

Customer Energy Efficiency Program
Measurement and Evaluation Program

**SMARTERENERGY[®] BASELINE MARKET
CHARACTERIZATION STUDY
FINAL REPORT**

PG&E Study ID number: 420ms-a

June 30, 1999

Measurement and Evaluation
Customer Energy Efficiency Policy & Evaluation Section
Pacific Gas and Electric Company
San Francisco, California

Disclaimer of Warranties and Limitation of Liabilities

As part of its Customer Energy Efficiency Programs, Pacific Gas and Electric Company (PG&E) has engaged consultants to conduct a series of studies designed to increase understanding of the efficacy of these energy efficiency programs. This report describes one of those studies. It represents the findings and views of the consultant employed to conduct the study and not of PG&E itself.

Furthermore, the results of the study may be applicable only to the unique geographic, meteorological, cultural, and social circumstances existing within PG&E's service area during the time frame of the study. PG&E and its employees expressly disclaim any responsibility or liability for any use of the report or any information, method, process, results or similar item contained in the report for any circumstances other than the unique circumstances existing in PG&E's service area and any other circumstances described within the parameters of the study.

All inquiries should be directed to:

Lisa K. Lieu
Revenue Requirements
Pacific Gas and Electric Company
P. O. Box 770000, Mail Code B9A
San Francisco, CA 94177

SmarterEnergy™ BASELINE MARKET CHARACTERIZATION STUDY

FINAL REPORT

Prepared for

***Betsy Wilkins
Senior DSM P&E Project Manager
Pacific Gas and Electric Company
123 Mission Street, Room 2361a
San Francisco, CA 94105***

Prepared by

***QUANTUM CONSULTING INC.
2030 Addison Street
Berkeley, CA 94704***

Study #420ms-a

June 30, 1999

***SmarterEnergy™* BASELINE MARKET CHARACTERIZATION STUDY**

Copyright © 1999 Pacific Gas and Electric Company. All rights reserved.

Reproduction or distribution of the whole, or any part of the contents of, this document without written permission of PG&E is prohibited. The document was prepared by PG&E for the exclusive use of its employees and its contractors. Neither PG&E nor any of its employees makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any data, information, method, product or process disclosed in this document, or represents that its use will not infringe any privately-owned rights, including but not limited to, patents, trademarks or copyrights.

TABLE OF CONTENTS

Chapter		Page
1	EXECUTIVE SUMMARY	1-1
2	OVERVIEW OF STUDY PURPOSE	2-1
3	PROGRAM ENVIRONMENT AND CONTEXT	3-1
4	PROGRAM THEORY AND BACKGROUND	4-1
	SmarterEnergy™ Initial Hypotheses and Program Theory	4-1
	Theoretical Foundations	4-2
	Methods Used to Develop Initial Hypotheses and Program Theory	4-10
	Market Barriers, Communication, and Diffusion Factors	4-11
	Program Theory	4-19
	Program Interventions and Indicators	4-24
	Additional Thoughts on SmarterEnergy™ Program Theory	4-29
5	PROGRAM EXECUTION	5-1
	SmarterEnergy™ Advertising Campaign Materials	5-1
	SmarterEnergy™ Web site Targeting and Page Hits	5-1
	Participant and Nonparticipant Vendor Survey Results	5-2
	Key Findings	5-2
	Implications of Vendor Survey Findings	5-9
	Express Supply-Side Survey Results	5-10
	End-User Survey Results	5-11
	Key Findings	5-13
	Implications of End-User Survey Findings	5-22
6	CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS	6-1
	Assessment of SmarterEnergy™ Program Theory and Performance To Date	6-1
	Program Recommendations	6-2

Appendix

- A SmarterEnergy™ END-USER, SUPPLY-SIDE PARTICIPANT AND SUPPLY-SIDE NONPARTICIPANT SURVEY INSTRUMENTS
- B SmarterEnergy™ END-USER, SUPPLY-SIDE PARTICIPANT AND SUPPLY-SIDE NONPARTICIPANT SURVEY DATA DISTILLATIONS
- C SAM COHEN'S PROGRAM PRESENTATION
- D SmarterEnergy™ PROGRAM MARKETING MATERIALS
- E MARCH 1999 WEB TRENDS SmarterEnergy™ MONTHLY SUMMARY OF PAGE HITS

1. EXECUTIVE SUMMARY

This Executive Summary highlights key findings and recommendations from the SmarterEnergy™ Baseline Market Characterization Study, all of which are addressed in more detail in Chapters 2-6 of this report. The purpose of this targeted study was to assess baseline market conditions, market barriers, and market effects potential for the SmarterEnergy™ Web site element (<http://www.pge.com/smarterenergy>) of Pacific Gas and Electric Company's (PG&E's) broader market transformation (MT) initiative, and to provide input on program refinement.

In 1996, the California State Assembly Bill 1890 (AB 1890) established a uniform funding mechanism for ratepayer-funded energy efficiency programs, and charged the California Public Utilities Commission (CPUC) with overseeing the mechanism. Subsequently, the CPUC established the California Board for Energy Efficiency (CBEE) to advise it on how best to provide public purpose energy efficiency programs in California. In addition, CPUC Decision (D.) 95-12-063 calls for public spending to shift towards activities that will transform the energy market (Eto et al. 1996). Based on the utility performance award mechanisms approved in D. 97-12-103 and updated in Resolution E-3555, adopted July 23, 1998, for the 1998 energy-efficiency programs, the CBEE has directed PG&E to use Public Goods Charge (PGC) funds to perform Market Baseline and Transformation Studies on the 1998 energy efficiency programs. The present study represents an evaluation covered under that directive. There currently is no regulatory verification plan in place for these studies. PG&E and the CBEE will use the results of these reports as appropriate to augment and refine future programs.

This assessment was expressly focused on the small to mid-size (<500 kW) commercial/industrial (C/I) segment, and was linked to the PG&E Business Energy Management Services (BEMS) and Express Efficiency (Express) program market characterization and market effects studies, currently being conducted. (BEMS offers audits incorporating customer data on energy-using measures, used to generate customer recommendations for energy-saving measures and practices. Express provides rebates for qualifying high-efficiency measures. These two PG&E programs are being evaluated in terms of baseline market characteristics and market effects to date, concurrent to this study.) Key findings and recommendations from Quantum Consulting's (QC's) SmarterEnergy™ assessment are below.

- In general, the SmarterEnergy™ program's basic thrust and program theory are plausible and supportable by what is currently known about the needs of target end users and the supply chain actors impacted by the program. Specifically, key measures for this end-user segment include lighting, packaged heating, ventilation, and air conditioning (HVAC), windows and window film, adjustable speed drives (ASDs), and motors. The primary barriers targeted by SmarterEnergy™ are: low end-user awareness of high-efficiency measures, criteria, and vendors; need for greater product/service availability; vendor "market uncertainty"; need for more proactive end-user consideration of, shopping for, and purchase of high-efficiency measures;

end-user uncertainty about the performance of high-efficiency measures and reliability of information about them; need for greater vendor stocking and promotion of high-efficiency measures; and need for greater market actor communication about high-efficiency measures and benefits.

- At the same time, Chapter 6 of this document discusses specific ways that SmarterEnergy™ may be used to address additional, important barriers. These include bounded rationality among busy small and mid-size C/I customers who may not have a great deal of discretionary cash flow or high-efficiency knowledge, and split incentives among this segment of the C/I population that often leases space (and therefore may not influence decisions to install high-efficiency measures).
- SmarterEnergy™ thus far has had relatively little impact on the relevant market actors (small to mid-size C/I end users and the vendors that serve them). The greatest single barrier to SmarterEnergy™ impact in its brief existence has been low end-user awareness and visitation. The site had approximately 25,000 hits in the first three months of 1999, and while comparable numbers are not readily available for other energy efficiency-oriented sites, generally speaking this hit volume is significantly lower than for well-known Web sites with broad visitor reach, heavy repeat visitation, and the leverage to generate significant advertising revenues. As noted below, refinement and extension of the initial, solid marketing initiatives supporting SmarterEnergy™ can provide greater opportunities for generating site awareness and visitation, and word-of-mouth support.
- The second greatest barrier, which is linked with the first, has been the absence of direct SmarterEnergy™ links to financing sources and an online audit. Specific recommendations for addressing both program performance barriers in a mutually reinforcing fashion are offered later in this summary.
- If PG&E provides both online financing information and audit tools, it can become a powerful and accessible conduit to the end-user knowledge and acceptance of high-efficiency measure benefits that ultimately are required to sustainably transform the market. Especially if PG&E considers several other strategies outlined later in this summary to engender greater end-user involvement with the site (and with energy efficiency in general), SmarterEnergy™ can have a significant incremental impact, complementary to other elements of PG&E's MT strategy (BEMS and Express in particular).
- Participating SmarterEnergy™ vendors, as well as nonparticipating peers, generally are positive about the thrust and content of the site, and their main suggestions for improvement were those recapped earlier (i.e., audit and financing links). Participating vendors generally attribute no direct sales or prospect quantity/quality impacts to their participation, but some attribute a "halo effect" to their presence on the site. Vendors were mixed at best in terms of willingness to pay (or continue paying) PG&E's desired sponsorship fee for the site as it currently exists.
- Likewise, end users generally are positive about the SmarterEnergy™ site once exposed to it; the primary barrier to its acceptance and use remains awareness. At the

same time, there are ways that the site can be refined in terms of content, in order to leverage increased end-user awareness to generate increased site visitation and “adoption” (in terms of repeat visitation and promotion of the site to business contacts).

The following are specific, often mutually supportive, recommendations for maximizing vendor and end-user awareness and use of, and enthusiasm for, SmarterEnergy™.

- The primary challenge remains attraction of target customers to the SmarterEnergy™ site, and secondarily the refinement of the site based on customer feedback, to maximize the visitor experience and resulting intent to visit again. Based on end-user responses, Energy User News (a trade magazine) should be considered as a key awareness generation vehicle for SmarterEnergy™. Also, end users report that they visit manufacturers' Web sites, and therefore those manufacturers willing to provide a link to SmarterEnergy™ would potentially drive traffic to the site. The elements of SmarterEnergy™ that should be stressed in driving traffic to the site should include information on rebates and money-saving tips, equipment guides, technical articles and databases, and energy audits and calculators. Also, lighting and HVAC should receive primary attention in terms of site marketing, though obviously marketing messages can be customized to fit measure-specific links and trade publications.
- Likewise, opportunities exist for refining site content and flow, based on end-user responses. While the PG&E site has a search function, placement of a search element on the SmarterEnergy™ home page would be beneficial. Similarly, a FAQ (frequently asked questions) section might be useful for new visitors, particularly if it is oriented to “how do I find...?” kinds of questions. This is because less technical or experienced visitors may not know the terms or words they need to look for within the site, in order to find what they need.
- One respondent made the suggestion that a clear introduction and statement of purpose for SmarterEnergy™ might be helpful on the home page. This introduction could guide visitors to classify themselves as being novices, advanced, or experts in terms of energy efficiency criteria and products. Based on this self-classification, a targeted menu of suggested pages (or searches) could be provided. A more advanced approach would segment the “page paths” by this self-classification, so novices are exposed to appropriately non-technical information, and experts to much more technical information. This kind of basic segmentation could significantly reduce the feeling among some novices that “this is beyond me,” and the feeling among some experts that “this is beneath me.”
- Addition of BEMS-related audits (as planned) will be an obvious benefit that appeals to end users and may be an important conduit to generating greater end-user knowledge about (and interest in) high-efficiency products, criteria, and providers. Other interactive tools in this vein (e.g., energy calculators) will generate greater visitor engagement with the site as well.
- PG&E should fix any bugs, and/or complete remaining links, between specific measures and their Express counterparts. At some points during QC’s visits to the

site, there were problems linking from some measure topic areas to rebate program elements. In general, links to incentive programs should be made more prominent and explicit.

- Although this suggestion requires more open-ended concept testing, comparison, and contrasting than possible within the scope of this work, PG&E should explore ways to add more “pizzaz” to the site as a whole.
- We understand that financing for energy-efficient measures is an issue broader in scope than the SmarterEnergy™ program. At the same time, to the extent possible, affiliated financing sources should be linked to the SmarterEnergy™ site, so end users will not cut short their shopping process because of financing concerns.
- We know that strategies have been under consideration for hot-linking the site to popular search engines and appropriate third party Web sites. QC urges aggressiveness in developing these links as a means of increasing and broadening the number and types of end users who may encounter the site. As links to other sites will likely drive some out-of-territory traffic to SmarterEnergy™, this may have the added benefit of setting the stage for geographic expansion.
- PG&E should consider asking visitors for permission to contact them proactively via e-mail, based on some acceptable criteria for frequency and topics of interest. In this way high-potential prospects can “self-select,” and PG&E will have more opportunity to engender repeat visits and ongoing dialogue with them. On PG&E’s part, this will offer a ready opportunity to communicate new information about the site or related energy efficiency programs and activities. It also can decrease bounded rationality by maintaining an open channel with busy small business owners who may not have or take the time to proactively re-visit SmarterEnergy™ to keep up to date on new program benefits.
- PG&E should consider something along the lines of an active “SmarterEnergy™ advisory committee,” as a supporting mechanism for enrolling and engaging vendor support for the SmarterEnergy™ mission. This committee would involve a genuine investment of time, energy, and thought on behalf of the vendors, and not just represent passive involvement. While we recognize legal barriers may exist, this might be a palatable – and justifiable – approach toward allowing vendor differentiation, which will make SmarterEnergy™ participation more valuable to them.
- Offering a “yellow pages/white pages” fee-paid vendor distinction in future versions of SmarterEnergy™ will allow PG&E to actively promote vendor search functions given the more expanded vendor coverage that will then be available.
- Perhaps most important, PG&E should orchestrate as many of these tactics as are practical in the near term, in order to bolster SmarterEnergy™ end-user awareness and interest through a second wave of direct and/or mass communications to end users. Based on consumer behavior in similar applications, the absence of obvious information about financing (as with the absence to date of online audit tools) can be a short-term barrier to end-user purchase of high-efficiency measures. In addition,

absence of “catalysts” like financing and audits (as well as the rebates that MT will supplant) can be a barrier to longer-term end-user education about, consideration of, and shopping for high efficiency – in other words, to the stated purpose of SmarterEnergy™.

- The tactics above also will have the effect of generating greater vendor confidence, though it may increase their expectations as well (which, as always, must be managed). The supply-side barrier of “market uncertainty” is a key one to address in achieving the longer-term goal for SmarterEnergy™ as a source of funds for generating a “virtuous cycle” and increasing investments in MT. PG&E must continue to take the lead in making visible investments in the energy-efficiency sector (through SmarterEnergy™). In this way, PG&E can persuade vendors to follow its lead and co-invest in SmarterEnergy™ and related MT initiatives.
- PG&E should revisit the option of placing a “cookie” onto visitors’ browsers. (A “cookie” is a text-only character string that is entered into a Web browser’s memory, including the domain, path, lifetime, and value of a variable set at a Web site. The cookie enables individual site visitors to be recognized during subsequent visits; browsers typically make visitors aware of cookie placement and/or provide an “opt-out” option). In this way, repeat visitors (including PG&E employees) can be recognized, which will help (1) quantify the population of unique visitors, and (2) identify meaningful patterns that may exist across repeat visits, to be leveraged in refining SmarterEnergy™ strategy and content. This will be of heightened value as additional content elements are added, and as linking strategies are executed (thereby broadening the base of SmarterEnergy™ visitors).
- In conclusion, PG&E should consider targeted market research among end users in territories served by utilities that have provided financing and audit elements online (see Chapter 3). Research among both small to mid-size end users, as well as among vendors to this segment, may yield useful insights for SmarterEnergy™ refinement.

The following chapter details the purposes of this study, as well as information sources used. Chapter 3 summarizes the results of QC’s review of Web sites of other utilities and energy-related entities, where there is some comparability in site purpose and content, in order to provide a backdrop for subsequent discussion. Chapter 4 addresses program theory, including market barriers targeted by the program by market actor, and anticipated market effects and indicators as the program evolves. Chapter 5 summarizes program execution to date, including results of interviews with end users and vendors, as well as recent site visitation volume data, and information on previous program marketing initiatives. Chapter 6 summarizes QC’s study conclusions and recommendations.

2. OVERVIEW OF STUDY PURPOSE

The purpose of the present study is to provide knowledge related to SmarterEnergy™ in the small to mid-size C/I market, including 1) a characterization of market actors, structures and processes with respect to SmarterEnergy™, 2) a baseline market assessment (of a population of 417,266 <500 kW C/I customers, as of this writing) for future market effects measures, and 3) strategic recommendations for SmarterEnergy™ going forward.

This evaluation emphasizes design and process evaluation of the program as follows:

- The strength of the “causal chain” logic within the broader program theory – the plausibility of the program intervention to address specific market barriers with sustainable, desirable effects.
- The degree to which other barriers might also be appropriate targets for SmarterEnergy™.
- The degree of incremental contribution SmarterEnergy™ makes toward addressing market barriers.
- How effective SmarterEnergy™ appears to be in addressing its stated market barrier goals.
- QC’s strategic and tactical recommendations for refining the mission and/or execution of SmarterEnergy™.

Information sources used in the creation of this evaluation include:

- The PG&E CIS (Customer Information System) database.
- Dun & Bradstreet business listings.
- 16 standalone, semi-structured interviews with SmarterEnergy™ participating contractors.
- 14 standalone, semi-structured interviews with nonparticipant contractors.
- Semi-structured small to mid-size C/I site visitor “walk through” interviews, from a pool of eight SmarterEnergy™ Web site recruits, and telephone recruits of small to mid-size customers with interest in energy efficiency and willingness to shop for related information on the Web.
- SmarterEnergy™ traffic frequency/volume data.
- Deliverables from program development focus groups.

- Examples of marketing materials/messages promoting SmarterEnergy™.
- Interviews with key program staff.
- Canvass of Web sites of other major utilities and energy information sources.
- A Scoping Study on Energy Efficiency Market Transformation by California Utility DSM (Demand-Side Management) Programs (Scoping Study), prepared for CADMAC (California Demand Side Measurement Advisory Committee), by Joe Eto, Ralph Prah, and Jeff Schlegel.¹
- Market Effects Summary Study (Summary Study), conducted for CADMAC by Research Into Action, Inc., Pacific Consulting Services, and Megdal & Associates.²

In combination, these information sources provided a framework within which to evaluate the still-developing SmarterEnergy™ Web site, to understand short- and longer-term goals and opportunities for SmarterEnergy™, and to assess site success to date.

¹ Eto, Joseph, Ralph Prah, and Jeff Schlegel. 1996. *A Scoping Study on Energy efficiency Market Transformation by California Utility DSM Programs*, Earnest Orlando Lawrence Berkeley National Laboratory, LBNL-39058 UC-1322, Prepared for The California Demand-Side Measurement Advisory Committee, Berkeley, CA.

² Peters, Jane S., Bruce Mast, Patrice Ignelzi, and Lori M. Megdal. 1998. *Market Effects Summary Study, Final Report, Volume 1*, Research Into Action, prepared for The California Demand-Side Measurement Advisory Committee, Portland, OR.

3. PROGRAM ENVIRONMENT AND CONTEXT

In order to gauge the potential for PG&E to establish an industry standard with SmarterEnergy™, and also to identify other “best practices” that could be included in SmarterEnergy™, QC visited the Web sites of sixteen major/progressive utilities, along with the Environmental Protection Agency’s ENERGY STAR® site. We searched for and evaluated information that was comparable to SmarterEnergy™'s six major sections (Equipment Guides, Technical Articles, Technology Database, Supplier Checklist, Supplier Directory and Other Programs). Results of this Web site search are displayed in the table below.

Exhibit 3-1
Utilities Offering C/I Customers
Product Information and Vendor Matchmaking Services
Comparable to SmarterEnergy™

	Equipment Guides	Technical Articles	Technology Database	Supplier Checklist	Supplier Directory	Other Programs (Business)
American Electric Power						energy audits, equipment purchase consultation, EE tips
Enron Energy Services						energy audits, HE financing
ENERGYSTAR®	yes		yes	yes	yes	N/A
Florida Power and Light					yes	energy audits, financing, HE rebates
GPU						N/A
Green Mountain Power						energy audits equipment replacement incentives
Houston Lighting and Power	yes					energy audits
Mid American Energy						HE rebates, financing
New England Electric System	yes					equipment replacement incentives financing
Northern States Power						energy audits, financing, HE rebates
Pennsylvania Power and Light						HE design services, financing
Public Serv Electric and Gas						off peak rates
San Diego Gas and Electric					yes	energy audits, financing, HE rebates
Southern California Edison	yes					energy audits, HE rebates
Southern California Gas						energy audits, financial incentives for HE equipment replacement
Southern Company						energy audits, lighting system evaluation
Texas Utilities						energy monitoring services

As shown in the table above, few utilities are providing C/I customers with the knowledge and vendor matchmaking resources provided by SmarterEnergy™. More than half of these utilities offered C/I customers nothing comparable to SmarterEnergy™ except for information regarding energy audit and rebate programs.

- Only three utilities provided C/I customers with information regarding lighting, HVAC and/or motor equipment. Reliant (formerly HL&P) provided information regarding security lighting and New England Electric System (NEES) provided tips for energy- efficient lighting design. Southern California Edison (SCE) provided extensive information regarding HVAC, lighting and motors.
- Only two utilities, Florida Power and Light (FPL) and San Diego Gas and Electric (SDG&E), provided C/I customers with contact information for vendors that sold and installed high- efficiency products.
- The primary site with information comparable to SmarterEnergy™ was the Environmental Protection Agency’s ENERGY STAR® Web site. ENERGY STAR® offered C/I customers extensive information regarding high-efficiency office equipment, a database of energy-efficient equipment, tips for choosing a contractor and local/regional links to companies that manufacture, distribute and finance high-efficiency equipment.
- The ENERGY STAR® Store Locator found retail stores that sold high-efficiency products within 250 miles of any zip code entered. One SmarterEnergy™ participant vendor, 49er Window and Door, is listed as an ENERGY STAR® partner. The ENERGY STAR® Financial Resources Directory included links to the following ten institutions within California that assist C/I customers in financing high-efficiency products:

- | | |
|---------------------------------------|-----------------------------------------------|
| - American Express | - Loans/Equipment Financing/Leasing/Credit |
| - California Office of Small Business | - Loans/Credit/Seminars/Start-up Assistance |
| - California SBDC Lead Center | - Seminars/Start-up Assistance |
| - Capital Bank of North County | - Loans/Equipment Financing/Credit/Seminars |
| - Comerica Bank of California | - Loans/Equipment Financing/Credit/Seminars |
| - Commercial Capital Corporation | - Loans/Equipment Financing/Credit/Seminars |
| - CREST | - Financing for Energy-efficient Improvements |
| - Founder National Bank | - Loans/Equipment Financing/Credit |
| - Oak Valley Community Bank | - Loans/Equipment Financing/Credit |
| - Safe-Bidco | - Loans/Equipment Financing/Credit |

These results indicate that PG&E has the potential to fill a major hole in product information and vendor matchmaking services with SmarterEnergy™, perhaps perfecting a prototype that could be extended to other utility markets and providers. Conversely, the frequency of audits on other sites underscores the value that PG&E's own customers will likely receive from the addition of audits (BEMS) to the SmarterEnergy™ site. In addition, financing information is common enough across these "peer" Web sites, and emerges often enough as an issue in SmarterEnergy™ supply-side interviews, that PG&E should seriously consider linking energy-efficient loan programs to the site.

4. PROGRAM THEORY AND BACKGROUND

This chapter focuses on the SmarterEnergy™ program theory and background. The program theory as we understand it, including evaluations of market barriers, SmarterEnergy™ interventions, market effects and effects indicators, is presented first, based on generally accepted MT concepts and principles. Key measures for this end-user segment, emphasized in this discussion, include lighting, packaged HVAC, windows and window film, ASDs, and motors. Brief synopses of a program theory document provided by SmarterEnergy™ technical consultant Sam Cohen, QC staff interviews with SmarterEnergy™ Program Manager and staff, and results from earlier focus groups then follow, to demonstrate how these inputs informed the preceding program theory description.

SmarterEnergy™ INITIAL HYPOTHESES AND PROGRAM THEORY

Many of the early MT studies were primarily based upon combining procedures from DSM evaluations and concepts from the Scoping Study. As work continues in this field, improvements informed by a broader set of theoretical work are being made. Examples of this include the use of diffusion-of-innovation literature as the basis of MT measurement performed by TecMRKT Works for PG&E's *PG&E Energy Center Market Effects Study* conducted in 1998, and the use of Theory-Based Evaluation (TBE) by XENERGY, Inc. in their *Evaluation of Nonresidential Standard Program Contract Program* for the CBEE and SCE in 1999.

This study, along with other ongoing studies being conducted for PG&E, builds upon these improvements and provides another level of improvement using both expansion and integration of these and theoretical perspectives. The advancements made herein follow the recommendations included in the Summary Study:

The Scoping Study provides an excellent framework for market effects and market transformation program design and evaluation. However, we strongly feel that the diffusion-of-innovation literature should be incorporated in efforts to measure and design market transformation programs. We also propose some slight modifications to the Scoping Study that should be kept in mind by those who use the Scoping Study and the CBEE Policy Guidelines. The changes we recommend are:

- *Emphasize knowledge of market structure and information flows that emerge from an understanding of the diffusion-of-innovation literature.*
- *Clarify the definition of market barriers and how these concepts should be used in both program design and evaluation.*

- *Emphasize the links between market barriers, program interventions and market effects in both program design and evaluation.*³

The theoretical foundations for MT studies bear a much greater importance than was seen in many of the quantitative impact evaluations in the DSM paradigm. These foundations guide the perspective used in types of interactions to be examined and what types of questions need to be addressed. They are a key element to crafting the “story” of how the program will create MT. Measurement of these story elements and their sequence provides an important basis for program attribution of the changes seen in the market, a more difficult proposition when conducting market studies as compared to participant studies. This is part of the reason for the third recommendation quoted above from the Summary Study. The need for the development of the story behind a program’s hypothesized MT was also presented in an earlier paper by Herman et al. in 1997.⁴

The theoretical foundation for this study builds upon each of these, along with a framework for the “story” development from TBE. This is complemented by examining market barriers using categories for simplification from the Scoping Study while expanding the definitions of individual indicators to be more comprehensive of both downstream and upstream market actors. Factors from diffusion-of-innovation theory and elements of inter-market actor communication are also considered as important dimensions to be monitored as SmarterEnergy™ evolves, along with the examination of hypothesized market barriers, in the selection of MT measurement indicators. This chapter presents this state-of-the-art approach to MT assessment as it was developed for the present study.

THEORETICAL FOUNDATIONS

There are two types of examinations used to create the theoretical foundations for this study. The first set examines how the market fails to operate and the elements of MT necessary to achieve a transformed market. The second set addresses the program interventions, how these are expected to be used to create a transformed market, and how they are to be measured.

The Scoping Study, one of the pivotal theoretical foundations for MT studies, is generally based upon transaction cost economics.⁵ Its emphasis is on identifying, measuring and measuring the change in market barriers, where market barriers are defined as

³ Peters, Jane S., et al.: pp. ES-IX. “Measuring Market Transformation: The 1997/1998 California Market Effects Studies,” *Leading the Retail Revolution: 1998 Edition*, Proceedings from the 9th National Energy Services Conference, Association of Energy Services Professionals, Boca Raton, FL: pp. 121-128, cite p. 126.

⁴ Herman, Patricia, Shel Feldman, Shahana Samiullah, and Kirsten Stacey Mounzih. 1997. “Measuring Market Transformation: First You Need A Story,” *Proceedings of the 1997 Energy Program Evaluation Conference*, Chicago, Ill: pp. 319-325.

⁵ An examination of the Scoping Study’s basis on transaction cost economics as it relates to other MT perspectives from microeconomics, diffusion studies, and transaction flow analyses and a possible theory of integration can be found in Megdal, Lori. 1998. “Integrating Perspectives from Alternative Disciplines to Understand Market

Any characteristic of the market for an energy-related product, service, or practice that helps to explain the gap between the actual level of investment in or practice of energy efficiency and an increased level that would appear to be cost beneficial.⁶

One of the first theoretical expansions for this study is in re-examining the market barrier definitions from a broader transaction cost economics perspective and allowing these definitions to be expanded to better describe barriers seen by supply-side market actors. A summary of the Scoping Study market barrier definitions and the expansions developed in this study is presented in Exhibit 4-1.

Exhibit 4-1
Market Barrier Definitions and Expansions for Barriers Seen on the Supply Side

BARRIER	SCOPING STUDY DESCRIPTION	EXPANSIONS for SUPPLY SIDE
Information or Search Costs	The costs of identifying energy-efficient products or services or of learning about energy-efficient practices, including the value of time spent finding out about or locating a product or service or hiring someone else to do so.	Applicable as is.
Performance Uncertainties	The difficulties consumers face in evaluating claims about future benefits. Closely related to high search costs, in that acquiring the information needed to evaluate claims regarding future performance is rarely without cost.	Include Market Uncertainties. The difficulties supply-side market actors face in determining the cost-effectiveness of moving into a market for energy efficiency products or services, given current low levels of demand.
Asymmetric Information and Opportunism	The tendency of sellers of energy-efficient products or services to have more and better information about their offerings than do consumers, which, combined with potential incentives to mislead, can lead to sub-optimal purchasing behavior.	Similar for any smaller market actor downstream from a larger or oligopolistic market actor.
Hassle or Transaction Costs	The indirect costs of acquiring energy efficiency, including the time, materials and labor involved in obtaining or contracting for an energy-efficient product or service.	Applicable as is with additional hassle or transaction costs in order to establish new vendor relationships, stocking a broader menu of items, supporting a

Transformation Policy in Energy Markets," *Conference Proceedings of the International Association for Energy Economics*, Quebec, Canada: pp. 417-424.

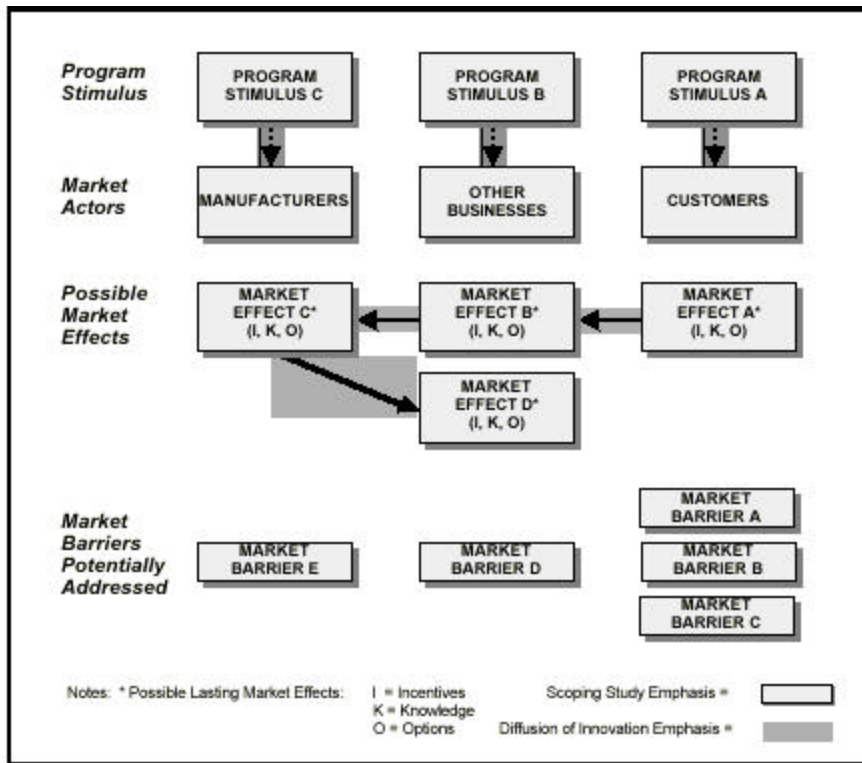
⁶ Eto, Joseph, et al.: p. 7.

BARRIER	SCOPING STUDY DESCRIPTION	EXPANSIONS for SUPPLY SIDE
	(Distinct from search costs in that it refers to what happens once a product has been located.)	broader menu of products, training for a broader menu of products and/or more sophisticated products, and added complexities in sales and marketing efforts.
Hidden Costs	Unexpected costs associated with reliance on or operation of energy-efficient products or services - for example, extra operating and maintenance costs.	Additional provision costs such as the risk of establishing new vendor relationships, financing the stocking of a broader menu and/or more expensive stock, potential of additional call-backs for installing more sophisticated and newer products.
Access to Financing	The difficulties associated with the lending industry's historic inability to account for the unique features of loans for energy savings products (i.e., that future reductions in utility bills increase the borrower's ability to repay a loan) in underwriting procedures.	Similar if additional stock needs to be financed in a market with greater market uncertainties.
Bounded Rationality	The behavior of an individual during the decision-making process that either seems or actually is inconsistent with the individual's goals due to the individual using simplification rules for decision-making.	Applicable as is.
Organization Practices or Customs	Organizational behavior or systems of practice that discourage or inhibit cost-effective energy-efficiency decisions - for example, procurement rules that make it difficult to act on energy efficiency decisions based on economic merit.	The practice of using only long-established vendors or vendors with which the firm has long-term relations.
Misplaced or Split Incentives	Cases in which the incentives of an agent charged with purchasing energy efficiency are not aligned with those of the persons who would benefit from the purchase.	Applicable as is.
Product or Service	The failure of manufacturers, distributors or vendors to make a	Applicable as is. Unavailability may also result from market

BARRIER	SCOPING STUDY DESCRIPTION	EXPANSIONS for SUPPLY SIDE
Unavailability	product or service available in a given area or market. May result from collusion, bounded rationality, or supply constraints.	uncertainties and/or large incremental costs of switching production to energy-efficient product lines.
Externalities	Costs that are associated with transactions, but which are not reflected in the price paid in the transaction.	Applicable as is.
Non-Externality Pricing	Factors other than externalities that move prices away from marginal cost. An example arises when utility commodity prices are set using ratemaking practices based on average (rather than marginal) costs.	Applicable as is.
Inseparability of Product Features	The difficulties consumers sometimes face in acquiring desirable energy efficiency features in products without also acquiring (and paying for) additional undesired features that increase the total cost of the product beyond what the consumer is willing to pay.	Similar for any smaller market actor downstream from a larger or oligopolistic market actor. Can be a by-product of reducing transaction costs by offering fewer product lines or minimizing market uncertainties by targeting niche higher priced markets.
Irreversibility	The difficulty of reversing a purchase decision in light of new information that may become available, which may deter the initial purchase - for example, if energy prices decline, one cannot resell insulation that has been blown into a wall.	The difficulty of reversing a manufacturing re-tooling or practices decision and uncertainty that public funding support will remain until demand is high enough to remove market uncertainties.

A broader view of factors relating to MT was derived from additionally examining diffusion of innovation theory and its communications implications. The difference in emphasis between the Scoping Study and the diffusion-of-innovations literature was highlighted in the Summary Study as duplicated in Exhibit 4-2 below.

Exhibit 4-2
Emphasis Difference Between Scoping Study and Diffusion of Innovations
(Figure 1.1 from Summary Study⁷)

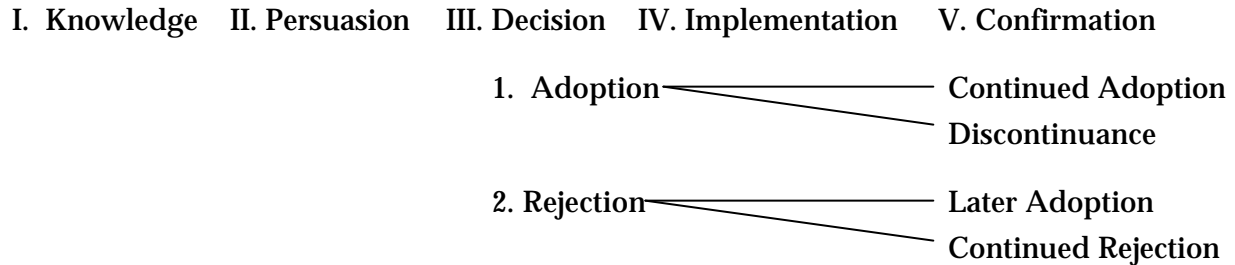


The most oft-cited summary of the diffusion-of-innovation theory is provided from Rogers' diagram as shown in Exhibit 4-3 below.

⁷ Peters, Jane S., Bruce Mast, Patrice Ignelzi, and Lori M. Megdal. 1998. *Market Effects Summary Study, Final Report, Volume 1*: p. 38.

Exhibit 4-3
Innovation-Decision Process
(Rogers, Diffusion of Innovations⁸)

COMMUNICATION CHANNELS



The diffusion-of-innovation literature also provides us with a list of six attributes of the product or services that influence the rate of diffusion. These rate of diffusion factors are also considered in this study as important elements in measuring factors towards MT, using a blend of end-user input and judgment based on a review of SmarterEnergy™ purpose and performance, and the broader landscape in which it exists. These six factors are⁹:

1. Fulfillment of need
2. Compatibility
3. Relative advantage
4. Complexity
5. Observability
6. Trialability

Two communication elements in MT via feedback and communication networks are incorporated in this study, because they are believed to be important elements of a transformed, sustainable market. These are whether “championing” of high-efficiency measures is occurring among key market actors, and whether follow-up is available and occurring, in terms of market actor interactions regarding high-efficiency measures after initial contacts and/or installation of measures.

⁸ Rogers, Everett M. 1982. *Diffusion of Innovations*, 4th Edition, New York, New York: Free Press, p. 163.

⁹ Rogers, Everett M., with F. Floyd Shoemaker. 1971. *Communication of Innovations: A Cross-Cultural Approach*, New York: Free Press, pp. 137-157.

This completes the expansion of market barriers and MT mechanisms examined in the theoretical foundations for the SmarterEnergy™ program, in terms of what now, or at some later point, may be present and measurable in its market environment. This list is then grouped by categories to make it more understandable and to allow other examinations to be made more simply by category. The final list and their categories are provided in Exhibit 4-4. Because of the newness of SmarterEnergy™, the low level of end-user awareness and vendor attribution of barrier reduction (as found in this assessment), and practical budget constraints, these factors are assessed at this point using a blend of market actor data, and QC experience and judgment. Also, the above-mentioned BEMS and Express program market characterization and market effects studies, which address the same small to mid-size C/I market, also contain targeted end-user and supply-side questions about SmarterEnergy™, though on a slightly different timeline.

Exhibit 4-4
List of Market Barriers & MT Mechanisms by Category

MARKET BARRIERS	MT MECHANISMS
Product/Service Availability	Feedback/ Communication Network
Unavailable	Championing
Awareness	Follow-up available
Information costs	Rate-of-Diffusion Factors
Asymmetric information	Fulfillment of felt need
Decision Process	Compatibility
Transaction/Hassle costs	Relative advantage
Access to financing	Complexity
Bounded rationality	Observability
Organizational practices	Trialability
Split incentives	
Perceived Reliability & Uncertainty	
Performance & market uncertainty	
Hidden costs	
Inseparability of features	
Irreversibility	

The second level of examination looks at how the program operates to create MT. This was an integral part of the study design phase allowing the development of a program theory, an essential step under a TBE approach. TBE is a broad descriptor of an evaluation approach that has been used in a number of policy fields for some time, and is especially germane in evaluations of MT programs. According to Weiss, the central tenets behind TBE are that:

*The beliefs and assumptions underlying an intervention can be expressed in terms of a phased sequence of causes and effects (i.e., a program theory). The evaluation is expected to collect data to see how well each step of the sequence is in fact borne out. This approach to evaluation offers a way in which evaluation can tell not only how much change has occurred but also, if the sequence of steps appears as expected, how the change occurred. If the posited sequence breaks down along the way, the evaluation can tell at what point the breakdown occurred.*¹⁰

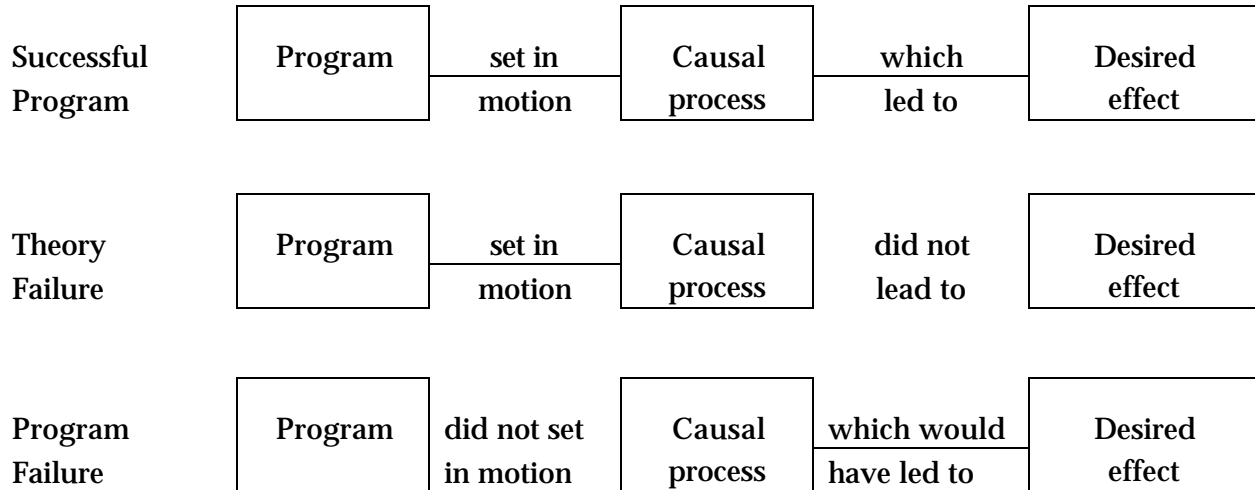
A program theory, or model, provides a framework for understanding the mechanisms through which a program is anticipated to influence, and ultimately transform, the market. The model provides a basis for structuring data collection and analyzing the data to determine whether the cause-and-effect relations expected under the program in fact exist and whether they are working as expected. The model also provides the foundation for determining which processes are not working as anticipated and merit further attention and possibly revisions.

Using this approach creates the “story” that will be used as part of testing program attribution. As the entire chain in a program theory is examined, MT can be measured sequentially as it occurs and problems in program design and program implementation can be measured.

This latter benefit of the TBE approach follows from the ability of a program theory to chart the flow from intervention to outcome to further outcome and the interactions of outcomes. Measuring each step can provide information that can separate problems with the theory of causal effects (the basis of program design) from program failure to set a stage in motion. This is best illustrated in a figure developed by Weiss as given as Exhibit 4-5 below.

¹⁰ Weiss, Carol H., “How Can Theory-Based Evaluation Make Greater Headway?” *Evaluation Review*, Vol. 21, No. 4, August, 1997, 501-524.

Exhibit 4-5
Theory Failure & Program Implementation Failure
(Weiss, Evaluation¹¹)



METHODS USED TO DEVELOP INITIAL HYPOTHESES AND PROGRAM THEORY

Brief research in the theoretical fields examined here was conducted to solidify the use of this prior literature to form the theoretical foundations for this study (as discussed above).

This was complemented by the knowledge of prior related MT studies, as provided from the experience of the many senior key personnel working on this study. This experience included work with the following studies:

- Summary Study
- Commercial Lighting Market Effects Study: PG&E/SDG&E (Xenergy, Inc.)
- Evaluation of the Statewide Nonresidential Standard Performance Contract Programs: CBEE/SCE (Xenergy, Inc.)

Market Transformation Planning Study: PG&E (Xenergy, Inc.)

- Study of Market Effects of PG&E Programs in the Supermarket Industry (Quantum Consulting, Inc.)
- Compilation and Analysis of Currently Available Baseline Data on California Energy Efficiency Markets: CBEE/SDG&E (Xenergy, Inc.)

¹¹ Weiss, Carol H. 1998. *Evaluation: Methods for Studying Programs and Policies*, Upper Saddle River, NJ: Prentice-Hall, p. 129.

- C/I Market Effects (HVAC & Motors) Baseline Study (Quantum Consulting, Inc.)
- United States Industrial Electric Motor Systems Market Assessment (Xenergy, Inc.)

Program theory interviews among PG&E program staff were then conducted. These interviews were generally conducted with two or more senior key study personnel participating and with multiple program staff. Notes from the interviews were then circulated among key study personnel prior to the preliminary development of the program theory diagram.

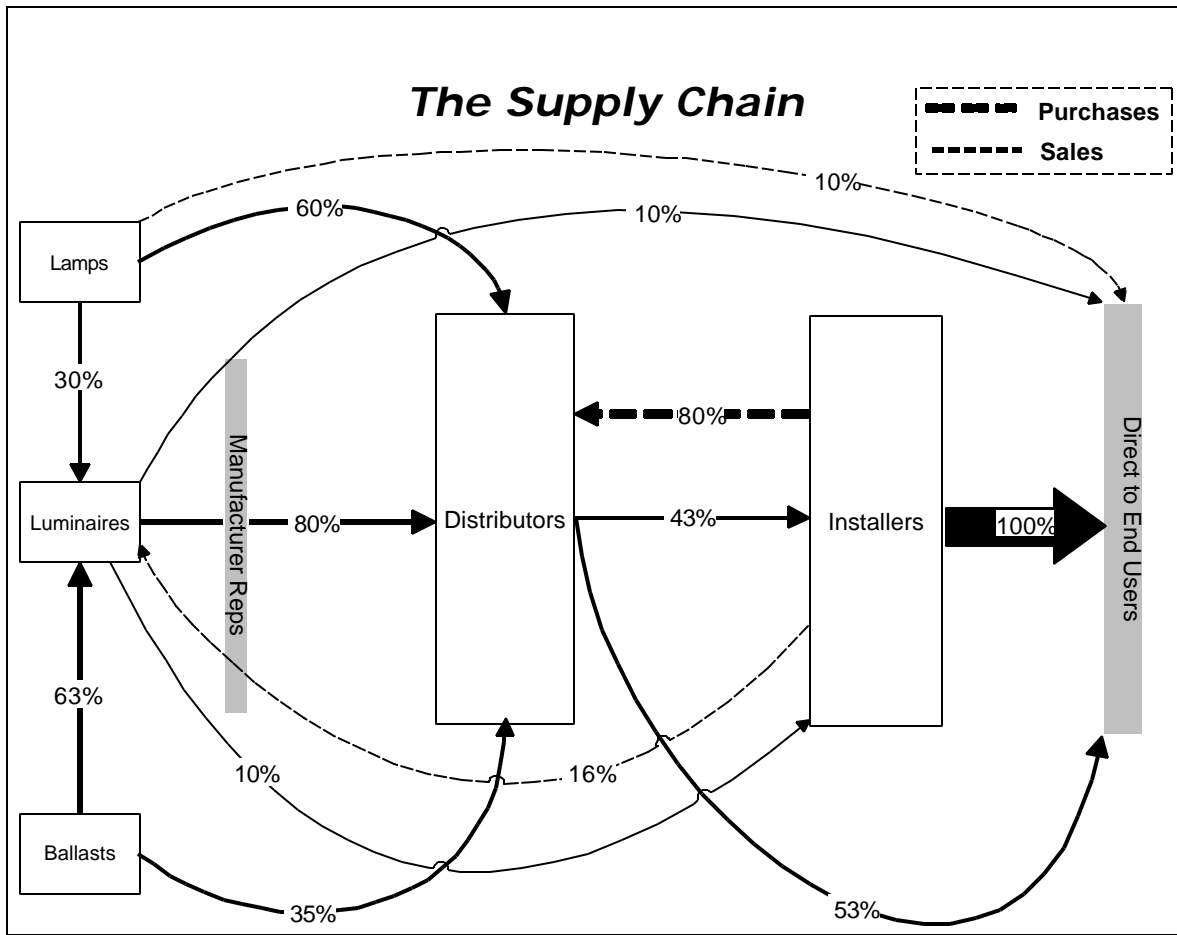
All lists and diagrams were reviewed by several key study personnel as part of their development of this study's theoretical foundation. These then provided a strong foundation for the development of all the instruments used in this study.

To summarize this chapter, while this was not a market effects study, and our efforts had to be prioritized to fit within budget and timing parameters, we captured as much information as possible to describe the current market baseline. We were particularly focused on examining market baseline characteristics – among end users and supply chain participants – to determine how best to refine SmarterEnergy™'s strategy and execution.

MARKET BARRIERS, COMMUNICATION, AND DIFFUSION FACTORS

The interviews with program staff, review of program materials, and prior related studies were used to derive the hypothesized market barriers and MT mechanisms for the primary markets. A comprehensive examination of market effects in the lighting market was made in Xenergy's *Commercial Lighting Market Effects Study: PG&E/SDG&E* in 1998. Exhibit 4-6 presents the national product flow diagram for the primary lighting markets. Developing similar, data-driven product flow diagrams for the other key technologies addressed by SmarterEnergy™ – HVAC, motors, ASDs, windows and window film – was outside the scope of this project.

Exhibit 4-6
National Product Flow in the Commercial Lighting Market
(Commercial Lighting Market Effects Study: PG&E/SDG&E, Xenergy, 1998, pp. 3-7.)



The list of hypothesized market barriers and MT mechanisms derived from the theoretical foundations effort (Exhibit 4-4, above) was combined with the information from the interviews and reviews. This information was then used to create a summary of these barriers and mechanisms for the three general levels of market actors in the product flow scheme: the customer, the vendor/contractor, and the distributor.

The hypothesized market barriers and MT mechanisms in the lighting market are presented in Exhibit 4-7. The packaged HVAC market's barriers and MT mechanisms can be found in Exhibit 4-8. The tables for the window film and ASD markets, and the motors market are provided as Exhibits 4-9 and 4-10, respectively.

Product unavailability is a significant market barrier for high efficiency at all levels of the chain in the motors market and the packaged HVAC market. Given the recently "raised bar" presented by EAct motors, there are still very few high-efficiency motors produced by motor manufacturers. This creates severe product unavailability for all levels of the supply chain for high-efficiency motors.

All of the high-efficiency markets are immature markets. As a small proportion of sales, information on high efficiency generally entails information costs for consumers. This barrier is a macro-level barrier as it occurs across technologies/markets due to nature of it being an immature market. There are many lighting vendors that offer high-efficiency equipment. For the lighting market, this drives down information costs. At the same time, these costs are still problematic for smaller customers (such as those addressed in this study) who do not have ready access to these vendors or expertise regarding these measures. The motor market is the most immature with regards to high efficiency. As such, information costs are a barrier for customers, vendors, and distributors.

Asymmetric information is a problem for customers in the ASD and window film markets, and for small customers in the lighting market. Window film and ASDs are not required energy equipment. It is, therefore, not regularly investigated by the end user. This presents consumers with a situation where they have little knowledge and are unsure of the real need for these items while vendors are promoting them. Asymmetric information or the fear by consumers of opportunism from the vendors can easily occur.

The large number of lighting vendors presents an alternative asymmetric information situation. In this case, the large number of vendors can present different information to the consumer, causing confusion, particularly in the case of less experienced smaller customers, and increasing fear of opportunism by the vendors.

Transaction/hassle costs are seen to some extent in all the markets examined. They are more important farther up the supply chain the more immature the market, being the worst in the motors market.

Exhibit 4-7
Hypothesized Market Barriers & MT Mechanisms
CFLs, T-8s, and Electronic Ballast Markets

	Customer	Vendor/ Contractor	Distributor
Product/Service Availability			
Unavailable			
Awareness			
Information costs	● * S	▮	
Asymmetric information	● S		
Decision Process			
Transaction/Hassle costs	▮ S	○	
Access to financing	▮ * S I		
Bounded rationality	● * S		
Organizational practices	○ I		
Split incentives	D		
Perceived Reliability & Uncertainty			
Performance & market uncertainty	●		
Hidden costs	○ I *		
Inseparability of features			
Irreversibility			
Feedback/ Communication Network			
Championing	○		
Follow-up available	○		
Rate-of-Diffusion Factors			
Fulfillment of felt need			
Compatibility	○		
Relative advantage	▮		
Complexity			
Observability			
Trialability			

- Key: ●● = Most important barrier
● = Important barrier/ Level impedes MT
▮ = Moderate barrier/ Moderate impediment for MT
○ = Low level barrier/ Some impediment for MT
* = Macro-level across technologies/markets
S = More important for smaller customers
I = More important for institutional customers
D = Depends on building ownership/ budgeting process for institutional customers

Exhibit 4-8
Hypothesized Market Barriers & MT Mechanisms
Packaged HVAC Market

	Customer	Vendor/ Contractor	Distributor
Product/Service Availability			
Unavailable	●	●	●
Awareness			
Information costs	● *		
Asymmetric information			
Decision Process			
Transaction/Hassle costs		○	
Access to financing	◐ * S I		
Bounded rationality	● *		
Organizational practices	●	○	○
Split incentives	D		
Perceived Reliability & Uncertainty			
Performance & market uncertainty	●	●	●
Hidden costs	○ I *		
Inseparability of features			
Irreversibility			
Feedback/ Communication Network			
Championing	◐		
Follow-up available	◐		
Rate-of-Diffusion Factors			
Fulfillment of felt need			
Compatibility			
Relative advantage			
Complexity	○		
Observability	◐		
Trialability	◐		

- Key: ●● = Most important barrier
 ● = Important barrier/ Level impedes MT
 ◐ = Moderate barrier/ Moderate impediment for MT
 ○ = Low level barrier/ Some impediment for MT
 * = Macro-level across technologies/markets
 S = More important for smaller customers
 I = More important for institutional customers
 D = Depends on building ownership/ budgeting process for institutional customers

Exhibit 4-9
Hypothesized Market Barriers & MT Mechanisms
Window Film & Adjustable Speed Drive Markets

	Customer	Vendor/ Contractor	Distributor
Product/Service Availability			
Unavailable			
Awareness			
Information costs	● *		
Asymmetric information	●		
Decision Process			
Transaction/Hassle costs	● S	○	
Access to financing	◐ * S I		
Bounded rationality	● * S I		
Organizational practices	○		
Split incentives	D		
Perceived Reliability & Uncertainty			
Performance & market uncertainty	●●		
Hidden costs	○ I *		
Inseparability of features			
Irreversibility			
Feedback/ Communication Network			
Championing	○		
Follow-up available	○		
Rate-of-Diffusion Factors			
Fulfillment of felt need	○		
Compatibility			
Relative advantage	○		
Complexity			
Observability			
Trialability			

- Key: ●● = Most important barrier
● = Important barrier/ Level impedes MT
◐ = Moderate barrier/ Moderate impediment for MT
○ = Low level barrier/ Some impediment for MT
* = Macro-level across technologies/markets
S = More important for smaller customers
I = More important for institutional customers
D = Depends on building ownership/ budgeting process for institutional customers

Exhibit 4-10
Hypothesized Market Barriers & MT Mechanisms
Motor Markets

	Customer	Vendor/ Contractor	Distributor
Product/Service Availability			
Unavailable	●●	●●	●●
Awareness			
Information costs	●*	●	●
Asymmetric information			
Decision Process			
Transaction/Hassle costs		◐	○
Access to financing	◐* I		
Bounded rationality	●*		
Organizational practices	● I	◐	◐
Split incentives	D		
Perceived Reliability & Uncertainty			
Performance & market uncertainty	●	●	●
Hidden costs	○ I*		
Inseparability of features			
Irreversibility	●		
Feedback/ Communication Network			
Championing	◐	○	
Follow-up available			
Rate-of-Diffusion Factors			
Fulfillment of felt need	◐		
Compatibility	●		
Relative advantage			
Complexity	●	○	
Observability	◐		
Trialability	●	○	

- Key: ●● = Most important barrier
● = Important barrier/ Level impedes MT
◐ = Moderate barrier/ Moderate impediment for MT
○ = Low level barrier/ Some impediment for MT
* = Macro-level across technologies/markets
S = More important for smaller customers
I = More important for institutional customers
D = Depends on building ownership/ budgeting process for institutional customers

Access to financing or budget process constraints are generally a macro-level market barrier for small and institutional customers. These customers have difficulty financing any higher initial cost item though the item may have lower life cycle costs, regardless of the technology. Small customers often have many competing requirements to fund with significant cash flow concerns to stay in operation. Not too different from this, institutional customers often face budget processes based on lowest current cost rather than lowest life cycle costs. Budget allocations often require expenditures for similar items to be the same as prior purchased items, not allowing for additional costs to purchase cost-effective, high-efficiency models.

Similarly, bounded rationality is seen across technologies. Simplifying decisions with rules that may be outdated occurs within institutional budget processes that can not easily be changed or with small businesses overwhelmed with the large number of decisions that must be managed by their owners. The large number of lighting vendors bombarding end users with varying information and the complexity of understanding the savings available from ASDs make this situation generally worse for small and institutional customers in these markets.

The last macro-level barrier is the low-level barrier presented by hidden costs to institutional customers. Wherever maintenance or operating needs differ, institutional customers may have difficulties because their decision-making processes may include conflicting priorities and practices, and overlapping turf.

The extent to which organizational practices are a market barrier generally depends on how mature the overall efficiency market is. The greater the penetration and length of time efficiency has been a part of the market the greater the likelihood that organizational practices have adapted to it. This is why organizational barriers are a small barrier in the lighting, window film, and ASD markets but larger in the packaged HVAC market and larger still in the motors market where it is an important barrier for customers and still a moderate barrier for vendors and distributors.

The last decision process barrier is that of split incentives. This barrier involves the responsibility for the investment decision versus who pays the energy bill. This barrier depends on building ownership or the budgeting process for institutional customers, and does not depend upon the technology or market.

Performance uncertainty is the greatest market barrier to customers in the mature markets of window film and adjustable speed drives due to the greater complexities in assessing energy savings for adopting these measures. Market uncertainty, however, is an important market barrier for vendors and distributors in the less mature markets of packaged HVAC and motors.

Motors are often stockpiled by customers to allow immediate replacements. This complicates their motor systems during the phase-in, when high-efficiency motors begin to be purchased though many existing motors are standard-efficiency models scheduled for rewinding. Given the large step for high-efficiency motors beyond the step established with EPA motors, irreversibility then becomes a significant market barrier for consumers in this market.

Generally, the feedback and communication network factors must work well to achieve fully (i.e., sustainable) transformed markets. Yet, not having these factors is only a small impediment for initial MT.

Similarly, many of the rate-of-diffusion factors are also not large impediments for MT in the lighting, packaged HVAC, window film, and ASD markets. Poor market/technology profiling on any of these factors, however, does slow the rate of diffusion and are important to recognize.

The immature motors market still has a large number of impediments among customers and vendors with regard to the factors that affect the rate of diffusion.

PROGRAM THEORY

Through an early review of program materials and interviews with implementers, a theory, or model was developed to describe how the interventions executed under the SmarterEnergy™ program are expected to influence the market. In order to simplify the presentation of this model, one model is presented demonstrating the outcomes and effects on the demand-side and a second one shows the supply-side. The overall model is the combination of both of these, but given the number of interactions expected in the long run, a combined model would be quite complex.

Exhibit 4-11 presents the demand-side program theory model for the SmarterEnergy™ program. There are four primary interventions:

- Product and vendor listing.
- Product and vendor marketing.
- Advertising and marketing.
- Information and interaction with other programs supporting high-efficiency products/ services (e.g., Express and BEMS).

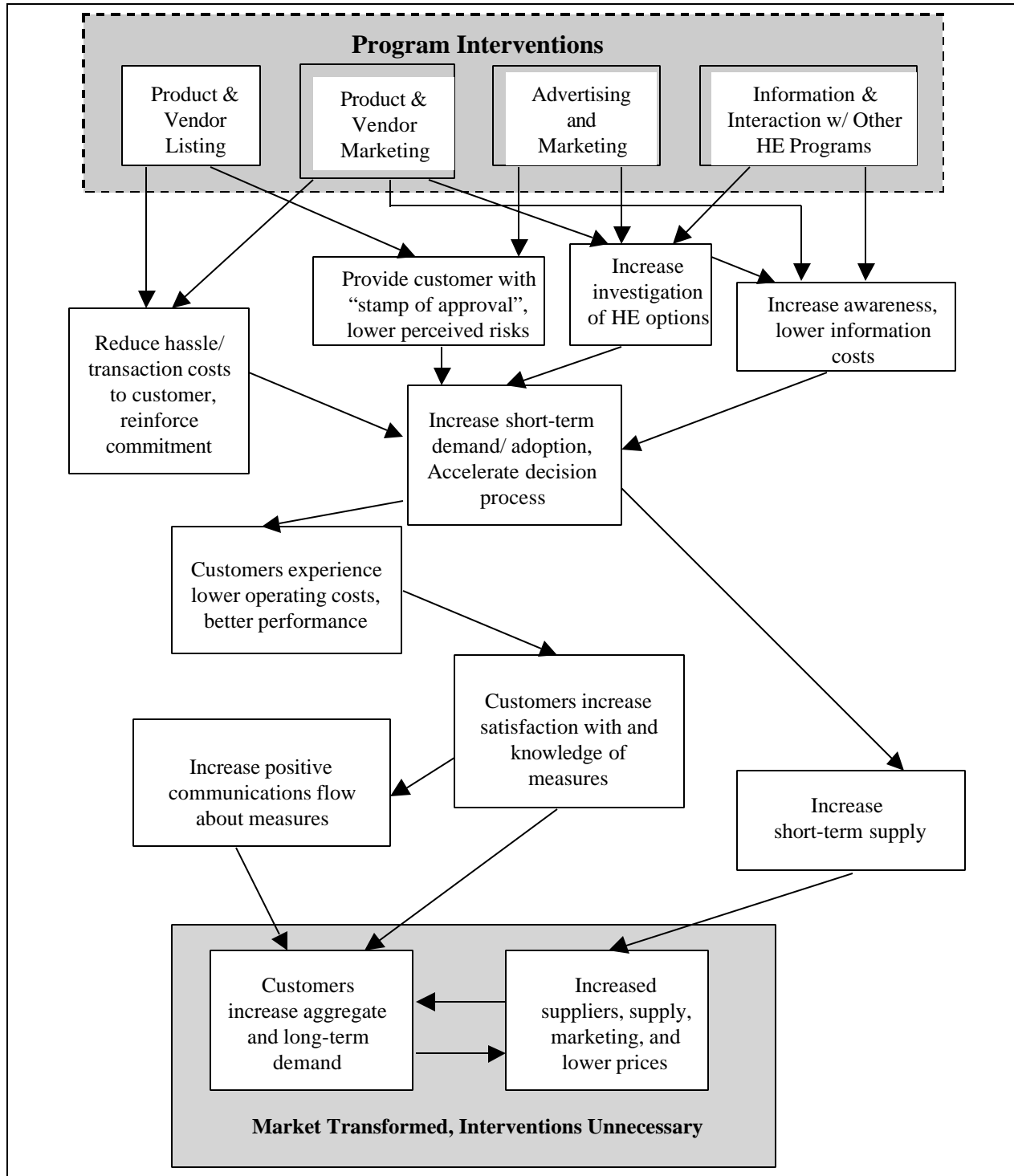
Many of the interventions overlap in the direct effects they produce. The details of these are presented in Exhibit 4-11. There are four direct effects expected as a result of the interventions. These, in order of their expected sequencing, are:

1. Increase awareness, and lower information costs.
2. Increase investigation of high-efficiency options.
3. Provide customer with “stamp of approval” thereby lowering perceived risks.
4. Reduce hassle/transaction costs to customers and provide a reinforcement to their commitment.

Each of these direct effects broadens and accelerates consideration and selection of high-efficiency measures, increasing the short-term demand.

The increase in adoption in turn increases customers' experience with high-efficiency measures and practices. Through this experience they learn for themselves of the resulting lower operating costs and better performance of the measures. This then increases customers' satisfaction with and knowledge of the measures. Satisfied customers will then be able to tell others about their positive experiences with the high-efficiency measures. This increases the positive communications flow about the measures.

Exhibit 4-11
SmarterEnergy™ Demand-Side Program Theory



The increased short-term demand also plays a large role in encouraging increased short-term supply. This in turn can lead to long-term increases in supply through an increase in the

number of suppliers, the amount of high-efficiency equipment each supplier offers in the market, and lower prices due to increased economies of scale and increased competition.

Increased aggregated and long-term demand stems from customers' increase in satisfaction with the measures and the increased positive communications flow about the measures.

As in any economic market, increased supply and demand interact with each other reinforcing the gains made. This is expected, indeed required, to create the transformed market.

A similar program theory diagram is presented for SmarterEnergy™'s expected supply-side effects. Again, many of the interventions overlap in the direct effects they produce with the details of these presented in Exhibit 4-12.

There are four direct effects expected to result from the interventions. These, in order of their expected sequencing, are:

1. Increase awareness, and lower information costs.
2. Increase investigation of high-efficiency options.
3. Provide supplier with “stamp of approval” thereby lowering perceived risks.
4. Lower marketing costs to vendors (of high-efficiency equipment and relative costs to their competitors that do not offer high-efficiency equipment and services)

Each of these direct effects leads to increasing stocking patterns of high-efficiency equipment and the short-term supply of this equipment. The lower marketing costs for high-efficiency vendors also increases the profitability of selling high-efficiency equipment for these vendors. Increased profitability will increase the short-term supply.

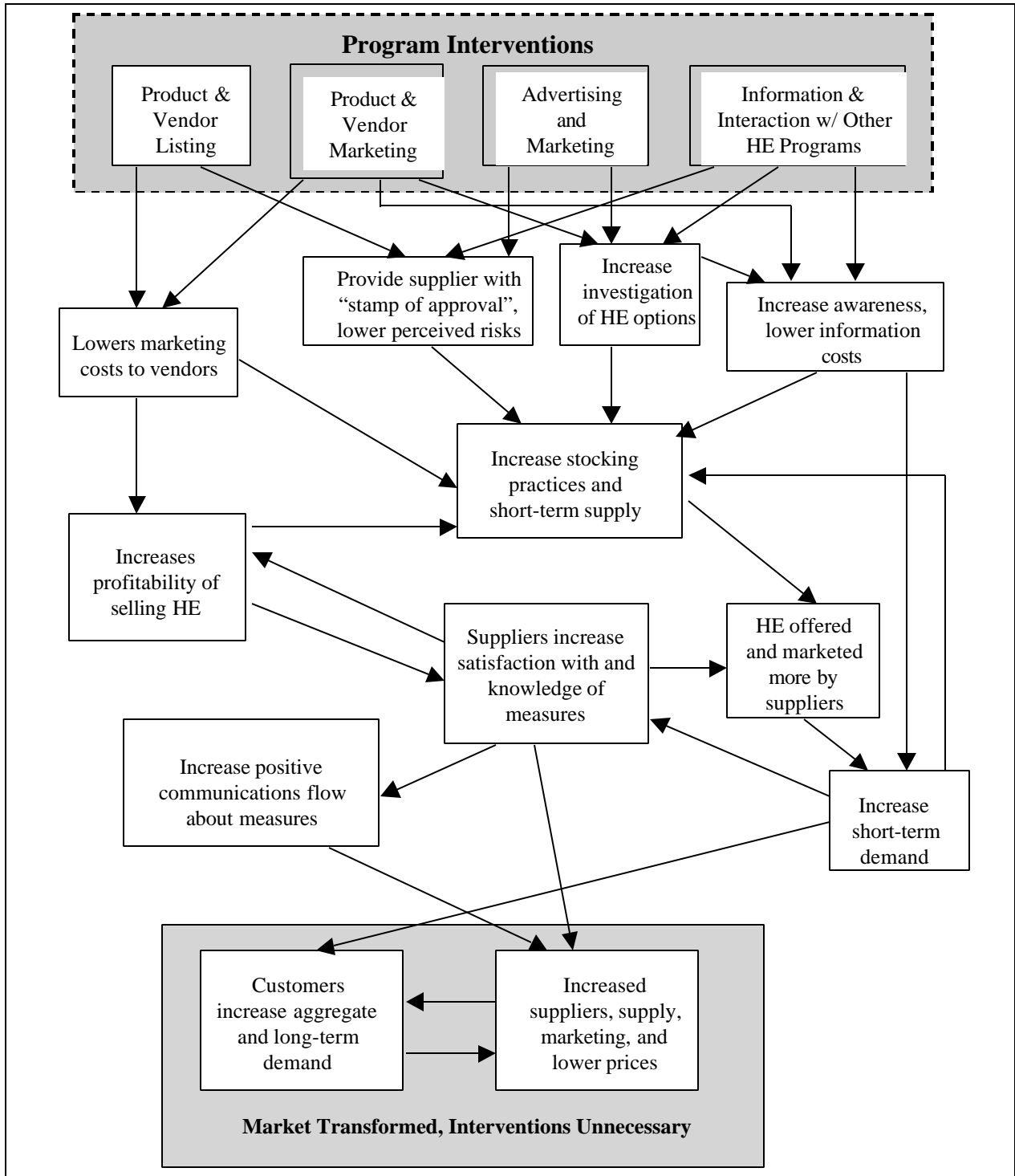
Increasing the profitability of selling high-efficiency equipment will in turn lead suppliers to be more satisfied with being in the high-efficiency market. Their experience will increase their knowledge of the measures, their installation, and their servicing. This knowledge can then be turned into again increasing the profitability of being in the high-efficiency market.

As suppliers are more satisfied with being in the high-efficiency market, word-of-mouth and competitive information will increase the positive communications flow about measures. Suppliers increased satisfaction and the increase in positive communications flow will lead to long-term increases in supply through an increase in the number of suppliers, the amount of high-efficiency equipment each supplier offers in the market, and lower prices due to increased economies of scale and increased competition.

The increase in awareness and lowering of information costs helps to increase short-term demand. Short-term demand is also increased as a result of suppliers offering and marketing more high-efficiency equipment. Increased short-term demand in turn leads to increased short-term supply and suppliers' increased satisfaction in being in a growing high-efficiency market. Increased short-term demand also leads to increased long-run demand.

Suppliers' perception of (1) a growing, sustained market for high-efficiency products, (2) at parity (or potentially premium) margins, (3) the offer of a defensible competitive advantage, will be the key to neutralizing the market uncertainty inevitable for at least some period in a substantially untransformed market.

Exhibit 4-12
SmarterEnergy™ Supply-Side Program Theory



The demand and supply sides of SmarterEnergy™'s program theory are not separate. They are part of one unified program theory. However, they are split here to lower the complexity

of the program theory figure and to ease the explanation of the many indirect chains of outcomes expected.

PROGRAM INTERVENTIONS AND INDICATORS

The next step involves taking the market barriers and MT mechanisms and matching them with the program interventions designed to address them. This is done at the category level in order to solve the problem of overlapping market barriers and to assure a workable organization that leads to identification of the proximate and ultimate indicators to be measured for baseline and MT indications. These are presented in Exhibit 4-13.

The indicators listed in Exhibit 4-13 provided the basis and served as a checklist for the questions emphasized in this initial primary data collection effort, as well as assessed judgmentally based on a broader review of the SmarterEnergy™ market environment. The instruments were developed to capture the more relevant indicators at this juncture of SmarterEnergy™'s existence, with separate instruments for each of the different data collection audience, e.g., vendor interviews, customer surveys. (More detail on the data collection effort and the instruments is provided in the next chapter.)

Early results from the BEMS/Express market effects/market baseline survey informed our judgments about the most relevant market barriers and effects baseline indicators at this point, among SmarterEnergy™'s small and mid-size C/I market. (Specifically, we found low general interest in, and familiarity with, high-efficiency measures, criteria, options, and providers, in pre-testing of the original, lengthier version of the BEMS/Express end-user survey.)

Also, following preliminary results from the SmarterEnergy™ vendor interviews, the end-user survey was adjusted to emphasize the relatively nascent nature of the small and mid-size C/I market, in terms of knowledge of and interest in energy-efficient products. Our judgments were informed, of course, by the program theory, including hypotheses about the *chronology* of different developments throughout the MT process.

Exhibit 4-13
SmarterEnergy™ Program Interventions and Market Effects Indicators by Category

MARKET BARRIER TYPE/ DIFFUSION FACTOR	PROGRAM INTERVENTION	HYPOTHESIS	MARKET EFFECTS INDICATOR
CUSTOMER			
Awareness	Provides one-stop-shop for energy efficiency information overall, and technology specific to be used at customer's convenience.	Reduces information costs and source of unbiased information (particularly for lighting where numerous lighting vendors contribute to asymmetric information, i.e., confusion).	End user has awareness/knowledge of differences between standard and HE equipment for: <ol style="list-style-type: none"> 1. CFLs, T-8s, Elec. Ballast 2. HE packaged HVAC 3. Window film, ASDs End users believe they have access to information on lighting technology, window film, and ASDs that is unbiased.
Product/Service Availability	HE product and vendor listing (and advertising)	Encourages vendors w/o particular HE products to consider them as they see their competitors listed.	There is an increase in vendors offering HE products (by market 1-3).
Decision Process	Includes information to guide a user through most elements of purchase process: product overviews, savings calculators, model number databases, in-depth technical information, tips on working with suppliers, and contact information for local suppliers.	Reduces costs and ease of considering of HE options.	End users believe HE options are worthy of consideration. End users believe they have enough information about HE measures/practices, and the benefits warrant further action. End users believe they can complete HE efforts that will significantly reduce their energy bills. End users see information provided as a significant resource in their decision process. SmarterEnergy™ reduces end-user hassle costs. SmarterEnergy™ positively impacts end-user

MARKET BARRIER TYPE/ DIFFUSION FACTOR	PROGRAM INTERVENTION	HYPOTHESIS	MARKET EFFECTS INDICATOR
			consideration of HE in future decisions.
Perceived Reliability & Uncertainty	Provide legitimacy function, if mentioned in PG&E site then measure must both save energy and fulfill its intended function. Provides savings calculation tools to estimate energy savings and lower uncertainty.	Increases perception of high-efficiency measure reliability, and lowers perceived risk of poor measure performance.	Participants compare favorably to NPs on questions about perceived uncertainty of HE performance, before and after measure/ practice change. End users consider HE options worthy of consideration. SmarterEnergy™ positively impacts participant consideration of HE in future decisions.
Feedback/ Communication Network	Provides information through purchase decision process.	Allows participants to complete additional information and reinforces commitment. Communication and diffusion occurs from successful adopters.	Participants report follow-up from program staff. Participants talk to others (business associates, customers, vendors) about the Web site. End users report hearing about the Web site through trade organizations, business colleagues. End users report hearing about measures (1-3 above) in trade organizations, from business colleagues.
Rate of Diffusion Factors	Advertising and marketing (should be targeted to address impediments by market).	Increases level of diffusion factor to speed diffusion.	End users report increased/greater perceived benefits and compatibility with needs, for each technology (1-3 above).
VENDOR/ CONTRACTOR			
Awareness	Provides information on various HE products with in-depth technical information.	Reduces information costs for vendors/contractors to keep up with what HE items are being offered	Vendor/Contractor has awareness/ knowledge of differences between standard and HE equipment for:

MARKET BARRIER TYPE/ DIFFUSION FACTOR	PROGRAM INTERVENTION	HYPOTHESIS	MARKET EFFECTS INDICATOR
		and what they need to offer to be competitive.	<ol style="list-style-type: none"> 1. CFLs, T-8s, Elec. Ballast 2. HE packaged HVAC 3. ASDs
Product/ Service Availability	HE product and vendor listing (and advertising)	Encourages distributors to carry listed products to compete for vendors for HE products.	There is an increase in distributors offering HE products (by market 1-3).

Decision Process	Provides information on HE products and vendors to customers. Provides vendor/distributor paid-for links and advertising.	Reduces hassle and transaction costs to maintain knowledge of what is being offered and what HE markets are developing.	Vendors and contractors report a change in stocking practices due to the Web site, stocking more HE equipment.
Perceived Reliability & Uncertainty	Provides information on HE products and vendors to customers. Provides vendor/distributor paid-for links and advertising.	Provides low cost information on developing HE markets, which can lower market uncertainties.	Vendors and contractors report recommending HE more often as a result of the Web site.
Feedback/ Communication Network	Provides information on HE products and vendors to customers. Provides vendor/distributor paid-for links and advertising.	Provides another channel of marketing communication to potential customers.	<p>Vendors and contractors talk to potential customers and others about the Web site.</p> <p>They report hearing about the Web site in trade organizations and from business colleagues</p> <p>They report hearing about the measures (1-3) in trade organizations and from business colleagues.</p>
Rate of Diffusion Factors	Advertising and marketing (should be targeted to address impediments by market).	Increases level of diffusion factor to speed diffusion.	<p>Vendors and contractors advertise HE.</p> <p>Their marketing addresses diffusion factors.</p>
DISTRIBUTOR			
Awareness	Provides information on various HE products with in-depth technical information.	Reduces information costs for distributors to keep up with what HE items are being offered and what they need to	Distributor displays knowledge of information on HE equipment and how this information is used.

MARKET BARRIER TYPE/ DIFFUSION FACTOR	PROGRAM INTERVENTION	HYPOTHESIS	MARKET EFFECTS INDICATOR
		offer to be competitive.	
Product/ Service Availability	HE product and vendor listing (and advertising)	Encourages manufacturers w/o particular HE products to consider them as they see their competitors' brands listed.	There is an increase in manufacturers offering HE products (by market 1-3).
Decision Process	Provides information on HE products and vendors to customers. Provides vendor/distributor paid-for links and advertising.	Reduces hassle and transaction costs to maintain knowledge of what is being offered and what HE markets are developing.	Stocking practices have changed as a result of the Web site.
Perceived Reliability & Uncertainty	Provides information on HE products and vendors to customers. Provides vendor/distributor paid-for links and advertising.	Provides low cost information on developing HE markets, which can lower market uncertainties.	Selling practices have changed, and HE is recommended more often, as a result of the Web site.
Feedback/ Communication Network	Provides information on HE products and vendors to customers. Provides vendor/distributor paid-for links and advertising.	Provides another channel of marketing communication.	Distributors talk to potential customers, vendors and others about the Web site They report hearing about the Web site in trade organizations and from business colleagues They report hearing about the measures (1-3) in trade organizations and from business colleagues
Rate of Diffusion Factors	Advertising and marketing (should be targeted to address impediments by market).	Increases level of diffusion factor to speed diffusion.	Distributors advertise HE. Their marketing addresses diffusion factors.

ADDITIONAL THOUGHTS ON SmarterEnergy™ PROGRAM THEORY

The following brief sections are synopses of interviews with SmarterEnergy™ program staff and results of earlier focus groups, and are included simply to show how these inputs informed the preceding program theory description.

Sam Cohen's Program Presentation

In February 1999, Sam Cohen, SmarterEnergy™ program technical consultant, presented this program to QC staff. This presentation is summarized below (and consistent with the preceding program theory description). A copy of the document presented at this discussion is included in the appendices.

- SmarterEnergy™ provides specific purchase-oriented information, targeted specifically to customers who are interested in making a purchase. By providing product overviews, savings calculators, technical information and contact information for local suppliers in one convenient location, SmarterEnergy™ helps reduce the hassle cost of purchasing new equipment.
- As SmarterEnergy™ is a PG&E product, it is viewed as an unbiased source of information, and therefore improves the perceived legitimacy of energy-efficient products.
- SmarterEnergy™ plans to grow and generate revenues to be re-invested in broad-based advertising for energy efficiency, creating a positive feedback loop in support of SmarterEnergy™ activities.

QC Interviews with SmarterEnergy™ Program Managers and Staff

In February 1999, Todd Board and Lori Megdal conducted interviews with SmarterEnergy™ Program Manager and related staff, Jay Bhalla, Sam Cohen, Duane Larson and Scott McGaraghan. The purpose of these interviews was to probe their opinions regarding SmarterEnergy™'s ability to address market barriers, market effects indicators, and program mechanics and logistics. A synthesis of notes from these interviews follows.

Market Barriers/Intervention

- The SmarterEnergy™ program directly addresses information search/cost and asymmetry/opportunism barriers, as well as hassle/transaction costs by linking vendors and customers under the PG&E brand. SmarterEnergy™ also indirectly addresses information search/cost barriers by generating ad-based revenues that can be used to generate general energy-efficiency awareness.
- The SmarterEnergy™ Web site is designed to be a one-stop information search and vendor selection resource. This design can lower the overall Energy Efficiency marketing budget by eliminating the need to market a variety of sites that serve different purposes.
- There are several steps to adopting energy efficiency measures. SmarterEnergy™ helps address the following questions and associated barriers: “where do I want to put my money?” (awareness, initial choices), “in what measures do I make the investments?”, and “how do I choose a vendor?” SmarterEnergy™ helps fill the gap of who to call by providing a list of vendors that supply energy-efficient equipment that qualifies for the PG&E SmarterEnergy™ program.

Market Effects/Indicators

- Program Managers would expect to see additional knowledge about energy-efficient investments, and confidence in that knowledge, among SmarterEnergy™ searchers. The primary, ultimate effects indicator is hypothesized to be increased frequency of efficient investments attributable to SmarterEnergy™, particularly through vendors highlighted on the SmarterEnergy™ site. Other effects indicators could be a greater “intensity” of investments (i.e., toward whole-premise), attributed acceleration of efficient investments, and higher probability of intended efficient investments.
- Page hits volume translating into funding for additional energy efficiency awareness generation also is an important indicator, particularly to the extent it contributes toward economic self-sustainability and independence from taxpayer support. More vendors paying, and paying more, to be site advertisers are anticipated, later indicators. Given that significant page hit volume provides the ability to draw advertising dollars and further program evolution, SmarterEnergy™ program staff are planning to include contests on the site to encourage its use and subsequent actions.

Program Mechanics/Logistics

- Designing the SmarterEnergy™ site is complicated in that it needs to apply to a broad range of users. The Web site needs to meet the professional business look, meet the “fun” needs of residential users, and appeal to basic as well as “techie” business users. The Web site is dynamic and is constantly evolving.
- SmarterEnergy™ may start using a “white pages/yellow pages” structure for vendor listings. “White page” listings would be limited to vendor name, address, and phone number. “Yellow page” listings would include additional information on products and services, so vendors can differentiate themselves from their competitors. “White page” listings would be provided at no charge and would increase vendor coverage. “Yellow page” listings would require the vendor to pay a fee. Using this dual structure to substantially increase the number of vendors in the database, PG&E could then aggressively promote the vendor search option on the database. As vendors start to generate business from the site, some will choose to upgrade to “Yellow page” listings.
- The Business Energy Survey Tool (BEST) is being added to the SmarterEnergy™ Web site. This tool will lead business customers through a survey of their facilities to find measures that will help them reduce their energy usage, compute potential savings and identify any PG&E equipment rebates for which they might be eligible.

Shugart Matson Fall 1998 Focus Group Report

The Shugart Matson Young/PG&E SmarterEnergy™ Focus Group Report presents the results of three focus groups conducted by Merrill Research & Associates in September 1998, in Northern California. The objective of these focus groups was to assess consumer energy user (e.g., home energy decision makers) and commercial energy user (e.g., facility managers) understanding of energy efficiency, Internet usage, reactions to the SmarterEnergy™ program concept and the SmarterEnergy™ Web site. This study’s key findings are as follows:

- Most consumers indicated that they consider themselves energy efficient, in that they make an effort not to waste energy (e.g. using the least amount of energy necessary to complete a given task); facility managers perceived themselves as energy conscious, in that they focus on ways to reduce energy costs (e.g., controlling energy waste at their facility).
- Some consumers believe that labeling products as “energy-efficient” is nothing more than a marketing ploy by PG&E and equipment suppliers. Facility managers did not share this suspicion.
- Nearly all consumer and commercial participants indicated that they have access to the Internet, and that they go online at least once per day (these characteristics may be a function of the focus group recruiting approach used). The most commonly indicated use of the Internet was for information gathering purposes.
- As print media provides a visual image that is portable and can serve as a reminder until a Web site is visited, both consumers and facility managers state that print is the most effective medium for advertising Web site addresses, also known as URLs (Universal Resource Locators).
- Most participants, whether consumer or commercial, reacted positively to the SmarterEnergy™ concept and indicated that the Web site provided PG&E with a more positive public image.
- Overall, the information on financial incentives was seen as the most compelling feature, followed by tools to analyze energy consumption and energy efficiency guidelines. Links to industry associations and manufacturers were seen as the least important feature.
- While most consumers felt that the home page was “boring” and that the words and icons need to be bolder in order to raise curiosity, facility managers appreciated the home page for its straightforwardness.
- Some consumers were disappointed in the product comparison part of the site, because they wanted a Consumer Reports-style side-by-side comparison of various appliances to be included with the site itself.
- Both consumers and facility managers enjoyed the interactive tools that helped calculate energy expenditures.

Based on the above findings, the Shugart Matson Young/PG&E Focus Group Report draws the following conclusions:

- While there is an understanding among customers that a focus should be maintained on energy efficiency (reducing energy intake and controlling waste), awareness of programs focusing on energy efficiency is low.

- Reaction to the SmarterEnergy™ program description, and to a lesser extent, to the Web site, is positive. With some refining, the SmarterEnergy™ Web site could become an effective tool for communicating information on and heightening awareness of energy efficiency.

5. PROGRAM EXECUTION

This chapter focuses on the SmarterEnergy™ program execution. Program advertising campaign materials are summarized first. Information on the SmarterEnergy™ Web site targeting and page hits is presented next. Participant and nonparticipant vendor survey results are then summarized and compared. Finally, SmarterEnergy™ end-user survey results are discussed.

SmarterEnergy™ ADVERTISING CAMPAIGN MATERIALS

SmarterEnergy™ ad campaign materials were used to encourage vendors to sign up for the program, as well as to attract the attention of end users.

- Materials used to encourage vendors to sign up for the SmarterEnergy™ program included large postcards stating that “PG&E SmarterEnergy™ sends buyers to your door.” Program sign-up packets mailed to vendors included an informational sheet that promoted SmarterEnergy™'s ability to expose vendors to interested buyers, as well as to advertise each vendor's specific products and services.
- Brochures targeted toward customers on PG&E's Express Program mailing lists, included the URL for SmarterEnergy™ and suggested visiting the site.
- Advertising materials aimed at SmarterEnergy™ end users included a newspaper advertisement that promoted reducing businesses overhead costs by replacing standard-efficiency equipment with high-efficiency equipment. This advertisement ran three times in several California newspapers in December 1998.
- Business cards and flyers containing SmarterEnergy™'s URL were distributed to customers through divisions of the Energy Efficiency Resource Center. The flyer promoted SmarterEnergy™'s ability to provide comprehensive and unbiased information to aid in the selection of energy-efficient equipment.

SmarterEnergy™ WEB SITE TARGETING AND PAGE HITS

The SmarterEnergy™ Web site received a total of 24,701 user sessions and 37,555 page views between December 1, 1998 and March 31, 1999 (an average of 6,175 user sessions and 9,388 page views per month). The average user session length was about 7.5 minutes. The top three business-related Web site pages (e.g., the pages that were accessed the most times) were the SmarterEnergy™ Program home page, the Supplier Directory Search main page, and the Equipment Selection Guides main page. Unfortunately, data regarding who is visiting the SmarterEnergy™ Web site, how they are finding out about it and how they are getting there is not readily available. Data on traffic to other energy efficiency-related sites also is not readily available.

PARTICIPANT AND NONPARTICIPANT VENDOR SURVEY RESULTS

The results of both the SmarterEnergy™ participant vendor survey, as well as the companion survey of a sample of matched profile nonparticipant contractors, are presented below. The surveys, conducted among 16 participating vendors and 14 nonparticipating vendors, were designed to gauge vendors' orientation to the small to mid-size C/I market. In addition, the surveys probed their opinions regarding the SmarterEnergy™ Web site and concept (including the degree to which it addresses barriers to greater energy efficiency adoption among small to mid-size businesses.) The “vendor” surveys focused on HVAC, lighting and window treatment contractors, who are most likely to have an advisory and measure installation relationship with end users. This section compares and contrasts participant and nonparticipant responses in order to identify systematic differences that might lend insight to the results. Initial survey analysis results are presented first, divided into main survey topics. Implications of these findings are then discussed. A distillation of vendor survey responses is included as in Appendix B.

KEY FINDINGS

Vendor Approach to High Efficiency in the Small to Mid-Size C/I Market

From a margin and “hassle” perspective, all vendors considered doing high-efficiency work with small to mid-size C/I customers either “good,” or “neutral/average,” relative to conducting work with customers at large. None of the vendors considered high-efficiency work among small to mid-size customers a “bad” or unprofitable proposition. Participant vendors were somewhat more likely than nonparticipant vendors to consider this customer segment to be “good” rather than “neutral/average.”

- Eleven of 16 participants considered small to mid-size C/I customers to be “good” to work with.
- Seven of 14 nonparticipant vendors considered this customer segment to be “good.”

All but one participant vendor claimed to recommend high-efficiency equipment to their customers “all the time.” The majority of nonparticipant vendors responded with “most of the time” or “sometimes.” While both groups claim to recommend these measures, a large part of the time, the participant groups shows a markedly higher propensity to recommend high-efficiency measures. This finding underscores the importance of adequate contractor knowledge regarding high-efficiency equipment (addressed explicitly in the BEMS supply-side survey.)

Participant vendors displayed a greater propensity to proactively pursue high-efficiency business in the small to mid-size C/I segment. When asked to describe their role in pursuing this business as proactive or reactive, a large majority of participant vendors claimed to proactively pursue high-efficiency business. In contrast, nonparticipant vendors were most likely to state they used reactive strategies, or both proactive and reactive.

More than half of the participant vendors reported that they do 20 or more high-efficiency small to mid-size C/I jobs a year. Nonparticipant vendors were most likely to do between one and 20 such jobs per year.

The majority of both participant and nonparticipant vendors stated that the percentage of jobs in the small to mid-size C/I segment involving high-efficiency products was increasing. Most participant vendors attributed the growth to increasing awareness and education among customers. Nonparticipant vendors also cited growing awareness and education, in addition to improvements in high-efficiency technology.

None of the nonparticipant vendors reported a decrease in jobs involving high-efficiency products, but two participant vendors did, perhaps because they had a larger proportion or volume of high-efficiency work to begin with. These vendors attributed the decrease in high-efficiency jobs to financial barriers. One of these vendors attributed the decrease specifically to reduced rebates.

In sum, relative to nonparticipant vendors, participant vendors consider high-efficiency work with small to mid-size C/I customers to be more desirable, and are more likely to use proactive marketing techniques to solicit new work in this area. In addition, participants have a greater propensity to recommend high-efficiency measures, and do more high-efficiency jobs with small to mid-size C/I customers. Both participant and nonparticipant vendors felt that work in this business practice area was increasing.

Vendor Perceptions of Customer Attitudes Toward High-Efficiency Products

Both participant and nonparticipant vendors generally believe that small to mid-size C/I customers have interest and confidence in high-efficiency products. Nonparticipant vendors showed somewhat more conviction on this point than did participant vendors.

- Only one of 14 nonparticipant vendors, and three of 16 participant vendors stated that their customers have very little or no interest in high-efficiency equipment.
- None of the 14 nonparticipant vendors, and two of 16 participant vendors reported that their customers have very little or no confidence in high-efficiency equipment.

There is a notable portion of vendors, particularly nonparticipant vendors, who believe customers have little or no knowledge of high-efficiency products.

- Six of 14 nonparticipant vendors and four of 16 participant vendors reported that their customers have very little or no knowledge regarding high-efficiency equipment.

When asked to pinpoint barriers to doing more high-efficiency work for small to mid-size C/I customers, the majority of both participant and nonparticipant vendors reported that the barriers were financial. Specifically, they cited lack of rebates, lack of financing and the need for good payback. A smaller, but notable portion of vendors mentioned lack of product knowledge as a barrier.

- Ten of 14 nonparticipant vendors and 11 of 16 participants mentioned financial barriers as at least a contributing factor in barriers to more high-efficiency work.

- Three of 14 nonparticipant vendors and five of 16 participant vendors included product knowledge and awareness as a notable barrier.

Both participant and nonparticipant vendors reported that customers do not often specify interest in high-efficiency products. However, most nonparticipant vendors reported that their customers specify interest in high-efficiency products at least “sometimes,” while most participant vendors reported that their customers “never” or “rarely” specify interest in these products.

- Nine of 16 participant vendors reported that their customers never, or almost never, specify interest in high-efficiency products, while only two of 14 nonparticipant vendors made this claim.
- Five of 16 participant vendors reported that their customers specify interest in high-efficiency products “sometimes;” one said “75% of the time.”
- Nine of 14 nonparticipant vendors reported that their customers specify interest in high-efficiency products “sometimes;” three said “most of the time.”

As stated above, participant vendors reported a significantly greater propensity to proactively recommend high-efficiency products than nonparticipant vendors.

- This suggests the possibility that participant vendors’ customers are shown high-efficiency equipment before they have a chance to specifically request information about such products. This possibility seems more plausible than the implication that the participant vendors’ customers are less interested in high-efficiency products.
- Another possible explanation is that the participant vendors are somewhat larger in a few cases than nonparticipant counterparts interviewed. The larger size probably translates into a broader and more mixed customer base.
- Alternatively, participant vendors may have a more stringent definition of high efficiency than nonparticipant vendors. That is, nonparticipant vendors may interpret a greater spectrum of customer inquiries as being about “high efficiency.” Thus, nonparticipant and participant vendors could receive similar customer inquiries, but nonparticipant vendors might perceive them as specifically high efficiency-related while participant vendors might not.

Participant and nonparticipant vendors were asked to report common customer beliefs and misconceptions regarding high-efficiency equipment. Various misconceptions about savings and payback were most commonly cited, followed by misconceptions about technology.

- Some participant window suppliers mentioned that customers incorrectly believe that high-efficiency windows must be dark in order to be effective.
- A few participant lighting suppliers reported that customers are focused primarily on rebates, and do not take payback into account when making decisions regarding high-efficiency equipment. Nonparticipant lighting suppliers reported a lack of information

about savings and payback, misconceptions about the technology, and a complete lack of information.

- Both participant and nonparticipant HVAC vendors stated that customers expect much more savings on their energy bill than they should. Other participant vendors stated that customers question the validity of advertised savings. Participant and nonparticipant vendors also cited various misconceptions regarding the equipment. For example, one nonparticipant vendor cited the belief that high efficiency means greater capacity. One participant vendor stated it was common for customers not to understand the importance of different aspects of HVAC systems, such as clean ducts.

In sum, participant and nonparticipant vendor perceptions of customer attitudes towards high-efficiency products were generally similar. There were some notable secondary differences, which have been highlighted above.

- Both participant and nonparticipant vendors generally believe that small to mid-size C/I customers have interest and confidence in high-efficiency products. Less confidence in customer knowledge of high efficiency was expressed by both vendor groups.
- Both participant and nonparticipant vendors reported that the greatest barriers to doing high-efficiency work with small to mid-size C/I customers are financial.
- Participant vendors reported that customers were not likely to specify interest in high-efficiency products, while most nonparticipant vendors reported that customers specify interest in high efficiency at least “sometimes.”
- Finally, both participant and nonparticipant vendors reported the most common customer misperceptions regarding high-efficiency equipment were about savings and payback. The second most commonly reported misconception related to the equipment itself.

Initial Reactions to SmarterEnergy™ Site/Concept

Four of the 16 participant vendors surveyed stated they had never visited the SmarterEnergy™ Web site. Most of the remaining participants had visited the site once or twice. Five of the 16 participant vendors visited the site frequently (between three and 12 times.) Not surprisingly, nonparticipant vendors were less likely to have visited the site, but a notable number had heard of SmarterEnergy™. Four of the 14 nonparticipant vendors surveyed had heard of the site, while one had actually visited it.

Participant and nonparticipant vendors were read a description of the SmarterEnergy™ concept/mission as follows:

“SmarterEnergy™ is a section of the PG&E Web site that offers unbiased, purchase-oriented information about energy-efficient HVAC, windows, lighting, and other measures. It contains an evolving set of databases containing general information, and more technical detail, that Web site visitors can select based on their needs. It also provides vendor listings, without any sort of

comment or endorsement, for vendors who pay a listing fee. The site addresses both the business and residential markets, with clear paths for visitors to select the areas and topics they are interested in. Visitors can end up in this site by knowing about it and selecting it as a destination, or by linking from the general PG&E Web site, or by linking in from a variety of other search engines and topic-related sites.”

Participant vendors were asked whether their perception of SmarterEnergy™ aligned with the above description. Most participant vendors agreed with the description.

- Nine of 16 participant vendors agreed with the statement; four did not agree (the others said “don’t know,” or “sort of”).
- Participant vendors that did not agree specifically mentioned doubts as to whether the Web site was accessible to customers, and whether any customers visited the site at all.

Nonparticipant vendors were asked whether such a concept seemed relevant to their customers and business, as well as whether the elements seemed to fit with each other and fit with PG&E. The response from nonparticipants was very positive, with the large majority approving of the concept, elements, and connection with PG&E.

- Twelve of the 14 nonparticipant respondents described the concept as “good,” and the remaining two described the concept as “fair.” Eleven of 14 nonparticipant vendors thought the concept was relevant to their customers and the elements fit well with each other. Thirteen of 14 felt the connection with PG&E made sense.
- Of the two nonparticipant vendors who reported less faith in the concept, one expressed doubts as to whether their customers would respond to this type of marketing, and the other cited general doubts about the manageability of information on the Web.

Among participant vendors, initial reactions to the Web site were lukewarm. Common suggestions were that the Web site needs more “pizzazz” and pictures. Some participant vendors stated that the Web site should be easier to find, and that it should be easier to navigate. Only two of the nonparticipant vendors had seen the site (one was able to go to the site for the first time during the interview.) These two nonparticipants’ comments were that the site could use more color and graphics, should emphasize savings and rebates, and seemed to lack focus.

- Five of 16 participant vendors reported that the Web site does not address barriers to doing more work with the small to mid-size C/I market, as the biggest barriers are generally financial (lack of rebates, lack of financing, and a need for payback.)
- Four of the 16 participant vendors reported that the Web site would do a good job of addressing product/technology awareness, by providing information to customers.

Nonparticipant vendors were asked how well they expected SmarterEnergy™ to address barriers to doing more high-efficiency work with small/mid-size C/I customers. Half the respondents thought the site would do a “good” or “fair” job of addressing barriers.

- Three of 14 nonparticipant respondents did not perceive any barriers. Two respondents stated the site would not do a good job addressing barriers because it does not address financial barriers.

In sum, participant vendors generally concurred with the stated concept/mission of SmarterEnergy™. Nonparticipant vendors generally thought the concept made sense and was a good idea. Participant vendors were more doubtful than nonparticipant vendors of the site's ability to address market barriers. Participant vendors thought the site could use more "pizzazz," and could be re-organized to be easier to use and easier to find. Both participant and nonparticipant vendors mentioned the importance of promoting awareness of the Web site.

How SmarterEnergy™ Fits Into Vendor Marketing Strategies

Vendors were asked how they currently market high-efficiency products to small to mid-size C/I customers. Responses were similar across participant and nonparticipant vendors, and included verbal communication via sales representatives or at the job site. Other high-efficiency marketing strategies included incorporating high-efficiency measures and messages in project proposals, advertising flyers, TV ads, radio spots, direct mailing pieces, and newspapers ads.

Both participant and nonparticipant vendors mentioned that more/more visible promotion of high-efficiency products by PG&E would help bolster demand for high-efficiency investments.

Both participants and nonparticipants were nearly equally split regarding whether SmarterEnergy™ does or does not fit directly with existing high-efficiency marketing strategies. However, both vendor groups generally felt that the program at least *complements* their current marketing strategy to some extent (as opposed to conflicting with it in some way).

Most participant vendors and all of the nonparticipant vendors reported that they neither discuss SmarterEnergy™ with customers or others, nor do they ever hear SmarterEnergy™ mentioned by customers.

- Two of 16 participant vendors mentioned SmarterEnergy™ to their customers. One participant vendor reported overhearing customers or other contacts discussing SmarterEnergy™.
- None of the participant vendors indicated that they had made any changes in their selling strategies or product stocking practices as a result of supporting SmarterEnergy™.

In sum, participant and nonparticipant vendors were similar in how they felt SmarterEnergy™ would fit, or does fit into current marketing strategies. Both groups were nearly equally split regarding whether SmarterEnergy™ does or does not fit into their current strategy. At the same time, both groups generally felt that the program complements their current strategy. Both groups reported similar current marketing strategies. Neither group

commonly discussed SmarterEnergy™ with their customers, or reported hearing customers or others discussing it.

Expectations, Results, and Suggestions for Improvement

The most common reasons cited for participating in SmarterEnergy™ were to receive “free” advertising, to get business, and to be associated with energy efficiency and PG&E.

In general, participant vendors claimed not to have given much thought to prospect quantity or quality, but they did seem to expect to receive at least some business through the site. Given that the majority of vendors did not receive even one prospect contact attributable to the Web site, the program is not meeting their expectations.

Nonparticipant vendors were generally ambivalent about the potential business impact of participation. Five of the 14 nonparticipant vendors surveyed reported that they would expect to see some new business if they were to participate, and six stated they would not expect any new business (the remaining three nonparticipant vendors felt they did not have enough information to comment). Only three of the 14 nonparticipants surveyed thought the quality of prospects obtained through the site would be better than average. Many nonparticipant vendors felt the site might marginally enhance awareness of their firm, but would be unlikely to have a measurable impact.

Only one nonparticipant vendor recalled receiving marketing materials from PG&E regarding participation in the program. This vendor seriously considered participation because they felt it would be a good way to reach customers, but chose not to participate because of the fee.

Nonparticipant vendors were asked what type of fee they felt would be reasonable for being listed in the site. Responses were mixed. Most stated they did not have enough information to comment. Four of the 14 nonparticipant vendors thought participation should be free, and four thought a fee would be justified. Suggestions for fees included ‘\$100’, ‘a low fee’, and a ‘percentage of attributable revenue’. One vendor suggested between \$1,000 and \$2,000, but added the caveat that the site generate \$100,000 in new business per year to justify this fee.

Participant and nonparticipant vendors were asked to make suggestions for improving SmarterEnergy™ as a marketing tool for vendors that supply high-efficiency equipment. Almost all the participant vendors were able to make suggestions, while nine of 14 nonparticipant vendors could not comment. Participant and nonparticipant suggestions were very similar. Both groups mentioned the following ideas, presented in order of frequency:

- Increase or improve advertising of the site via TV, mailers, sales representatives, or bill inserts.
- Offer financial information, assistance, and/or incentives through the site.
- Make the site more colorful/interesting, i.e., add “pizzazz.”

- Add more information on suppliers to include such things as referral lists¹² or location maps.
- Make the site easier to find and easier to navigate.

In sum, most participating vendors expected to receive some new business through the site, and reported that the program is not meeting their expectations. Nonparticipant vendors were generally ambivalent about the potential business impact of participation. Participant and nonparticipant vendors offered similar suggestions for improving SmarterEnergy™, including additional advertising, “pizzazz”, financial information or assistance, and some indication of the quality of listed vendors.

IMPLICATIONS OF VENDOR SURVEY FINDINGS

The majority of participant vendors indicated that they participated in SmarterEnergy™ in part as a means to attract more business, but that they had not received any attributable referrals from the site. Given the lack of business referrals, two participant vendors explicitly stated that the service is not worth the \$1200 annual fee.

Most nonparticipant vendors would not expect participation to have a substantial effect on awareness of their firm or business volume. Nonetheless, nonparticipants expressed approval of the SmarterEnergy™ concept/mission, and felt the elements fit together and made sense. When asked what a reasonable fee for participation in the program would be, nonparticipants expressed a very low “willingness to pay,” perhaps because they see it as more of a potential vendor awareness source than a vehicle for generating a significant number of sales leads.

Responses from both participant and nonparticipant vendors support the contention that the SmarterEnergy™ Web site should be made more visible and accessible, via hot links or promotions. This may attract visitors and possibly generate incremental high-efficiency business for participant vendors. Also, the planned addition of the energy audit should help reinforce the “benefit” part of the value equation for SmarterEnergy™ end users and vendors.

Participants and nonparticipants agree that the greatest barriers to doing more high-efficiency jobs with small to mid-size C/I customers are financial. The SmarterEnergy™ site could improve its treatment of these barriers with better or more prominent links to rebate program pages. Although the Lighting and Packaged Terminal HVAC pages in the Technology Database section of the SmarterEnergy™ Web site have links to the Express rebate program page, the links do not work (or at least have had recent problems). The Motors, Heat Pump and Central AC pages do not have a link to the Express rebate program page.

¹² One nonparticipant expressed serious concern about the possibility of being listed next to a substandard contractor, and suggested a screening method would add credibility.

In addition, the financial barriers could be more thoroughly addressed by adding links to institutions that can assist end users in financing high-efficiency adoptions. Easy access to information regarding rebate programs and other relevant financial information should be incorporated into the SmarterEnergy™ Web site. Both participant and nonparticipant vendors stressed the importance of savings and payback in promoting interest in high-efficiency equipment. PG&E also should consider including examples of paybacks for “typical” small to mid-size C/I lighting, HVAC and window treatment jobs.

Both participants and nonparticipants indicated that while they perceive their customers to be interested in and confident about high-efficiency equipment, they do not perceive them as knowledgeable in this area. Knowledge of high-efficiency products and criteria was also mentioned among the barriers to doing more high-efficiency work by both vendor groups. In general, vendors approved of the site’s effectiveness in improving education, awareness, and knowledge of high-efficiency equipment. (The survey results also suggested that gaps may exist regarding vendor knowledge about high efficiency as well, particularly among nonparticipants.)

Another concern expressed by both participant and nonparticipant vendors relates to the supplier information shown on the site. Vendors often suggested that this information could be made more useful by adding “referral lists” indicating the quality of the vendors, or “location maps” indicating specific suppliers’ locations. The value of the vendor listings to suppliers and end users could be increased by adding information on the quality of the listed vendors. For example, a link to a third party organization with quality information about contractors might be useful. This sort of improvement may enhance the impact of the site as well as vendors’ “willingness to pay” for participation.

EXPRESS SUPPLY-SIDE SURVEY RESULTS

In this section we present the results from questions on supply-side awareness and impressions of SmarterEnergy™, drawn from questions appended to the Express supply-side interviews. These questions were asked of 26 HVAC contractors, ten HVAC distributors, 21 lighting contractors and ten lighting distributors in the PG&E Territory.

Awareness of and Familiarity with SmarterEnergy

- Distributors were more likely than contractors to be aware of the SmarterEnergy™ Web site. While all of the HVAC distributors and half of the lighting distributors were aware of the SmarterEnergy™ Web site, less than half of the HVAC and lighting contractors were aware of it.
- Ten of ten HVAC distributors were aware of SmarterEnergy™ Web site.
- Nine of 26 HVAC contractors were aware of the SmarterEnergy™ Web site.
- Five of ten lighting distributors were aware of the SmarterEnergy™ Web site.
- Five of 21 lighting contractors were aware of the SmarterEnergy™ Web site.

HVAC distributors were more likely to have looked at the SmarterEnergy™ Web site. While more than half of HVAC distributors had visited the SmarterEnergy™ Web site, a small minority of lighting distributors and HVAC and lighting contractors reported doing so.

- Seven of ten HVAC distributors had looked at the SmarterEnergy™ Web site.
- Three of 26 HVAC contractors had looked at the SmarterEnergy™ Web site.
- One of ten lighting distributors had looked at the SmarterEnergy™ Web site.
- One of 21 lighting contractors had looked at the SmarterEnergy™ Web site.

Impressions of SmarterEnergy

- Generally, the HVAC and lighting contractors and lighting distributors familiar with the information presented on the SmarterEnergy™ Web site considered it to be useful. (These questions were not asked of the HVAC distributors due to time/length constraints on that survey).
- Only one respondent, a HVAC contractor, reported that the information on the Smarter Energy Web site was not useful. When asked to explain why, this respondent said that the information “doesn’t do us any good with a program we don’t use any more.”
- When asked to explain why they believed the information on the SmarterEnergy™ Web site was useful, one respondent said that the “Internet is a coming thing. It is a good medium to have this kind of information on.”
- Another respondent said that the information on the SmarterEnergy™ Web site was useful because it is “information that people wouldn’t normally have access to.”
- Most of the HVAC and lighting contractors and lighting distributors reported that they believe that SmarterEnergy™ will increase customer awareness and purchase of energy efficient measures, at least to some degree. Lighting contractors and distributors gave slightly more positive responses than HVAC contractors.
- One lighting contractor reported that “Seventy-five percent of customers who look at the information will consider purchases.”
- Another lighting contractor reported that SmarterEnergy™ will increase customer awareness and purchase of energy efficient equipment “to a degree, at least.”
- One HVAC contractor reported that SmarterEnergy™ “has an effect, but it is better to get across what the unit will save.”
- Only one respondent, a HVAC contractor, reported that SmarterEnergy™ has “not much, at best” of an effect on increasing customer awareness and purchase of energy efficient equipment.

Questions Asked of HVAC Distributors Only

More than half of HVAC distributors reported that they were listed on the SmarterEnergy™ Web site.

- Six of ten HVAC distributors reported that they were listed on the SmarterEnergy™ Web site. (These distributors were not interviewed with the SmarterEnergy™ supply-side surveys, because those surveys were focused on contractors – the market actors who interact directly with customers).
- Three of the four HVAC distributors who reported that they either were not listed or didn't know if they were listed on the SmarterEnergy™ Web site, reported that they “don't know” if they plan to be listed on the SmarterEnergy™ Web site in the future.

END-USER SURVEY RESULTS

The results of the SmarterEnergy™ end-user survey are presented below. The survey was conducted among 22 less-than-500-kW PG&E C/I customers recruited by telephone and three less- than-50-employee PG&E C/I customers recruited on the SmarterEnergy™ Web site. The survey probed end-user opinions regarding the SmarterEnergy™ Web site, including ways to improve it, and focused on the small to mid-size C/I customers who would be most likely to have interest in energy efficiency and have access to the Internet. Questions about awareness and visitation of SmarterEnergy™, the Web site's end users, and “baseline” energy efficiency attitudes and practices were asked of all 25 respondents. Due to time constraints, however, most respondents reviewed only two or three of the following five sections: Equipment Guides, Technical Articles, Technology Database, Supplier Checklist and Other PG&E Programs. Initial survey analysis results are presented first, divided into main survey topics. Implications of these findings are then discussed. A distillation of survey responses from the 25 respondents is included in Appendix B.

Please note that mid-way through telephone recruiting for qualified respondents, we re-focused the recruits toward larger customer in the less-than-500-kW stratum. This was to increase the odds of identifying qualified survey respondents, the primary objective of the survey. This may have had a subtle biasing effect on the results from call disposition data, discussed below.

QC contacted 778 customers in the less-than-500-kW segment, and screened out 98 people because they did not qualify or complete the survey.

- Of those, 21 qualified in terms of topic interest, but did not complete the survey (8 refusals, 13 had computer access or scheduling problems).
- Of the other 77 people screened out, 22 had little or no involvement in making decisions to replace lighting or heating/cooling equipment, 24 were not really interested in learning about how to save money and energy using energy efficient equipment (rated less than 5 on a 10-point scale), and 31 did not have access to the Internet at work.

Because of the shift in recruiting toward larger customer in the less-than-500-kW segment, we can estimate that the “addressable market” for SmarterEnergy™ is, at best, 36 percent.

- This translates to 22 completed telephone recruit interviews plus the 21 who qualified but refused or could not complete the interview, divided by the 22 completes plus the 98 customers screened out or could not complete the survey (43/120).

Beyond those completed and disqualified screens and screened refusals, we had 270 refusals before screening was complete (usually these are immediate refusals), and 388 unusable or inconclusive contacts including no answers, answering machines, disconnected numbers, language barriers, and uncompleted callbacks. Results from the telephone recruit survey are presented below.

Highlights from Telephone Screening

The 22 respondents recruited by telephone generally had “a lot of involvement” in making decisions to replace the lighting or heating and cooling equipment at their facility.

- ? Nineteen of 22 respondents reported that they have “a lot of involvement” in making decisions to replace lighting or heating and cooling equipment at their facility. The remaining three respondents had at least “some involvement.”

The respondents who qualified for the survey (by providing at least a 5 rating on a 10-point scale, along with other criteria) were generally quite interested in learning how to save money and energy for their business by using energy-efficient measures.

- ? On a scale from 1 to 10, where 1 means “not at all interested” and 10 means “extremely interested”, the mean rating was 7.9.
- ? Fourteen of 22 respondents rated their interest in learning how to save money and energy for their business 8 or higher. The remaining eight respondents provided at least a 5 rating.

Most respondents reported that they at least sometimes use the Internet to gather information about products, services and vendors that their company currently uses, or is considering using.

- ? Thirteen of 22 respondents reported that they regularly or often use the Internet to gather information on products, services and vendors.
- ? Five of 22 respondents reported that they sometimes use the Internet to gather information on products, services and vendors.
- ? Three of 22 respondents reported that they rarely use the Internet to gather the above information, and only one respondent reported that they never use the Internet.

After hearing the following description of the SmarterEnergy™ Web site, most respondents indicated that they were at least somewhat likely to visit it in the future to learn more about energy-efficient products and providers:

“PG&E has a Web site called SmarterEnergy™ that provides information on energy-efficient lighting, heating and cooling, and windows, and other products, as well as companies that supply and install them.”

- ? Fourteen of 22 respondents indicated that they would be very likely or extremely likely to visit SmarterEnergy™ in the future.
- ? Six of 22 respondents indicated that they would be somewhat likely to visit SmarterEnergy™ in the future.
- ? Only two respondents indicated that they would be not very likely, or not at all likely to visit SmarterEnergy™ in the future.

In order to qualify for the survey, all 22 respondents recruited by telephone either had to shop via the Internet at least sometimes, or be at least somewhat likely to visit SmarterEnergy™.

KEY FINDINGS

Awareness and Exploration of SmarterEnergy™

More than half of the respondents had visited the SmarterEnergy™ Web site, with most first visits clustering either within the last two weeks, or within the last three months preceding the interview. Most respondents reported that general curiosity (as opposed to a specific need) prompted the search that originally led them to SmarterEnergy™.

- ? Six of 22 respondents recruited by telephone reported that they were aware of the SmarterEnergy™ Web site. All three Web recruits, by definition, were aware of the site.
- ? Six of the 22 respondents recruited by telephone had visited the SmarterEnergy™ Web site on their own, while four of 25 respondents visited SmarterEnergy™ after hearing about it during QC’s recruiting survey. All three Web recruits, by definition, had visited the site.
- ? As noted earlier, 21 customers qualified for the survey, but did not complete an interview either because they refused to do so, or because they had scheduling or computer problems. Only three of these customers were aware of the SmarterEnergy™ Web site, and only one had visited it.

Most respondents reported that they first heard about SmarterEnergy™ either during QC’s end user recruiting survey, or via a PG&E mailer. Some respondents recalled discovering SmarterEnergy™ via the Internet.

- ? Fifteen of 25 respondents reported that they found out about SmarterEnergy™ through QC’s recruiting survey.
- ? Four of 25 respondents reported that they found out about it through a PG&E mailer.

- ? Three of 25 respondents reported that they discovered SmarterEnergy™ via the Internet. One of these respondents said that SmarterEnergy™ was linked to the CPUC Web site, and the other two discovered SmarterEnergy™ while exploring PG&E's Web site.

End-user Evaluation of SmarterEnergy™ Home Page

The majority of respondents identified either Equipment Guides or Technical Articles as the single most relevant topic for their business when reviewing the SmarterEnergy™ home page.

- ? Seven of 25 respondents identified Equipment Guides as the single most relevant topic for their business.
- ? Six of 25 respondents identified Technical Articles as the single most relevant topic for their business.
- ? Three of 25 respondents identified Other PG&E Programs as the single most relevant topic for their business.
- ? Supplier Checklist and Power Saving Partners were each identified by two of 25 respondents as the single most relevant topic for their business.
- ? Technology Database, Express Efficiency, Services for Customers, and Standard Performance Contract were each identified by only one of 25 respondents as the single most relevant topic for their business.

All respondents reported that the first action they would take at the SmarterEnergy™ home page would be to click on the areas they identified above as most relevant to their business.

While more than half of respondents felt that the main list of Business features on the home page is complete as it stands, many respondents reported that topics should be added to this list.

- ? Ten of 25 respondents reported that nothing needs to be added to the main list of Business features, and four of 25 respondents said that they “don't know” if anything needs to be added there.
- ? Six of 25 respondents reported rebate information and money saving tips should be added to the main list of Business features.
- ? Two of 25 respondents said that they would like to see regional PG&E or vendor contact information added to the main list of Business features.
- ? Information regarding deregulation and “the ability to scan or review your utility bill” were each mentioned by one of 25 respondents as a good thing to add to the main list of Business features.

End-user Evaluation of Equipment Guides

Thirteen respondents evaluated and commented on the Equipment Guides section. Only three of these respondents had visited Equipment Guides prior to the survey.

When asked to identify the most relevant topics to their business, the majority of respondents identified either the lighting or HVAC guides.

- ? Ten of 13 respondents reported that the lighting guide was the most relevant to their business.
- ? Eight of 13 respondents reported that either the central or packaged HVAC guide was the most relevant to their business.
- ? The office systems, motor and window-glazing guides were each identified by two of 13 respondents as the most relevant to their business.
- ? The refrigeration and food service guides were each identified by only one of 13 respondents as the most relevant to their business.

Only five respondents reported that something was missing from the Equipment Guide section. Missing items included an insulation guide, a current rebate programs guide, an energy management system guide, a small pumps guide and an energy consumption calculator tool.

While reviewing specific guides, the majority of respondents reported that the guides contained information that they would like to see. Only one respondent expressed dissatisfaction with one of the equipment guides, an HVAC guide, stating that it was “written to someone more technical” and that the guide should “focus more on how to use the system efficiently, than focus on the system itself.”

- ? Respondent comments regarding the central HVAC guide included: “It looks fairly detailed and would be applicable to us,” “It touches on everything and is really good,” and “It is nice that I can save 35% of my energy cost.”
- ? Respondent comments regarding the lighting guide included “There is a real good chart for comparing efficiency of various lamps,” “It is good information to have in one place, It defines terms” and “It is informative and provocative.”
- ? One respondent suggested that they would like to see a calculator tool that allows them to compare the dollar and energy savings of various lighting types.

End-user Evaluation of Technical Articles

Fourteen respondents evaluated and commented on the Technical Articles section. Only two of these respondents had visited the Technical Articles section prior to the survey.

All 14 respondents reported that the article categories and title arrangement make sense. However, one respondent made the following comment regarding Motors Articles: “Motor

articles - don't know what that is." Other comments regarding the Technical Articles section included:

- "I would like to see an article on induction lamps and xenon lamps."
- "I want to see a commercial buildings category."
- "This is missing information on deregulation."

Few respondents agreed on which article is the most relevant or interesting to their business. The general categories "HVAC Articles", "Lighting Articles" and "Motors Articles" were each reported by three of 14 respondents as most relevant or interesting, while one of 14 respondents reported the general category "Refrigeration/Food Service Articles" as most relevant and interesting. The following specific articles (all of them lighting-oriented) were reported as most relevant or interesting to their business by one respondent each:

- "Electronic Ballast Specification Guidelines"
- "Saving Energy Through the Use of Daylight Controls"
- "Automated On/Off controls for Lighting"
- "What are the Advantages of Using Electronic Ballasts for Fluorescent Lighting Systems"
- "Replacements for Incandescent Downlights in Lobby/Atrium Spaces"

Comments regarding articles reviewed included:

- "I would like to see comparisons between single and three-phase motors."
- "Add an update on adopted codes and ordinances that affect lighting design and installation."
- "How about some specific savings information (lighting article)."
- "I want a chart where I can plug in numbers and see what I can save (HVAC article)."
- "Use a larger font and use a different color. Small green font is hard to see. The article is very informative (lighting article)."
- "There is a lot of information here - this will help us find a ballast that won't fail."
- "Why is there nothing listed about what to do when the refrigerator shuts down? Why isn't dry ice listed as a viable solution for refrigerator problems?"

End-user Evaluation of Technology Database

Twelve respondents evaluated and commented on the Technology Database section. None had visited the Technology Database prior to the survey.

The majority of respondents reported that the technology database categories and organization make sense. Only one respondent felt that the technology database categories and organization did not make sense.

- ? Three of 12 respondents commented that the technology database was very technical, possibly too technical for non-engineering end users.

The majority of respondents that reviewed the Central AC and Electronic Ballast databases reported that these databases contain information that they would like to see.

- ? Four of 12 respondents were satisfied with the information included in the Central AC database. Their comments included: “It goes through a lot of manufacturers and is pretty easy to read,” “It is really detailed,” and “It is informative.”
- ? Of the two respondents that reported dissatisfaction with the Central AC database, one said that the choices need to be narrowed down, and the other said that the information listed would be difficult to use by anyone other than a distributor or installer.
- ? Three of 12 respondents reported that they were satisfied with the information included in the Electronic Ballast database. One of these respondents said that this database “is helpful if I am looking for ballasts that qualify for rebates.”
- ? The only respondent who reported dissatisfaction with the Electronic Ballast database made the following comment: “It directs me to Express for rebates and that is where I would have gone to in the first place, seeing Express on the front page.”

End-user Evaluation of Supplier Checklist and Supplier Directory

Nine respondents evaluated and commented on the Supplier Checklist section. None had visited the Supplier Checklist prior to the survey.

The majority of respondents reported that the Supplier Checklist is complete and clear as it stands. More than half of the respondents reported that the Supplier Checklist contains meaningful and relevant information. It should be noted, however, that four of nine respondents commented that the information presented in the Supplier Checklist is irrelevant because it is (or should be) common knowledge to anyone currently in business.

- ? One respondent made the following comment regarding adding contractor recommendations to the Supplier Checklist: “Give me the top four contractors in my area.”

All respondents expressed satisfaction with the Supplier Directory. Two of nine respondents commented that the suppliers they found via the Supplier Directory search were not local. Other comments regarding the Supplier Directory included:

- “It’s pretty good and very easy to use.”
- “The search found five companies within Butte County, some that I did not recognize.”
- “This is good – looks pretty well designed.”

End-user Evaluation of Other PG&E Programs

Nine respondents evaluated and commented on the Other PG&E Programs section. None had visited the Other PG&E Programs section prior to the survey.

When asked to identify the program summaries that seemed most meaningful and relevant to them, respondents most often mentioned Business Edge or Express (each mentioned by three of nine respondents).

- ? The SmarterEnergy™, Standard Performance Contract (offers incentive payments to small business customers who develop projects that deliver verified energy savings), Pump Testing Service (offers pump efficiency tests to agricultural water-pumping customers) and Commercial/Industrial New Construction (offers incentives to encourage owners, developers, architects, designers and engineers to incorporate energy-efficient technology into the building process) programs were each mentioned by two of nine respondents.

The Off-peak Cooling (provides financial assistance for installing a thermal energy storage system that shifts electric demand and energy used for cooling from on-peak to non-peak hours) and Power Saving Partners (offers complete, one-stop energy solutions including energy audits, recommendations for energy-efficiency measures, flexible financing, project management, installation and maintenance of measures, and measurement and verification of energy savings) programs were mentioned by one of nine respondents each.

- ? Five respondents evaluated the Business Edge program information, and four respondents evaluated the Express program information. In general, the respondents reported that the program information was useful, and that they would be likely to act upon it.
- ? Only one respondent reported that the program information for Business Edge was not useful, and that they would not be likely to act upon it.

Summary Opinions about SmarterEnergy

Respondents most often mentioned Equipment Guides as the SmarterEnergy™ feature that was most relevant and useful in addressing their business energy efficiency and cost management needs.

- ? Six of 25 respondents identified Equipment Guides as the most useful and relevant SmarterEnergy™ feature.
- ? Technology Database and Technical Articles were identified as the most useful and relevant SmarterEnergy™ feature by four of 25 respondents each.
- ? Five of 25 respondents reported that SmarterEnergy™'s most useful and relevant feature was information regarding other programs. Two respondents mentioned the general Other PG&E Programs section, two respondents specifically mentioned Express and one respondent specifically mentioned Business Edge.

Almost half of the respondents reported that nothing about the Web site was unclear or confusing. The most often mentioned sources of confusion were technical language and overwhelming amounts of information.

- ? Eleven of 25 respondents said that nothing was confusing or unclear about the Web site.
- ? Three of 25 respondents reported that the language on the Web site was too technical.
- ? Three of 25 respondents reported that navigating through such a large amount of information was confusing.
- ? Other sources of confusion, mentioned by one respondent each, included such things as small font, lack of clarity as to the goal of the Web site, lack of information regarding what to do during a power surge or shut down, computer illiteracy and difficulty finding information about rebate programs.

About half of the respondents reported that they found information on the SmarterEnergy™ Web site that they could not find elsewhere.

- ? Eleven of 25 respondents reported that they found information on SmarterEnergy™ that they could not find elsewhere such as a list of available products, the percentage savings rates for specific measures, information on PG&E programs, and available suppliers.
- ? Eight of 25 respondents reported that they did not find any information on SmarterEnergy™ that they could not find elsewhere. Some of these respondents specifically stated that they could get similar information by calling a manufacturer.
- ? Three of 25 respondents reported that they “didn’t know” if unique information could be found on SmarterEnergy™, because they either had not searched for this kind of information elsewhere, or they had not explored the entire SmarterEnergy™ Web site.

About one third of respondents reported that they would not change anything about, add anything to or delete anything from the SmarterEnergy™ Web site.

- ? Eight of 25 respondents reported that Smarter Energy web site was fine as it stands.
- ? Four of 25 respondents reported that they “didn’t know” if they would change anything about SmarterEnergy™. Two of these respondents specifically stated that they “didn’t know” because they had not explored the entire Web site.
- ? Two of 25 respondents reported that they want to have easy-access to fast, simple cost saving ideas for their business, via a “quick and easy fixes” or “cost saving ideas” section.
- ? Other individual suggestions for improvement included simplifying the terminology, adding an energy calculator tool to the business side, adding contact numbers, adding a method to view your utility bill, adding information about insulation, adding

technical articles that include engineering codes and methods updates, and deleting the Supplier Checklist.

Establishment of Baseline Metrics

Generally, respondents reported that SmarterEnergy™ is useful in searches for information regarding energy efficiency.

- ? On a scale of 1 to 10, where 1 means “not useful” and 10 means “extremely useful”, the mean rating was 7.3, a moderately but not exceptionally high rating.
- ? Thirteen of 25 respondents rated SmarterEnergy™'s usefulness in information searches as 8 or higher, a moderately but not exceptionally high proportion.

Respondents generally expressed confidence in the information they found on SmarterEnergy™.

- ? On a scale of 1 to 10, where 1 means “not confident” and 10 means “extremely confident”, the mean rating was 7.6, a moderately but not exceptionally high rating.
- ? Seventeen of 25 respondents rated their confidence in information found on SmarterEnergy™ as 8 or higher, a moderately but not exceptionally high proportion.

Respondents generally reported that it was easy to find appropriate vendors through SmarterEnergy™.

- ? On a scale of 1 to 10, where 1 means “not easy” and 10 means “extremely easy”, the mean rating was 7.4, a moderately high score.
- ? Ten of 25 respondents rated the ease of finding appropriate vendors through 8 or higher, a bit lower proportion than for the preceding “baseline” measures.

Respondents generally reported that it was easy to find product information relevant to their business on SmarterEnergy™.

- ? On a scale of 1 to 10, where 1 means “not easy” and 10 means “extremely easy”, the mean rating was 7.3, in line with preceding measures.
- ? Eleven of 25 respondents rated the ease of finding relevant product information 8 or higher, a moderately high proportion.

Respondents were somewhat more mixed about the likelihood of SmarterEnergy™ to influence energy-efficient investments at their business.

- ? On a scale of 1 to 10, where 1 means “not likely to influence” and 10 means “extremely likely to influence”, the mean rating was 6.5.
- ? Only six of 25 respondents rated SmarterEnergy™'s likelihood of influencing energy-efficient investments at their business an 8 or higher.

The majority of respondents reported that it was somewhat difficult to navigate through SmarterEnergy™.

- ? On a scale of 1 to 10, where 1 means “very easy” and 10 means “very difficult”, the mean rating was 6.3.
- ? Only four of 25 respondents rated the navigability of SmarterEnergy™ as “very easy” (defined here as 3 or lower), and 13 of 25 respondents rated the navigability as “very difficult” (defined here as 8 or higher).

At the same time, the majority of respondents reported that they were likely to return to SmarterEnergy™.

- ? On a scale of 1 to 10, where 1 means “not likely” and 10 means “extremely likely”, the mean rating was 8.1, a solidly positive overall score.
- ? Eighteen of 25 respondents rated their likelihood of returning to SmarterEnergy™ as 8 or higher, again indicating a positive intent to return overall.

When asked to report what other sources they used for gathering energy efficiency information, most respondents mentioned trade magazines, other PG&E sources, other Internet sources, and/or manufacturer literature.

- ? Thirteen of 25 respondents reported that they use trade magazines as a source for energy efficiency information. Four of these respondents specifically mentioned using *Energy User News*.
- ? Five of 25 respondents reported that they get energy efficiency information from manufacturer literature.
- ? Five of 25 respondents reported that they get energy efficiency information from PG&E via telephone calls or mailers.
- ? The Internet (vendor, manufacturer or government pages) was reported as a source of energy efficiency information by four of 25 respondents.
- ? Two of 25 respondents reported that they get energy efficiency information from peer recommendations.

The majority of respondents reported that they have at least some interest in energy-efficient measures.

- ? Eight of 25 respondents stated that they have “a lot of interest” in energy-efficient measures.

The majority of respondents reported that are at least somewhat confident that energy-efficient measures will save energy and money, and perform at least as well as standard efficiency measures.

- ? Twelve of 25 respondents stated that they are very confident that energy-efficient measures will save energy and money and perform comparably to standard efficiency measures.

The majority of respondents reported that they consider themselves to be at least somewhat knowledgeable regarding energy-efficient measures.

- ? Six of 25 respondents reported that they consider themselves to be very knowledgeable regarding energy-efficient measures.

When asked to identify the major reasons preventing them from considering or buying energy-efficient measures, the majority of respondents mentioned cost.

- ? Seventeen of 25 respondents identified cost as the major reason preventing them from considering or buying energy-efficient measures.
- ? Other barriers included doubts as to reliability, lack of information regarding the products, payback, availability, comfort issues, lack of manpower to install new products, and no need.

IMPLICATIONS OF END-USER SURVEY FINDINGS

A significant proportion of less-than-500-kW PG&E C/I customers are not currently in the addressable market for SmarterEnergy™. The main factors include lack of Internet access at work, insufficient interest in energy efficiency, and insufficient involvement in equipment replacement decisions. Once “addressable” end users were exposed to the SmarterEnergy™ Web site, they generally had a positive impression, although room for improvement remains (as with all fairly new products, and particularly evolvable Web-based products). The primary challenge remains attraction of target customers to the SmarterEnergy™ site, and secondarily the refinement of the site based on customer feedback (like these survey results), to maximize the visitor experience and resulting intent to visit again.

Based on end-user responses, *Energy User News* (a trade magazine) should be considered as a key awareness generation vehicle for SmarterEnergy™. Also, end users report that they visit manufacturers' Web sites, and therefore those manufacturers willing to provide a link to SmarterEnergy™ would potentially drive traffic to the site. The elements of SmarterEnergy™ that should be stressed in driving traffic to the site should include information on rebates and money-saving tips, equipment guides, technical articles and databases, and energy audits and calculators. Also, lighting and HVAC should receive primary attention in terms of site marketing, though obviously marketing messages can be customized to fit measure-specific links and trade publications.

Likewise, opportunities exist for refining site content and flow, based on end-user responses. While the PG&E site has a search function, placement of a search element on the SmarterEnergy™ home page would be beneficial. Similarly, an FAQ (frequently asked questions) section might be useful for new visitors, particularly if it is oriented to “how do I find...?” kinds of questions. This is because less technical or experienced visitors may not know the terms or words they need to look for within the site, in order to find what they need.

One respondent made the suggestion that a clear introduction and statement of purpose for SmarterEnergy™ might be helpful on the home page. This introduction could guide visitors to classify themselves as being novices, advanced, or experts in terms of energy efficiency criteria and products. Based on this self-classification, a targeted menu of suggested pages (or searches) could be provided. A more advanced approach would segment the “page paths” by this self-classification, so that novices are exposed to appropriately non-technical information, and experts to much more technical information. This kind of basic segmentation could significantly reduce the feeling among some novices that “this is beyond me,” and the feeling among some experts that “this is beneath me.”

6. CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

ASSESSMENT OF SmarterEnergy™ PROGRAM THEORY AND PERFORMANCE TO DATE

This chapter discusses QC's findings regarding the plausibility of the SmarterEnergy™ program theory, with a focus on barriers and early market effects indicators. Market barriers and market effects indicators were based on input from Program Manager interviews, broader knowledge about the small to mid-size C/I marketplace and the Web medium, and broader MT concepts and past projects. This chapter also addresses the degree to which hypothesized market barriers have been addressed to date.

In terms of overall program theory plausibility, the mission of SmarterEnergy™ to generate (1) greater end-user knowledge and consideration of high-efficiency options, (2) end-user confidence in information and providers, (3) direct end-user access to vendors, and (4) funding for MT initiatives, are generally valid and mutually reinforcing. At the same time, some “precursor” barriers exist that prevent full end-user and vendor engagement in the generally chronological process outlined above. (These and related ideas are discussed in more detail below under “Program Recommendations.”)

- Much in the same way that access to financing is a prerequisite to the purchase of most homes and automobiles, most small to mid-size businesses without deep pockets simply cannot or will not invest in high efficiency without some form of financing, even if convinced that it “makes sense.”
- The PG&E-branded audit being added to SmarterEnergy™ will help end users gauge how valuable energy efficiency can be, and prioritize potential investments. When fully realized, SmarterEnergy™ can have a powerful incremental effect on PG&E's MT initiatives, simply by creating a new and accessible conduit to BEMS-related audit tools. Availability of financing and the audit acts as a “gate” through which end users must pass, before they will invest more energy in learning more about high-efficiency measures, criteria, and suppliers.
- The more evidence that PG&E can provide about small to mid-size C/I end-user engagement in energy efficiency, in SmarterEnergy™, and in sponsoring vendors, the more interest potential sponsors will have in investing in the site. As vendors to the small to mid-size C/I segment see evidence of a growing energy efficiency market, any existing concerns about market uncertainty should be reduced, and vendors should be more willing to actively promote and recommend high-efficiency solutions with the confidence that small to mid-size C/I customers have access to financing and PG&E-branded audit results.

In terms of end-user barriers and market effects indicators early in the life of the program, we do not see substantial indicators of market effects to date, and would not have expected to at this point. Vendor and end-user input indicate that basic awareness and visitation of SmarterEnergy™ remains low among the small to mid-size C/I segment, which prevents the

site from addressing its targeted barriers on a widespread basis. As a result, the “downstream” end-user barriers are largely unimpacted, and concomitant market effects indicators are absent. Likewise, while participating (and nonparticipating) vendors have some positive associations with SmarterEnergy™, the fact that they perceive no real impact of the site on target end users in turn means they themselves do not feel significantly impacted. Substantially increased awareness of the SmarterEnergy™ site and benefits, along with expanded benefits themselves (see “Program Recommendations” below), are required before the program can fully address its targeted barriers and stated program goals.

Two other barriers not expressly addressed by SmarterEnergy™ in the small to mid-size C/I market deserve brief mention. As the MT process evolves in California, greater emphasis will be placed on end-user types not emphasized in past energy efficiency rebate programs and targeting. A barrier of greater prevalence and prominence in the small to mid-size C/I segment than among larger accounts is the issue of split incentives. In quantitative surveys with target end users in the companion BEMS and Express studies, the same degree of small customer uninvolvement in energy decisions was seen as in previous, similar studies. Building owners often drive energy efficiency decisions, instead of the smaller C/I end users who lease space from them. Therefore, SmarterEnergy™ may be particularly valuable to these smaller C/I end users if it can help them “package” information about the energy and non-energy benefits of energy-efficient investments in a format that is compelling to building owners.

Also, as stated above, QC believes that the absence of “catalyzing” tools like financing and audits can generate bounded rationality among busy small and mid-size C/I customers who may not have a great deal of discretionary cash flow or high-efficiency knowledge. Before these customers ever participate in an online audit or learn about the specifics of financing options, the mere fact that these elements exist can persuade them to further investigate high-efficiency options and benefits.

PROGRAM RECOMMENDATIONS

SmarterEnergy™ was developed with earlier voice-of-the-marketplace input, regarding site approach, layout, and content. Based on that input as well as a review of other, similar Web sites, SmarterEnergy™ appears to be, on one hand, uniquely positioned to integrate important information on energy-efficient products and providers for small and mid-size C/I customers. A particularly intriguing implication is the potential for SmarterEnergy™ to establish itself as the standard-bearer for integrated information, vendor linking (and perhaps eventually e-commerce). This might offer opportunities for extending the SmarterEnergy™ franchise outside PG&E territory, in turn expanding the geographic scope of potential MT funding sources for California, just as ad-based revenues from SmarterEnergy™ expand the sources of MT funding for California.

On the other hand, review of these other Web sites (which we acknowledge were developed based on an unknown degree of market input), as well as input from participating and nonparticipating vendors in PG&E territory, and targeted SmarterEnergy™ end users, indicates several opportunities for SmarterEnergy™ strategy to be enhanced in the near term:

- The primary challenge remains attraction of target customers to the SmarterEnergy™ site, and secondarily the refinement of the site based on customer feedback, to

maximize the visitor experience and resulting intent to visit again. Based on end-user responses, *Energy User News* (a trade magazine) should be considered as a key awareness generation vehicle for SmarterEnergy™. Also, end users report that they visit manufacturers' Web sites, and therefore those manufacturers willing to provide a link to SmarterEnergy™ would potentially drive traffic to the site. The elements of SmarterEnergy™ that should be stressed in driving traffic to the site should include information on rebates and money-saving tips, equipment guides, technical articles and databases, and energy audits and calculators. Also, lighting and HVAC should receive primary attention in terms of site marketing, though obviously marketing messages can be customized to fit measure-specific links and trade publications.

- Likewise, opportunities exist for refining site content and flow, based on end-user responses. While the PG&E site has a search function, placement of a search element on the SmarterEnergy™ home page would be beneficial. Similarly, a FAQ (frequently asked questions) section might be useful for new visitors, particularly if it is oriented to “how do I find...?” kinds of questions. This is because less technical or experienced visitors may not know the terms or words they need to look for within the site, in order to find what they need.
- One respondent made the suggestion that a clear introduction and statement of purpose for SmarterEnergy™ might be helpful on the home page. This introduction could guide visitors to classify themselves as being novices, advanced, or experts in terms of energy-efficiency criteria and products. Based on this self-classification, a targeted menu of suggested pages (or searches) could be provided. A more advanced approach would segment the “page paths” by this self-classification, so novices are exposed to appropriately non-technical information, and experts to much more technical information. This kind of basic segmentation could significantly reduce the feeling among some novices that “this is beyond me,” and the feeling among some experts that “this is beneath me.”
- Addition of BEMS-related audits (as planned) will be an obvious benefit that appeals to end users and may be an important conduit to generating greater end-user knowledge about (and interest in) high-efficiency products, criteria, and providers. Other interactive tools in this vein (e.g., energy calculators) will generate greater visitor engagement with the site as well.
- PG&E should fix any bugs, and/or complete remaining links, between specific measures and their Express counterparts. At some points during QC’s visits to the site, there were problems linking from some measure topic areas to rebate program elements. In general, links to incentive programs should be made more prominent and explicit.
- Although this suggestion requires more open-ended concept testing, comparison, and contrasting than possible within the scope of this work, PG&E should explore ways to add more “pizzaz” to the site as a whole.
- We understand that financing for energy-efficient measures is an issue broader in scope than the SmarterEnergy™ program. At the same time, to the extent possible,

affiliated financing sources should be linked to the SmarterEnergy™ site, so end users will not cut short their shopping process because of financing concerns.

- We know that strategies have been under consideration for hot-linking the site to popular search engines and appropriate third party Web sites. QC urges aggressiveness in developing these links as a means of increasing and broadening the number and types of end users who may encounter the site. As links to other sites will likely drive some out-of-territory traffic to SmarterEnergy™, this may have the added benefit of setting the stage for geographic expansion.
- PG&E should consider asking visitors for permission to contact them proactively via e-mail, based on some acceptable criteria for frequency and topics of interest. In this way high-potential prospects can “self-select,” and PG&E will have more opportunity to engender repeat visits and ongoing dialogue with them. On PG&E’s part, this will offer a ready opportunity to communicate new information about the site or related energy efficiency programs and activities. It also can decrease bounded rationality by maintaining an open channel with busy small business owners who may not have or take the time to proactively re-visit SmarterEnergy™ to keep up to date on new program benefits.
- PG&E should consider something along the lines of an active “SmarterEnergy™ advisory committee,” as a supporting mechanism for enrolling and engaging vendor support for the SmarterEnergy™ mission. This committee would involve a genuine investment of time, energy, and thought on behalf of the vendors, and not just represent passive involvement. While we recognize legal barriers may exist, this might be a palatable – and justifiable – approach toward allowing vendor differentiation, which will make SmarterEnergy™ participation more valuable to them.
- Offering a “yellow pages/white pages” fee-paid vendor distinction in future versions of SmarterEnergy™ will allow PG&E to actively promote vendor search functions, given the more expanded vendor coverage that will then be available.
- Perhaps most important, PG&E should orchestrate as many of these tactics as are practical in the near term, in order to bolster SmarterEnergy™ end-user awareness and interest through a second wave of direct and/or mass communications to end users. Based on consumer behavior in similar applications, the absence of obvious information about financing (as with the absence to date of online audit tools) can be a short-term barrier to end-user purchase of high-efficiency measures. In addition, absence of “catalysts” like financing and audits (as well as the rebates that MT will supplant) can be a barrier to longer-term end-user education about, consideration of, and shopping for high efficiency – in other words, to the stated purpose of SmarterEnergy™.
- The tactics above also will have the effect of generating greater vendor confidence, though it may increase their expectations as well (which, as always, must be managed). The supply side barrier of “market uncertainty” is a key one to address in achieving the longer-term goal for SmarterEnergy™ as a source of funds for generating a “virtuous cycle” and increasing investments in MT. PG&E must continue

to take the lead in making visible investments in the energy efficiency sector (through SmarterEnergy). In this way, PG&E can persuade vendors to follow its lead and co-invest in SmarterEnergy™ and related MT initiatives.

- PG&E should revisit the option of placing a “cookie” onto visitors’ browsers. (A “cookie” is a text-only character string that is entered into a Web browser’s memory, including the domain, path, lifetime, and value of a variable set at a Web site. The cookie enables individual site visitors to be recognized during subsequent visits; browsers typically make visitors aware of cookie placement and/or provide an “opt-out” option). In this way, repeat visitors (including PG&E employees) can be recognized, which will help (1) quantify the population of unique visitors, and (2) identify meaningful patterns that may exist across repeat visits, to be leveraged in refining SmarterEnergy™ strategy and content. This will be of heightened value as additional content elements are added, and as linking strategies are executed (thereby broadening the base of SmarterEnergy™ visitors).
- In conclusion, PG&E should consider targeted market research among end users in territories served by utilities that have provided financing and audit elements online (see Chapter 3). Research among both small to mid-size end users, as well as among vendors to this segment, may yield useful insights for SmarterEnergy™ refinement.

***A. SmarterEnergy™ END-USER, SUPPLY-SIDE PARTICIPANT AND SUPPLY-SIDE
NONPARTICIPANT SURVEY INSTRUMENTS***

SmarterEnergy End-User Survey - 4/20/99

Introduction and Background (1 minute)

RESPONDENT SHOULD HAVE COMPUTER READY, BUT THEY SHOULD NOT YET BE LOOKING AT THE SMARTER ENERGY SITE.

1. How many times have you visited the SmarterEnergy Webster?

2. Approximately how long ago did you first visit SmarterEnergy?

3. How did you find out about SmarterEnergy? (if respondent mentions search engine or link from other Web site ask them to be specific)

4. What originally prompted the search that led you to SmarterEnergy? Was it
General curiosity _____
Imminent equipment replacement need _____
Change in company or job status _____
Searching for personal or home needs _____
Other _____

SmarterEnergy Site Tour (10 minutes)

(GO TO SITE - FRONT DOOR)

REMIND RESPONDENT THAT WE ARE FOCUSING ON BUSINESS INFORMATION ONLY.

5. What is the single most relevant piece of information for your business here?

6. Given your interests, what action would you FIRST take here (don't DO it – just say what you would do)?

7. Is there anything that ought to be in the list of main Business features, but does not appear to be ?

NOW CLICK ON “EQUIPMENT GUIDES”

8. Have you visited this part of SmarterEnergy before?

9. Which is/are the most relevant topics to your business?

10. What, if anything, seems to be missing?

Click on one of the guides (central HVAC , packaged HVAC , lighting etc. - this may be driven by respondent's interest area). Have the respondent skim over the guide.

11. Is this what you'd want to see? Do you have any comments?

NOW CLICK ON “TECHNICAL ARTICLES”

12. Have you visited this part of SmarterEnergy before?

13. Please look over the technical article *categories* and the way article titles are arranged – do they make sense? Do you have any comments?

14. Please look over the lighting (HVAC? Motors?) article titles. Which article is the most relevant or interesting to your business?

Click on that article

15. Is this what you'd want to see? Do you have any comments?

NOW CLICK ON “TECHNOLOGY DATABASE”

16. Have you visited this part of SmarterEnergy before?

17. Do the technology database categories and the way they are organized make sense to you?

Please click on the electronic ballast (Central AC? Motors?) database listing.

18. Is this what you'd want to see? Do you have any comments?

NOW CLICK ON "SUPPLIER CHECKLIST"

19. Have you visited this part of SmarterEnergy before?

20. Please scan this page for a moment. Does this seem like meaningful, relevant information to your business?

21. Is anything missing?

22. Is anything irrelevant or confusing?

Go to the bottom of the page and click on “supplier directory”

23. Is this what you'd want to see? Do you have any comments?

NOW CLICK ON “OTHER PG&E PROGRAMS” (note : you need to back out to the supplier checklist main page to do this)

24. Have you visited this part of SmarterEnergy before?

25. Please scan this page for a moment. Which program summaries seem most meaningful and relevant to you?

Click on Business Edge / Express Efficiency (alternate between these two programs)

26. Do you find this program information useful?

27. Would you be likely to act upon this program information?

Review (2 minutes)

CLICK ON HOME TO GET BACK TO SMARTERENERGY FRONT DOOR

28. Which SmarterEnergy feature is most relevant and useful in addressing your business' energy efficiency and cost management needs?

29. What was the most unclear or confusing part of this Webster?

30. Did you find any information on this Webster that you could not find elsewhere?

31. What else would you change about, add to, or delete from this Webster?

Closing and Baseline (2 minutes)

32. Compared to other Web sites and non-Web sources, how would you rate SmarterEnergy's usefulness in searches for information regarding energy efficiency? Please use a scale of 1 to 10, where 1 means "not useful" and 10 means "extremely useful".

33. How would you rate your confidence in the information you found on the SmarterEnergy Webster. Please use a scale of 1 to 10, where 1 means "not confident" and 10 means "extremely confident".

34. Using a scale of 1 to 10, where 1 means “not easy” and 10 means “extremely easy”, please rate the ease in finding reliable and appropriate vendors through SmarterEnergy?

35. Using the same scale of 1 to 10, please rate the ease in finding specific product information that is relevant to your business through SmarterEnergy?

36. How would you rate SmarterEnergy’s likelihood of influencing energy efficient investments at your business? Please use a scale of 1 to 10, where 1 means “not likely to influence ” and 10 means “extremely likely to influence”.

37. Using a scale of 1 to 10, where 1 means “very easy” and 10 means “very difficult ”, please rate the ease or difficulty of navigating through the SmarterEnergy Webster.

38. Using a scale of 1 to 10, where 1 means “not likely” and 10 means “extremely likely”, please rate your likelihood of returning to the SmarterEnergy Webster.

39. What other sources do you use for energy efficiency information (Web or other?)

40. How much interest do you have in high efficiency products like high efficiency heating and cooling, lighting, windows and window treatments?

A lot of interest _____

Some interest _____

Little or no interest _____

41. How confident are you that high efficiency products will perform at least as well as standard efficiency products, and save energy and money?

Very confident _____

Somewhat confident _____

Have little or no confidence _____

42. How knowledgeable do you consider yourself to be regarding high efficiency products?

Very knowledgeable _____

Somewhat knowledgeable _____

Have little or no knowledge _____

43. What would you say is the major reason(s) (if any) preventing you from considering/buying high efficiency products? (please probe for product information, vendor information, financing, performance uncertainty, whatever else they might mention).

First reason _____

Second reason _____

44. Are you a PG&E customer? (if not, specify which utility)

45. What is your job title?

THANK AND TERMINATE

SMARTERENERGY Participant Vendor Survey

SmarterEnergy Site/Concept - Participants

(1) Basic reactions to the overall concept...

Is this how you think of SmarterEnergy?

yes _____ no _____

(1a) Why and why not?

(1b) Does it seem relevant to customers, to your business, do elements seem to fit with each other and with purpose?

(2) How many times have you visited the SmarterEnergy site?

(2a) What are basic reactions (if any) to the site?

(2b) What would you add/delete/change? (**Spend as Much Time as Needed Here – Not Averse to Them Dialing Up The Site And Talking About It If They're Willing**)

add _____ delete _____ change _____

(2c) How well do you believe it addresses the barriers we discussed (above), in terms of doing HE jobs with small and mid-size businesses?

(2d) What were factors considered regarding sponsorship?

(2e) What were any significant concerns, and where do you stand on those now?

(2f) How is it meeting your initial expectations? (Please probe the respondent for specifics here - what were their expectations, which ones were met, which ones weren't ect.)

(3) At this point, how do you see SmarterEnergy fitting with your marketing and sales strategy?

(3a) Does it complement your other marketing strategies?

(3b) Replace something?

(3c) Is it a clear addition?

yes _____ no _____

(4) What kind of impact did you expect this kind of site to have in creating awareness among small/mid businesses for your firm?

(4a) Prospect quantity? (we want answers to this in percentages, and relative to what baseline)

(4b) Prospect quality? (we are interested in more specifics.)
high _____ medium _____ low _____

(4c) Are clients they have gotten through this site desirable? (as in easy or difficult to work with.)

(4d) Do they spend money? Ect.

(4e) Are they better/same/worse/different than other clients?
better _____ same _____ worse _____ different _____

(5) How are results matching expectations in terms of prospect quality? **(These Prospect Quality/Quantity Issues Are Very Important – Focus Them Back on HE Work With Small And Mid-Sized Businesses.)**

(5a) How are results matching expectations in terms of prospect quantity? (we are trying to get an idea of how many and what kind of customers they expect to get, and how many/what kind they actually got.)

(6) Do you hear about SmarterEnergy from other contacts – customers, others you do business with?

(6a) Do you talk to customers/prospects or others about the site and your participation/listing?

(7) Have you made any changes in selling strategies or product stocking as a result of your listing on the SmarterEnergy website?

(8) How could SmarterEnergy be changed or improved to be a more valuable sales and marketing tool for your business?

Thank You at this point.

(9) Any other comments/suggestions?

(9a) Based on the kinds of things we have discussed today, what else should we ask other people that we interview?

(10) Confirm # of employees?

1 to 5 _____ 6 to 10 _____ 11 to 20 _____ 21 to 50 _____
51 to 100 _____ 100+ _____

SMARTERENERGY NON-PARTICIPANT VENDOR SURVEY

SmarterEnergy Site/Concept - Nonparticipants

(1) What is your basic reaction to the overall concept - relevance to customers, to your business, do elements seem to fit with each other and with purpose?

good _____ fair _____ bad _____

(2) Does the connection with PG&E make sense to you?

yes _____ no _____

(3) Based on this overview, how well would you expect it to address (important barriers mentioned earlier), in terms of doing HE jobs with small and mid-sized businesses?

good _____ fair _____ bad _____

(4) What kinds of customers would you expect to visit and use it?

(5) What would you expect them to do as a result of their visits?

(6) Have you heard of the SmarterEnergy site?

yes _____ no _____

(7) Have you visited it?

yes _____ no _____

(8) What are basic reactions (if any) to the site?

(9) What would you add/delete/change?

add _____ delete _____ change _____

(10) Have you received marketing materials from PG&E on sponsorship?

yes _____ no _____

(11) If so, what were factors considered regarding sponsorship?

(12) Seriously considered sponsorship?

(13) If so, why didn't you do it?

(14) What, if anything would be a reasonable fee for being listed on the site as described (looking for general ideas, not some "commitment")?

(15) Based on whatever experience you may (or may not) have had with SmarterEnergy, as well as the overview description, how would you see this fitting with your marketing and sales strategy?

(16) Would it complement other elements?

yes _____ no _____

(17) Replace something?

(18) Be a clear addition to your marketing mix? _____

yes _____ no _____

(19) What kind of impact would you expect this kind of site to have in creating awareness for your firm?

(20) What would you expect in terms of prospect quantity?

(21) Prospect quality?

(22) Do you hear about SmarterEnergy from other contacts – customers, others you do business with?

other contacts _____ customers _____ others you do business with _____

(23) How would SmarterEnergy need to change in order to for you to see it as a useful and valuable marketing tool?

***B. SmarterEnergy™ END-USER, SUPPLY-SIDE PARTICIPANT AND SUPPLY-SIDE
NONPARTICIPANT SURVEY DATA DISTILLATIONS***

End-User Survey Data Distillations

Introduction/Background	web1	web3	web4	web 5	web6
1. How many times visited SE	1 time	12 times	2 times	1 time	none
2. How long ago did you first visit SE	2 weeks	2 months	2 weeks	yesterday	na
3. How did you find out about SE	PG&E postcard	from people in the office -we do EE programs for various cities - if you go into the CPUC they have links to it-governmental Web sites have links back to utility Web sites	a bulletin in my bill	from QC's recruiting survey	from QC's recruiting survey
4. What originally prompted the search that led you to SE	general curiosity and postcard from PG&E	it is direct program info that we provide to out clients	general curiosity	this survey	general curiosity
Front Door	web1	web3	web4	web 5	web6
5. Single most relevant piece of info for your bus here	Services for customers	standard performance contract	other PG&E programs	technology database	Express Efficiency
6. What action would you first take here	Click the "services for customers" link	click the "Standard Performance Contract" link	click on " other PG&E programs" link	click on "technology database"	click on "Express Efficiency"
7. Is there anything that ought to be in list of main bus features but appears not to be	Information on how to save money should be on first page	no	how to conserve energy and lower your bill/ rebate programs for small businesses	calculating submetering costs - and regional office contacts]	there is nothing that says what to click on to find information about rebates
Equipment Guides	web1	web3	web4	web 5	web6
8. Have you visited this part of SE before	no	yes	no	no	
9. What are the most relevant topics to your bus	lighting, window glazing systems, office systems, central hvac guides.	lighting and packaged AC guides	central hvac guide	AC, office equipment, lighting	
10. What seems to be missing	nothing stands out	nothing	current rebate programs	tools that calculate energy consumption/costs designed for C/I customers	
Evaluate specific guide	web1	web3	web4	web 5	web6
11. Is this what you'd want to see? Comments	(central hvac guide)No, its written to someone more technical, who would be installing an HVAC system or part of a new construction project. Should focus more on how to use the system efficiently, rather than the system itself.	(lighting guide) don't know if there is a calculator screen where you can compare the dollar and energy savings of various lighting types	(central hvac guide) yes - its nice I can save 35% of my energy cost	(central hvac guide) yes it looks fairly detailed and would be applicable to us	
Technical Articles	web1	web3	web4	web 5	web6
12. Have you visited this part of SE before	no	no	no		
13. Does the arrangement of the articles makes sense? Comments	yes, no comments	yes - its all there	yes -no comments		

End-User Survey Data Distillations

14. Which article is most relevant to your business	automated on/off controls for lighting.	advantages of using electronic ballast	hvac articles		
Evaluating specific article	web1	web3	web4		web6
15. Is this what you'd want to see? Comments	yes, no comments	yes - but how about some specific savings information	for technical stuff I like to rely on a contractor - still looking for rebate programs - want a chart where I can plug in numbers and see what I can save		
Technology Database	web1	web3	web4	web 5	web6
16. Have you visited this part of SE before	no		no	no	no
17. Do the database categories and the way they are organized make sense	yes		yes	yes - except for the PTAC database - I don't know what they are talking about	no I don't know what any of this is - I am not too technical - I don't know what it can do to help me
Evaluate specific database listing	web1		web4	web 5	web6
18. Is this what you'd want to see	(electronic ballast) Looks ok. I have no interest in lighting database.		(central AC database) no - I don't know how to narrow down all the choices - I want them to narrow it down	PTAC - doesn't look detailed, don't understand what they are referencing (cooling capacity and btu hours)	(electronic ballast) - not really. It directs me to express efficiency for rebates and that is where I would have gone to in the first place, seeing express efficiency on the front page
Supplier Checklist	web1	web3	web4	web 5	web6
19. Have you visited this part of SE before	no		no		no
20. Does this seem like meaningful, relevant info to your bus	yes		it is common knowledge - I already know everything here		it looks basic - it is stuff you should already know
21. Is anything missing	no		yes - recommendations - give me the top 4 contractors in my area		no

End-User Survey Data Distillations

			the whole thing - you cannot be in business w/out already knowing the info on this page		
22. Is anything irrelevant or confusing	looks pretty good				no
Evaluate Supplier Directory	web1	web3	web4	web 5	web6
23. Is this what you'd want to see? Comments	yes, this is good, looks pretty well designed.		yes - these are only equipment distributors and not the local contractor/installer		
Other PG&E Programs					
24. Have you visited this part of SE before	no		no		
25. Which program summaries seem most meaningful and relevant to you	Standard performance contracts, business edge.		express		
Evaluate either Business Edge or Express					
26. Do you find the program info useful	yes (exp)		yes (bus edge)		
27. Would you be likely to act upon this program info	possibly		yes		
Review	web1	web3	web4	web 5	web6
28. Which SE feature is most relevant and useful in addressing your bus EE and cost management needs	Express Efficiency		business edge		
29. What was the most unclear or confusing part of this Web site	Looks pretty good. Some of the equipment guides are probably confusing, too technical. It should address specifically how I can save money on the front page		getting through the rhetoric		
30. Did you find any info on this Web site that you could not find elsewhere	yes, information on the programs PG&E offers		probably not - I would rather do this on the phone for 1/2 an hour trying to get relevant info		

End-User Survey Data Distillations

31. What would you change, add or delete?	I would add a section addressing cost savings ideas, or offer a service to provide cost saving ideas to non technical individuals in small businesses.		the typical businessman knows more than they are assuming in the Web site - some things ca be left out(supplier checklist)		
Baselining	web1	web3	web4	web 5	web6
32. Rate SE usefulness in searches for EE info(compared to other sources)	6		8	5	3
33. Rate your confidence in the info you found on SE	8		10	7	3
34. Rate ease of finding reliable and appropriate vendors via SE	6		9	dk	na
35. Rate the ease of finding specific product info relevant to your bus via SE	6		7	5	4
36. Rate SE's likelihood of influencing EE investments for your bus	4		8	7	3
37. Rate ease or difficulty of navigating through SE	7		9	8	5
38. Rate your likelihood of returning to SE	5		10	10	4
39. What other sources do you use for EE info	I use periodical info sent by PG&E, no other method		my business association's newsletters/recommendations and peer recommendations	Electrical Contracting and Maintenance magazine, Power Quality magazine	we are owned by a corporation that has experts in different fields - also other restaureateurs
40. How much interest do you have in HE products	little or no interest, because I don't want to spend money to save money		a lot	some	some
	web1	web3	web4	web 5	web6
41. How confident are you that HE products will perform as well as standard products,save money/energy	somewhat confident		somewhat confident	somewhat confident	somewhat confident
42. How knowledgeable do you consider yourself to be regarding HE products	little or no knowledge		little or no knowledge	somewhat knowledgeable	little or no knowledge
43. What are main reasons preventing you from buying HE products	cost and the inconvenience		none	return on investments and reliability	cost and no need to change
44. Are you a PG&E customer	yes		yes	yes	yes
45. What is your job title	Director of Finance		owner	facilities maintenance engineer	manager
ZIPCODE	95762	94618	93635	94577	94109

End-User Survey Data Distillations

Introduction/Background	web 7	web8	web9	web10	web11	web12
1. How many times visited SE	3 times	none	2 times	6 times	none	none
2. How long ago did you first visit SE	one week	na		1998		
3. How did you find out about SE	from QC's recruiting survey	from QC's recruiting survey	from one of our bills	through a class at the Pacific Energy Center on Howard Street	from QC's recruiting survey	from QC's recruiting survey
4. What originally prompted the search that led you to SE	general curiosity	QC's recruiting survey	we manage 28 different properties	general curiosity		general curiosity
Front Door	web 7	web8	web9	web10	web11	web12
5. Single most relevant piece of info for your bus here	power saving partners	anything with efficiency	other PG&E programs	equipment guides		technical articles
6. What action would you first take here	click on "power saving partners"	click in "power saving partners"	click on "power saving partners"	click on "equipment guides"		click on "technical articles"
7. Is there anything that ought to be in list of main bus features but appears not to be	no	the ability to scan/review your bill	no - it is fine the way it is	no - it is fine		information on rebates
Equipment Guides	web 7	web8	web9	web10	web11	web12
8. Have you visited this part of SE before			no	yes	no	
9. What are the most relevant topics to your bus			central hvac, packaged hvac and lighting	lighting guide	lighting and hvac	
10. What seems to be missing			nothing	nothing	nothing	
Evaluate specific guide	web 7	web8	web9	web10	web11	web12
11. Is this what you'd want to see? Comments			central hvac- central hvac is spelled wrong	lighting guide - it is good info to have in one location	hvac guide - yes	
Technical Articles	web 7	web8	web9	web10	web11	web12
12. Have you visited this part of SE before	no	no	no	yes	no	no
13. Does the arrangement of the articles makes sense? Comments	yes - no comments	don't know what motor articles is - the rest make sense	it looks fine	yes - I would like to see an article on induction lamps and xenon lamps	yes	yes - I would look at more at motors than lighting or hvac articles

End-User Survey Data Distillations

14. Which article is most relevant to your business	lighting	saving energy through the use of daylight controls	efficient commercial ac systems	lighting and motors	ac systems	motor articles
Evaluating specific article	web7	web8	web9	web10	web11	web12
15. Is this what you'd want to see? Comments	it would not all pertain to our business - straight t-5 lamps would be geared towards our office building, but not our billboards	it is an interesting concept as a way to save money	no comments - it is fine	lighting - these are good topics - perhaps need to add an update on adopted codes and ordinances that effect lighting design and installation	yes	motors - I would like to see comparisons between single and 3 phase motors
Technology Database	web 7	web8	web9	web10	web11	web12
16. Have you visited this part of SE before		no				no
17. Do the database categories and the way they are organized make sense		yes				yes - it is set up for technical people and engineering types
Evaluate specific database listing	web 7	web8	web9	web10	web11	web12
18. Is this what you'd want to see		(central ac) - sure - it is really detailed				(central ac) - much of our equipment isn't listed here - it is antiquated, I look got s Trane unit and it only gave me the one I selected
Supplier Checklist	web 7	web8	web9	web10	web11	web12
19. Have you visited this part of SE before						
20. Does this seem like meaningful, relevant info to your bus						
21. Is anything missing						

End-User Survey Data Distillations

22. Is anything irrelevant or confusing						
Evaluate Supplier Directory	web 7	web8	web9	web10	web11	web12
23. Is this what you'd want to see? Comments						
Other PG&E Programs	web 7	web8	web9	web10	web11	web12
24. Have you visited this part of SE before	no					
25. Which program summaries seem most meaningful and relevant to you	Business Edge					
Evaluate either Business Edge or Express						
26. Do you find the program info useful	BE - yes					
27. Would you be likely to act upon this program info	if it is within the realms of our business we would most likely use this					
Review	web 7	web8	web9	web10	web11	web12
28. Which SE feature is most relevant and useful in addressing your bus EE and cost management needs	other PG&E programs	Express Efficiency sounds like a money saving deal - I would start there	technology database	technology database	HVAC guide	technical articles and the technology database
29. What was the most unclear or confusing part of this Web site	you need to browse throughout the whole thing to see how it applies to your type of business	I was not expecting it to be so technical - I though it would be more about how to save money on your bill	nothing	nothing	nothing - it is pretty clear	it is pretty easy compared to other web sites
30. Did you find any info on this Web site that you could not find elsewhere	no	I haven't looked around	yes - a listing of the various products that are available on the market	no - this info can be found elsewhere	yes - the saving percentage rate per unit and what the new laws are for this year	internal programs for PG&E &E

End-User Survey Data Distillations

31. What would you change, add or delete?	I can't answer that - I really need to go through everything first	I would add a method to view your bill (comparisons of prior years, suggestions for improvement)	it looks like it covers everything we need	add more technical articles with updates in the engineering field (new codes/methods)	nothing	no comments
Baselining	web 7	web8	web9	web10	web11	web12
32. Rate SE usefulness in searches for EE info(compared to other sources)	6	8	8	10	8	8
33. Rate your confidence in the info you found on SE	8	10	8	8	9	8
34. Rate ease of finding reliable and appropriate vendors via SE	5	9	7	10	10	na
35. Rate the ease of finding specific product info relevant to your bus via SE	5	9	8	9	10	9
36. Rate SE's likelihood of influencing EE investments for your bus	7	8	10	7	10	5
37. Rate ease or difficulty of navigating through SE	8	1	10	1	8	9
38. Rate your likelihood of returning to SE	8	8	10	9	8	10
39. What other sources do you use for EE info	none - just PG&E	none	10	Lighting Design and Application magazine, manufacturers product literature, engineering seminars, catalogues , Energy User News, engineering reference books	none	DOE, Energy Users Magazine
40. How much interest do you have in HE products	some	some	a lot	some	some	little or no interest
	web 7	web8	web9	web10	web11	web12
41. How confident are you that HE products will perform as well as standard products,save money/energy	somewhat confident	very confident	very confident	somewhat confident	somewhat confident	very confident
42. How knowledgeable do you consider yourself to be regarding HE products	somewhat knowledgeable	little or no knowledge	somewhat knowledgeable	very knowledgeable	somewhat knowledgeable	very knowledgeable
43. What are main reasons preventing you from buying HE products	research and cost	additional cost	no reason	doubts as to reliability, cost	cost, efficiency and feasibility	cost, manpower to install the equipment
44. Are you a PG&E customer	yes	yes	yes	yes	yes	yes
45. What is your job title	operations dept assistant	vice president administration	assistant property manager	electrical engineer	operations supervisor	manager of field maintenance operations
	94607	93901	95401	95112	95388	94061

End-User Survey Data Distillations

Introduction/Background	web13	web14	web15	web16	web17
1. How many times visited SE	none	none	none	once	none
2. How long ago did you first visit SE				a week ago	
3. How did you find out about SE	from QC's recruiting survey	from QC's recruiting survey	our corporate rep sent me info on rebates and energy updates	from QC's recruiting survey	from QC's recruiting survey
4. What originally prompted the search that led you to SE	QC's recruiting survey		QC's recruiting survey	general curiosity	searching for personal or home needs
Front Door	web13	web14	web15	web16	web17
5. Single most relevant piece of info for your bus here	technical articles	technical articles	nothing - most likely equipment guides	equipment guides	equipment guides
6. What action would you first take here	click on "technical articles"	click on "technical articles" or "technology database"	click on "equipment guides"	click on equipment guides	click on equipment guides
7. Is there anything that ought to be in list of main bus features but appears not to be	no	I don't know	rebate program information - list "energy rebate programs" so that people don't have to search for it	contact information	something like "money saving tips for business"
Equipment Guides	web13	web14	web15	web16	web17
8. Have you visited this part of SE before				no	no
9. What are the most relevant topics to your bus				lighting guides	food service guide
10. What seems to be missing				nothing	information on insulation
Evaluate specific guide	web13	web14	web15	web16	web17
11. Is this what you'd want to see? Comments				(lighting) yes - there is a lot of information on EE	(lighting) yes - it is informative and provocative
Technical Articles	web13	web14	web15	web16	web17
12. Have you visited this part of SE before		no			no
13. Does the arrangement of the articles makes sense? Comments		yes- but I want to see a "commercial buildings" category			yes

End-User Survey Data Distillations

14. Which article is most relevant to your business		motors - especially asd's, sizing a motor correctly, motor maintenance and rewind vs. replace			lighting - replacing for incandescent downlights in atrium spaces and accent lighting
Evaluating specific article	web13	web14	web15	web16	web17
15. Is this what you'd want to see? Comments		(asd's) - the sections 'type of asds' and 'using asds' are basically the same information - a little redundant			use a larger font and use a different color (small green font is hard to see) - the article is informative
Technology Database	web13	web14	web15	web16	web17
16. Have you visited this part of SE before		no	no		
17. Do the database categories and the way they are organized make sense		yes	yes - but I would have found this by mistake - the site did not lead me here - it should be called "rebate categories" - who is PG&E e targeting because this is extremely technical		
Evaluate specific database listing	web13	web14	web15	web16	web17
18. Is this what you'd want to see		(central ac) - this is kind of nice - it goes through a lot of manufacturers, pretty easy to read	(central ac) - how does anyone other than an installer or distributor use this info? How will the normal customer know which specs to meet, how many btus to use?		
Supplier Checklist	web13	web14	web15	web16	web17
19. Have you visited this part of SE before	no		no		
20. Does this seem like meaningful, relevant info to your bus	it looks good		no - I do this everyday - I don't need to search a Web site for this info		
21. Is anything missing	no		no - but is redundant information		

End-User Survey Data Distillations

22. Is anything irrelevant or confusing	no		no		
Evaluate Supplier Directory	web13	web14	web15	web16	web17
23. Is this what you'd want to see? Comments	yes - the search found 5 companies within Butte country - some that I did not recognize		if I didn't have a clue it would be a good search tool - no Napa people are listed - now I know it is a paid listing and that is why no Napa people are listed		
Other PG&E Programs	web13	web14	web15	web16	web17
24. Have you visited this part of SE before	no			no	
25. Which program summaries seem most meaningful and relevant to you	power saving partners			express efficiency	
Evaluate either Business Edge or Express					
26. Do you find the program info useful	yes (exp)			yes (exp)	
27. Would you be likely to act upon this program info	yes - I would see what the next subjects are			yes	
Review	web13	web14	web15	web16	web17
28. Which SE feature is most relevant and useful in addressing your bus EE and cost management needs	the list of vendors	technology database	none	equipment guides	equipment guides
29. What was the most unclear or confusing part of this Web site	nothing	nothing	its goal - databases are good, for inexperienced people search tools are good	typical Web site - just trying to find your way around at first	font is too small
30. Did you find any info on this Web site that you could not find elsewhere	yes - available suppliers	No - I can find out SEER by calling manufacturer, but it is easier to look at a screen than make 20 phone calls	no	yes - haven't looked elsewhere so it is all new	yes - different changed is lighting

End-User Survey Data Distillations

31. What would you change, add or delete?	no	I can't say - I haven't really been through the Web site enough	since I don't know the goal I don't know what to change	add contact numbers "how to reach us"	quick and easy fixes - things that can save you money and can be done very quickly. Also include insulation
Baselining	web13	web14	web15	web16	web17
32. Rate SE usefulness in searches for EE info(compared to other sources)	8	9	7	7	5
33. Rate your confidence in the info you found on SE	7	10	5	7	8
34. Rate ease of finding reliable and appropriate vendors via SE	8	10	7	5	6
35. Rate the ease of finding specific product info relevant to your bus via SE	6	10	5	5	8
36. Rate SE's likelihood of influencing EE investments for your bus	5	6	3	6	7
37. Rate ease or difficulty of navigating through SE	8	10	9	4	6
38. Rate your likelihood of returning to SE	8	10	1	7	7
39. What other sources do you use for EE info	Trade magazines, Ashrae, maintenance management for facilities engineering	trade magazines, Energy User news, Buildings Magazine, Journal of Property Management, manufacturer literature	distributor and manufacturer catalogs	telephone calls to PG&E or contractors	PG&E mailers
40. How much interest do you have in HE products	a lot	some	a lot	some interest	some interest
	web13	web14	web15	web16	web17
41. How confident are you that HE products will perform as well as standard products,save money/energy	very confident	somewhat confident	very confident	somewhat confident	very confident
42. How knowledgeable do you consider yourself to be regarding HE products	very knowledgeable	very knowledgeable	very knowledgeable		somewhat knowledgeable
43. What are main reasons preventing you from buying HE products	limited budget	cost, payback	cash flow, return benefit	cost, availability	cost, comfort issues
44. Are you a PG&E customer	yes	yes	yes	yes	yes
45. What is your job title	manager of engineering and mechanical trades	portfolio and engineering manager	president and COO	building official	owner
	95929-0925	94612	94559	93449	94705

End-User Survey Data Distillations

Introduction/Background	web18	web19	web20	web21	web22
1. How many times visited SE	none	twice	twice	none	once
2. How long ago did you first visit SE		a few months	3 months ago		last week
3. How did you find out about SE	from QC's recruiting survey	must have been the PG&E web page	tripped across it using PG&E.com	from QC's recruiting survey	from QC's recruiting survey
4. What originally prompted the search that led you to SE			looking for a marketing contact for PG&E	searching for personal or home needs	change in company or job status
Front Door	web18	web19	web20	web21	web22
5. Single most relevant piece of info for your bus here	supplier checklist	equipment guides	equipment guides	other PG&E programs	technical articles
6. What action would you first take here	click on "supplier checklist"	click on equipment guides	click on equipment guides	click on other PG&E programs	click on technical articles
7. Is there anything that ought to be in list of main bus features but appears not to be	I don't know	no	I don't know	no	information regarding deregulation of energy
Equipment Guides	web18	web19	web20	web21	web22
8. Have you visited this part of SE before		no	yes		
9. What are the most relevant topics to your bus		equipment guides	lighting guides		
10. What seems to be missing		an energy management system guide	I don't know		
Evaluate specific guide	web18	web19	web20	web21	web22
11. Is this what you'd want to see? Comments		central hvac - this is what I expected	lighting - there is a real good chart for comparing efficiency of various lamps - lot of information		
Technical Articles	web18	web19	web20	web21	web22
12. Have you visited this part of SE before					no
13. Does the arrangement of the articles makes sense? Comments					yes - but missing information on deregulation

End-User Survey Data Distillations

14. Which article is most relevant to your business					lighting and hvac articles
Evaluating specific article	web18	web19	web20	web21	web22
15. Is this what you'd want to see? Comments					efficient commercial ac systems - id should define the different types of systems more
Technology Database	web18	web19	web20	web21	web22
16. Have you visited this part of SE before		no			no
17. Do the database categories and the way they are organized make sense		yes			yes
Evaluate specific database listing	web18	web19	web20	web21	web22
18. Is this what you'd want to see		central ac - this could be interesting			electronic ballasts - yes it covers it
Supplier Checklist	web18	web19	web20	web21	web22
19. Have you visited this part of SE before	no	no		no	
20. Does this seem like meaningful, relevant info to your bus	for the business possibly - but not specifically me	minor - not a major deal		definitely	
21. Is anything missing	I don't know	no		no	

End-User Survey Data Distillations

22. Is anything irrelevant or confusing	it would be relevant to folks who work with contractors - I am chief of administration and don't deal with this sort of thing	no		no	
Evaluate Supplier Directory	web18	web19	web20	web21	web22
23. Is this what you'd want to see? Comments	this is good	yes		yes - its pretty good and very easy to use	
Other PG&E Programs	web18	web19	web20	web21	web22
24. Have you visited this part of SE before	no		no	no	
25. Which program summaries seem most meaningful and relevant to you	pump testing service, off peak cooling, commercial/industrial new construction		pump testing service	commercial and industrial new construction, smarter energy, business edge	
Evaluate either Business Edge or Express					
26. Do you find the program info useful	no (bus edge)		yes (bus edge)	yes (bus edge)	
27. Would you be likely to act upon this program info	no		yes - but we are a homeowners association of 4000 - PG&E looks at our business as 4000 individuals	yes	
Review	web18	web19	web20	web21	web22
28. Which SE feature is most relevant and useful in addressing your bus EE and cost management needs	technical articles	equipment guides	I have no idea -this is a reference tool - if I have a need I would go to the site look for an answer	other PG&E programs	technical articles
29. What was the most unclear or confusing part of this Web site	nothing is unclear - it just isn't relevant	the 3 blue buttons "express eff" "power saving partners" and "standard performance" - I know they are rebate programs but it doesn't say so	I don't know	nothing	the first page doesn't define the purpose of the Web site - it says that is a complete source for retrofits and rebates but when you look you don't see any of this information
30. Did you find any info on this Web site that you could not find elsewhere	the supplier checklist would be useful to other people at this business	in the residential section I found a calculator tool to check the cost of operating office equipment - could this be added to business side?	I don't know	I would hope so	no - if you look hard enough on the internet, you can find anything

End-User Survey Data Distillations

31. What would you change, add or delete?	nothing	energy calculator tool on the business side	I don't know	nothing	make the site idiot proof - design it for people who might not understand the terminology
Baselining	web18	web19	web20	web21	web22
32. Rate SE usefulness in searches for EE info(compared to other sources)	7	9	8	10	6
33. Rate your confidence in the info you found on SE	8	8	8	8	8
34. Rate ease of finding reliable and appropriate vendors via SE	10	8	5	10	6
35. Rate the ease of finding specific product info relevant to your bus via SE	8	8	7	9	6
36. Rate SE's likelihood of influencing EE investments for your bus	6	5	7	10	6
37. Rate ease or difficulty of navigating through SE	9	2	5	9	6
38. Rate your likelihood of returning to SE	9	9	10	10	7
39. What other sources do you use for EE info	none	energy user news, miscellaneous web sources	the internet - vendor sites	PG&E mailers	government web sites, Lennox/Trane and Carrier sites
40. How much interest do you have in HE products	some interest	some interest	a lot of interest	some interest	some interest
	web18	web19	web20	web21	web22
41. How confident are you that HE products will perform as well as standard products,save money/energy	very confident	very confident	very confident	very confident	somewhat confident
42. How knowledgeable do you consider yourself to be regarding HE products	somewhat knowledgeable	somewhat knowledgeable	very knowledgeable	somewhat knowledgeable	somewhat knowledgeable
43. What are main reasons preventing you from buying HE products	no reason	cost	none	cost, finding an installer	budget, not enough info on whether the measures work
44. Are you a PG&E customer	yes	yes	yes	yes	yes
45. What is your job title	chief of administration	coordinator of energy management	director of facilities and landscape	assistant property manager	facilities and energy manager
	94123	93611	95135	95076	91203

End-User Survey Data Distillations

Introduction/Background	web23	web24	web25	web26
1. How many times visited SE	a couple of times	once	none	none
2. How long ago did you first visit SE	2 months ago	last week		
3. How did you find out about SE	my gas supplier	I don't remember	from QC's recruiting survey	from QC's recruiting survey
4. What originally prompted the search that led you to SE	general curiosity	change in company job or status	I want to see what it is about and I think I can add to it	general curiosity
Front Door	web23	web24	web25	web26
5. Single most relevant piece of info for your bus here	technical articles	equipment guides	technical articles	supplier checklist
6. What action would you first take here	click on technical articles	click on equipment guides	click on technical articles	click on supplier checklist
7. Is there anything that ought to be in list of main bus features but appears not to be	I can't tell	no	no	no
Equipment Guides	web23	web24	web25	web26
8. Have you visited this part of SE before		no		no
9. What are the most relevant topics to your bus		lighting and motor guides, refrigeration, window glazing and packaged hvac		lighting/motor/hvac guides
10. What seems to be missing		nothing		small motors and pumps - it might be in the motors guide
Evaluate specific guide	web23	web24	web25	web26
11. Is this what you'd want to see? Comments		central hvac - yes , it touches on everything and is really good		lighting - yes, it defines terms
Technical Articles	web23	web24	web25	web26
12. Have you visited this part of SE before	yes		no	
13. Does the arrangement of the articles makes sense? Comments	yes - there is a lot of information here		yes - no comment	

End-User Survey Data Distillations

14. Which article is most relevant to your business	lighting - electronic ballast specification guidelines		refrigeration food service	
Evaluating specific article	web23	web24	web25	web26
15. Is this what you'd want to see? Comments	yes - there is a lot of information here - this will help us find a ballast that wont fail		efficient opps in grocery refrigeration - yes, but why is there nothing listed about what to do when the refrigerator shuts down? Why isn't dry ice listed as a viable solution for refrigeration problems?	
Technology Database	web23	web24	web25	web26
16. Have you visited this part of SE before	no		no	
17. Do the database categories and the way they are organized make sense	yes		yes	
Evaluate specific database listing	web23	web24	web25	web26
18. Is this what you'd want to see	electronic ballast - yes it is helpful if I am looking for ballasts that qualify for rebates- one thing I don't understand is that the top of the list says "all" what does that mean.		central ac - yes it is informative	
Supplier Checklist	web23	web24	web25	web26
19. Have you visited this part of SE before				no
20. Does this seem like meaningful, relevant info to your bus				yes
21. Is anything missing				no

End-User Survey Data Distillations

22. Is anything irrelevant or confusing Evaluate Supplier Directory	web23	web24	web25	web26
23. Is this what you'd want to see? Comments Other PG&E Programs	web23	web24	web25	web26
24. Have you visited this part of SE before		no		yes - but I got 7 commercial lighting records and none of them are local for Santa Barbara
25. Which program summaries seem most meaningful and relevant to you Evaluate either Business Edge or Express		express efficiency, standard performance contract, smarter energy		
26. Do you find the program info useful		yes (exp)		
27. Would you be likely to act upon this program info Review	web23	web24	web25	web26
28. Which SE feature is most relevant and useful in addressing your bus EE and cost management needs	technology database	equipment guides	technical articles	equipment guide
29. What was the most unclear or confusing part of this Web site	there is a lot of information and you can get lost in it - the first time you use the site it is too much information - you have to get used to it	nothing - but I haven't had a chance to explore it all	it doesn't talk about negatives - like what to do during a shut down or power surge - how to protect our business - give us an alternative	my own computer illiteracy
30. Did you find any info on this Web site that you could not find elsewhere	yes - never seen a Web site with this much information for this type of thing	no	I don't know - I haven't searched all of it	no - but haven't really looked elsewhere

End-User Survey Data Distillations

31. What would you change, add or delete?	when you put your cursor on equipment guides it explains what the section does to the left - it would help if it were to highlight the explanation	nothing	it is well done but it is a cheerleading for PG&E rather than informative information	nothing
Baselining	web23	web24	web25	web26
32. Rate SE usefulness in searches for EE info(compared to other sources)	8	10	5	7
33. Rate your confidence in the info you found on SE	8	10	4	5
34. Rate ease of finding reliable and appropriate vendors via SE	6	10	4	5
35. Rate the ease of finding specific product info relevant to your bus via SE	7	10		7
36. Rate SE's likelihood of influencing EE investments for your bus	7	9	2	7
37. Rate ease or difficulty of navigating through SE	6	1	8	8
38. Rate your likelihood of returning to SE	8	10	9	8
39. What other sources do you use for EE info	maintenance publications that come to me for free, manufacturer web pages	manufacturer catalogues	electricians, south city refrigeration - go to the horses mouth	"government product news"
40. How much interest do you have in HE products	a lot of interest	a lot of interest	some interest	a lot of interest
	web23	web24	web25	web26
41. How confident are you that HE products will perform as well as standard products,save money/energy	somewhat confident	very confident	somewhat confident	very confident
42. How knowledgeable do you consider yourself to be regarding HE products	somewhat knowledgeable	somewhat knowledgeable	somewhat knowledgeable	somewhat knowledgeable
43. What are main reasons preventing you from buying HE products	cost, untested technology	funding	cost, is it applicable to the job	cost, access to info regarding what the products are
44. Are you a PG&E customer	yes	yes	yes	yes
45. What is your job title	mechanical manager 93702	chief engineer 1 95901	branch manager 94080	district engineer

Supply-Side Participant Survey Data Distillations

orientation to mid/small CI market						
	PH3 HVAC	PH5 HVAC	PH45 HVAC	PH18 HVAC	PH29 HVAC	
1. % comm bus	40%	100%	10%	100%	10 - 15%	
2. % m/s CI	40%	15%	100%	100%	100%	
3. % HE	50%	30%	50%	80%	80%	
4. Orientation to HE among m/s CI	push HE first, as budget constraints arise move to SE	most customers can be sold if under 1 yr payback	prefers to use HE - did better when programs were there	HE must be considered - does cash analyses to educate customers	HE among CI is an absolute necessity	
5. Pursue bus there or respond to opp as arise	always pursue here first	offer HE options and let customers decide	as it arises - your present choices and HE is included	always pursues HE business	always pursue HE	
6. From hassle perspective is it good/bad/neutral work	neutral	neutral	good	good	good	
7. bus you most often work for	schools, stores, colleges, prisons etc	office and retail	offices	retail/office	offices (lots of medical centers)	
8. How many m/s CI HE jobs in past yr	5 to 10	10 to 15	5 to 10	10 to 15	20 plus	
9. How much interest do m/s CI have in HE	a lot - until the budget numbers are reviewed	some	some	little	a lot	
10. How much confidence do m/s CI have in HE	a lot	some	a lot	some	a lot	
11. How much HE knowledge to m/s CI have	little to none	none	some	some	a lot	
12. Common HE beliefs/ misperceptions among m/s CI	they believe that HE will totally cut down the bill	they expect more savings	don't understand that equipment is only as efficient as the system - efficiency may be reduced by leaky ducts	customers believe HE is all on paper - that in reality it doesn't work	they believe that the savings is there with HE - most are educated and believe in HE	
13. How often do you recommend HE product	all the time	all the time	all the time	all the time	all the time	
14. How often do customers recommend HE product	75%	very little	they look for what we recommend	never	very little	
15. How do you market to this tier	sales rep says "increased quality" when talking HE	verbally	don't actively market to businesses (market to res)	flyers, advertising, radio spots - cash analyses	TV, flyers, mailings, newspapers	
16. What works well	sales rep says "increased quality" when talking HE	strictly payback	na	cash analyses	the whole combination (above) is necessary	

Supply-Side Participant Survey Data Distillations

17. What could work better	dk	rebates/accurate payback programs easy to use	na	nothing	direct mail by PG&E E	
	PH3 HVAC	PH5 HVAC	PH45 HVAC	PH18 HVAC	PH29 HVAC	
18. Barriers to doing more HE business in this tier	financial - customers budget	financial - customers budget	tenant situations - financial, payback is important	rebates were a hassle, lack/mistrust of info, lack of financing	there aren't any	
19. % of m/s CI HE jobs same/increasing/decreasing	increasing		increasing	increasing	increasing	
19a. Why is that			more educated customers	customer awareness	customers are more educated - standard warranty for HE is better - it's a better value for the dollar	
SE site/concept parts						
1. Is this how you think of SE	yes	yes	no	dk	yes	
1a. Why or why not	because more customers are using this technology to find info	it is an info tool and does what it said it would	hard to navigate verbiage not easily understandable	there's so much stuff on the internet - don't know if people would choose to look at SE	it explains energy equipment and gives customers a place to shop	
1b. Is it relevant to customers, your business - do elements fit w/ each other	seems relevant from what hears - but has never seen the site themselves	yes	more and more folks using the web - folks probably go to this site	is possible could fit - but does not appear to now	yes	
2. How many times have you visited SE Web site	never - doesn't have a computer	twice	12 times	twice	once	
2a. Basic reactions to site	none	needs pictures	needs more pizzazz - needs to easier to navigate	gee, that's nice	fair - thought he'd get more business	
2b. What would you add, delete, change	dk	add pictures / add payback calculator on site list	add a location map to locate suppliers quickly and easily	dk	his business is seasonal and hasn't had any input from customers using the site - that is important to him	

Supply-Side Participant Survey Data Distillations

2c. How well does it address the barriers discussed above	dk	does not address financial barriers or rebate	3rd party backup info - terminology	good basic info for educating customers	people are really educated so the barriers just aren't there	
2d. factors considered regarding sponsorship	another form of advertising	wanted more business/ wanted to be associated with HE	want to be associated with energy savings	it was free	PG&E & E has clout - anything PG&E does he wants to be involved in	
	PH3 HVAC	PH5 HVAC	PH45 HVAC	PH18 HVAC	PH29 HVAC	
2e. What were concerns - where do you stand on them now	had no concerns	no	limited to Marin vs. Sonoma - want Sonoma to know they will do work in that area too	didn't have any	no concerns - not yet because not in "AC" season	
2f. How is it meeting initial expectations	has not gotten any business from the site	haven't gotten any leads form the site	haven't kept track - can't comment	expected to get more referrals from the site - has not gotten any	its been cold - they haven't received any calls, so you could say it met his expectations	
3. Do you see SE fitting in w/ your marketing strategy	dk	it's the way things are going - the direction de-reg is taking	great idea - 3rd party documentation for educational purposes	none - uses mailers, flyers and radio spots	hopes it will help his current strategy	
3a. Does it complement other marketing strategies	dk	adds to preaching design/size/control	yes	it is non existent	yes - he likes being associated with PG&E	
3b. does it replace something	dk	no	no		no	
3c. Is it a clear addition	dk	yes	could be	no	yes	
4. What kind of impact did you expect SE to have in creating awareness among m/s CI for your firm	expected more customers to mention site - they haven't	modest	were looking for visibility	general impact - info to customers		
4a. Prospect quantity	expecting 3-5% summer 1% winter	1 per week	expected 2-5% (25 customers)	didn't really expect any - small town/mostly res customers	expected some referrals and haven't received any yet - come summer he expects 5% per week	
4b. Prospect quality	dk	medium	high? do so little bus here haven't given much thought		high	
4c. Are clients gotten through SE desirable - easy or diff to work with	customers with lots of info and little understanding are difficult to work with		na		haven't gotten any clients from the site	

Supply-Side Participant Survey Data Distillations

4d. Do they spend \$\$	dk		na		na	
4e. Better/worse same/different than other clients	dk - in one year no one has reference the site		na		na	
5. Results vs. expectation - prospect quality	no	too early to tell	results aren't matching expectations because there are no results	there are no results	no results	
	PH3 HVAC	PH5 HVAC	PH45 HVAC	PH18 HVAC	PH29 HVAC	
5a. Results vs. expectations - prospect quantity	no		were hoping for visibility - but now don't expect to get any customers from the site	there are no results	no results	
6. Do you hear about SE from customers or other contacts	no	no	no	no	yes	
6a. Do you talk to customers or others about SE	no	no	no	no	yes - mentions it to customers and prospects - believes he is the only listing in Contra Costa County	
7. Made changes in selling strategies/ product stocking as a result of SE	no - more reactive than proactive	no	no	no	no	
8. How can SE be improved to be a more valuable marketing tool for your business	dk	add energy calculator to validate info	literature explaining/promoting smarter energy	I don't think it can	PG&E could make references by county and the contractors located there	
9. Any other comments or suggestions	needs help adding info to his listing on the Web site	add online calculator to calculate payback	no	need a place on site for customers to leave their name and phone number to a get a call back	bill stuffers referencing the Web site would help	
9a. What else should we ask other people we interview	dk				no	

Supply-Side Participant Survey Data Distillations

10. # of employees	1 to 5	100+	21 to 50	21 to 50	11 to 20	
annual sales (millions)	0.1	90.9	2.7		1.0	
measure	HVAC	HVAC	HVAC	HVAC	HVAC	

Supply-Side Participant Survey Data Distillations

orientation to mid/small CI market						
	PL54 light	PL14 Light	PL21 Light	PL11 Light	PL8 Light	PL10 Light
1. % comm bus	95%	50%	100%	80%	80%	10%
2. % m/s CI	60%	50%	20%	20%	50%	25%
3. % HE	75%	50%	100%	100%	50%	100%
4. Orientation to HE among m/s CI	that's all his company is involved with	It is a plus. HE lighting available today is real "state of the art".	always recommend HE	this is all we sell and promote	always proposes HE (they are a retrofit company)	rebates important payback important
5. Pursue bus there or respond to opp as arise	always pursue HE	respond as opportunities arise - don't mention HE to every customer automatically	always pursue HE business	always pursue HE business	always mentions HE	lighting is HE - no need to pursue
6. From hassle perspective is it good/bad/neutral work	good	neutral	good	good	good	neutral - but rebate forms are a hassle
7. bus you most often work for	offices	retail	mostly offices /some retail	offices/ retail	Escos - school districts	schools/electric or hvac contractor
8. How many m/s CI HE jobs in past yr	20 plus	20 plus	20 plus	20 plus	20 plus	5 to 10
9. How much interest do m/s CI have in HE	a lot	some	a lot	a lot	a lot	very little - depends on payback
10. How much confidence do m/s CI have in HE	a lot	some	a lot	a lot	a lot	very little
11. How much HE knowledge to m/s CI have	varies from none to little	some	a lot		a lot	a lot - he gives classes
12. Common HE beliefs/ misperceptions among m/s CI	misperception is that HID is more efficient than fluorescent	customers are too enticed by rebates and not by the actual savings	some customers question the validity of paper savings	customers believe that dropping wattage drops lighting levels	other contractors who promise the world but can not deliver	they don't look at payback - only want to make EPAC ratings
13. How often do you recommend HE product	all the time	all the time	all the time	all the time	all the time	all the time
14. How often do customers recommend HE product	rarely	very little	very little	sometimes	some times	very little - no incentives
15. How do you market to this tier	direct sales - calls	mailers, brochures, energy shows	brochures, one on one, proposals	demos show and tell	all referrals (gets customers while golfing etc)	mailers/ mfg reps
16. What works well	direct sales - calls	referrals and rebates	proposals	demos show and tell	happy customers who refer their services	direct contact works - mailers don't work

Supply-Side Participant Survey Data Distillations

17. What could work better	the Web site 'could' help, but currently doesn't	PG&E educating the customers more	nothing	PG&E promotional programs	infrared image of retrofitters	direct contact is best
	PL54 light	PL14 Light	PL21 Light	PL11 Light	PL8 Light	PL10 Light
18. Barriers to doing more HE business in this tier	lack of urgency - lights work fine now so why change. Rebates could help.	financing and lack of education	financial - need good payback	hassles dealing w/customers who have low volume, lack of education	they have more business than they can handle	financial - no rebates or rebates to small
19. % of m/s CI HE jobs same/increasing/decreasing	increasing	decreasing	about the same	increasing	increasing	decreasing
19a. Why is that	they are selling more and contracted a few big customers	market is saturated and rebates have been reduced		more awareness and PG&E E advertising	they haven't "screwed up"	
SE site/concept parts						
1. Is this how you think of SE	yes	no	no	dk	yes	no
1a. Why or why not		we don't know who accesses the site - we haven't seen any benefits	it is hard to get to SE Web Pages - probably only people that have heard about the site through PG&E visit it	dk	it sounds good and the site is free	needs pictures and financial assistance
1b. Is it relevant to customers, your business - do elements fit w/ each other	no - it is hard to get around. The supplier directory is very difficult to get to	absolutely	certainly	dk	yes	yes
2. How many times have you visited SE Web site	5 times	once	4 to 5 times	never - has only seen a print out of their listing on Web site	once	a few
2a. Basic reactions to site	looks good - but only went to supplier directory, have not explored the informational areas	looked at someone else's site	frustration - searches not operating properly - every time he calls PG&E to complain they say the person responsible is on vacation	looks ok (their page)	it was ok - haven't gotten any clients because of the site	very plain - needs something to grab attention. focuses on info but not on financial assistance
2b. What would you add, delete, change	make it easier to move around, make people aware of the site	dk- not familiar with what is there	Make SE its own site - so that don't need to go through all the other PG&E E pages to find it	dk	dk - hasn't seen the site in 6 months	add more manufacturing listings and product lines

Supply-Side Participant Survey Data Distillations

2c. How well does it address the barriers discussed above	daily there is a loss to people who do not upgrade to HE lighting and SE doesn't address this loss	dk	the only barriers are financial	gets res calls but not C/I calls from the Web site	it helps educate	it doesn't - barriers are financial
2d. factors considered regarding sponsorship	One good job would be worth the \$1200 spent on the site. It's like the yellow pages - you have to be there with the rest	its another form of advertising and it was free	the goal was to get business	it was free (it is not worth \$1200 per year)	it was free	first network experience - it works with rebates
	PL54 light	PL14 Light	PL21 Light	PL11 Light	PL8 Light	PL10 Light
2e. What were concerns - where do you stand on them now	no significant concerns, but if they don't get one good job from SE they won't renew	who (and how many) visits the site and how do we keep track	no concerns - got it for free	cash vs. return - if he had to pay for the site, it would not have paid for itself	no concerns	tool does not increase business
2f. How is it meeting initial expectations	not meeting initial expectations. It needs more advertising	expected it to be a source of job leads but it has not been	Haven't gotten any leads - they didn't really have any expectations	he is getting some res response. thought he would get C/I but he hasn't	had no expectations - got zero responses	gives info to customers
3. Do you see SE fitting in w/ your marketing strategy	it's not fitting in at all	it's another medium	it's a good supplemental tool	doesn't see it fitting in - has no idea who really uses the site	not sure - probably doesn't	it is not a plus - does not find solutions for customers financial problems
3a. Does it complement other marketing strategies	no	yes	yes	yes. But they do word of mouth and cold calls to get business	doesn't	complements but is not a plus
3b. does it replace something	no	no	no	no	no	no
3c. Is it a clear addition	no	yes	dk	dk	no	yes
4. What kind of impact did you expect SE to have in creating awareness among m/s CI for your firm	to be a spot where CI could shop for/find HE lighting in one area - it's more than looking the yellow pages	hoping that it would create the awareness - don't expect impact	name recognition	expected 2 to 3 calls per week	no expectations - thought they'd try it because it was free	expected a lot more customers talking about it
4a. Prospect quantity	expected at least one call a month	don't have any	didn't give this a thought	expected 2 to 3 calls per week	none - didn't expect any	expected 10 -15% got 1-2%
4b. Prospect quality	high - wanted to be an alternative supplier to those considering lighting change	low? - haven't given this much thought	high	medium	none	high
4c. Are clients gotten through SE desirable - easy or diff to work with	the one customer was easy but very small	have not gotten any clients through this site	haven't got any	both easy and difficult - the more informed are obviously easier to work with.	na	

Supply-Side Participant Survey Data Distillations

4d. Do they spend \$\$	no	na	na	made 1 res sale out of 4 that called	na	
4e. Better/worse same/different than other clients	different - very small	na	na	different (home owners)	na	
5. Results vs. expectation - prospect quality	received one call from a 20 fixture small mom & pop shop - are looking for the 100-200 fixture range	had no expectations	zero = zero	expected C/I and are getting res	no results	dk
	PL54 light	PL14 Light	PL21 Light	PL11 Light	PL8 Light	PL10 Light
5a. Results vs. expectations - prospect quantity	expected one call a month and one good contract per year - received one call since June 98	we just hope that site will make customers aware of the business	zero=zero	out of 4 res calls only made 1 sale	no results	dk
6. Do you hear about SE from customers or other contacts	no	no	no	no	no	no
6a. Do you talk to customers or others about SE	no	no	no	no	don't have to	yes - but there needs to be a better identifier for the title search - so many areas to go through to find what you are looking for
7. Made changes in selling strategies/ product stocking as a result of SE	no	no	no	no	no	slowed down - no rebates/incentives
8. How can SE be improved to be a more valuable marketing tool for your business	advertise it - make sure PG&E CI customers are aware of the site	advertise it to PG&E customers through mailers or reps	supplier search should be put into some kind of order	needs to be promoted by PG&E - advertise on TV -	can't comment	offer incentives
9. Any other comments or suggestions	want a free year one the site since they've only had one call from a very small customer	how many people have visited our listing? Is SE being marketed to C/I customers?	the competition on the site is not a good idea	include info as bill stuffers when PG&E mails bills -believes C/I customers will not go to the site unless they are taught how to surf the web	wants a copy of the report - wants to know what other people think of the site	
9a. What else should we ask other people we interview	no	none	no	no	no	

Supply-Side Participant Survey Data Distillations

10. # of employees	21 to 50	11 to 20	51 to 100	1 to 5	11 to 20	51 to 100
annual sales (millions)	0.2	84.9	8.0	0.2		17.2
measure	light	Light	light	light	light	light

Supply-Side Participant Survey Data Distillations

orientation to mid/small CI market					
	PW43 window	PW33 window	PW26 window	PW51 window	PW50 window
1. % comm bus	< 10%	85%	15%	35 - 40%	60-70%
2. % m/s CI	100%	75%	60%	80%	70%
3. % HE	50%	100%	10 to 15%	75%	25%
4. Orientation to HE among m/s CI	very positive to HE push low-E glass all the time	always proposes HE to customers	recommends HE	great! Decreases temp & new cleaner products are more desirable among smaller customers	depends on the customers needs - if it's not used for privacy or custom (stripping etc) then HE is the way to go
5. Pursue bus there or respond to opp as arise	always pursue business there	always include HE in proposals unless new construction - then go w/ specified plans	respond to opportunities as they arise	they are reactive rather than proactive, as there are no "high" players	always pursue HE if it's applicable
6. From hassle perspective is it good/bad/neutral work	good	neutral	good	good	good
7. bus you most often work for	schools/ retail/ offices/restaurants	sub contract to contractors - some storefronts	service industries/painting	retail/office	offices/ retail/ medical
8. How many m/s CI HE jobs in past yr	20 plus	20 plus	5 to 10	150 plus	20 plus
9. How much interest do m/s CI have in HE	some	between some and a lot	very little at first - they need education	a lot	a lot
10. How much confidence do m/s CI have in HE	a lot	between some and a lot	very little	a lot	between some and a lot
11. How much HE knowledge to m/s CI have	some	some	very little	some	some
12. Common HE beliefs/ misperceptions among m/s CI	they believe low-E has to have a dark tint to be effective	(their customers are contractors and) contractors don't have misperceptions	argon gas	customers believe windows have to be dark/reflective to be effective	misperception is that it makes a room to dark - common belief is that it cracks or peels
13. How often do you recommend HE product	all the time	all the time unless have to follow blueprints	sometimes	all the time	all the time
14. How often do customers recommend HE product	sometimes	sometimes	never	rarely	sometimes
15. How do you market to this tier	do low-E "Suncoat" promotions to their dealer base	include HE in their bids and proposals	verbally at jobsite or include it in the proposal	verbally - one on one; work with other firms ;referrals	salespeople, Web site, mailers
16. What works well	do low-E "Suncoat" promotions to their dealer base	no comment	verbally at jobsite or include it in the proposal	verbally - one on one; work with other firms ;referrals	a combination of direct sales and mailers

Supply-Side Participant Survey Data Distillations

17. What could work better	maybe the Energy Star program	no comment		direct marketing to groups such as BOMA, property managers	personal exposure in the market place
	PW43 window	PW33 window	PW26 window	PW51 window	PW50 window
18. Barriers to doing more HE business in this tier	financial	financial	financial /tenant situations	lack of product awareness - lack of access to the decision maker	seasonal - staff stretched too thin in the summer. product awareness
19. % of m/s CI HE jobs same/increasing/decreasing	increasing	increasing	increasing	increasing	about the same
19a. Why is that	customer/dealer base is educated, researches prior to purchase, HE is cost effective	more awareness/customers more educated	it enhances sales so we push harder	we are a "good service" oriented company	
SE site/concept parts					
1. Is this how you think of SE	yes	sort of	yes	yes	yes
1a. Why or why not	People look to PG&E for advice and the site has valuable info	can't comment (has never seen the site)	it is prestigious to be on PG&E's Web site -SE divides the men from the boys	loves the concept - but window tinting businesses need their own classification	because efficiency is saving money
1b. Is it relevant to customers, your business - do elements fit w/ each other	yes	can't comment (has never seen the site)	yes	yes - but don't know how many people have actually used the site	can't comment - haven't looked at the site enough
2. How many times have you visited SE Web site	3 to 4 times	never	never	twice	twice - and that was too see their listing
2a. Basic reactions to site	looks nice, great resource	no comment	don't have any	fair at best - it is difficult to get around	The cash is a little out of line for what they're getting. They have a Web site link to this and its good for rebate information
2b. What would you add, delete, change	want to hot link it to their own site	dk	dk	add more visuals - needs more pizzazz	can't comment

Supply-Side Participant Survey Data Distillations

2c. How well does it address the barriers discussed above	does a good job	only barriers are financial	dk	helps w/ product knowledge but does not market to "their" customers	it doesn't talk about window film, which is their product
2d. factors considered regarding sponsorship	resource site - they are responsible for EE products and there is support from PG&E	visibility	considered it more for res customers than CI	PG&E is prestigious/ direct marketing from PG&E	free exposure and product promotion
	PW43 window	PW33 window	PW26 window	PW51 window	PW50 window
2e. What were concerns - where do you stand on them now	no	none	didn't have any	no concerns - it was free	it doesn't promote window film - but it does have rebate information they're ok with that
2f. How is it meeting initial expectations	expected people to mention the site and no one has mentioned it so far	only expectation was visibility - haven't gotten any clients from the site	had no expectations for CI	fair - had hoped for a better response	expected some leads but haven't received any calls
3. Do you see SE fitting in w/ your marketing strategy	they will stay with it. It encourages dealers to promote it	not with the business group	not really fitting for CI - concentrate SE on res customers	don't consider it a part of their strategy	it doesn't fit in because there are no responses
3a. Does it complement other marketing strategies	yes	not really - they don't actively market	not really	yes	it doesn't really. however it does help in the "link" area
3b. does it replace something	no	no	no	no	no
3c. Is it a clear addition	yes	dk	dk	dk	yes - the link
4. What kind of impact did you expect SE to have in creating awareness among m/s CI for your firm	expected a tremendous impact	expected visibility for res customers	has had no impact for CI	expected more customers	expected some calls - not a lot, just a few
4a. Prospect quantity	had none - they're growing so fast haven't thought about it	zero	no expect- expectations for CI	expected 3% (150 baseline)	didn't have any expectations - nothing set in their mind
4b. Prospect quality	medium	never thought about it	dk	high	high-medium. were looking for engineers, facility people
4c. Are clients gotten through SE desirable - easy or diff to work with	have not gotten any clients as a result of this site	na	have not gotten any clients from the site	the one customer was easy to work with	haven't gotten any clients from this site

Supply-Side Participant Survey Data Distillations

4d. Do they spend \$\$	na	na	dk	no not yet	na
4e. Better/worse same/different than other clients	na	na	dk	same	na
5. Results vs. expectation - prospect quality	no results	not sure what results are for res customers - that was main focus for site	no expectations and no results - believes the site gives them prestige and they mention it to res customers	they have a bid but no contract	there are no results
	PW43 window	PW33 window	PW26 window	PW51 window	PW50 window
5a. Results vs. expectations - prospect quantity	expected business customers but res customers are picking up - might be due to site but no one has mentioned it	not sure what results are for res customers - that was main focus for site	no expectations and no results - believes the site gives them prestige and they mention it to res customers	they have a bid but no contract	there are no results
6. Do you hear about SE from customers or other contacts	no	no	no	no	no
6a. Do you talk to customers or others about SE	no	not really	mention it to res customers	generally not	not really - except when its to address the rebate program - they've had sales because of the rebate program
7. Made changes in selling strategies/ product stocking as a result of SE	no	no	no	no	no
8. How can SE be improved to be a more valuable marketing tool for your business	dk	can't comment	can't comment	graphics and making getting around easier	have a separate are for this product line (window film) - promote these products - talk rebate programs
9. Any other comments or suggestions	no	no	wants permission to link his personal Web site with the PG&E Web Pages	PG&E needs to market the site - wants to see email reports for any activity - site should promote window tinting rebates - promote Web site by using rebate info (add'l rebate for using the site)	PG&E is very nice to deal with - she is glad to know that they were interested enough to call and ask their opinions of the Web site
9a. What else should we ask other people we interview	no	no comment	no	no	no

Supply-Side Participant Survey Data Distillations

10. # of employees	100 plus	21 to 50	11 to 20	6 to 10	11 to 20
annual sales (millions)		4.0	1.0	0.8	
measure	windows	windows	windows	windows	windows

Supply-Side Nonparticipant Survey Data Distillations

orientation to mid/small CI market						
	L180 light	L147 light	L33 light	L13 light	L5-L6 light	L24 Light
1. % comm bus	30%	40%	100%	20%	40%	40%
2. % m/s CI	25%	50%	50%	100%	90%	80%
3. % HE	50 to 75%	50%	25 to 50%	70 to 80%	50%	100%
4. Orientation to HE among m/s CI	most of our sales are HE - lean toward HE in every case	company believes HE is cost effective but customers will not choose HE if it doesn't fit into their budget	HE is the best way to go - but doesn't always "sell" HE	always talks HE	HE is viable for this group - we like it because it makes us more money	He does what the specs call for, so no orientation to HE
5. Pursue bus there or respond to opp as arise	both pursue and respond - depends on the customer	10% pursue 90% respond to opportunities	respond to opportunities - does lots of improvement and He is in the bids	pursue HE as it makes sense	only respond to opportunities - if it is appropriate to mention HE they do	Respond to opportunities because their public works jobs are predetermined,
6. From hassle perspective is it good/bad/neutral work	neutral	neutral	good	neutral	neutral	neutral
7. bus you most often work for	retail and offices	banks, colleges, restaurants	retail, office, restaurants, schools	offices, strip centers, public works projects	libraries, post offices, retail, restaurants	Schools mostly and public works projects
8. How many m/s CI HE jobs in past yr	5 to 10	1 to 5	20 plus	1 to 5	5 to 10	20 or more
9. How much interest do m/s CI have in HE	some	a lot	a lot	some	none	a lot
10. How much confidence do m/s CI have in HE	some	a lot	dk - "if the customer has confidence in the messenger they will have confidence in the message"	some	some	a lot
11. How much HE knowledge to m/s CI have	very little	some	some	very little	none	none
12. Common HE beliefs/ misperceptions among m/s CI	dk	lack knowledge of payback - need to see yearly analysis to see savings	believe higher voltage is cheaper to run, whether its lighting or motors	dk - they just have to be shown to be convinced	dk	There are a lot of misperceptions, but can't think of any specifically
13. How often do you recommend HE product	most of the time	sometimes	sometimes	most of the time	most of the time	never
14. How often do customers recommend HE product	sometimes	sometimes	sometimes	sometimes	never	all the time

Supply-Side Nonparticipant Survey Data Distillations

15. How do you market to this tier	brochures, include HE in bids	Propose HE as opportunity arises. Do not solicit business - only advertise in yellow pages	verbally - most customers are recommendations - if HE fits the customer then it's a go	verbally or in proposals - don't advertise as most of the work is via word of mouth	"Sweets Catalog" and information from PG&E	Doesn't market. Does all "spec" work. Lighting is regulated by law (a lot of the time)
16. What works well	the above works well - when customers see the numbers	the above works well	working in design stages - give input and wait for response	the above works well	the catalogs do	na
	L180 Light	L147 Light	L33 Light	L13 Light	L5-L6 light	L24 Lighting
17. What could work better	nothing that he can think of	the above is the best approach	dk	people being more educated but nothing in the tangible sense as advertising	backing from PG&E and educating the customers	na
18. Barriers to doing more HE business in this tier	budgets	financial - payback and budgets are only barriers	there are no barriers	financial	customers are not knowledgeable	Again, this is "spec" work, so whatever the contract calls for, that's what they do
19. % of m/s CI HE jobs same/increasing/decreasing	about the same	about the same	increasing	about the same	increasing	increasing
19a. Why is that	na	na	doing a larger volume of business		we are listed in yellow pages, are located in a key area and have been around for a while	because the laws change to demand HE equipment
SE site/concept non parts						
1. Basic reaction to overall concept	fair	good	good	good	good	good
1a. Is it relevant to customers, your business - do elements fit w/ each other	may become too large -everything starts out manageable and then gets way out of hand	yes it sounds good	yes	yes - it has to be advertised	na	yes
2. Does the connection with PG&E make sense to you	yes	yes	yes	yes	yes	yes
3. How well would you expect it to address barriers mentioned above in terms of doing HE jobs w/ m-s CI	this would be used by res and not m-s CI	barriers are financial - doesn't see how the Web site can address financial barriers	doesn't have barriers - waits for opportunities and then recommends HE	fair - "how do you do cost analysis on a Web site?"	good	there are no barriers in spec work

Supply-Side Nonparticipant Survey Data Distillations

4. What kinds of customers would you expect to visit/use SE	non electrical - "everyday average Joe", not CI customers	would expect more res than C/I customers to visit the site - the web is not the way C/I customers normally do business	residential mostly - doubts whether C/I customers would use the site for finding a vendor.	mostly residential	not your regular buyer - the people who use the Web site are looking for information	electric engineers looking for different designs
5. What would you expect them to do as a result of their visit	gain knowledge and information	not sure	gain knowledge - with res customers the savings are so small there wouldn't be justification for a change	educate themselves	gather information	use it as an "information source." They use a lighting rep to give them the latest on rules, regs and what's new
6. Have you heard of the SE Web site	no	no	no	yes	no	no
	L180 Light	L147 Light	L33 light	L13 light	L5-L6 light	L24 Lighting
7. Have you visited it	no - but he went into it during this interview	no	no	no	yes	no
8. What are basic reactions to site	it needs a central point to say "Smarter Energy" - the information page need to be bigger	need to visit it to make comments - PG&E needs to use rebates and needs to show "big savings"	na	na	has lots of information but it could use more graphics	na
9. What would you add/delete/change	na	na	na	na	no comment	na
10. Have you received marketing materials from PG&E on sponsorship	no	no	no	no	no	no
11. If so, what were factors considered regarding sponsorship	haven't considered it at all	na	na	na	na	na
12. Seriously consider sponsorship	no	na	na	na	na	na
13. If so, why didn't you do it	na	na	na	na	na	na
14. What would be a reasonable fee for being listed on the site	a percentage of any contracts received as a result of the site	it would be difficult to justify any cost because of the uncertainty of response to this type of advertising	a few bucks - \$1000 to \$2000 per year if brought in \$100K volume of business	it would have to be low cost	not sure - needs more information in order to name a fee	\$0. He gets public works projects with design builds included. No reason to list on the web. Should be targeted to 'design people' who have money to advertising

Supply-Side Nonparticipant Survey Data Distillations

15. Based on whatever experiences you may have had with SE, as well as the overview description, how would you see this fitting in w/ your marketing and sales strategy	they'd include this info (if they had a site) in their lighting maintenance retrofit fixture brochure	need to look at the site in order to comment	don't have a marketing strategy - all of their work is via word of mouth	it probably wouldn't do much because of the nature of their contracts - it is more of a "being seen" on the computer	it would add to their Web site - link to PG&E - its good to be associated with a utility like PG&E	They don't have a sales/marketing strategy. They bid jobs
16. Would it complement your other marketing strategies	yes	yes	no	yes	yes	no
17. Replace something	no	no	no	no	no	no
18. Be a clear addition	yes	no	not really	yes	yes	no
	L180 Light	L147 Light	L33 light	L13 light	L5-L6 light	L24 Lighting
19. What kind of impact would you expect this kind of site to have in creating awareness among m-s CI for your firm	expects it to create awareness in the residential sector - commercial customers don't do business this way	would like to be seen with other 'players' but wouldn't expect any substantial results for the firm	potential is huge but you have to do something to let people know you have this Web site and what it is about	wouldn't expect any impact at all, as businesses he works with are not oriented towards this type of technology	not much	He would not expect any impacts for his firm. There are many different types of electrical contractors.
20. What would you expect in terms of prospect quantity	wouldn't expect any new business - it would be a resource for res customers to call and ask questions but not to secure contracts	very little - if 100 customers visited the site, would expect 1 -5% calls	dk	dk	would not expect any business from the Web site	wouldn't consider this question because of their "type" of company
21. Prospect quality	same as above - but they would have to have computer knowledge	would expect them to be the same as other clients - but they would rather work with larger clients	would be more of a hassle for small C/I as they don't have time and the where with to use the site	if he ever got any clients from the site he'd expect them to be the same or a little easier to work with	doesn't expect any clients as result of this Web site	wouldn't consider this question because of their "type" of company
22. Do you hear about SE from other contacts or customers	no	no	no	no	no	no
23. How would SE need to change in order for you to see it as a useful and valuable marketing tool	customers will not use this site seriously until the cost of energy becomes "too" expensive	make people aware of the Web site - use bill stuffers - bring the Web site to businesses and explain how to use the web and what to expect	It's not a way for him to "get business" - its an education tool	It's just not something he'd use	needs to be more interactive (his personal site asks questions, gives answers)- make it more interesting with charts graphs color etc	not for them. PG&E needs to target electrical design firms

Supply-Side Nonparticipant Survey Data Distillations

annual sales						
measure	lights	lights	lights	lights	lights	lighting

Supply-Side Nonparticipant Survey Data Distillations

orientation to mid/small CI market						
	H68 HVAC	H225 HVAC	H11 HVAC	H6 HVAC	H110 HVAC	H88 HVAC
1. % comm bus	20%	20%	100%	20%	20%	30%
2. % m/s CI	100%	40%	35%	100%	80%	80%
3. % HE	100%	10 to 20%	100%	100%	50%	90%
4. Orientation to HE among m/s CI	push 11.0 and 12.0 SEER ratings as cost effective	heavily promote HE	HE is all they promote	push HE as hard as they can	want to sell HE but have a hard time doing it because don't have a method to calculate payback/savings	Believes HE is cost effective for most customers, business and residential
5. Pursue bus there or respond to opp as arise	respond to opportunities	most often respond to opportunities	pursue sometimes and respond to opportunities sometimes	always pursue	respond to opportunities	always pursue
6. From hassle perspective is it good/bad/neutral work	neutral	neutral	good	good	good	good
7. bus you most often work for	retail/offices	retail strip malls, offices	office	offices	offices/retail	offices and restaurants
8. How many m/s CI HE jobs in past yr	50 plus	10 to 15	10 to 15	20 plus	1 to 5	20 plus
9. How much interest do m/s CI have in HE	some	it depends whether they occupy the premises or not	a lot	some	a lot	some
10. How much confidence do m/s CI have in HE	a lot	some	a lot	some	some	some
11. How much HE knowledge to m/s CI have	little	a lot	a lot	some	some	some
12. Common HE beliefs/ misperceptions among m/s CI	believe the electric bill is going to go way down with HE equipment	HE means more capacity - not the same size with efficiency built in	don't really have any misperceptions	believe that HE will never pay for itself in this climate because PG&E claims it won't	dk	Is sure there are some, but can't remember any
13. How often do you recommend HE product	all the time	most of the time	most of the time	all the time	all the time	sometimes
14. How often do customers recommend HE product	sometimes	sometimes	most of the time	sometimes	very little	sometimes

Supply-Side Nonparticipant Survey Data Distillations

15. How do you market to this tier	use manufacturers brochures - word of mouth	always present it as an option - give paybacks etc	verbal - word of mouth	explain HE to them	verbally first and then follow up with a proposal and brochure	verbal, brochures, bids
16. What works well	explaining HE savings	the above works well	the above works well	in person, with brochures to help	the above works well	verbal-educating customers is necessary
	H68 HVAC	H225 HVAC	H11 HVAC	H6 HVAC	H110 HVAC	H88 HVAC
17. What could work better	a sophisticated sales staff	dk	some good advertising	they had a \$50,000 ad campaign 5 years ago - but couldn't keep up with the business they got	using advertising like flyers and radio but that is costly	Nothing could be better than one-on-one verbal
18. Barriers to doing more HE business in this tier	financial	budgets	there aren't any barriers	the above mentioned misconception spread by ill informed/trained PG&E employees	customers lack knowledge, also financial (payback/savings)	Initial cash is biggest barrier
19. % of m/s CI HE jobs same/increasing/decreasing	about the same	increasing	increasing	increasing	increasing	increasing
19a. Why is that		business is increasing	business is increasing	growing awareness	growing knowledge	awareness of the need for HE
SE site/concept non parts						
1. Basic reaction to overall concept	fair	good	good	good	good	good
1a. Is it relevant to customers, your business - do elements fit w/ each other	does not seem relevant for their business - they are strictly word of mouth	yes	yes	yes	yes	yes it does
2. Does the connection with PG&E make sense to you	no	yes	yes	yes -PG&E is the "final word" in the energy arena	yes	yes it does
3. How well would you expect it to address barriers mentioned above in terms of doing HE jobs w/ m-s CI	fair	it could be good if it addressed the right issues	there aren't any barriers	good	good	fair

Supply-Side Nonparticipant Survey Data Distillations

4. What kinds of customers would you expect to visit/use SE	"shoppers of information" those looking to educate themselves but not buy	contractors, developers, building management companies	commercial customers looking to obtain information - not necessarily buyers	bill-payers (res and C/I) and those looking for information	some res and few C/I - most people would rather use the phone and talk to a real person - only those who are used to computers are the ones to use the site	residential - because commercial customers are too busy and there's too much info on the web
5. What would you expect them to do as a result of their visit	nothing - just gather information	consider HE for their project	nothing	come up with more questions	Web site might not make a difference because although it gives efficiency info, the vendors give the prices	just gather data
6. Have you heard of the SE Web site	yes	no	no	yes	no	yes
	H68 HVAC	H225 HVAC	H11 HVAC	H6 HVAC	H110 HVAC	H88 HVAC
7. Have you visited it	no	no	no	no	no	no
8. What are basic reactions to site	na	na	na	likes that PG&E is offering more information, but hopes that it is not biased	dk	None
9. What would you add/delete/change	na	na	na	change - add a vendor referral list and a method to weed out substandard contractors	na	na
10. Have you received marketing materials from PG&E on sponsorship	no	no	no	no	not sure	yes
11. If so, what were factors considered regarding sponsorship	na	na	na	na	na	They thought it would be a way of reaching customers
12. Seriously consider sponsorship	na	na	na	na	na	Yes, they seriously considered it.
13. If so, why didn't you do it	na	na	na	na	they were in a PG&E HVAC program that netted them some unprofitable business	They did not think the fee was appropriate. They don't believe there should be a cost.
14. What would be a reasonable fee for being listed on the site	Free - because contractors are supporting PG&E's goals in deregulation	can't comment - don't know enough of the who where why	dk -would need to do some research into similar types of things to make a judgement	he would not want to be listed next to someone who may be unethical or substandard - PG&E carries a lot of weight	\$100 or less per year	If they are on an approved list for PG&E's other efficiency programs, they should be on the Web site also.

Supply-Side Nonparticipant Survey Data Distillations

15. Based on whatever experiences you may have had with SE, as well as the overview description, how would you see this fitting in w/ your marketing and sales strategy	not at all - they don't advertise - just work of mouth	it could be incorporated - it could be a plus	it has possibilities	very much so - but would have to visit the site to see who else is listed	It's a definite plus - its headed in the right direction but not there yet, maybe in 2 - 5 years	It would be a small addition
16. Would it complement your other marketing strategies	no	yes	yes	yes	yes	yes
17. Replace something	no	no	no	no	no	no, it would not
18. Be a clear addition	no	yes	yes	yes	yes	yes
	H68 HVAC	H225 HVAC	H11 HVAC	H6 HVAC	H110 HVAC	H88 HVAC
19. What kind of impact would you expect this kind of site to have in creating awareness among m-s CI for your firm	its for information not shopping - don't expect any impact	more customers would become aware of their company but not necessarily purchase products - depends on how it is publicized and how easy it is to get to the site	possible increase in awareness of their business	dk	dk	little to none
20. What would you expect in terms of prospect quantity	wouldn't expect any customers	maybe 10 visitors per month with less than 5% contracts	50%	we get 300 calls a month - would expect about 20% to be from the site	a 1 to 2 % increase per year (relative to the 20% of customers that are C/I)	nothing
21. Prospect quality	dk	expect them to be better and easier to work with - because of the effort to get to the site and the education	the same	the clients would be worse - the " " types or the same	more desirable because would be more knowledgeable and therefore easier to work with	same as above
22. Do you hear about SE from other contacts or customers	no	no	no	no	no	no
23. How would SE need to change in order for you to see it as a useful and valuable marketing tool	it wouldn't be useful at this time because customers have not moved to this level yet	the public would have to be made aware - incentives would help	would need monthly updates because if it stays the same people will not want to visit it often	dk	dk	The addition of a 'referral' list by location, so a customer could find contractors listed in their area

Supply-Side Nonparticipant Survey Data Distillations

annual sales						
measure	HVAC	HVAC	HVAC	HVAC	HVAC	HVAC

Supply-Side Nonparticipant Survey Data Distillations

orientation to mid/small CI market		
	W7 WINDOW	W27 Window
1. % comm bus	20%	95%
2. % m/s CI	23%	60%
3. % HE	100%	50%
4. Orientation to HE among m/s CI	All they do are "high end" windows; believe HE is applicable to all customers	contractors or architects specify type of window, if its high efficiency, then that's what they do
5. Pursue bus there or respond to opp as arise	Respond to opportunities; but all work is HE	half the time they pursue and half the time they respond
6. From hassle perspective is it good/bad/neutral work	good	good
7. bus you most often work for	Contractors	variety, small offices, property management companies for commercial properties, architects
8. How many m/s CI HE jobs in past yr	1 - 5	5 to 10
9. How much interest do m/s CI have in HE	a lot	owners have some, tenants have little
10. How much confidence do m/s CI have in HE	a lot	a lot
11. How much HE knowledge to m/s CI have	a lot	little
12. Common HE beliefs/ misperceptions among m/s CI	None	you can put an insulated door with a mail slot (which most comm'l doors have) on an office.
13. How often do you recommend HE product	all the time	sometimes
14. How often do customers recommend HE product	sometimes	most of the time

Supply-Side Nonparticipant Survey Data Distillations

15. How do you market to this tier	advertising company; brochures; door hangers; trade shows; newspapers; web (in assoc with windows they carry)	they use verbal and window samples. They don't use brochures, ads, or anything like that
16. What works well	a combination of a lot of methods, as above	verbal and window samples
W7 WINDOW		
17. What could work better	Nothing, they have all the business they can handle	having more educated customers
18. Barriers to doing more HE business in this tier	Cash/liquidity, unless they understand payback	cost is the biggest barrier
19. % of m/s CI HE jobs same/increasing/decreasing	Increasing	increasing a little
19a. Why is that	Technology is improving	business is picking up, so there is more opportunity for HE
SE site/concept non parts		
1. Basic reaction to overall concept	good	good
1a. Is it relevant to customers, your business - do elements fit w/ each other	yes	yes, however she is not familiar with Web sites/internet. Their firm will be looking into this in the near future
2. Does the connection with PG&E make sense to you	yes	yes, however she is not familiar with Web sites/internet. Their firm will be looking into this in the near future
3. How well would you expect it to address barriers mentioned above in terms of doing HE jobs w/ m-s CI	good	fair

Supply-Side Nonparticipant Survey Data Distillations

4. What kinds of customers would you expect to visit/use SE	all kinds/dk	small commercial customers
5. What would you expect them to do as a result of their visit	If they were originally pursuing something, they may find a lead; otherwise, nothing	use it for inquiries
6. Have you heard of the SE Web site	no	no
	W7 WINDOW	W27 Window
7. Have you visited it	no	no
8. What are basic reactions to site	Nothing, hasn't seen it	can't think of any
9. What would you add/delete/change	na	na
10. Have you received marketing materials from PG&E on sponsorship	no	no
11. If so, what were factors considered regarding sponsorship	na	na
12. Seriously consider sponsorship	na	na
13. If so, why didn't you do it	na	na
14. What would be a reasonable fee for being listed on the site	refused	not familiar enough with Internet/Web site "stuff" to now how it's priced or how it works

Supply-Side Nonparticipant Survey Data Distillations

15. Based on whatever experiences you may have had with SE, as well as the overview description, how would you see this fitting in w/ your marketing and sales strategy	They have a well planned strategy now. This would not be needed.	Would not be a benefit, because they use HE when asked their opinion, then they recommend it.
16. Would it complement your other marketing strategies	no	no, don't really have a marketing strategy, just use word of mouth, and referrals
17. Replace something	no	no
18. Be a clear addition	no	no
	w7 window	W27 Window
19. What kind of impact would you expect this kind of site to have in creating awareness among m-s CI for your firm	possible exposure, but not any probable sales.	Her firm does not know enough about the web to make a comment
20. What would you expect in terms of prospect quantity	none	Her firm does not know enough about the web to make a comment
21. Prospect quality	doesn't expect any new prospects/clients	Her firm does not know enough about the web to make a comment
22. Do you hear about SE from other contacts or customers	no	no
23. How would SE need to change in order for you to see it as a useful and valuable marketing tool	dk	They need to do their homework to find out more about the internet first

Supply-Side Nonparticipant Survey Data Distillations

annual sales		
measure	window	window

C. SAM COHEN'S PROGRAM PRESENTATION

SMARTERENERGY BUYER'S GUIDE

Market Effects Hypotheses

- 1) *SmarterEnergy provides specific purchase-oriented information as opposed to generic technology information.* Unlike many information programs, the information on the SmarterEnergy site is targeted specifically to customers who are interested in making a purchase. The site includes product overviews, savings calculators, model number databases, in-depth technical information, tips on working with suppliers, and contact information for local suppliers. Providing all of this information in one convenient location helps customers through the purchase process by reducing the hassle cost.
- 2) *SmarterEnergy provides unbiased information.* In focus groups, customers have repeatedly indicated that they are mistrustful of sales claims relating to energy efficient information. As a Pacific Gas & Electric Company product, SmarterEnergy is viewed as an unbiased source of information. This in essence improves the perception of energy efficient products.
- 3) *SmarterEnergy links customers and vendors.* Customers have for years asked Pacific Gas & Electric Company for vendor recommendations. However, Pacific Gas & Electric Company is prohibited from recommending specific vendors. SmarterEnergy allows vendors a forum for making their products and services known and differentiated to customers without actually being endorsed or recommended by Pacific Gas & Electric Company.
- 4) *SmarterEnergy generates revenues which can be spent on broad based advertising for energy efficiency.* Energy efficiency has traditionally not been advertised heavily in mainstream media due to the limited amount of public goods funds and high cost of such an effort. SmarterEnergy generates funds which are then spent on advertising energy efficiency in the marketplace. In 1998, these revenues were received from vendors who signed up to be listed on the site. In the future, revenues could also be generated from selling banner advertising on the site or some other strategy.

Promotion Strategies

A key part of SmarterEnergy is how it is marketed to customers. In 1998, the program was marketed through a combination of:

- newspaper ads
- direct mailers
- inserts in rebate application packages
- messages on rebate checks
- web search engine listings
- spifs

This marketing strategy will be expanded in 1999 as SmarterEnergy becomes PG&E's one stop shop for energy efficiency.

Where we would like to see program go/enhancements.

Pacific Gas & Electric Company will continue to expand the program in the following areas:

Website content: The content of the site will continue to be improved upon, including the following additions:

- development of an on-line version of the BEST tool (a comprehensive energy savings calculator)
- addition of new equipment databases, using data from the CEC
- periodic contests and give aways to encourage return visits
- addition of new product types in the Purchasing Guides
- addition of new Technical Articles

Marketing: As discussed above, the marketing campaign for 1999 will expand, and might include:

- newspaper ads
- radio ads
- press releases to newspapers, trade journals, and newsletters
- targeted emails and faxes
- transportation billboards (buses, BART, etc.)

Existing information on program

Advice filings

Focus group topline reports

California Energy Efficiency Policy and Program Priorities (CBEE, 1998)

Team roles - What key consultants and PG&E staff do

The SmarterEnergy Program Manager (Jay Bhalla, PG&E employee) provides overall budget, direction, oversight. Energy Solutions provides day to day management of the program, including developing strategy and coordinating the other various parties listed in this paragraph. Energy Solutions also provides web development services for the program. Shugart Matson Young does the majority of the marketing for the site. The Marketing Processing Center (MPC, contractors) processes vendor applications and maintains a vendor database. The Energy Efficiency Resource Center (EERC, contractors) provides phone support to customers interested in SmarterEnergy, and can fax or email printouts from the site to customers who don't have web access.

D. SmarterEnergy™ PROGRAM MARKETING MATERIALS

Hardcopies of marketing materials included in the paper version of this study.

E. MARCH 1999 WEB TRENDS SmarterEnergy™ MONTHLY SUMMARY OF SITE ACTIVITY



Smarter Energy Monthly Summary

Internet - Smarter Energy

General Statistics

The User Profile by Regions graph identifies the general location of the visitors to your Web site. The General Statistics table includes statistics on the total activity for this web site during the designated time frame.

General Statistics	
Date & Time This Report was Generated	Thursday April 01, 1999 - 05:35:54
Timeframe	03/01/99 00:00:00 - 03/31/99 23:59:59
Number of Hits for Home Page	1,906
Number of Successful Hits for Entire Site	143,927
Number of Page Views (Impressions)	10,649
Number of User Sessions	7,105
User Sessions from United States	88.26%
International User Sessions	2.08%
User Sessions of Unknown Origin	9.65%
Average Number of Hits Per Day	4,642
Average Number of Page Views Per Day	343
Average Number of User Sessions Per Day	229
Average User Session Length	00:07:34

Most Requested Pages

This section identifies the most popular web site pages and how often they were accessed. The average time a user spends viewing a page is also indicated in the table.

Most Requested Pages					
	Pages	Views	% of Total Views	User Sessions	Avg. Time
1	PG&E -- SmarterEnergy, Energy Efficient Equipment, Appliances, Programs, and http://www.pge.com/customer_services/business/energy/smart/	1,906	17.89%	1,704	00:02:25
2	PG&E -- SmarterEnergy, Energy Efficient Equipment, Appliances, Programs, and http://www.pge.com/smarterenergy/	1,055	9.9%	613	00:01:45
3	PG&E -- SmarterEnergy, Residential Equipment Guides http://www.pge.com/customer_services/business/energy/smart/html/res_equipment_guides.html	513	4.81%	480	00:01:04
4	PG&E -- SmarterEnergy, Supplier Directory Search http://www.pge.com/customer_services/business/energy/smart/html/vendor_query.html	336	3.15%	280	00:02:28
5	PG&E -- SmarterEnergy, Heating Systems Guide http://www.pge.com/customer_services/business/energy/smart/html/furnace_guide.html	247	2.31%	240	00:03:15
6	PG&E -- SmarterEnergy, Selecting an Equipment Supplier http://www.pge.com/customer_services/business/energy/smart/html/res_checklist.html	244	2.29%	240	00:02:23
7	PG&E -- SmarterEnergy, Clothes Washer Guide http://www.pge.com/customer_services/business/energy/smart/html/washer_guide.html	237	2.22%	227	00:01:35
8	PG&E -- SmarterEnergy, Residential Tools http://www.pge.com/customer_services/business/energy/smart/html/res_tools.html	223	2.09%	217	00:01:56
9	PG&E -- SmarterEnergy, Technical Articles http://www.pge.com/customer_services/business/energy/smart/html/res_articles.html	206	1.93%	200	00:01:23
10	PG&E -- SmarterEnergy, Refrigerator Guide http://www.pge.com/customer_services/business/energy/smart/html/refrigerator_guide.html	199	1.86%	194	00:02:10
11	PG&E -- SmarterEnergy, Equipment Selection Guides http://www.pge.com/customer_services/business/energy/smart/html/equipment_guides.html	173	1.62%	164	00:01:20
12	PG&E -- SmarterEnergy, Technical Articles http://www.pge.com/customer_services/business/energy/smart/html/technical_information.html	156	1.46%	148	00:01:08
13	PG&E -- SmarterEnergy, Water Heater Guide http://www.pge.com/customer_services/business/energy/smart/html/water_heater_guide.html	152	1.42%	148	00:01:57
14	PG&E -- SmarterEnergy, Residential Equipment Guides http://www.pge.com/smarterenergy/html/res_equipment_guides.html	152	1.42%	143	00:01:05
15	PG&E -- SmarterEnergy, Heat Pump Database Search http://www.pge.com/customer_services/business/energy/smart/html/heat_pump_query.html	141	1.32%	122	00:02:37
16	PG&E -- SmarterEnergy, Selecting an Equipment Supplier http://www.pge.com/customer_services/business/energy/smart/html/selection_checklist.html	122	1.14%	112	00:02:19

	http://www.pge.com/customer_services/business/energy/smart/html/selection_checklist.html				
17	PG&E -- SmarterEnergy, Site Search http://www.pge.com/customer_services/business/energy/smart/html/site_search.html	119	1.11%	114	00:01:33
18	PG&E -- SmarterEnergy, Technology Databases http://www.pge.com/customer_services/business/energy/smart/html/equipment_databases.html	115	1.07%	111	00:00:57
19	PG&E -- SmarterEnergy, Clothes Dryer Guide http://www.pge.com/customer_services/business/energy/smart/html/dryer_guide.html	115	1.07%	112	00:01:43
20	PG&E -- SmarterEnergy, Windows Guide http://www.pge.com/customer_services/business/energy/smart/html/windows_guide.html	114	1.07%	107	00:02:32
21	PG&E -- SmarterEnergy, Advanced Clothes Dryer Technologies http://www.pge.com/customer_services/business/energy/smart/html/dryer_tech.html	112	1.05%	111	00:01:34
22	PG&E -- SmarterEnergy, Air Conditioner Guide http://www.pge.com/customer_services/business/energy/smart/html/ac_guide.html	106	0.99%	103	00:01:00
23	PG&E -- SmarterEnergy, Central AC Database Search http://www.pge.com/customer_services/business/energy/smart/html/central_ac_query.html	105	0.98%	88	00:01:41
24	PG&E -- SmarterEnergy, Residential Lighting Guide http://www.pge.com/customer_services/business/energy/smart/html/res_light_guide.html	94	0.88%	91	00:00:49
25	PG&E -- SmarterEnergy, Insulation Guide http://www.pge.com/customer_services/business/energy/smart/html/insulation_guide.html	92	0.86%	88	00:03:44
26	PG&E -- SmarterEnergy, Lighting Systems Guide http://www.pge.com/customer_services/business/energy/smart/html/lighting_guide.html	82	0.77%	73	00:01:28
27	PG&E -- SmarterEnergy, Lighting Database Search http://www.pge.com/customer_services/business/energy/smart/html/lighting_query.html	72	0.67%	65	00:01:49
28	PG&E -- SmarterEnergy, Motors Database Search http://www.pge.com/customer_services/business/energy/smart/html/motors_query.html	67	0.62%	57	00:02:17
29	PG&E -- SmarterEnergy, Clothes Washer Models http://www.pge.com/customer_services/business/energy/smart/html/washer_models.html	66	0.61%	62	00:02:58
30	PG&E -- SmarterEnergy, Efficient Outdoor Lighting Strategies http://www.pge.com/customer_services/business/energy/smart/html/outdoor_light.html	65	0.61%	65	00:01:34
31	PG&E -- SmarterEnergy, Efficient Commercial Packaged HVAC Systems http://www.pge.com/customer_services/business/energy/smart/html/phvac.html	64	0.6%	60	00:01:47
32	PG&E -- SmarterEnergy, Compact Fluorescents: The Better Alternative to Halo http://www.pge.com/customer_services/business/energy/smart/html/cf_torchier.html	62	0.58%	58	00:02:22
33	PG&E -- SmarterEnergy, Central HVAC Systems Guide http://www.pge.com/customer_services/business/energy/smart/html/central_hvac_guide.html	61	0.57%	53	00:01:41
34	PG&E -- Express Efficiency, Customer Rebate Summaries http://www.pge.com/customer_services/business/energy/smart/html/incentives_summaries.html	58	0.54%	54	00:03:41
35	PG&E -- SmarterEnergy, Residential Tools http://www.pge.com/smarterenergy/html/res_tools.html	57	0.53%	55	00:01:40
36	PG&E -- SmarterEnergy, Supplier Enrollment http://www.pge.com/customer_services/business/energy/smart/html/vendor_enrollment.html	56	0.52%	54	00:02:06

37	PG&E -- SmarterEnergy, Packaged and Unitary AC Systems Guide http://www.pge.com/customer_services/business/energy/smart/html/hvac_guide.html	56	0.52%	55	00:03:17
38	PG&E -- SmarterEnergy, Office Equipment Guide http://www.pge.com/customer_services/business/energy/smart/html/office_guide.html	50	0.46%	49	00:01:38
39	PG&E -- SmarterEnergy, Compact Fluorescent Lamps and Fixtures http://www.pge.com/customer_services/business/energy/smart/html/cfl.html	50	0.46%	50	00:02:58
40	PG&E -- SmarterEnergy, Glossary http://www.pge.com/customer_services/business/energy/smart/html/glossary.html	49	0.46%	46	00:02:12
41	PG&E -- SmarterEnergy, Residential Energy Saving Phone Survey http://www.pge.com/customer_services/business/energy/smart/html/survey_residential.html	48	0.45%	47	00:02:02
42	PG&E -- SmarterEnergy, Heating System Models http://www.pge.com/customer_services/business/energy/smart/html/furnace_models.html	48	0.45%	40	00:01:44
43	PG&E -- SmarterEnergy, Thermal Energy Storage for HVAC Systems http://www.pge.com/customer_services/business/energy/smart/html/thermal_hvac.html	48	0.45%	42	00:01:31
44	PG&E -- SmarterEnergy, How Reliable are Electronic Ballasts for Fluorescent http://www.pge.com/customer_services/business/energy/smart/html/eb_rel.html	47	0.44%	45	00:01:53
45	PG&E -- SmarterEnergy, Motors Equipment Guide http://www.pge.com/customer_services/business/energy/smart/html/motors_guide.html	45	0.42%	34	00:01:07
46	PG&E -- SmarterEnergy, Sulfur Lamps http://www.pge.com/customer_services/business/energy/smart/html/sulfur_lamp.html	43	0.4%	42	00:02:17
47	PG&E -- SmarterEnergy, Selecting an Equipment Supplier http://www.pge.com/smarterenergy/html/res_checklist.html	43	0.4%	43	00:01:38
48	PG&E -- SmarterEnergy, Occupancy Sensors http://www.pge.com/customer_services/business/energy/smart/html/occ_sensors.html	42	0.39%	42	00:02:06
49	PG&E -- SmarterEnergy, Supplier Directory Search http://www.pge.com/smarterenergy/html/vendor_query.html	41	0.38%	37	00:01:48
50	PG&E -- SmarterEnergy, Technical Articles http://www.pge.com/smarterenergy/html/technical_information.html	38	0.35%	34	00:00:36
51	PG&E -- SmarterEnergy, Advantages of Using Electronic Ballasts http://www.pge.com/customer_services/business/energy/smart/html/eb_adv.html	37	0.34%	35	00:02:05
52	PG&E -- SmarterEnergy, Refrigerator Models http://www.pge.com/customer_services/business/energy/smart/html/refrigerator_models.html	37	0.34%	35	00:02:36
53	PG&E -- SmarterEnergy, Tinted Window Glazings for Comfort http://www.pge.com/customer_services/business/energy/smart/html/window_glazings.html	37	0.34%	36	00:01:03
54	PG&E -- SmarterEnergy, Straight Tube T5 Fluorescent Lamps http://www.pge.com/customer_services/business/energy/smart/html/t5.html	36	0.33%	34	00:01:04
55	PG&E -- SmarterEnergy, Boiler Systems in Commercial and Industrial Faciliti http://www.pge.com/customer_services/business/energy/smart/html/boiler_guide.html	35	0.32%	32	00:00:52
56	PG&E -- SmarterEnergy, PTAC Database Search http://www.pge.com/customer_services/business/energy/smart/html/ptac_query.html	35	0.32%	35	00:02:27
57	PG&E -- SmarterEnergy, Technical Articles	34	0.31%	32	00:00:40

57	http://www.pge.com/smarterenergy/html/res_articles.html	34	0.31%	32	00:00:40
58	PG&E -- SmarterEnergy, Industrial Heat-Recovery Strategies http://www.pge.com/customer_services/business/energy/smart/html/ind_heat_recover.html	33	0.3%	33	00:02:27
59	PG&E -- SmarterEnergy, Dimming Controls for Lighting http://www.pge.com/customer_services/business/energy/smart/html/dimmer.html	33	0.3%	32	00:02:03
60	PG&E -- SmarterEnergy, Window Glazing Systems http://www.pge.com/customer_services/business/energy/smart/html/ns_windows_guide.html	32	0.3%	29	00:07:17
61	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V002388.html	32	0.3%	31	00:01:21
62	PG&E -- SmarterEnergy, Membrane Technology in Industrial Processes http://www.pge.com/customer_services/business/energy/smart/html/membrane_tech.html	32	0.3%	29	00:01:31
63	PG&E -- SmarterEnergy, Adjustable Speed Drives http://www.pge.com/customer_services/business/energy/smart/html/asd_motors.html	32	0.3%	27	00:01:50
64	PG&E -- SmarterEnergy, Industrial Applications of Fans and Blowers http://www.pge.com/customer_services/business/energy/smart/html/ind_fan_blowers.html	31	0.29%	31	00:01:16
65	PG&E -- SmarterEnergy, Sizing a Motor Correctly http://www.pge.com/customer_services/business/energy/smart/html/sizing.html	29	0.27%	29	00:05:15
66	PG&E -- SmarterEnergy, Automated On/Off Controls for Lighting http://www.pge.com/customer_services/business/energy/smart/html/on_off_controls.html	29	0.27%	28	00:01:52
67	PG&E -- SmarterEnergy, Lighting Technical Terms http://www.pge.com/customer_services/business/energy/smart/html/lit_measure.html	28	0.26%	27	00:01:12
68	PG&E -- Express Efficiency, Customer Rebate Summaries http://www.pge.com/smarterenergy/html/incentives_summaries.html	28	0.26%	28	00:01:57
69	PG&E -- SmarterEnergy, Operation and Maintenance Strategies http://www.pge.com/customer_services/business/energy/smart/html/om_strategies.html	28	0.26%	28	00:02:42
70	PG&E -- SmarterEnergy, Saving Energy Through the Use of Daylighting Control http://www.pge.com/customer_services/business/energy/smart/html/daylight.html	28	0.26%	28	00:01:00
71	PG&E -- SmarterEnergy, Wastewater Treatment Technology and Applications in http://www.pge.com/customer_services/business/energy/smart/html/industrial_waste.html	27	0.25%	26	00:02:16
72	PG&E -- SmarterEnergy, Electronic Ballasts Specification Guidelines http://www.pge.com/customer_services/business/energy/smart/html/eb_specs.html	27	0.25%	27	00:01:04
73	PG&E -- SmarterEnergy, Compressed Air Systems and Applications in Industria http://www.pge.com/customer_services/business/energy/smart/html/compressed_air_guide.html	27	0.25%	26	00:02:59
74	PG&E -- SmarterEnergy, Food Service Guide http://www.pge.com/customer_services/business/energy/smart/html/food_service_guide.html	26	0.24%	26	00:01:56
75	PG&E -- SmarterEnergy, Grocery Refrigeration Systems http://www.pge.com/customer_services/business/energy/smart/html/grocery.html	25	0.23%	25	00:00:54
76	PG&E -- SmarterEnergy, Industrial Refrigeration Systems http://www.pge.com/customer_services/business/energy/smart/html/indrefr.html	24	0.22%	24	00:00:36
77	PG&E -- SmarterEnergy, Food Service Equipment and Applications http://www.pge.com/customer_services/business/energy/smart/html/foodserv.html	23	0.21%	23	00:01:33

78	PG&E -- Express Efficiency, When are Lamps Hazardous Waste? http://www.pge.com/customer_services/business/energy/smart/html/lamphazard.html	23	0.21%	23	00:02:12
79	PG&E -- SmarterEnergy, Central Commercial Refrigeration Guide http://www.pge.com/customer_services/business/energy/smart/html/central_refrig_guide.html	23	0.21%	23	00:00:36
80	PG&E -- SmarterEnergy, Replacements for Incandescent Downlights in Lobby/At http://www.pge.com/customer_services/business/energy/smart/html/lobby.html	23	0.21%	23	00:02:18
81	PG&E -- SmarterEnergy, Why Use High CRI T8 Fluorescent Lamps? http://www.pge.com/customer_services/business/energy/smart/html/high_cri.html	22	0.2%	22	00:01:47
82	PG&E -- SmarterEnergy, Energy Efficiency Issues and Answers for Property Ma http://www.pge.com/customer_services/business/energy/smart/html/property_manage.html	22	0.2%	21	00:01:15
83	PG&E -- SmarterEnergy, Motors: Rewind versus Replace http://www.pge.com/customer_services/business/energy/smart/html/motor_comparison.html	22	0.2%	22	00:02:42
84	PG&E -- SmarterEnergy, Equipment Selection Guides http://www.pge.com/smarterenergy/html/equipment_guides.html	22	0.2%	22	00:00:29
85	PG&E -- SmarterEnergy, Saving Energy in Industrial Processes http://www.pge.com/customer_services/business/energy/smart/html/industrial_process_guide.html	21	0.19%	21	00:00:42
86	PG&E -- SmarterEnergy, Proper Motor Rewind http://www.pge.com/customer_services/business/energy/smart/html/motor_rewind.html	21	0.19%	21	00:01:04
87	PG&E -- SmarterEnergy, Commercial Office Systems Guide http://www.pge.com/customer_services/business/energy/smart/html/ns_office_guide.html	20	0.18%	20	00:00:51
88	PG&E -- SmarterEnergy, Motor Maintenance Efficiency Opportunities http://www.pge.com/customer_services/business/energy/smart/html/mtrmaint.html	20	0.18%	20	00:01:24
89	PG&E -- SmarterEnergy, Energy Efficient Operations and Maintenance Strategi http://www.pge.com/customer_services/business/energy/smart/html/om_boil.html	20	0.18%	20	00:01:33
90	PG&E -- SmarterEnergy, Food Processing Evaporator Systems http://www.pge.com/customer_services/business/energy/smart/html/fs_evaporators.html	20	0.18%	20	00:02:15
91	PG&E -- SmarterEnergy, Accent Lighting Options for Retail http://www.pge.com/customer_services/business/energy/smart/html/retail.html	19	0.17%	19	00:02:49
92	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/M00002.html	18	0.16%	18	00:01:59
93	PG&E -- SmarterEnergy, Save Money and the Environment with an Energy-Effici http://www.pge.com/customer_services/business/energy/smart/html/cfc.html	17	0.15%	17	00:00:39
94	PG&E -- SmarterEnergy, Supplier Enrollment http://www.pge.com/smarterenergy/html/vendor_enrollment.html	17	0.15%	17	00:00:57
95	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V000150.html	17	0.15%	16	00:01:10
96	PG&E -- SmarterEnergy, Application Instructions http://www.pge.com/customer_services/business/energy/smart/html/download_application.html	16	0.15%	16	00:01:26
97	PG&E -- SmarterEnergy, Advantages of SmarterEnergy http://www.pge.com/customer_services/business/energy/smart/html/program_advantages.html	16	0.15%	16	00:00:21
98	PG&E -- SmarterEnergy, Cost Saving Tips for Office Building Tenants	16	0.15%	16	00:01:03

99	http://www.pge.com/customer_services/business/energy/smart/html/tenant_tips.html	16	0.15%	10	00:01:00
99	Express Efficiency Program http://www.pge.com/customer_services/business/energy/smart/html/	16	0.15%	10	00:02:18
100	PG&E -- SmarterEnergy, Sample Vendor Web Listings http://www.pge.com/customer_services/business/energy/smart/html/sample_templates.html	16	0.15%	16	00:00:42
101	PG&E -- SmarterEnergy, Selecting an Equipment Supplier http://www.pge.com/smarterenergy/html/selection_checklist.html	16	0.15%	16	00:02:47
102	PG&E -- SmarterEnergy, Technology Databases http://www.pge.com/smarterenergy/html/equipment_databases.html	16	0.15%	16	00:00:06
103	PG&E -- SmarterEnergy, Finding a Contractor for Your Project: The Selection http://www.pge.com/customer_services/business/energy/smart/html/rfp_process.html	16	0.15%	16	00:00:32
104	PG&E -- SmarterEnergy, Sharing Energy Efficiency Savings Between Landlords http://www.pge.com/customer_services/business/energy/smart/html/landlord_tenant.html	15	0.14%	15	00:01:51
105	PG&E -- Express Efficiency, Lighting Incentive Programs http://www.pge.com/customer_services/business/energy/smart/html/lighting.html	15	0.14%	4	00:00:34
106	PG&E -- SmarterEnergy, Preview Your Web Page Listing http://www.pge.com/customer_services/business/energy/smart/html/preview_request.html	15	0.14%	15	00:02:21
107	PG&E -- SmarterEnergy, Tips For Selling Efficient Equipment http://www.pge.com/customer_services/business/energy/smart/html/marketing_tips.html	15	0.14%	15	00:01:11
108	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V000217.html	15	0.14%	14	00:04:35
109	PG&E -- SmarterEnergy, BEST Lighting Guidelines http://www.pge.com/customer_services/business/energy/smart/html/best_lighting_guide.html	15	0.14%	15	00:02:37
110	PG&E -- SmarterEnergy, Search for Gas Water Heaters http://www.pge.com/customer_services/business/energy/smart/html/water_heater_gas_query.html	14	0.13%	8	00:02:10
111	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V003240.html	14	0.13%	14	00:00:36
112	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/M00005.html	14	0.13%	13	00:04:43
113	PG&E -- Express Efficiency, Application Details http://www.pge.com/customer_services/business/energy/smart/html/application_details.html	14	0.13%	14	00:01:38
114	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V005399.html	14	0.13%	14	00:01:32
115	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V007318.html	14	0.13%	13	00:02:27
116	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/M00008.html	13	0.12%	12	00:01:28
117	PG&E -- SmarterEnergy, Costs To Be Listed http://www.pge.com/customer_services/business/energy/smart/html/costs.html	13	0.12%	13	00:02:09
118	PG&E -- SmarterEnergy, Vendor Listing Content Items http://www.pge.com/customer_services/business/energy/smart/html/layout_fields.html	13	0.12%	13	00:00:11

119	PG&E -- SmarterEnergy, Supplier Requirements http://www.pge.com/customer_services/business/energy/smart/html/requirements.html	13	0.12%	13	00:01:59
120	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V000174.html	13	0.12%	13	00:00:24
121	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V001572.html	13	0.12%	13	00:00:21
122	PG&E -- SmarterEnergy, Start Your Application Process Electronically http://www.pge.com/customer_services/business/energy/smart/html/apply_mail.html	12	0.11%	12	00:01:31
123	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V004372.html	12	0.11%	12	00:02:58
124	PG&E -- SmarterEnergy, Lighting Database Search http://www.pge.com/smarterenergy/html/lighting_query.html	12	0.11%	11	00:03:16
125	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V004519.html	11	0.1%	11	00:02:07
126	PG&E -- SmarterEnergy, Sample Vendor Page http://www.pge.com/customer_services/business/energy/smart/html/example_page2.html	11	0.1%	11	00:01:42
127	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V002666.html	11	0.1%	11	00:01:22
128	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V002136.html	11	0.1%	11	00:01:20
129	PG&E -- SmarterEnergy, Tips for Marketing Efficient Motors http://www.pge.com/customer_services/business/energy/smart/html/motors_tips.html	11	0.1%	10	00:00:14
130	PG&E -- SmarterEnergy, Tips for Marketing Efficient HVAC Equipment http://www.pge.com/customer_services/business/energy/smart/html/hvac_tips.html	11	0.1%	11	00:00:14
131	PG&E -- SmarterEnergy, Tips for Marketing Efficient Lighting Equipment http://www.pge.com/customer_services/business/energy/smart/html/lighting_tips.html	11	0.1%	11	00:00:31
132	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V001017.html	11	0.1%	9	00:01:29
133	PG&E -- SmarterEnergy, Sample Vendor Page http://www.pge.com/customer_services/business/energy/smart/html/example_page8.html	10	0.09%	10	00:04:47
134	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V002374.html	10	0.09%	9	00:00:55
135	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V000926.html	10	0.09%	10	00:00:28
136	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V007868.html	10	0.09%	9	00:00:18
137	PG&E -- SmarterEnergy, Heat Pump Database Search http://www.pge.com/smarterenergy/html/heat_pump_query.html	10	0.09%	9	00:02:25
138	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V001526.html	9	0.08%	9	00:01:48
139	PG&E -- SmarterEnergy, Air Conditioner Models	9	0.08%	9	00:02:02

139	http://www.pge.com/customer_services/business/energy/smart/html/ac_models.html	9	0.08%	9	00:01:02
140	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V002494.html	9	0.08%	9	00:01:27
141	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/19.html	9	0.08%	9	00:01:18
142	PG&E -- SmarterEnergy, Central AC Database Search http://www.pge.com/smarterenergy/html/central_ac_query.html	9	0.08%	9	00:00:32
143	PG&E -- SmarterEnergy, Central HVAC Systems Guide http://www.pge.com/smarterenergy/html/central_hvac_guide.html	9	0.08%	9	00:00:38
144	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V004530.html	8	0.07%	8	00:01:08
145	PG&E -- SmarterEnergy, Search for Electric Water Heaters http://www.pge.com/customer_services/business/energy/smart/html/water_heater_elc_query.html	8	0.07%	7	00:01:19
146	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V002359.html	8	0.07%	8	00:00:28
147	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/M00010.html	8	0.07%	8	00:00:45
148	PG&E -- SmarterEnergy, Residential Energy Saving Phone Survey http://www.pge.com/smarterenergy/html/survey_residential.html	8	0.07%	8	00:00:19
149	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/28.html	8	0.07%	8	00:01:28
150	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V005531.html	8	0.07%	8	00:05:26
151	PG&E -- SmarterEnergy, Clothes Washer Guide http://www.pge.com/smarterenergy/html/washer_guide.html	8	0.07%	7	00:04:43
152	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V007346.html	7	0.06%	7	00:00:38
153	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V001103.html	7	0.06%	7	00:02:33
154	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V010367.html	7	0.06%	7	00:00:58
155	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V002555.html	7	0.06%	7	00:01:51
156	PG&E -- SmarterEnergy, Search for Clothes Washers http://www.pge.com/customer_services/business/energy/smart/html/washer_query.html	7	0.06%	5	00:01:21
157	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V009181.html	7	0.06%	6	00:00:28
158	PG&E -- SmarterEnergy, Motors Equipment Guide http://www.pge.com/smarterenergy/html/motors_guide.html	7	0.06%	7	00:00:42
159	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/26.html	6	0.05%	6	00:00:31

160	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/M00006.html	6	0.05%	6	00:01:00
161	PG&E -- SmarterEnergy, Straight Tube T5 Fluorescent Lamps http://www.pge.com/smarterenergy/html/t5.html	6	0.05%	6	00:00:29
162	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V007066.html	6	0.05%	6	00:05:43
163	PG&E -- SmarterEnergy, Clothes Washer Savings Tool http://www.pge.com/customer_services/business/energy/smart/html/washer_tool.html	6	0.05%	6	00:00:03
164	PG&E -- SmarterEnergy, Heating Systems Guide http://www.pge.com/smarterenergy/html/furnace_guide.html	6	0.05%	6	00:00:12
165	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V001648.html	6	0.05%	6	00:00:21
166	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/M00009.html	6	0.05%	6	00:04:04
167	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V007839.html	6	0.05%	6	00:01:02
168	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/21.html	6	0.05%	6	00:00:19
169	PG&E -- SmarterEnergy, Food Service Guide http://www.pge.com/smarterenergy/html/food_service_guide.html	6	0.05%	6	00:01:45
170	PG&E -- Express Efficiency, Application Details http://www.pge.com/smarterenergy/html/application_details.html	6	0.05%	6	00:02:30
171	PG&E -- SmarterEnergy, Packaged and Unitary AC Systems Guide http://www.pge.com/smarterenergy/html/hvac_guide.html	6	0.05%	6	00:00:45
172	PG&E -- SmarterEnergy, Water Heater Guide http://www.pge.com/smarterenergy/html/water_heater_guide.html	6	0.05%	6	00:01:58
173	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V003786.html	5	0.04%	4	00:00:27
174	PG&E -- SmarterEnergy, BEST Lighting Guidelines http://www.pge.com/smarterenergy/html/best_lighting_guide.html	5	0.04%	5	00:01:40
175	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V008708.html	5	0.04%	5	00:00:16
176	PG&E -- SmarterEnergy, Business Energy Saving Phone Survey http://www.pge.com/customer_services/business/energy/smart/html/survey_business.html	5	0.04%	5	00:00:08
177	PG&E -- SmarterEnergy, Insulation Guide http://www.pge.com/smarterenergy/html/insulation_guide.html	5	0.04%	5	00:00:06
178	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/M00007.html	5	0.04%	5	00:01:54
179	PG&E -- SmarterEnergy, Tips For Selling Efficient Equipment http://www.pge.com/smarterenergy/html/marketing_tips.html	5	0.04%	5	00:06:35
180	PG&E -- SmarterEnergy, Vendor Page	5	0.04%	5	00:00:14

180	http://www.pge.com/customer_services/business/energy/smart/vendors/V008016.html	5	0.04%	5	00:00:14
181	PG&E -- SmarterEnergy, Clothes Dryer Guide http://www.pge.com/smarterenergy/html/dryer_guide.html	5	0.04%	4	00:00:50
182	PG&E -- SmarterEnergy, PTAC Database Search http://www.pge.com/smarterenergy/html/ptac_query.html	5	0.04%	5	00:01:44
183	PG&E -- SmarterEnergy, Central Commercial Refrigeration Guide http://www.pge.com/smarterenergy/html/central_refrig_guide.html	5	0.04%	5	00:00:15
184	PG&E -- SmarterEnergy, Industrial Heat-Recovery Strategies http://www.pge.com/smarterenergy/html/ind_heat_recover.html	5	0.04%	5	00:02:32
185	PG&E -- SmarterEnergy, Search for Refrigerators http://www.pge.com/customer_services/business/energy/smart/html/refrigerator_query.html	5	0.04%	5	00:01:30
186	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V000183.html	4	0.03%	4	00:00:06
187	PG&E -- SmarterEnergy, Business Energy Saving Phone Survey http://www.pge.com/smarterenergy/html/survey_business.html	4	0.03%	4	00:00:03
188	PG&E -- SmarterEnergy, Heating System Models http://www.pge.com/smarterenergy/html/furnace_models.html	4	0.03%	4	00:01:40
189	PG&E -- SmarterEnergy, Search for Gas Water Heaters http://www.pge.com/smarterenergy/html/water_heater_gas_query.html	4	0.03%	4	00:01:10
190	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V000268.html	4	0.03%	4	00:01:33
191	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V009161.html	4	0.03%	4	00:00:15
192	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/23.html	4	0.03%	4	00:01:00
193	PG&E -- SmarterEnergy, Refrigerator Guide http://www.pge.com/smarterenergy/html/refrigerator_guide.html	4	0.03%	4	00:01:12
194	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V004029.html	4	0.03%	4	00:00:13
195	PG&E -- SmarterEnergy, Boiler Systems in Commercial and Industrial Faciliti http://www.pge.com/smarterenergy/html/boiler_guide.html	4	0.03%	4	00:00:30
196	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/V006699.html	4	0.03%	4	00:00:13
197	PG&E -- Express Efficiency, Motor Vendor and Package AC Distributor Incenti http://www.pge.com/customer_services/business/energy/smart/html/vendor_distrib_info.html	4	0.03%	4	00:00:59
198	PG&E -- SmarterEnergy, Motors Database Search http://www.pge.com/smarterenergy/html/motors_query.html	4	0.03%	4	00:00:20
199	PG&E -- SmarterEnergy, Energy Efficient Operations and Maintenance Strategi http://www.pge.com/smarterenergy/html/om_boil.html	3	0.02%	3	00:01:37
200	PG&E -- SmarterEnergy, Vendor Page http://www.pge.com/customer_services/business/energy/smart/vendors/M00011.html	3	0.02%	3	00:00:48

Sub Total For the Page Views Above	10,512	98.71%	N/A	N/A
Total For the Log File	10,649	100%	N/A	N/A

 [WebTrends Corporation]

This report was generated by [WebTrends](#).