions on effectiveness of intra-operational coordination, identification of any work flow procedures that could be improved, and areas of inter-departmental synergies that are working very well.)

Sustainability goals

11. How do you think the building community views energy efficiency - as part of a larger sustainability goal or as a separate objective?
12. How did Sustainable Communities influence the projects?
13. How can Sustainable Communities better integrate with the sustainable community, such as LEED or other Green/Sustainable programs and goals?
14. Which market sectors do you feel the Sustainable Communities program has the most future potential?
15. What types of strategies should the program use to reach more customers and potential projects?

9. APPENDIX B - PARTICIPANT INTERVIEW GUIDE

Interview set-up Call

Hello, this is Jim Thayer from the Cadmus Group. I am working with Southern California Edison to help evaluate their "Sustainable Communities" program. They have identified you as one of their partners in this program. I am calling to set up a time to conduct an interview at a time that is mutually convenient.

Would you be able to schedule 20 minutes to review how well this program worked for you and to make suggestions about how SCE could improve it going forward?

If yes, ask when and schedule call time.

Thanks, I really appreciate your willingness to help us in this evaluation. Your feedback is essential to making improvements that meet the needs of SCE's program participants. And, of course, if it works for you this is more likely for the entire program to be a success! Thanks.

Draft Interview Guide

Hello, this is Jim Thayer from Cadmus. We are conducting an evaluation of the Sustainable Communities program on behalf of Southern California Edison. I would like to ask you some questions about the program, which should take about 20 minutes. Is now a good time? If not, when should I call you back?

The answers you give may be used in the report we submit, but your answers will be anonymous.

Personal Details

First I'd like to confirm some details about you:

1. What is your job **title** and how would you describe your **duties**?

2. SCE's records indicate that your _____**project is participating** in the Sustainable Communities program. Are you the best person at your organization to talk to about your experiences in the program?
   a. Yes
   b. No – Who should we contact to discuss the program?
3. How would you describe your role in this project?
   a. Home-builder – intend to sell upon completion
   b. Home-builder – intend to retain some ownership in the project
   c. Design team – engaged by builder

d. Finance team – asked to finance project
e. Other:_____

4. How would you describe [participating project]?
   a. Mixed Use – retail/commercial plus residential
   b. Municipal facilities
   c. Residential new construction
   d. Transit-oriented development
   e. Multi-family complexes
   f. Colleges
   g. K-12 schools
   h. Large multi-building commercial developments – office campuses/retail parks
   i. Hospital and other medical office facilities
   j. Hotels
   k. Prisons
   l. Other: _____

5. We would like to know a little about how important it is to integrate **energy efficiency** into your developments? Please indicate for the following statements how strongly you agree with each one, using a scale from 5, meaning you strongly agree, to 1, meaning you strongly disagree, with the statement.
   a. Most of my customers place a high priority on energy efficiency
   b. Certain types of our customers place a high priority on energy efficiency
   c. My company differentiates its products by emphasizing their high energy efficiency
   d. Energy efficiency is a strong selling point in general
   e. Energy efficiency is a strong selling point in a slow market

6. From your experience how does concern for energy efficiency vary with different types of buildings including single-family, low-and mid-rise multifamily, and high-rise multifamily? What types of customers consider energy efficiency a high priority?

7. Next we'd like to know how important **sustainability and green building** is to your customers and how well they understand it. Please indicate how much you agree with the following statements using the same 5-point scale as before, with 5 meaning you strongly agree and 1 meaning you strongly disagree.

a. Customers think of green/sustainable buildings and energy-efficient buildings as the same thing
b. Most customers want green buildings
c. Customers who want green buildings are willing to pay up to 5% more for them
d. My company differentiates its products by emphasizing green/sustainable building features
e. Green/sustainable building is a strong selling point in general
f. Green/sustainable building is a strong selling point in a slow market

8. What **energy-efficiency** measures would be most cost effective to implement and to market to your customers?
9. What sustainability measures will help make buildings more marketable?
10. What barriers do you foresee that limit the marketability of homes using sustainability measures?
11. Who is responsible for energy-efficiency recommendations affecting your projects?
    a. Who addresses sustainability recommendations?
    b. Does your firm have a specific title and role dedicated to energy efficiency/sustainability or is the role more informal, such as advocacy, championing green building practices?
12. If there are internal champions for energy efficiency and/or sustainability, are they effective in recommending practical ways of integrating these improvements into your project designs?
    a. If not, why not?
    b. Do they need help to be able to offer suggestions that "pencil out"?
13. Which of the following **SCE programs** has your organization participated in:
    a. California New Homes Program
    b. California Solar initiative
    c. Retro-commissioning
    d. Savings by Design
    e. Self-generation Incentive program
    f. Standard performance Contract
    g. Technical Assistance and technology incentives
    h. Other:_____
    i. IF NONE ARE IDENTIFIED SKIP TO 17
14. Based on your experience with these programs, which of **their best characteristics** would you like to see integrated into the Sustainable Communities program?

15. In what ways did the Sustainable Communities program serve your needs better than these other SCE programs.

    Explain:

16. Would you prefer to see these programs offered as part of a portfolio of related services? Or would you prefer to have them offered individually, since they address different aspects of the development process?

Program Awareness, influence, and Processes

(This section should clearly differentiate between the types of partners the SCP engages, such as the builders versus the design teams)

17. How did you learn about the Sustainable Communities program?
18. From a scale of 1-5, with 5 being very favorable, how favorable/unfavorable is your impression of the program overall? (If extreme, ask to elaborate)
19. Based on your experience with the program, what are its strengths and weaknesses as it relates to your interests and needs?
20. Which of the two SC program offerings—design assistance or the financial incentives—did you find most valuable? Why?
    a. How timely was the design assistance?
    b. How timely were the incentives?
21. Did you change your project design as a result of the program influence?
    a. If so, what design changes did you make?
    b. Did you change your design practice for other or future projects as a result of the program influence?
    c. If so, what changes have you made?
22. Which of the following external factors influenced your decision to participate in this program?
    a. Other SCE programs, such as Savings by Design
    b. Changes in the market place
    c. Administrative ease, or lack thereof in dealing with the program
    d. Personal commitment to goals expressed in the program
    e. Other
23. Which of the following did you interact with in your SC project(s)?
    a. KEMA

b. SCE staff

c. Design assistance firm

24. How were your working relationships with those individuals representing each of organizations you worked with?

a. KEMA

b. SCE staff

c. Design assistance firm

25. As an indication of how smoothly the program was managed, please rate your level of agreement with the following statements from 1 to 5 (with 5 being strong agreement).

a. I understood the purpose of the program well

b. The process/steps were clearly communicated

c. I understood what the qualification criteria were and our eligibility

d. I always knew well where we were in the process

e. The program's process was easy to align with our project's schedule and process

26. IF ANSWER TO 26e WAS 4 OR 5 SKIP TO b

a. How could the process be aligned better with our schedule and process?

b. What, if any, confusion or conflict did you encounter with other SCE programs aimed at builders and developers?

c. How would you resolve these issues?

Concept Testing

Now, I am going to ask you about some concepts being considered for the next program funding cycle. Some are already a part of the program, but we're looking for feedback about the relative value of assistance SCE is offering and could offer.

27. Which of the following would interest you as future offerings? [Ask for more details on each one they are interested in. If asked about "incentives" deflect the conversation to identify barriers that need to be overcome.] Please rate each using a scale from 1 to 5; where 5 is high priority.]

a. Design guidelines for orientation and site design that would help to reduce community energy use

b. An analysis tool or technical support for solar/PV installation

c. Design team training for LEED, sustainability and energy efficiency

d. Incentives to encourage consideration of orientation and site design where entities laying out and doing construction differ (e.g., colleges, etc.)

e. Incentives for "build to sell" developers [split incentive]

f. Building block integration of incentives across multiple programs

g. Incentive or bonus for development/neighborhood/community LEED certification [This would provide incentive for horizontal development in addition to Savings by Design incentive]

h. A performance-based incentive (For example, for each "X" number of additional "green" points beyond the requirements, you would receive a 10% kicker in incentives.)

i. Development of a single point of contact for helping developers and design teams interact with all the SCE programs

j. Designing program process to align more effectively with builder's/developer's processes

k. Extending this program to include rehabilitation and retrofit projects

10. APPENDIX C: NATIONAL ENERGY EFFICIENCY BEST PRACTICES STUDY[1]

10.1 Portfolio Management: Program Integration[2]

- In designing an integration strategy, seek to include programs with related and complementary goals, (for example, energy conservation, water conservation, renewables and demand response).
- Simplify participation in multiple programs. Offer one "bundle" that may consist of energy efficiency, renewables, and financing measures from several different organizations but is seamless to the customer.
- Efficiently deliver integrated programs to all end-users regardless of their size. Larger customers should be assigned a single point of contact that represents all related programs. Smaller customers should be offered a whole building strategy that incorporate measures from multiple programs.
- Target projects that would not be viable without integrating benefits from multiple programs.
- In assigning roles and responsibilities among complementary organizations, play to each organization's strengths and key interests. Clearly define roles and responsibilities that leverage their strengths.
- Leverage relationships from complementary organizations such as utilities, trade allies, industry specialists, etc.

10.2 Increased Need for Integration with Related Program Areas[3]

Consumers' concerns over energy and environmental issues are growing, and many desire to take action. Many different programs are now available to address these concerns. Some of these programs are within the portfolio, but many are not. The types of programs include:

- Energy Efficiency
- Demand Response
- Green Pricing
- Green Buildings/LEED certification
- Renewable Energy
- Distributed Generation

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[1] National Energy Efficiency Best Practices Study, Volume P1 – Portfolio Best Practices Report

2 Portfolio Management: Program Integration Best Practices, P1-5

[3] "Increased Need for Integration with Related Program Areas, P1-39, Section 2.2.4

- Related Loan Programs and Tax Credits

Some portfolio administrators have undertaken steps to deliver such programs in an integrated, "one stop" manner. This places an additional burden on portfolio administrators who must interact with staff of many different programs, clarify respective roles and responsibilities, prepare proposals that incorporate multiple program offerings, and in some cases, coordinate their program designs in order to minimize overlap conflicts.

Integrating portfolio programs with state and federal tax credits and incentives involves a related phenomenon (see section 3.3.2, below). Congress and legislatures are increasingly active in energy policy, and coordinating portfolio programs with a dynamic collection of legislative incentives poses a major challenge and opportunity for program administrators and consumers.

10.3 Program Integration[1]

End users today have access a large number of programs promoting different types or elements of energy services. In addition to conventional energy efficiency programs, there are demand response programs, renewable energy programs, green pricing, green buildings programs, financing programs and special rate options. There may also be tax credits related to installation of energy efficiency or renewable energy measures. Typically, these are offered by multiple organizations which include the portfolio administrator, electric or gas utilities (who may also administer the portfolio), government agencies, and private sector firms (for financing, these include banks or ESCOs).

For end-users undertaking large, complex projects (such as a whole building retrofit or new construction project), each of these programs or services may provide benefits to their project. The challenge to portfolio administrators is how to package these benefits from multiple programs in a way that is seamless to the end-user.

All of the portfolios involved in this study expressed strong support for providing integrated delivery, simplifying program delivery by combining benefits from multiple programs and simplifying communications using a central point of contact. Administrators see several benefits to integrated delivery of benefits from related programs:

- It is a smarter way to achieve savings; in effect, using one transaction to yield impacts from multiple programs.
- It complements the goal of minimizing lost opportunities by requiring participants to consider all applicable programs and measures when considering their options.

[1] Program Integration, P1-57-58, Section 3.3.2

- It makes certain complex projects financially viable, by combining the purchasing power of several different program budgets.
- It provides them another way to "think outside the box". They see program integration as a necessity for achieving increased savings goals.

Bundling delivery of energy efficiency with demand response offers a way to consider and realize the joint benefits of both types of programs when marketing to end-users. Although portfolios see the merits of bundled program delivery, they also realize that this approach is far more complicated than if they simply focus on delivering their own programs. Some of the challenges they face are:

- The logistics of coordinating roles and responsibilities among the many organizations involved
- Differences in program design may make it challenging to fully leverage all program features
- Difficulties in packaging the project, including the incentives and savings contributions from each program
- Liability concerns associated with providing tax advice to program participants
- Savings attribution issues – difficulties in establishing the savings contribution and level of free ridership from each program and measure
- The need to keep communications simple, working through a single point of contact, and consolidating marketing messages, so that the sponsor is not overwhelmed with too much information.

Portfolios' current integrated program delivery efforts are narrowly focused, and include:

- Using findings from energy audits to "steer" customers towards their other prescriptive
- equipment programs, and demand response programs
- For large customers' projects, leveraging the utilities' assigned account representatives
- to serve as a single point of contact and program integrator. Part of the account
- representative's job is to identify which programs and measures would benefit each of
- their assigned customers, and to provide referrals to each of the pertinent programs.
- Routinely conducting billing analysis and identifying the lowest-cost rate option for
- each of their large and medium sized customers. This, in effect, is used to market lower cost
- demand response programs to customers who are interested in DR programs.
- Cross-promoting related and complementary programs. For example, the California

- utilities promote the Self-Generation Incentive Program, the California Solar Initiative
- and the Climate Change Action Registry, along with their own programs.

11. APPENDIX D - GREEN PROGRAM MATRIX

Residential Program Matrix	Utility EE RNC	ENERGY STAR®	New Solar Homes	GreenPoint Rated	LEED for Homes	Green Communities	LIHTC-TCAC
Program Type:	EE Incentive	EE Marketing	Solar PV Incentive	Green Certification	Green Certification	Green Grant	Tax Credit Equity
Geography	CA (PG&E, SCE, Sempra)	Nationwide	CA	CA	Nationwide	Nationwide	Nationwide/CA
Administered/ Implemented:	IOU's/ICF/HMG	EPA/DOE/IOUs	CEC/IOUs	Build it Green	USGBC (CA = DEG)	Enterprise	CA TCAC
Project Type:	SF + MF Afford. & Mkt Rate	SF + MF (<3 strs) Afford. & Mkt Rate	SF + MF Afford. & Mkt Rate	SF + MF Afford. & Mkt Rate	SF + MF (<3strs,4-6=LEED-midrise) Afford. & Mkt Rate	MF Afford. Only	MF + SF Afford. Only
Program Cost:	Free Funded by Ratepayers	Free Public Service	Free Funded by Ratepayers	$400 application fee	for USGBC Fees go to usgbc.org/leed/homes	Competitive Grant	Competitive Credits
Plan Review	Free	Free	Free	$50/u or $400/proj.	see DEG for fees	NA	NA
Verification	HERS Rater/EC cost	HERS Rater/EC cost	HERS Rater/EC Cost	GPR Rater Cost	DEG Verification plus HERS/Energy Star Rater Fees	NA	NA
Logo use	NA	No Cost	NA	$350/project only if logo used before compl.	No Cost	NA	NA
Incentives:	$150-500/u; $60/u HERS; $50/unit EC	NA	$2.50/watt ($3.50 afford)	NA	501c(3) may be eligible for fudning through Home Depot	up to $50k/proj $5k/charrette	Funding Award
Baseline:	15%>T-24 and/or ESTAR®appl.	15%>T-24 + Duct Test + QII/TBC + AC sizing ENERGY STAR appl.	Tier I: 15%>T-24 + PVreqs+ESTAR® appl. Tier II: 35% > T-24 + 40% red. in cooling	15%>T-24 + Prereqs 50pts min.	15%>T-24 + ESTAR® + Prereqs Cert., Silver, Gold, Platinum/Prereqs+ pts	15%>T-24 + ESTAR® + Green reqs Mandatory provisions + 25 pts + optnl crit.	ESTAR®appl. + Green Communities Pts for 10%>T-24; 5% Basis boost 15%>T-24 or PV
Process (proj phase):							
(design) 1	Submit app+plans+T-24	submit MOU	Submit app + supp. docs	Hire GPR*/HERS	Submit app to DEG	Submit grant app	
(cost estimating) 2	Expect to hire HERS*	Expect to hire HERS*	Expect to hire HERS*/PV	Draft checklist w/GPR	Expect to hire HERS/ES*	Expect to hire HERS*	
	** HERS/GPR/ENERGY STAR Rater could be the same person*						
(Permitting) 3	Undergo/pass plan rev.	Meet reqs.	Undergo/pass utility prog EE plan +solar rev.	GPR submit app	Drft checklist, meet w/DEG/design tm	Receive notice of award	
(Construction) 4	Pass HERS site verif.	Pass HERS site verif.	Pass HERS/PV site verif.	Undergo GPR verif.	Undergo LEED-H verif.		
(Completion) 5	Coord. w/utility on final	NA	Coord. w/utility/CEC	GPR submit final checklist	Submit fnl checklist, Rater meets w/DEG	Submit complinace docs	
6	Request Incentive	Comm. w/EPA	Request Incentive	NA	Rater submit fnl cert. packet		
7	Rec. incentive check	Rec. mkting materials	Rec. incentive check	Rec. certification	Rec. certification	Rec. grant	
Program Website (www):	flexyourpower.com h-m-g.com	energystar.gov	gosolarcalifornia.ca.gov	greenpointrated.org	davisenergy.com	enterprisecommunity.org	treasurer.ca.gov/CTCAC
Program Resources:	h-m-g.com/multifamily/ aheea/ handbook	energystar.gov/ index.cfm?c=new_ homes.hm_index	gosolarcalifornia.ca.gov/documents/nshp.html	builditgreen.org/ greenpoint-rated/guidelines	davisenergy.com/projects/leed-h.php		

KEY: **EE** = Energy Efficiency **IOU** = Investor Owned Utility (PG&E/SCE/SCG/SDG&E) **HMG** =Heschong Mahone Group **DEG** = Davis Energy Group **BIG** = Build it Green
SF= single family **MF**= multifamily **u** = unit **HERS** = Home Energy Rating System **ES** = ENERGY STAR **EC** = Energy Consultant **Appl.** = appliances **MOU** = Memorandum of Understanding
Find A: HERS www.energy.ca.gov/HERS **EC** www.cabec.org/ceperoster.php **PV** www.consumerenergycenter.org/erprebate/database **GPR** www.builditgreen.org/greenpoint-rated/find-rater **LEED-H Rtr** thru DEG

This matrix was compiled by Heschong Mahone Group, Inc. w/assistance from the New Solar Homes Partnership, Build It Green, and Davis Energy Group. Last updated 10/14/08