Pacific Gas & Electric

Process Evaluation and Strategic Assessment of the Food Services Technology Center

February 14, 2008

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1. EXECUTIVE SUMMARY

This summarizes the results of the 2007 process evaluation and strategic assessment of the Pacific Gas & Electric (PG&E) Food Services Technology Center ("the FSTC").

1.1 INTRODUCTION

1.1.1 Study Objectives

The purpose of the process evaluation is to assess the effectiveness of the FTSC in achieving its goal of accelerating adoption of efficient equipment and practices in the food services industry and to recommend organizational and managerial changes that increase its performance. The process evaluation does that by examining the operations of the FSTC in several areas, defined in terms of eight major objectives. Those eight are assessments of:

- Objective 1: The effectiveness of dissemination of information on energy efficiency technologies and practices, along with the associated energy savings.
- Objective 2: The effect of the FSTC on potential purchasers of high-efficiency appliances, including corporate purchase processes.
- Objective 3: The FSTC's educational and outreach programs and their effects on efficient equipment purchases.
- Objective 4: The relation between the FSTC and other PG&E programs, with emphasis on co-branding.
- Objective 5: The conformance of the FSTC with PG&E's advocacy rules.
- Objective 6: The benefit/value provided by the FSTC and the portion that is accruing to PG&E, including free ridership.
- Objective 7: The currently defined metrics for program performance and their appropriateness in measuring achievement of the stated program objectives.
- Objective 8: The adequacy of the FSTC's budget and budget allocations in performing its mission.

The assessments are forward looking, with emphasis on developing recommendations on how the program may be changed to more closely align the FSTC's operations with PG&E's strategic goals.

1.1.2 Program Overview

The food services industry consists of the most energy-intensive commercial buildings, consuming roughly 2.5 times more energy per square foot than other commercial buildings[1]. PG&E has over 38,000 commercial food services electric and/or gas accounts.

[1] Consortium for Energy Efficiency, Commercial Kitchen Initiative Program Description, p. 1.

PG&E's Food Service Technology Center promotes the adoption of energy efficient equipment and practices in the food service industry through the following activities:

- Testing and certification of a range of commercial food service equipment including cooking, preparation and refrigeration.
- Educational outreach to market actors and customers in the form of workshops, seminars, trainings, and speaker engagements.
- On-site surveys and design reviews for PG&E customer facilities.
- Dissemination of FSTC research and information through study reports, the FSTC website, the publication of a trade newsletter for food service providers, contribution to trade publications such as *Food Equipment Reports* and participation in trade associations.
- Supporting PG&E's Mass Market team's efforts in food services equipment incentives. The FSTC tests equipment to assist PG&E's development of incentive requirements for equipment that meets certain standards.
- Food services equipment deemed incentives for specified energy efficient pieces of equipment.

Established by PG&E in 1986, the mission, structure, and activities of the FSTC have evolved over time in response to changing market needs and the regulatory environment.

1.2 METHODS

PA Consulting Group's (PA) approach to achieving the evaluation objectives follows two separate, but coordinated, tracks. The first track is an internal process review, consisting of a systematic review of program documents, an analysis of participant data, and a set of semi-structured interviews with FSTC and PG&E staff. The second track consists of an external market evaluation, encompassing a review of reports and studies on the food service market, semi-structured interviews with market actors and surveys of food service end-users (both participants and nonparticipants in the FSTC program).

PA conducted the following primary data collection activities to support the evaluation:

- *25 program design and delivery staff interviews*: 15 PG&E staff including senior managers, Customer Energy Efficiency (CEE) program managers, and account services staff; 5 Fisher-Nickel staff; and 4 staff of other California investor-owned utilities (IOUs) including SoCalGas, SoCal Edison, and San Diego Gas and Electric.
- *30 food service industry market actors interviews*: 5 corporate decision-makers for chain restaurants; 5 industry stakeholders that represent energy efficiency organizations and industry associations; and 20 food services supply chain market actors that included 15 equipment manufacturers and 5 local or regional manufacturers' representatives.
- *153 2006–2007 FSTC food services end-users participant telephone surveys*: 45 training participants, 25 site-survey participants, and 84 rebate participants.

- *84 food services end-users nonparticipant telephone surveys*: 43 multi-facility end-users and 41 single facility end-users.

At the end of the internal process and external market assessments, PA analyzed the findings to develop a set of recommendations on changes in the operations of the FSTC and the budget allocation to improve its effectiveness at fulfilling its goals. PA presented the draft recommendations to PG&E and FSTC staff. PA discussed the rationale for the study's recommendations and obtained feedback. Based on that feedback, PA adopted a final set of recommendations for inclusion in the evaluation final report.

1.3 KEY FINDINGS

1.3.1 Objective #1: Information Dissemination and Resulting Energy Savings

Market actors stated that the FSTC is the leading provider of information on food services equipment and processes to the industry. However, the FSTC is not the primary source of information end-users turn to, except for key national chains.

FSTC training activities and the website are the primary venues for information dissemination although other venues such as end-user technical assistance are also important.

The customer survey indicates there are energy savings resulting from information dissemination to FSTC participants. However, PG&E's food services end-users' lack of awareness of the FSTC is most likely limiting the extent of energy savings impacts of the FSTC's information dissemination.

- While staff interviews were unanimous that the FSTC is seen as a technical leader by the food services industry, the general consensus among staff interviewees is that the majority of PG&E food services customers are not aware and do not take advantage of the FSTC. Customer survey results substantiate the limited end-user customer awareness of the FSTC.
- The customer survey results show that end-users, especially nonparticipants, are primarily turning to manufacturers and suppliers, the Internet in general and trade publications for information about kitchen design or purchasing kitchen equipment to maximize energy efficiency.

a. THE INTERNET

- The participant survey shows that the website is an important source of information for end-users, second only to the FSTC's training activities in the types of FSTC resources used to get information.
- The majority of PG&E staff interviewees identified the need to know what types of businesses are using the website including which hits are from PG&E end-users or those serving PG&E end-users. The FSTC does track geographic location of the website users.
- Market actors expressed they were willing to complete a free registration to use the website. Approximately two-thirds of end-users said they would use the website even

if they had to complete a free registration that would provide some information on the users.

- Several interviewees believe information dissemination through the website can only be somewhat effective. Customer relationship building and touch is extremely important to affect changes, especially in the food services industry.

b. ENERGY SAVINGS

- Several staff interviewees believe that the FSTC's information dissemination has raised the level of energy efficiency of food services equipment.
- FSTC staff estimate 90 percent of manufacturers know about and use FSTC's information. Market actor interviews confirm these reports.
- The customer survey indicates there are energy savings resulting from information dissemination for FSTC participants. The majority of training and site-survey participants said they used FSTC resources to learn more about energy efficiency equipment and make energy efficient improvements.

1.3.2 Objective #2: Industry Needs and Impacts

The FSTC has positively influenced the food services industry's equipment purchasing practices, particularly for multi-facility establishments. The FSTC has accomplished this through developing testing standards and providing equipment testing results that allows end-users to compare equipment in terms of performance and efficiency.

Participant end-user results indicate the FSTC is impacting end-users' cooking, lighting and ventilation equipment the most. The FSTC is having less impact in HVAC and water heating equipment[2].

The FSTC has made ASTM test methods close to standard practice in the industry. Most manufacturers report they now use ASTM test methods. There is also considerable awareness and use of ASTM test methods when end-users make equipment purchases.

The FSTC has been instrumental in changing manufacturer practices. Several industry interviewees noted that while they believe in the FSTC's impacts, they are difficult to quantify.

a. MARKET ACTOR OVERVIEW

- The manufacturer interviewees ranged from large conglomerate manufacturers with products in nearly every food service equipment category to specialty manufacturers in particular niches.
- The amount of time the manufacturer respondents have worked with the FSTC varied widely. Some have worked in various capacities with the FSTC since its inception or from the early 1990s, whereas others began working with the FSTC in the last 2–7 years.

[2] HVAC refers to building-wide climate control systems. Ventilation equipment refers to exhaust hoods and the like.

- All of the five national chains interviewed have corporate design staff who play an essential role in guiding energy efficiency within their companies. National chain interviewees asserted that in order to make national chains pay attention to energy efficiency, a strong, internal proponent of energy efficiency is needed.
- A major issue for the chain restaurant operations is corporate restaurants versus franchisees. In general, those interviewed said their franchisees do not have to use the corporate equipment specifications, just the recipe specifications.
- FSTC participant end-users represent a range of different types of food services end-users. Independently owned restaurants are the most represented type of participants. This has outreach implications for the FSTC.

b. MANUFACTURER IMPACTS

- Virtually all the manufacturer respondents said that their product lines have changed and become more efficient over the past 5 years. For some this was an evolutionary change as they are constantly improving products. For others this was due in large part to the FSTC testing and the development of ENERGY STAR standards that changed the competitive landscape in specific product categories.
- National chains report that they, coupled with FSTC, are moving manufacturers to more efficient practices. Three of the five interviewed national chains said they tell manufacturers they have to get their equipment tested by the FSTC before they will consider it.

c. END-USER IMPACTS

- All of the interviewed national chains report that, as a result of working with the FSTC, they have more efficient cooking equipment. They have worked with the FSTC to either develop or specify more efficient equipment across all cooking equipment categories.
- Three of the five national chains said they are beginning to look at the building shell, but it is still not at the forefront of their thinking. The customer survey confirms these reports.
- There is the potential for FSTC to significantly improve the energy efficiency of whole facility design, especially for national chains, through their work with the US Green Business Council LEED certification program.
- The effects of the food services equipment rebates are limited for national chains, but substantial for franchisees and independents.
- Participant end-user results indicate the FSTC is impacting end-users’ cooking, lighting and ventilation equipment the most. The FSTC is having less impact in Heating Ventilation and Air Conditioning (HVAC) and water heating equipment.

d. EFFICIENCY PROGRAM IMPACTS

- The participant end-user survey indicates the FSTC is playing a valuable role in getting participants into other utility energy efficiency programs, particularly PG&E’s

food services equipment rebate program. Half of rebate participants said the FSTC was very influential in their decision to purchase equipment that qualified for a rebate.

e. INDUSTRY NEEDS

- All of the market actors assert the FSTC is doing very well in serving industry needs. This is confirmed by high participant end-user satisfaction with the FSTC.
- All of the market actors generally feel FSTC should increase their outreach to the industry and most specifically to food service end-users.
- The most identified needs for end-users from both interviews with national chains and the customer surveys are hot water and shell issues.
- One national chain and one industry interviewee said they think the industry's primary need is the ability to accurately and effectively energy model the kitchen.
- Staff and market actor interviews raised the need for a more turn-key approach to end-user technical assistance. The end-user survey explored this identified need and found a high level of interest.

1.3.3 Objective #3: Educational Outreach

FSTC educational outreach activities, primarily consisting of training seminars and on-site support, are considered to be high-quality, well-delivered activities. End-users' demand for educational outreach activities is reported to have grown considerably over the last year.

Of the FSTC's different educational outreach and information dissemination activities, the largest percentage of participants rate trainings as very useful. While site surveys have enormous appeal to end-users, the evaluation identified opportunities to improve their comprehensiveness and therefore usefulness to end-users.

- Participants were asked about the usefulness of the different FSTC resources. The majority of participants who participated in a training event, equipment testing or the website rated the resource as very useful with training activities topping the list. While the majority of site survey or technical review participants rated the resource as very or somewhat useful (78 percent), one out of five said the service was not at all useful.

a. TRAINING SEMINARS

- Training seminars are reported as a good way to start building relationships, which can lead to impacts.
- Most manufacturer interviewees have attended at least one seminar or educational outreach event hosted by FSTC or a conference where FSTC staff is a presenter.
- All of the national chains said they or a member of their staff have attended at least one educational outreach event of the FSTC.

- Manufacturers reported changes in their practices from attending training such as modifying product offerings to improve performance; rolling out a new line of equipment; using information to increase sales; encouraging customers to attend certain seminars; and educating people in the industry that still need to hear energy efficiency information.
- PG&E staff, other California IOU staff and manufacturers all discussed the need for the FSTC to offer seminars that specifically focus on what food services equipment are eligible for rebates and how to select the equipment. Account services staff report that customers are specifying ineligible equipment.

b. ON-SITE SUPPORT

- PG&E and the FSTC staff have been cautious in their approach to marketing site-surveys because they do not want to over-subscribe.
- While the participant survey indicates a need for increased comprehensiveness of the site-surveys, FSTC staff report they do not have the budget to conduct more detailed audits or to provide further hand-holding to see whether audit recommendations are carried out to retrofits. FSTC staff said they would like to be able to provide a more turn-key approach to energy efficient improvements to end-users.
- The FSTC may be doing more integrated audits and retro-commissioning for PG&E in the future. PG&E would like to utilize the FSTC's expertise in food services to address these processes. In order to do this, the FSTC will need to provide cost and project payback information.

1.3.4 Objective #4: FSTC and PG&E Co-branding

While staff interviewees indicate the contractual relationship between PG&E and Fisher-Nickel is working, the issue identified as most problematic resulting from the contractual relationship is co-branding.

Program design and delivery staff interviewees identified that the primary question about co-branding is: Are PG&E and the FSTC interchangeable for customers—to what extent do customers recognize the FSTC as PG&E?

Customer surveys indicate limited co-branding awareness. The customer survey and market actor interviews show the importance of PG&E in strengthening the brand of the FSTC.

The evaluation indicates that PG&E needs to provide more guidance to Fisher-Nickel about FSTC branding.

- All of the manufacturer interviewees know that PG&E is a sponsor of the FSTC. The industry and national chain account interviews indicate some confusion about the branding of the FSTC.

- Even though PG&E is a prominent way of learning about the FSTC, there is a general lack of awareness among end-users that PG&E sponsors the FSTC. Only a third of participants know PG&E sponsors the FSTC.

1.3.5 Objective #5: FSTC and PG&E Advocacy

Interviews established the importance that the FSTC's information is viewed as objective and fair. While FSTC has not been involved in any policy debates to-date, the potential exists because of its role as a leading expert in the food services industry. PG&E needs to provide the FSTC with clear rules on what role they should or should not play in advocacy.

- There were some who questioned the FSTC's objectivity relating to codes and standards. PG&E provides long-term advocacy and support of the Codes and Standards Document.
- Some PG&E Staff feel it is appropriate for the FSTC to play a role in policy discussions in the food services industry, but the FSTC must only discuss the policy side that PG&E wants expressed and supported.

1.3.6 Objective #6: FSTC Program Benefits

The participant and nonparticipant end-user surveys indicate that the majority of FSTC services benefit locations within California and primarily within PG&E's service territory. At the same time, there are significant benefits to the other California utilities and to others outside of California.

Some of the benefits from equipment testing and information dissemination are realized by major market actors (such as equipment manufacturers and large national chains) that also influence the overall availability of energy-efficient equipment. The increased availability of energy-efficient equipment is likely to also benefit PG&E end-user customers. At the same time, there will be more emphasis on identifying and reporting PG&E customer energy savings from the range of FSTC activities.

The attribution of program benefits is difficult to measure although it would be helpful to have more information on who accesses the website and who attends training and conferences conducted outside of PG&E's service area. In particular, there is interest in knowing whether the other California utilities, particularly investor-owned utilities, are providing appropriate levels of cost-sharing for the FSTC services that they use.

- Those participants who work for businesses or organizations with multiple locations that may benefit from the program indicated, on average, that most (3/4's) of these sites are in PG&E's territory. Based on the number of reported sites for those organizations, slightly less than half (47 percent) of the sites were in PG&E's service area.
- Final approvals for equipment are just as likely to be made at the local level as the national or corporate level.

- The majority (over two-thirds) of the equipment in their California locations is more efficient than other locations outside of California according to program participants who make decisions for multiple locations. For program nonparticipants, the vast majority (over 90 percent) thought there was no difference in the efficiency of equipment in their California locations compared to their locations outside of California.
- There is some spillover in that decision-makers who purchased equipment based on participation in FSTC activities made improvements outside of PG&E service area—53 percent made improvements in California and 39 percent outside of California.

1.3.7 Objective #7 Program Metrics

A shift in the FSTC's metrics to outcome-driven instead of output-driven may be needed to align the FSTC's operations more with PG&E's goals.

The FSTC's activities have the market primed for energy savings. It is in the best interest of PG&E to accurately capture and receive credit for these impending energy savings.

The FSTC may need to establish baseload food services cases and conduct end-user follow-up if energy savings metrics are established for the FSTC.

- The FSTC has been meeting the metric numbers specified in their contract. The metrics are related to program "outputs" (e.g., number of trainings delivered) rather than "outcomes" (e.g., results of trainings).
- The primary issue with the established program metrics, from PG&E's perspective, is whether the FSTC is or should be more than an education program.
- Incorporating energy savings as a program metric raises the question of who the FSTC should target to best capture energy savings. While it is important to equitably serve PG&E customers, the question is whether the FSTC should focus more on national chains to multiply the effects of FSTC activities and touch more customers. On the other hand, the end-user survey indicates a large percentage of PG&E end-users are independents.

1.3.8 Objective #8 Budget Allocation

The FSTC is resource constrained and a shift in the budget allocation among activities may be needed to better align FSTC operations with PG&E's goals. Activities identified to increase are site surveys, end-user technical assistance and end-user marketing.

The market actor interviews support a cost-sharing rationale because of the significant program benefits accruing nationally beyond PG&E's customers. Interviews with market actors indicate receptivity to cost-sharing of the FSTC equipment testing.

- Both FSTC and PG&E interviewees indicated that the part of the budget they think is under-funded is customer educational outreach and support including both training seminars and site surveys.

- Some PG&E interviewees would like to see the percent of the budget for equipment and product testing, currently 40 to 50 percent combined, decreased. These interviewees believe that the standards development has "*reached a plateau.*" Currently, manufacturers do not pay for the majority of testing conducted by FSTC.
- Closely related to the national benefits of the FSTC discussed above in Objective #6 Program Benefits is the issue of cost-sharing. Overall, the market actor interviews support a rationale for cost-sharing because of the program benefits accruing nationally as well as to PG&E's customers.
- The primary area for cost-sharing identified in the staff interviews was for equipment testing. Interviews with market actors do indicate receptivity to cost-sharing of the FSTC equipment testing.

1.4 CONCLUSIONS AND RECOMMENDATIONS

The evaluation results indicate the FSTC has had an impact in increasing the energy efficiency of the food services industry and that the food services industry is now—largely as a result of FSTC efforts—well-positioned to realize energy efficiency gains. This raises the question of how to quantify the FSTC's reported successes.

This strategic assessment is to offer recommendations of how to better align the FSTC's operations with PG&E's goals. Interviews with PG&E staff indicate that PG&E's primary goal in relation to the FSTC is to be able accurately capture the energy savings resulting from FSTC activities for PG&E customers. A secondary goal is to identify benefits to other California IOUs and outside the state.

In light of the importance of this goal, we offer the following recommendations:

- **Consider opportunities for budget re-allocation that better align the FSTC's operations with PG&E's goals.** A budget re-allocation should consider expanding FSTC's seminars, site surveys, and technical assistance offered to end-users. At the same time, FSTC should seek cost-sharing opportunities for FSTC activities that are resulting in benefits outside of PG&E's territory. Cost-sharing of equipment testing services, particularly the specialized services available through the Chicago Ventilation Laboratory, would allow a greater percentage of the FSTC budget to be expended on other of its activities that result in quantifiable energy impacts for PG&E end-users.
- **Increase FSTC's coordination with PG&E's Customer Energy Efficiency (CEE) mass and target market programs that result in quantifiable energy savings.** Several PG&E staff said they would like to make greater use of FSTC resources for PG&E's integrated energy audits and retro-commissioning when customers have food services processes. Without clear cost information, the FSTC's usefulness to PG&E's CEE programs is limited. The FSTC should continue to develop its portfolio to enable increased coordination with these CEE target market programs. The primary recommendation regarding coordination with the mass market programs is expansion of the food equipment incentive program, discussed under the next recommendation.

- **Expand FSTC's efforts to support PG&E's food services equipment incentive program.** End-users reported the FSTC was influential in their decision to purchase rebated equipment. While PG&E's efforts in food services equipment incentives are leading the country, market actors report that the selection of qualifying equipment is still fairly limited. The FSTC should continue to work closely with the PG&E food services equipment rebate program manager to expand both the breadth and depth of rebated equipment as appropriate to expand energy saving opportunities. Related to recommendation #1 above, we also recommend PG&E explore cost-sharing opportunities with the other California IOUs for the work necessary to expand the food services equipment incentive program.
- **Increase the marketing of the FSTC to PG&E food services end-users.** PG&E staff interviews suggest that the primary way the FSTC should be promoted to end-users is through PG&E account services. Therefore FSTC should continue to look for opportunities to train account services staff on FSTC services and perhaps also provide account managers FSTC marketing materials to share with their customers. Interviews also indicate there may be a role for the FSTC in direct outreach to end-users. PG&E will need to decide to what extent they want to balance the outreach they do directly to end-users through account services and the extent to which they want to fund FSTC to conduct direct customer outreach.
- **Establish Internet capabilities to track who is using the FSTC website and what information is being used**. The Internet was identified as a primary preferred means of information dissemination and half of participating end-users said they had used the FSTC website. In order to understand if and how the website is resulting in energy impacts for PG&E end-users, user information needs to be captured. Market actor and end-user interviews indicate a willingness to complete a free registration to use the website. In addition, there should be a process to follow up with users to capture how the information they used affected their practices. This would be part of a more comprehensive evaluation plan to capture energy savings.
- **Continue information dissemination to equipment manufacturers/suppliers and related organizations.** While the percentage of end-users going to the FSTC for energy information should increase with increased marketing of the FSTC discussed above, manufacturers/suppliers, trade publications and other associations and organizations will most likely remain important sources of information for end-users. Therefore the FSTC should continue their work with these market actors. In addition, the FSTC's work with the supply chain has increased the availability of energy efficient equipment, which then benefits PG&E's customers. The evaluation indicates that the FSTC's work with the industry, especially in equipment testing, has been necessary to prepare the market to realize energy efficiency gains.
- **Develop an evaluation framework to quantify energy saving resulting from FSTC activities.** Currently no customer follow-up is conducted with FSTC participants. Energy savings are only tracked for PG&E rebate participants. A tracking system should be designed that would include key data for all participants. That data should include decision-maker contact information, type of business, responsibility for equipment/kitchen design decision-making, and number and location of facilities for which they make decisions. The system would also include key data from site surveys and technical assistance such as recommended

measures, costs, and potential energy savings. Using the tracking system data, follow-up surveys should be conducted for site visit and training/workshop (and possibly product test) participants to identify actions taken as a result of their participation in the FSTC activities.

- PG&E staff should work closely with Fisher-Nickel to establish a business plan for the FSTC that fits PG&E's objectives and includes metrics that are more closely aligned to those objectives. This process is already starting but should consider recommendations from this strategic assessment.

2. INTRODUCTION

This report presents the results of the 2007 process evaluation and strategic assessment of the Pacific Gas & Electric (PG&E) Food Services Technology Center ("the FSTC").

2.1 STUDY OBJECTIVES

The purpose of the process evaluation is to assess the effectiveness of the FTSC in achieving its goal of accelerating adoption of efficient equipment and practices in the food services industry and to recommend organizational and managerial changes that increase its performance. The process evaluation does that by examining the operations of the FSTC in several areas, defined in terms of eight major objectives. Those eight are assessments of:

- Objective 1: The effectiveness of dissemination of information on energy efficiency technologies and practices, along with the associated energy savings.
- Objective 2: The effect of the FSTC on potential purchasers of high-efficiency appliances, including corporate purchase processes.
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- Objective 7: The currently defined metrics for program performance and their appropriateness in measuring achievement of the stated program objectives.
- Objective 8: The adequacy of FSTC's budget and budget allocations in performing its mission.

The assessments focus on certain aspects of those objectives. First, PG&E is interested in how much of the program's impacts are realized in PG&E's territory, for the benefit of the ratepayers who ultimately fund the program. Second, the assessments are forward looking, with emphasis on developing recommendations on how the program may be changed to more closely align the FSTC's operations with PG&E's strategic goals. As stated in the request for proposals, the "consultant shall focus on defining a strategy for the FSTC to ensure that its organizational and managerial framework ensures the achievement of PG&E's stated objectives. This strategic review is supported by process reviews to determine how internal processes to the FSTC, as well as external stakeholders' needs, need to be defined and set up to enable the accomplishment of the strategic objectives." (p. 2 of RFP)

In the past, the FSTC has not had energy savings goals because it is an information and marketing program. However, PG&E and the FSTC staff believe that FSTC is resulting in energy savings that PG&E would like to be able to quantify. In this context, the evaluation also assessed and makes recommendations for processes to estimate the FSTC's energy savings.

2.2 STUDY OVERVIEW AND LOGIC MODEL

2.2.1 Program Overview

The food services industry consists of the most energy-intensive commercial buildings, consuming roughly 2.5 times more energy per square foot than other commercial buildings[3]. PG&E has over 38,000 commercial food services electric and/or gas accounts.

PG&E's FSTC promotes the adoption of energy efficient equipment and practices in the food service industry through the following activities:

- Testing and certification of a range of commercial food service equipment including cooking, preparation and refrigeration ["Equipment testing" in the Program Logic Model].
- Educational outreach to market actors and customers in the form of workshops, seminars, trainings, and speaker engagements ["Educational outreach" in the Program Logic Model].
- On-site surveys and design reviews for PG&E customer facilities ["Site surveys and design reviews" in the Program Logic Model].
- Dissemination of FSTC research and information through study reports, the FSTC website, the publication of a trade newsletter for food service providers, contribution to trade publications such as Food Equipment Reports, and participation in trade associations ["Information Dissemination" in the Program Logic Model].
- Supporting PG&E's Mass Market team's efforts in food services equipment incentives. The FSTC tests equipment to assist PG&E's development of incentive requirements for equipment that meets certain standards. ["Cash incentives" in the Program Logic Model].

Established by PG&E in 1986, the mission, structure, and activities of the FSTC have evolved over time in response to changing market needs and the regulatory environment. From 1986 to 1994, PG&E directly operated the program as part of its Learning Center kitchen. In 1994, PG&E contracted with Fisher-Nickel Incorporated (F-N) to operate the FSTC. F-N has continued to manage the day-to-day operation of the FSTC and the laboratory and training facilities since then.

In the terminology of efficiency program strategy, the FSTC aims to achieve its goal primarily by transforming the market for food service equipment. That transformation lowers various market barriers to adoption of efficient equipment. A comprehensive taxonomy of market barriers is provided in "A Scoping Study of Energy-Efficiency Market Transformation by California Utility DSM Programs" (Eto, Prahl, Schlegel, 1996). Those barriers include such industry characteristics as the fragmentation of decision making in large food service

[3] Consortium for Energy Efficiency, Commercial Kitchen Initiative Program Description, p. 1.

companies, uncertainty about the performance of efficient technologies, and time to determine the cost effectiveness of efficiency improvements.

The FSTC lowers these barriers both directly and indirectly in many ways. The 2003 Report on Energy Efficiency in the Food Service Industry[4] (the 2003 Market Effects Study) enumerated at least 23 linkages between the services that the FSTC provides and their effects on reducing market barriers (pp 3-2 through 3-4). Those linkages include such effects as the impact of workshops on awareness and knowledge of energy efficient equipment, the reduction of uncertainty about equipment performance, and the impacts of testing methods on equipment codes and standards.

2.2.2 Logic Model Overview

The program logic model for PG&E's Food Service Technology Center illustrates a set of interrelated FSTC activities that combine to produce a variety of outputs that in turn lead to key short-, mid-, and long-term outcomes.

We also describe: (1) the various positive and negative external factors that might also influence the design, delivery and expected outcomes of the FSTC and (2) the relationship of the FSTC to other PG&E segments.

The following evaluation activities supported the development of the program logic model:

- Program documentation review
- Interviews with program design and delivery staff
- Interviews with food services industry market actors.

The program logic model can lead to cost-effective determination of program effectiveness. According to Chen,

> "....specifying the underlying theory of a program within the evaluation allows that theory to be tested in a way that reveals whether program failure results from implementation failure or theory failure. Program theory clarifies the connections between a program's operations and its effects, and thus helps the evaluator to find either positive or negative effects that otherwise might not be anticipated. It also can be used to specify intermediate effects of a program that might become evident and measurable before final outcomes can be manifested, which can provide opportunities for early program assessment in time for corrective action by program implementers."[5]

[4] Final Report for Energy Efficiency in Commercial Food Service, Equipoise Consulting Incorporated (published April 2, 2004). By Equipoise Consulting Incorporated; Quantum Consulting Inc.; Energy Solutions, and RJ Research.

[5] Chen, Huey-Tsyh. *Theory-Driven Evaluations.* Sage Publications, Inc. 1990. p. 29.

The FSTC logic model can be linked to performance indicators in order to provide on-going feedback to the FSTC program manager. Regular feedback can allow PG&E to make mid-course correction in the FSTC's design and/or delivery of activities. The logic model can also be used to identify high priority research issues, which can also inform the design and delivery of the FSTC activities.

A more thorough discussion of program theory and logic models can be found in Chapter 4 of the "*California Evaluation Framework"* (The TecMarket Works Team, 2004).

While the *California Energy Efficiency Evaluation Protocols: Technical, Methodological, and Reporting Requirements for Evaluation Professionals (*The TecMarket Works Team, 2006), based largely on the *California Evaluation Framework,* does not require a program theory and logic model for every program, the CPUC has required that utilities prepare program theories and logic models for each of their programs or segments. PG&E agrees with the CPUC that program theories and logic models are indispensable for the effective and efficient design and delivery of the PG&E segments and assessing their energy and demand impacts. The FSTC program logic model follows closely the program theory and logic model developed for PG&E's Hospitality Sector.

2.2.3 External Influences

In addition to political and economic factors such as the war in Iraq, the price of oil, inflation, and electricity and natural gas prices, program design and delivery staff and market actors identified a variety of other external entities that could also influence the food services sector. These include:

- U.S Department of Energy ENERGY STAR® Program
- California Energy Commission (e.g., California Best Practice & Efficiency Training Workshops)
- PG&E's Mass Market Segment
- PG&E's Target Market Segment
- California Flex Your Power Program
- The Consortium for Energy Efficiency Commercial Kitchen Initiative
- The National Association of Food Services Equipment Manufacturer
- The US Green Building Council's LEED certification

In addition, process interviews indicate an overall "greening" of the industry. All of these external influences can affect various elements of the program at various stages.

2.2.4 Relationship to Other PG&E Segments and Programs

The FSTC is in PG&E's Technical Application Services Group. The FSTC has a direct link to the Mass Market Segment, through which measures that have deemed savings are processed. The FSTC also has a relationship with certain Target Market Segments such as large institutional facilities, the Hospitality Segment, the Emerging Technology Program, and the Codes and Standards Program.

2.2.5 The FSTC Logic Model Diagram

The FSTC logic model flows from top to bottom and is organized according to five basic categories:

- Segment activities
- Outputs
- Short-term outcomes
- Intermediate outcomes
- Long-term outcomes

Each link in the logic model is numbered. These numbers are for ease of reference and do not indicate a sequence of activities.

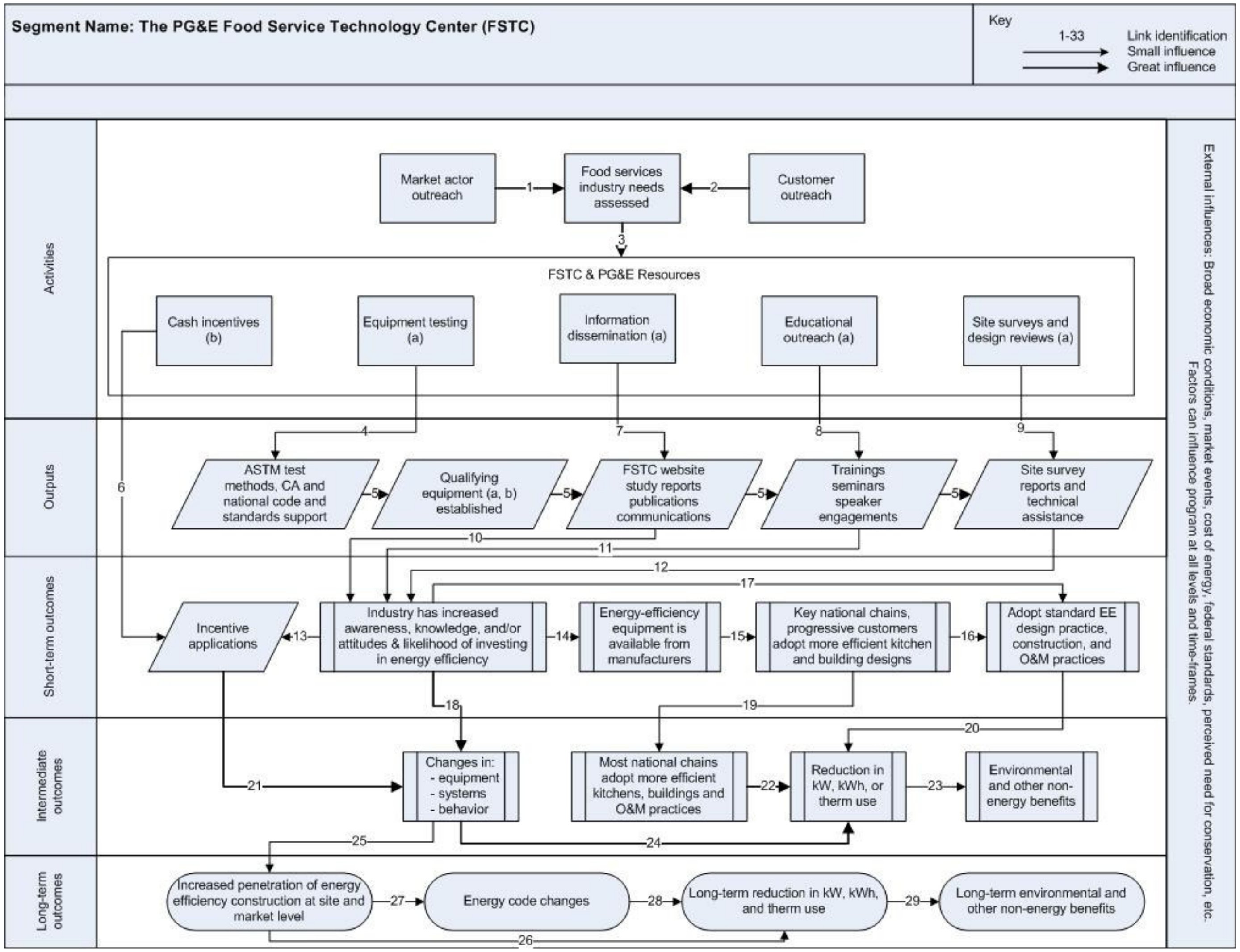
The delivery of the FSTC activities (described above under the “Program Overview”) involve either one or more of the following:

a. PG&E

b. FSTC Staff

In each resource box in the activities row of the Program Logic Model, we indicate which is involved in delivering the resource by inserting an “a” or “b.” For example, PG&E works with the FSTC Staff to determine deemed incentive levels. Therefore, an “a” and “b” have been inserted into the resource box in the output “Rebates equipment and tools established.

Figure 2-1. The FSTC Logic Model Diagram



3. PROCESS EVALUATION METHODS

PA's approach to achieving the evaluation objectives follows two separate, but coordinated, tracks. The first track is an internal process review, consisting of a systematic review of program documents, an analysis of participant data, and a set of structured interviews with FSTC and PG&E personnel. The second track consists of an external market evaluation, encompassing a review of reports and studies on the food service market, structured interviews of program participants and stakeholders, and surveys of food service providers (both participants and nonparticipants in the FSTC program). The overall project steps are summarized in Figure 3-1.

The internal process review evaluates the performance of the FSTC's program by examining how the program is operated based on various documents and structured interviews with 25 PG&E and FSTC staff, and comparing the actual operations with the stated objectives and priorities in various documents. The interviews are designed to elicit PG&E's and Fisher-Nickel's FSTC staff views on operational practices and a range of issues defined by the objectives and program documents, as summarized in the program logic model. By comparing the responses of individuals in various parts of the two organizations to the program documents (e.g., contract, business plan, PG&E rules on co-branding, advocacy) and to the responses of other interviewees, we identified areas where operations or priorities are not fully consistent with the program goals or where operational inefficiencies exist. In those cases, we make recommendations on how the program management, budget, or other practices should be modified to more closely align the organizational structure and operations with the objectives or, possibly, where stated objectives need to modified or clarified. The internal review is the primary means for achieving the five of the eight evaluation objectives (#'s 1, 4, 5, 7, and 8). It is also a key component of the assessment of the FSTC's educational/outreach programs, along with the external market evaluation.

The second track, an external market evaluation, assesses the performance of the FSTC from the perspectives of the participants in the food service industry in Northern California, nonparticipants, and market actors such as equipment manufacturers, national chain corporate managers, other energy efficiency organizations and food services facility designers. That assessment also includes an analysis of how food service providers make equipment decisions and how those decisions are influenced by the services that the FSTC provides. The external market evaluation includes primary data collection with food services market actors and end-users. It also includes a secondary data review of reports, papers, and other literature on the food service industry, with emphasis on organizational decision making on energy-using equipment. The purpose of this portion of the external research is to gain a more rounded understanding of how food service organizations make equipment choices and the influence that the FSTC can or does have on those decisions. These interviews focus on organizations in Northern California and multi-establishment entities (e.g., chain restaurants). The selection of stakeholder interviewees is intended to be representative of the industry in Northern California, in showing trends that we examined more quantitatively in the customer surveys.

Figure 3-1. Project Flowchart

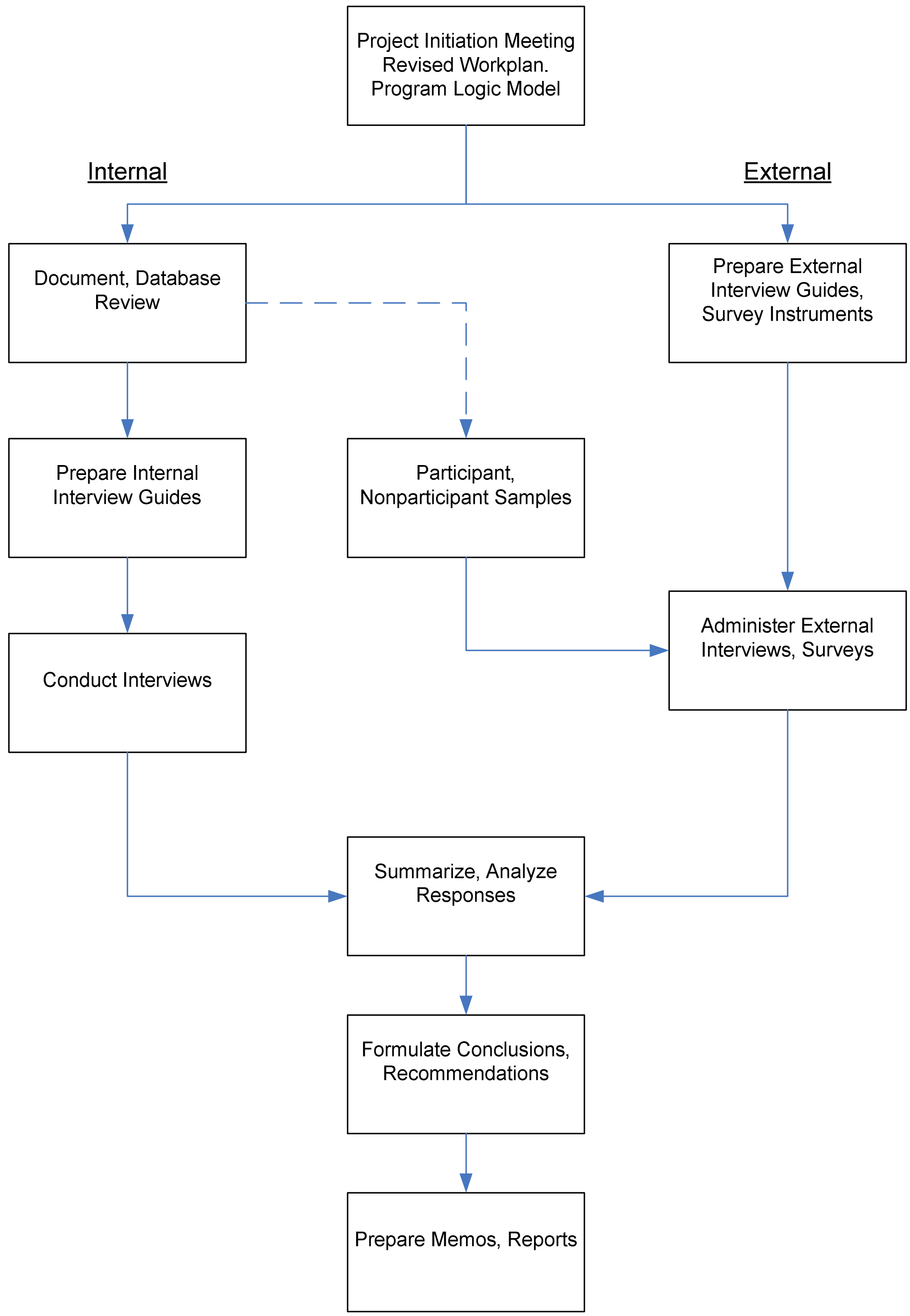


Table 3-1 summarizes the primary data collection activities discussed above and the number of surveys or interviews PA conducted to support the process evaluation.

Table 3-1. Primary Data Collection Activities Overview

Process Evaluation Track	Evaluation Objectives Achieved	Primary Data Collection Activity	# Completes
Internal process review	#s 1, 2, 4, 5, 7, 8	PG&E, F-N, FSTC in-person interviews • 15 PG&E staff including senior managers, Customer Energy Efficiency (CEE) program managers, and account services staff • 5 Fisher-Nickel staff • 4 staff of other California investor-owned utilities (IOUs) including SoCalGas, SoCal Edison and San Diego Gas and Electric	25
External market evaluation	#s 2, 3, 6	Food service industry market actor telephone interviews. • 5 corporate decision-makers for chain restaurants. • 5 industry stakeholders that represent energy efficiency organizations and industry associations. • 20 food services supply chain market actors that included 15 equipment manufacturers and 5 local or regional manufacturers’ representatives.	30
		2006–2007 Food services end-users participant telephone surveys • 45 training participants • 24 site-survey participants • 84 rebate participants	153
		Food services end-users nonparticipant telephone surveys • 43 multi-facility end-users • 41 single facility end-users	84

At the end of the internal process and external market assessments, PA analyzed the findings to develop a set of recommendations on changes in the operations of the FSTC and the budget allocation to improve its effectiveness at fulfilling PG&E's goals. The analysis also included other PG&E programs affecting the FSTC target markets to improve interactions and coordination with the FSTC. These recommendations are based on the findings where PA has identified differences in the FSTC's actual performance from the stated objectives. PA examined any implications of the recommendations for the overall FSTC budget and the allocation among different functions.

PA presented the draft recommendations to PG&E and FSTC staff, discussed the rationale for our recommendations, and obtained feedback. Based on that feedback, PA adopted a final set of recommendations for inclusion in this evaluation final report.

4. RESULTS

This report section presents key findings of the strategic assessment and process evaluation. Key findings are presented for the eight evaluation objectives summarized in the "Introduction."

4.1 OBJECTIVE #1: INFORMATION DISSEMINATION AND RESULTING ENERGY SAVINGS

Market actors stated that the FSTC is the leading provider of information on food services equipment and processes to the industry. However, the FSTC is not the primary source of information end-users turn to, except for key national chains. This indicates much of the FSTC's information is being disseminated through other industry actors (e.g., manufacturers, trade publications) that the FSTC works with.

FSTC training activities and the website are the primary venues for information dissemination. The evaluation results indicate these are the two best venues to primarily pursue for information dissemination although others are also important. FSTC information is viewed as objective and fair.

The customer survey indicates there are energy savings resulting from information dissemination for FSTC participants. However, PG&E's food services end-users' lack of awareness of the FSTC is most likely limiting the extent of energy savings impacts of the FSTC's information dissemination.

- **The market actor interviews indicate that the FSTC is the leading provider of information on food services equipment and processes to the industry. Secondly, this information is viewed as objective and fair.**

"The best single resource out there. . . FSTC is THE player."—Manufacturer

The FSTC is one of the most popular specific sources of information on energy efficiency equipment and design across all market actors. Interviewees mentioned the following other sources for energy information: ASME, ASHRAE, ARI, ENERGY STAR, LEED, CEE and more generally, the Internet, trade publications, competitor information, etc.

Overall, market actor interviews indicate the most important information the FSTC is providing the industry is equipment testing information.

"*I am not exaggerating, there would be a huge void in the industry without the Food Services Technology Center's equipment testing information.*" —Industry

- **Industry and national chain market actors reported extensive use of the FSTC equipment testing results. The FSTC equipment testing plays a critical role for both industry and national chains in providing objective, third party verification.**

"*It is important to have that 3rd party verification of testing.*"—Industry

National chains discussed the largest direct benefit of the information from FSTC equipment testing is the ability to compare food services equipment on performance. They can then use this comparative information to purchase the best equipment. According to interviewees, this was not possible before the FSTC's work in equipment testing and performance standards.

"*The FSTC's equipment testing has been beneficial to the whole industry. It allows us to rack 'em and stack 'em for comparison purposes. No one else is doing this in the industry*."
—National Chain

Several industry and national chain market actors discussed that, in food services, manufacturer testing procedures are newer and historically have not been stringent. Therefore, there is more of a need for third party verification than in other industries with more established practices.

"*The information from manufacturers is not good so what the FSTC does is invaluable*."
—National Chain

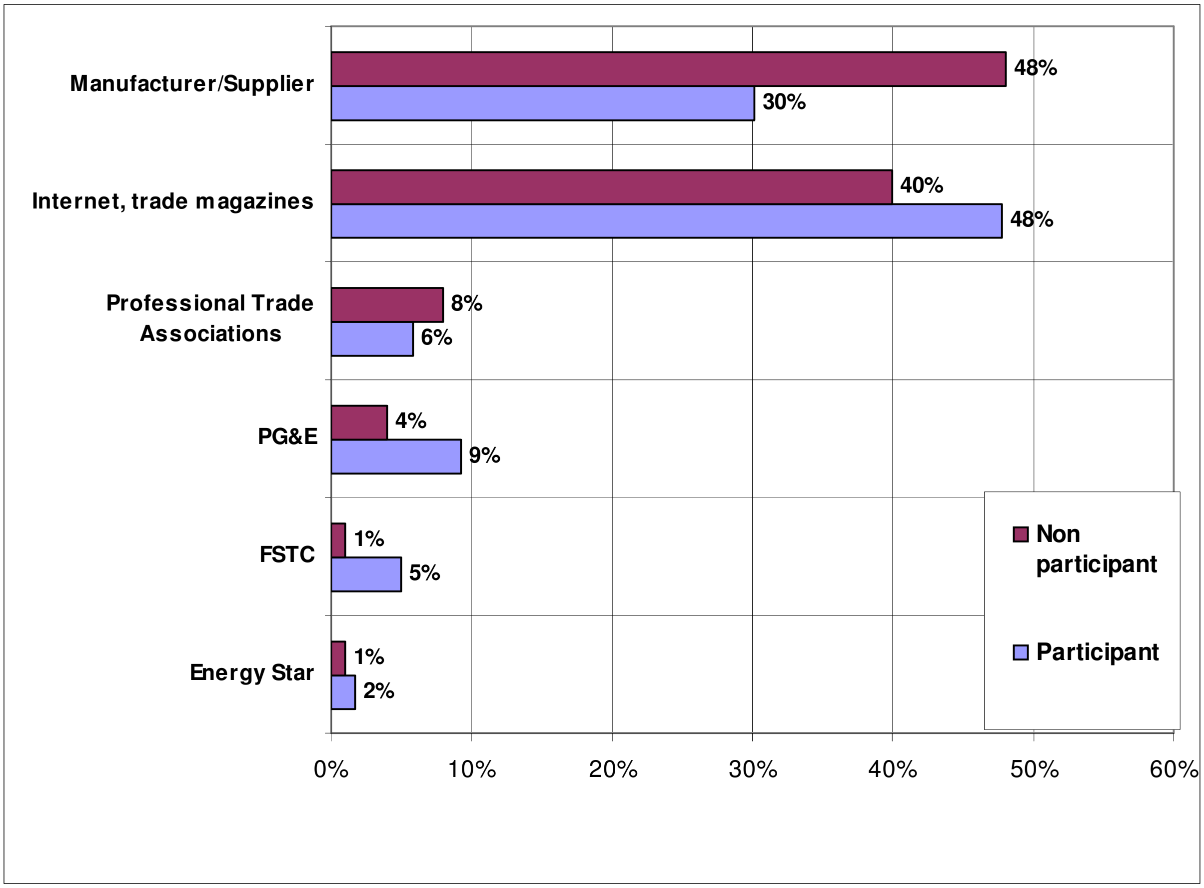
Nearly all of the manufacturer interviewees also view the FSTC's primary role as an "*independent, 3rd party testing organization*" for the industry. Manufacturers report they use the FSTC to improve and/or validate design and efficiency claims.

- **While staff interviews were unanimous that the FSTC is seen as a technical leader by the food services industry, the general consensus among staff interviewees is that the majority of PG&E food services customers are not aware and do not take advantage of the FSTC. This suggests that limited customer awareness may be affecting the effectiveness of the FSTC's information dissemination.**

Customer survey results substantiate the reported limited customer awareness of the FSTC. The majority of non-participating end-users are not aware of the FSTC. Awareness is higher for multi-facility end-users than single facility end-users. Five percent of single-facility end-users had heard of the FSTC. Eleven percent of multi-facility end-users had heard of the FSTC.

The customer survey results show that end-users, especially nonparticipants, are primarily turning to manufacturers and suppliers, the Internet, and trade publications for information about kitchen design or purchasing kitchen equipment to maximize energy efficiency. While only 15 percent of end-user participants indicate their primary source of information is directly related to FSTC (either FSTC, Fisher-Nickel, or PG&E), all of the national chains interviewed said the FSTC is one of their primary source of energy efficiency information (Figure 4-1).

Figure 4-1.
In thinking about kitchen design or purchasing kitchen equipment to maximize energy efficiency, what is your primary source of information?
(Participant n=153, Nonparticipant n=84)

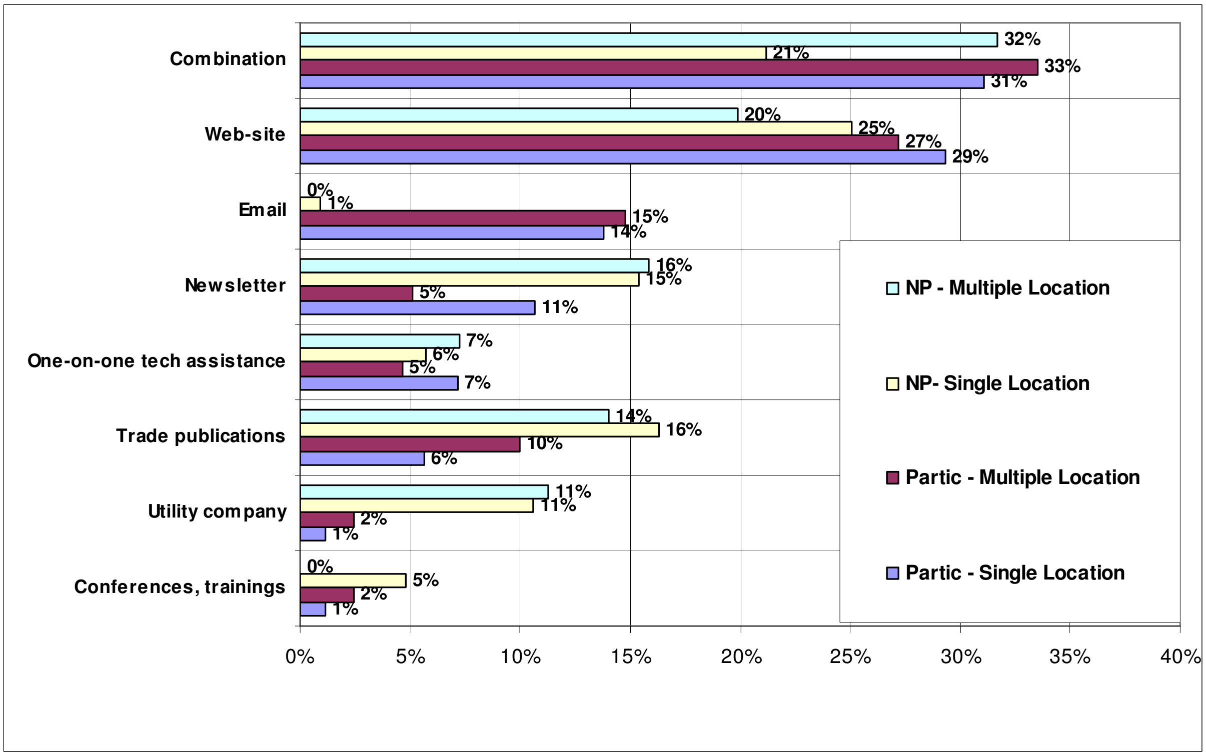


Interviews indicate that the following primary venues for FSTC's information dissemination discussed in more detail below are:

- Training activities (discussed under Educational Outreach, Evaluation Objective #3)
- The FSTC website
- Trade publications
- Personal communication
- Mailings.

The customer survey indicates that the mix of FSTC's information dissemination means is important. The most preferred way to receive information is a 'combination' of sources that include the Internet, manufacturers, trainings, technical assistance, etc. The Internet is the second most preferred way of gaining energy efficiency information for end-users (Figure 4-2).

Figure 4-2.
How do you most prefer to get information about high efficiency kitchen equipment or design? (Participant n=153, Nonparticipant n=84)



Nonparticipant end-users appear less "plugged-in" than participant end-users. Significantly fewer nonparticipant end-users said their preferred way to get equipment or design information is the Internet or email, and significantly more preferred to get equipment or design information from trade publications, the utility or newsletters Nonparticipants are similar to participants in terms of firmographics. However, participants include some kitchen designers and A&E firms that make decisions for food services end-users. This may account for part of the difference in being "plugged in."

4.1.1 The FSTC Website

Fisher-Nickel maintains the FSTC website, www.fishnick.com. PG&E links to this website from www.pge.com/fstc. Program design and delivery staff view the "fishnick website" as an important vehicle for FSTC information dissemination, especially in the future as end-users become more plugged-in.

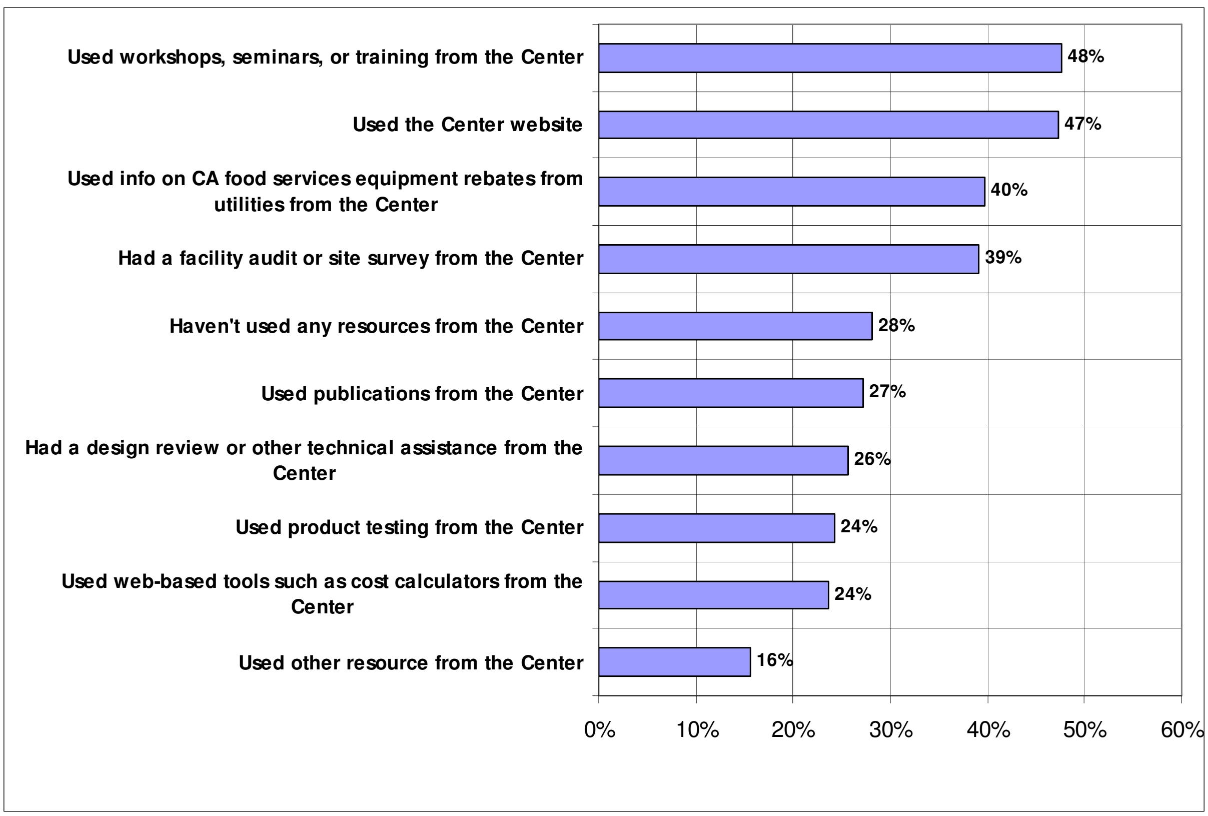
Customer surveys support this as the Internet is the second most preferred ways to receive information (Figure 4-2). All market actors report they access the FSTC website for information. Several industry stakeholders said the FSTC website is the only place for the food services industry to go to get the wealth of knowledge.

"*A big piece of the puzzle is their website. It is an invaluable tool.*"—Industry

Website visits varied among manufacturers. A majority of manufacturer interviewees looked at the website regularly (weekly or monthly), with the remainder viewing it on a quarterly basis. Several manufacturer interviewees report daily use of the case studies, equipment testing and web-based tools by them and/or their sales force. Manufacturers view the website for a variety of reasons. Some manufacturers use it to build new marketing materials around the comparisons and case studies on ROI/operating costs the FSTC have done. Others constantly look for the latest information in the industry or how they compare with competitors in a particular product category. Some manufacturers refer clients to the website, especially as a sales tool when posted results uphold solid performance.

The participant survey shows that the website is an important source of information for end-users, second only to FSTC's training activities in the types of FSTC resources used to get information. Figure 4-3 shows the FSTC resources participant end-users report using to learn more about energy-efficient food services equipment, kitchen design or processes.

Figure 4-3.
Have you used any of the resources available from the Center to learn more about energy-efficient food services equipment, kitchen design, or processes?
(Participant n=153)



Program design and delivery staff and market actor interviewees' satisfaction with the "fishnick website" content is high. Interviewees were less satisfied with the design and co-branding of the website. FSTC staff re-designed the website in October 2007 after the evaluation conducted interviews. The re-design effort addressed many of the issues raised in interviews. The main issue the re-design effort did not address is collecting information on specifically who is using the website despite the fact that the majority of PG&E staff interviewees identified the need to know who is using the website. In general, FSTC staff believe users are primarily industry market actors such as national organizations, utilities, manufacturers and suppliers, not end-users. Another issue to examine in terms of website usage is the extent to which hits are from PG&E end-users or those serving PG&E end-users. PG&E and FSTC interviewees said there is not a marginal cost to PG&E for customers outside of California using the FSTC website. But, PG&E staff said that if most of the hits are outside of California, then the problem is "*we're not getting our customer*."

FSTC provided reports from the website on traffic in terms of approximate number of visits, traffic distribution showing sections of the website that were visited, and geographic breakdown of the users. The key data that is missing is what type of business is visiting the website.

Market actor interviewees indicated they are willing to complete a free registration to use the website. The customer survey also asked end-users if they would be willing to complete a free registration to use the website. Approximately two-thirds of end-users said they would use the website even if they had to complete a free registration. However, registration would be a deterrent to approximately a third of end-users.

Several interviewees believe information dissemination through the website can only be somewhat effective. Customer relationship building and touch is extremely important to affect changes, especially in the food services industry, according to several interviewees. Interviews with national chains confirm the importance of relationship building, discussed later in this section.

Customer relationship building and touch is extremely important to affect changes, especially in the food services industry, according to several interviewees. Interviews with national chains confirm the importance of relationship building, discussed later in this section.

"*Face-to-face is very important in the hospitality industry. It's hard to get the virtual world working for you. The industry is running behind on virtual world*." —FSTC staff

At the same time, the website is a less labor-intensive way to get information out. This is important given the current FSTC budget allocation. FSTC staff resources are operating at capacity.

"*We're maxed out in our ability to transfer information with our current staff. We've ramped up. We're open to get more field staff and getting out there more*." —FSTC staff

4.1.2 Personal Communication

Personal communication is the most important venue of information dissemination for national chains. All of the interviewed corporate decision-makers for national chains said they talk with FSTC staff on a regular basis, at least every two weeks. All national chain interviewees said the FSTC is very responsive to their calls.

"*We are really tied into the FSTC. They work with us to get us what we need."*—National Chain

While some of the interviewed manufacturers reported that they only attend occasional seminars or use the FSTC for testing new models, others reported much closer relationships and personal communication with the FSTC. These include having the FSTC hold trainings on-site for them and being in constant contact with on-going collaborative projects in various segments.

Industry interviewees that included national programs and energy efficiency organizations also said they have frequent personal communication with FSTC staff, but mainly in working on projects or in committees together.

Virtually all market actors said their use of the FSTC would stay the same or increase over the next 12 months. Companies that are holding steady in their direct use of the FSTC have on-going projects or scheduled testing and evaluation by the FSTC for design verification or ENERGY STAR approval. Those that are increasing their use have new products they want tested or are finally moving forward on industry initiatives (such as commercial kitchen ventilation and filter performance) with the FSTC.

4.1.3 Publications

Several interviewees discussed the FSTC's contribution to the *Food Equipment Reports* (FER). It was reported that FER is geared toward equipment purchasers who need to know more about equipment to help them select and buy. They said FSTC's contribution to FER's content has elevated the material considerably.

"*They've helped elevate FER's content and this really helps cast a broad net of affecting equipment specs and energy consumption.*" —Market actor

It was also discussed that the FSTC contributes to NAFEM and other trade publications. Two industry interviewees feel the FSTC has not been doing enough in trade publications and the media and they would like to see this increased.

The customer survey results show that trade publications are an important source of information for end-users, especially nonparticipant end-users.

4.1.4 Mailings

Manufacturers and national chains report receiving mailings from the FSTC both via e-mail and regular mail. When asked about their preferred method for receiving information from or about the FSTC, the majority of the interviewees said they prefer email. A few said that they like the current mix of direct and electronic mail and requested that it continue. The nonparticipant end-user survey, however, shows a small preference for direct mail instead of email.

4.1.5 Energy Savings

In terms of energy savings resulting from the FSTC's information dissemination, staff interviewees note that the food services industry accounts for at least 10 percent of PG&E's revenue. But it is a difficult industry to move toward energy efficiency because of first costs, fragmentation, and a culture that tends to be slow adopters.

"Food services is a very, very hard industry to move toward energy efficiency." —CA utility staff

- **Several staff interviewees believe that the FSTC's information dissemination has raised the level of energy efficiency of food services equipment.**

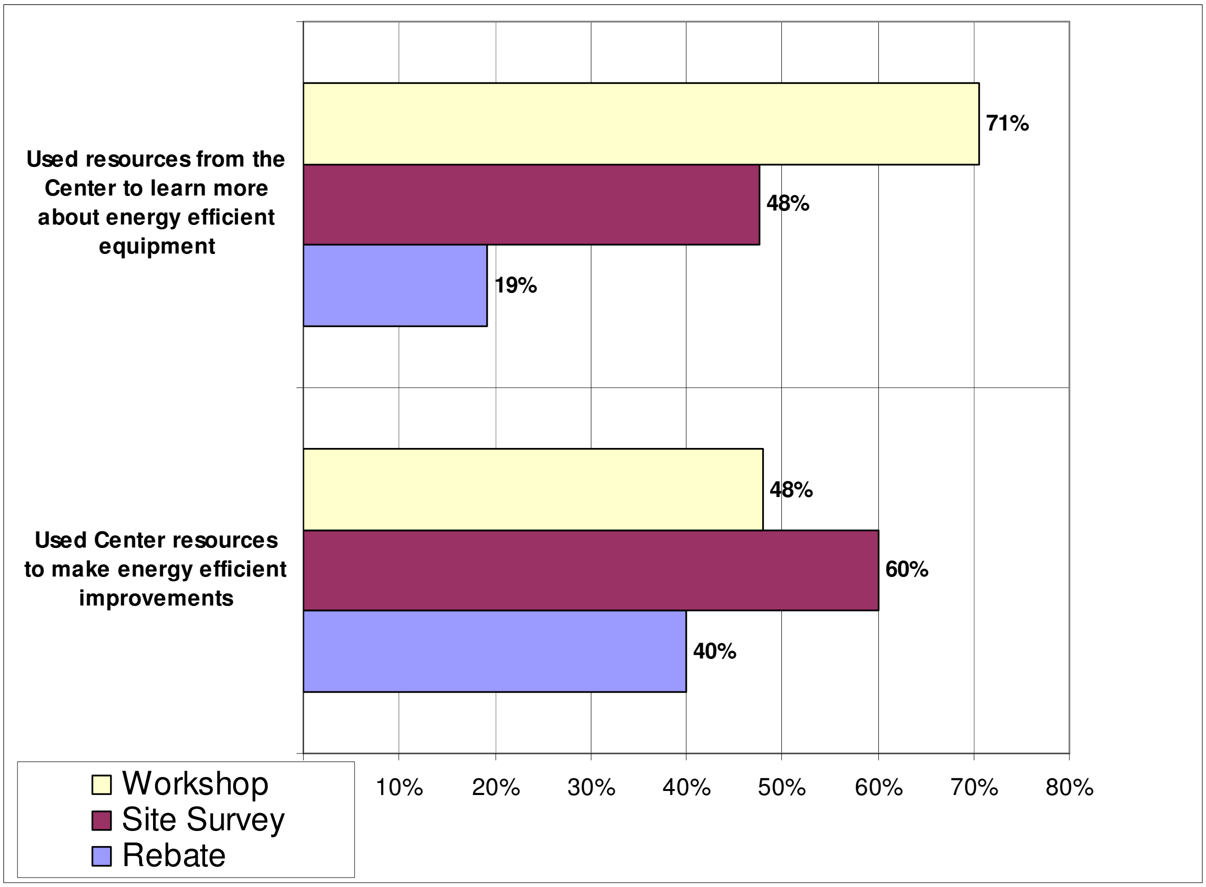
"*We've seen real-time market transformation of equipment. We can watch the impact. The last six years have been exciting, the last three, very exciting*." —FSTC staff

"*Manufacturers know they have to think about efficiency now to sell against their competitors because of the FSTC."* —Utility staff

FSTC staff estimate 90 percent of manufacturers know about and use FSTC's information. Market actor interviews confirm these reports. All contacted manufacturers, suppliers and industry stakeholders are very familiar with the FSTC. Virtually all the manufacturer respondents said that their product lines have changed and become more efficient over the past five years as will be discussed more under "Objective #2, Industry Needs and Impacts." Staff and market actor interviewees discussed that much of this is a result of the FSTC working upstream with market actors to change their production based on FSTC equipment testing results. Staff and market actor interviews also reported that the FSTC was primarily responsible for the transformation of certain technologies.

The customer survey indicates there are energy savings resulting from information dissemination for FSTC participants. The majority of training participants said they used FSTC resources to learn more about energy efficiency equipment. Of those, about half then used FSTC resources to make energy efficient improvements. Approximately half of site survey participants said they used FSTC resources to learn more about energy efficient equipment, and of those, sixty percent used the resources to make energy efficient improvements. Rebate participants identify using FSTC resources the least to both learn about and make energy efficient improvements. However, this may be a result of rebate participants viewing rebates as a PG&E resource as opposed to a FSTC resource. For example, a rebate participant could have applied for a rebate directly from PG&E without ever going to the FSTC website or interacting with the FSTC in another way.

Figure 4-4.
Percent of Participants Using FSTC Resources to Learn About and Make Energy Efficiency Improvements (n=102)



4.2 OBJECTIVE #2: INDUSTRY NEEDS AND IMPACTS

The FSTC has positively influenced the food services industry's equipment purchasing practices, particularly for multi-facility establishments. The FSTC has accomplished this through developing testing standards and providing equipment testing results that allows end-users to compare equipment in terms of performance and efficiency.

Participant end-user results indicate the FSTC is impacting end-users' cooking, lighting and ventilation equipment the most. The FSTC is having less impact in HVAC and water heating equipment[6].

The FSTC has made ASTM test methods close to standard practice in the industry. Most manufacturers report they now use ASTM test methods. There is also considerable awareness and use of ASTM test methods when making equipment purchases, especially by

[6] HVAC refers to building-wide climate control systems. Ventilation equipment refers to exhaust hoods and the like.

multi-facility establishments.

The FSTC has been instrumental in changing manufacturer practices. Several industry interviewees discussed that while they believe in the FSTC's impacts, they are difficult to quantify. They said in large part this is because of the amount of work the FSTC does "behind the scenes." Examples of this kind of "behind the scenes" work include equipment testing, working with manufacturers, contributing to publications, and providing education.

All market actors discussed the growing attention to energy use in the food services sectors. Industry stakeholders discussed that the Commercial Building Energy Consumption Survey shows that restaurants are the most energy intensive commercial sector for their square footage. More organizations are now paying attention to the food services sector.

We begin this section with an overview of the food services industry market actors (manufacturer and end-users, specifically breaking out national chains) and how they work with the FSTC. We then discuss the FSTC's impacts on the industry and additional industry needs.

4.2.1 Market Actor Overview

a. MANUFACTURERS

The manufacturer interviewees ranged from large conglomerate manufacturers with products in nearly every food service equipment category to specialty manufacturers in particular niches. Many of the interviewees specifically target chains, rather than other segments of the market. All manufacturers sell nationally and some have extensive international presence. The manufacturers' representatives interviewed ranged from those that represent multiple lines of equipment to those that specialize in just one. The vast majority of manufacturers' representatives focus on Western US and Canada, with only one focused solely on CA and specifically Northern California.

The amount of time the respondents have worked with the FSTC varied widely. Some have worked in various capacities with the FSTC since its inception or from the early 1990s, whereas others began working with the FSTC in the last 2–7 years. The vast majority of the interviewees said they chose to work with the FSTC because of their reputation and ability to provide independent third party testing and validation. Sometimes this was directly at the request of a large client (such as large grocery store chain). Other times it was to confirm design and performance claims. Other reasons interviewees gave for choosing to work with the FSTC include that respondents felt the FSTC staff was very knowledgeable about their particular niche, their technical advice was always useful, and the FSTC sees the industry trends and know where the market is going 5 years hence. Some respondents feel that if they did not work with the FSTC, their competitiveness would be significantly handicapped.

b. NATIONAL CHAINS

All of the five national chains interviewed have corporate design staff who play an essential role in guiding energy efficiency within their companies. The interviewed national chains vary in the extent to which they use in-house architects and food equipment specialists versus external contractors, although all of the chains use a mix of internal and external staff. Some have large internal teams that do all of the design and specification on everything in the building. They only contract out the actual construction documents to external contractors to manage at the local level. Another chain, on the opposite end of the spectrum, has no internal architects. Some chains were in the middle of the spectrum with small internal teams. Those with smaller internal staff resources said they have come to rely on FSTC's expertise to supplement their staff.

National chain interviewees asserted that in order to make national chains pay attention to energy efficiency, a strong, in-house proponent of energy efficiency is needed. Several interviewees felt that the key is to have internal staff at the corporate level committed to pushing efficiency forward. And in this role, the FSTC has been essential. According to interviewees, the FSTC data and resources help national chain corporate staff get higher efficiency and better equipment. Three of the five interviewees said they face an internal struggle of initial cost versus the long-term cost of the equipment.

"*Energy efficiency over the initial cost has been a constant internal fight."* —National chain

Four of the five interviewed restaurant chains do equipment specification at the national level in order to take advantage of economies of scale in purchasing. A fast food chain was the only interviewee that differed from this practice. A fast food chain instead works with manufacturers to develop equipment options. A fast food chain Corporate management has several approved pieces of equipment that franchisees can then pick from to meet specifications. It was reported there is resistance to dropping less efficient pieces from the qualifying list.

Another major issue for the chain restaurant operations is corporate restaurants versus franchisees[7]. In general, franchisees do not have to use the corporate equipment specifications, just the recipe specifications. But they are encouraged to use the equipment specifications and there is also an advantage for franchisees since they can benefit from bulk purchasing discounts. The final say is normally up to the individual franchisee.

Corporate staff report their role in working with the franchisees is to "*help set the franchisees up to succeed*." This involves looking at energy efficiency equipment performance, comfort, repair, and maintenance so they have the best product. While there are some franchisees who think they know best and try to "buck the system," corporate staff report most of them follow their design recommendations.

When asked about Northern California franchisees in PG&E's territory, corporate staff discussed how franchisees differ a lot in how they approach energy efficiency and whether or not they work with the FSTC. Some are very strong and conscientious and take advantage of the FSTC as a resource. Others are not. In general all of the interviewed corporate staff said they had at least one strong franchisee (in most cases more) in PG&E's territory that take advantage of the FSTC. They believe the majority of PG&E franchisees are familiar with the FSTC and know about ASTM test methods. Corporate staff reported that California franchisees tend to be much more aware of energy savings than other franchisees.

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[7] Corporate chain restaurants are under corporate management. Franchisees have more independent operation and management of stores although "branding" is consistent. The amount of independence allowed franchisees varies among chains, however.

"*California franchisees are actually looking at the research and are tuned in to energy.*"
—National Chain

All of the interviewed chains report they work with the FSTC staff on a continual basis as discussed in more detail under the "Information Dissemination" section.

c. END-USERS

FSTC participant end-users represent a range of different types of food services end-users (Figure 4-5). While manufacturers and other supply chain actors were excluded from the participant survey, market actors such as kitchen designers were included when they make equipment and design decisions for end-user facilities. Independently owned restaurants are the most represented type of participants. Independent end-users represent half of all interviewed participants. They also are the largest part of the nonparticipant survey respondents suggesting that independents are in fact a substantial part of PG&E's food services end-users (Figure 4-6). Other business types interviewed consist mainly of architectural and engineering firms.

Figure 4-5.
Type of Participant Facility (n=153)

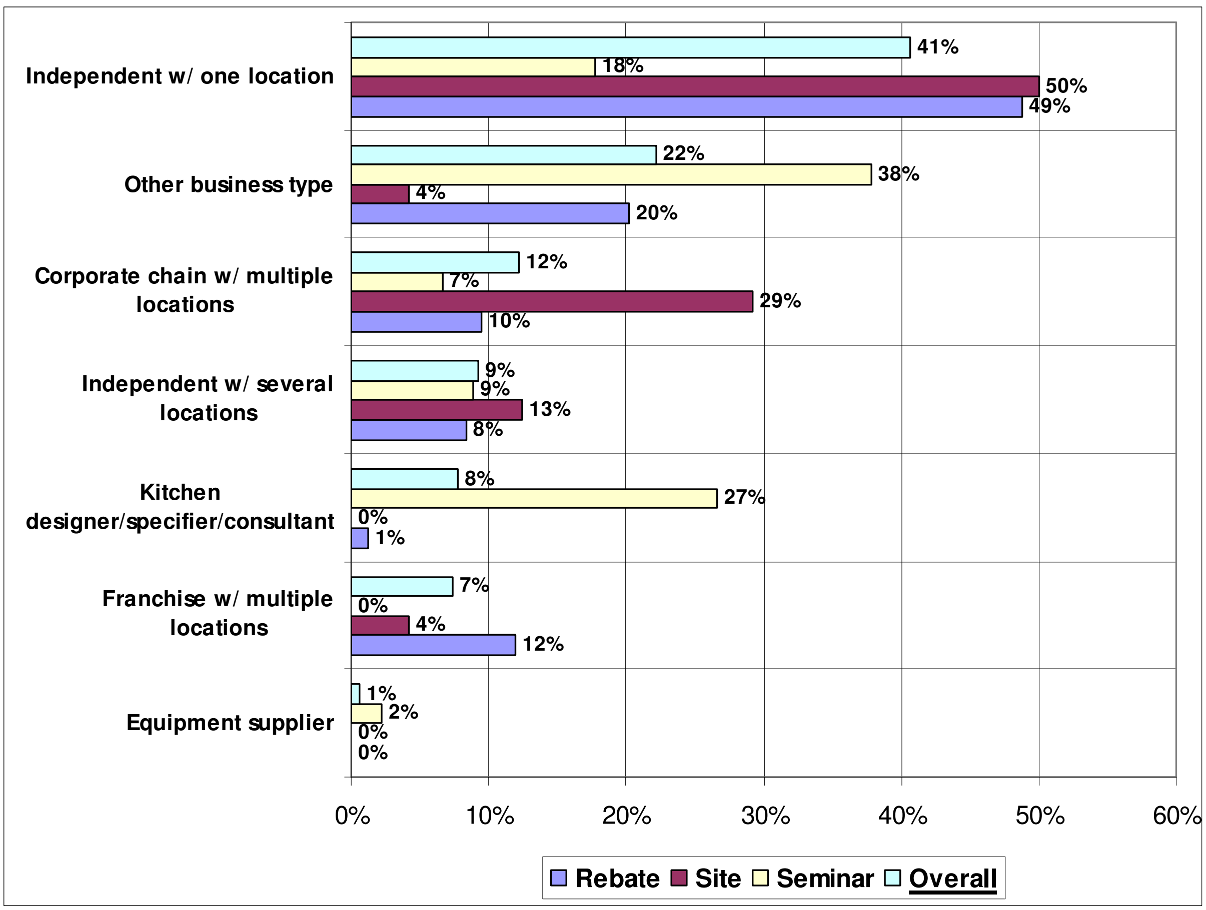
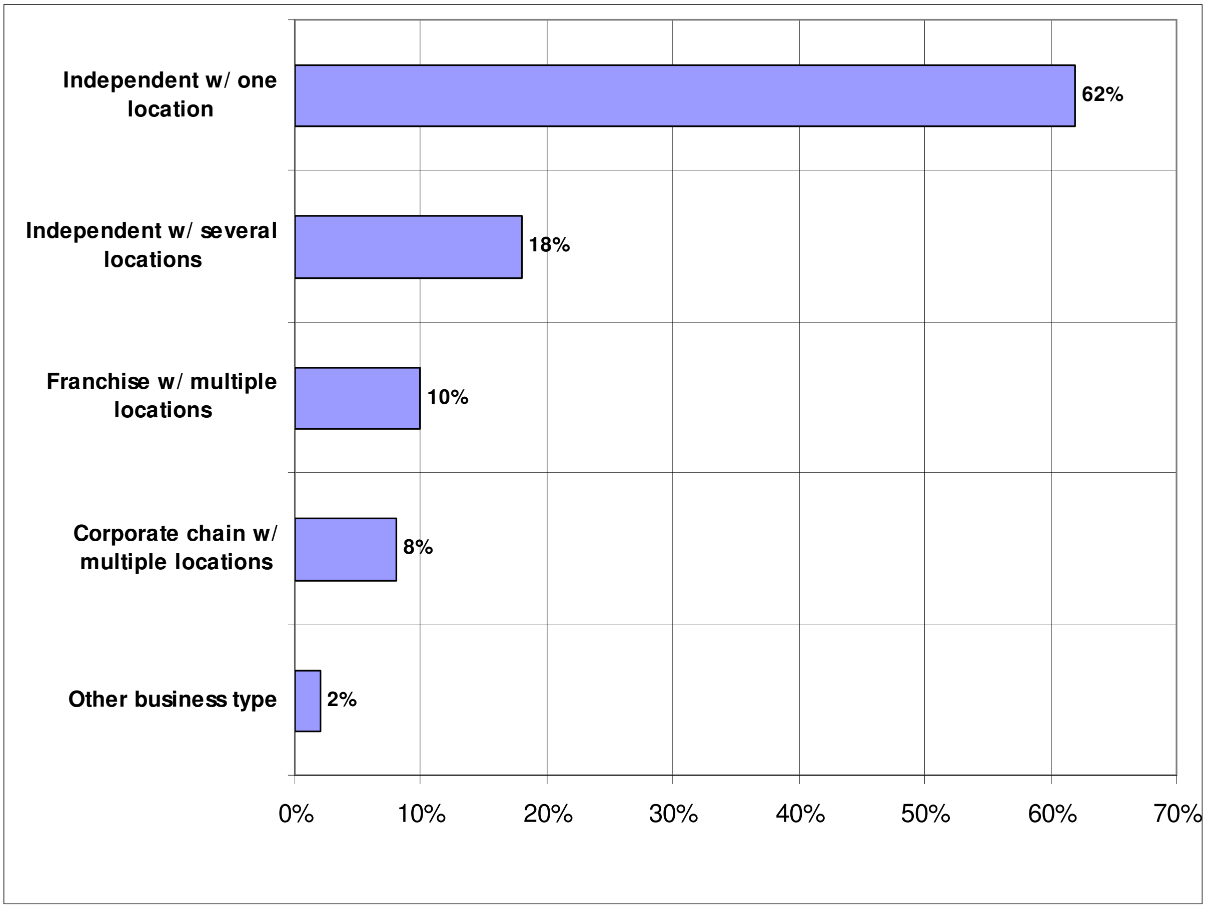


Figure 4-6.
Type of Nonparticipant Facility (n=84)



Although a range of organizations are represented, full-service sit down restaurants are the most represented type of end-user organization among FSTC participants (Figure 4-7). This is also the case among the nonparticipant population (Figure 4-8). The reason there are not more limited service or fast food restaurants among the nonparticipants is because small energy users (less than 50,000 kWh and 5,000 therms) were eliminated from the nonparticipant sample in order to focus on end-users with greater energy savings potential.

Figure 4-7.
Participant End-user Description (n=153)

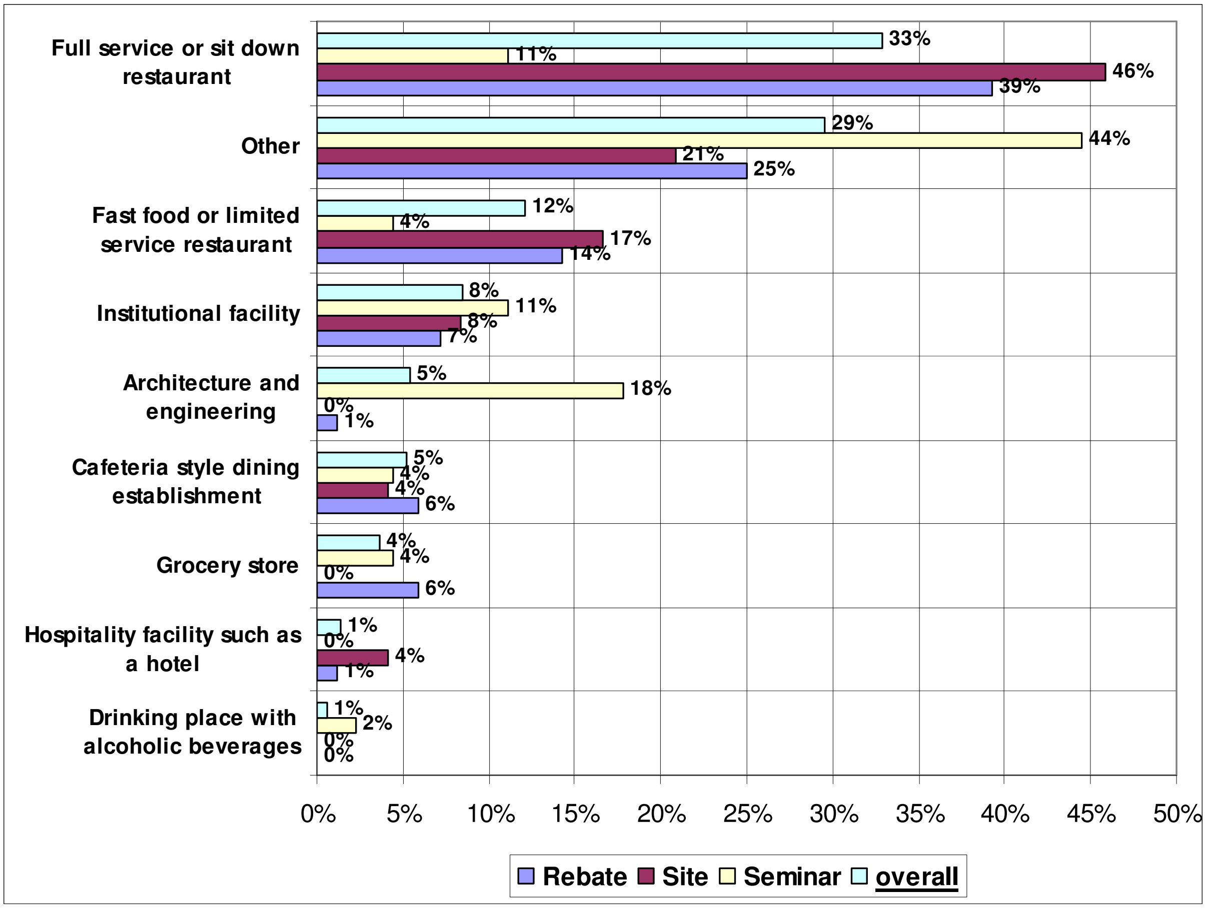
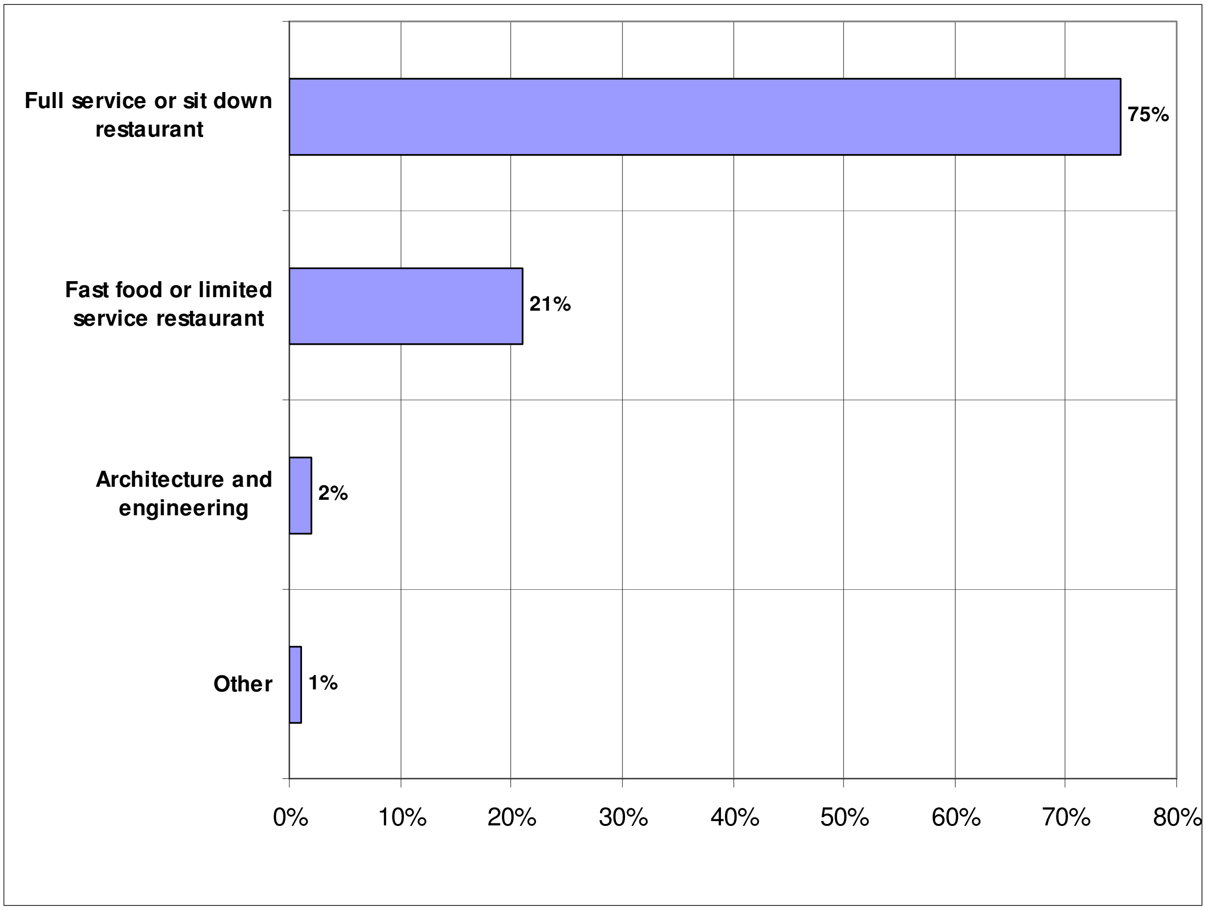


Figure 4-8.
Nonparticipant Facility Type



End-users' decision-making processes are not discussed in this section because they relate specifically to the attribution of FSTC program benefits, Evaluation Objective #6, discussed later.

4.2.2 FSTC impacts

- **In general, interviewees believe the FSTC has raised efficiency in the food services industry. They believe the industry's awareness and receptivity to energy efficiency is higher in California then in other parts of the US.**

"*There seems to be a greater awareness, understanding and appreciation of efficiency in CA than elsewhere. I don't know if FSTC is the main catalyst of this, but I think they have played a major role.*" —Industry

As noted earlier, several industry interviewees discussed that while they believe in the FSTC's impacts, they are difficult to quantify. They said in large part this is because there is so much they do "behind the scenes." Examples of this kind of "behind the scenes" work include equipment testing, working with manufacturers, contributing to publications, and providing education.

All market actors discussed the growing attention to energy use in the food services sectors. Industry stakeholders discussed that the Commercial Building Energy Consumption Survey shows that restaurants are the most energy intensive commercial sector for their square footage. More organizations are now paying attention to the food services sector.

"*We thought there were a lot of savings opportunities and food services was an area largely untapped*." —Industry

Several industry interviewees expressed that the FSTC has been the main driver of efficiency in the food services sector, which other organizations such as the Consortium for Energy Efficiency (CEE) and the Electric Food Services Council have been able to build on to further the impacts. Specific program impacts are discussed below for manufacturers and end-users.

All market actors discussed that having a platform—a common language—on which to share and compare information has helped move the market toward efficiency.

"*The PG&E Center has been the main driver of moving food services from a cottage industry to where we are today. They are the premiere organization for codes and standards. They have greatly moved food services efficiency forward*"—Industry

"Side by side comparison [from FSTC] is critical in a hidebound industry with glacially slow changes. When I started, utility costs were 2 percent of sales and no one cared. Now they do."—Manufacturer

Industry interviewees report there has been a tremendous change in the food services industry—"*a greening of the industry*." Interviewed industry stakeholders report they are now flooded with requests to help customers.

"*There has been tremendous change. We are flooded with opportunities and we can't handle all the opportunities and requests now."*—Industry

a. EQUIPMENT TESTING IMPACTS

a. **Most manufacturer respondents use the ASTM as the standard to which they build their products.**

Several recognized that it was FSTC's efforts that established ASTM test standards for food service equipment. Virtually all manufacturer respondents said that ENERGY STAR was an important marketing tool and they used the FSTC testing and ASTM standards to receive ENERGY STAR approval. Those that have products yet to be covered by ENERGY STAR expressed their desire to see ENERGY STAR include additional product categories.

The interviews identified some areas where the FSTC has had less impact. Some manufacturers said that the FSTC was helpful to the industry as a whole, but not to them specifically. They explained that their niche was either beyond the current capabilities and knowledge base of the FSTC staff or simply due to the lack of industry-wide benchmarks (e.g., ventilation and filter performance energy efficiency testing and standards).

- **FSTC participant end-users are fairly aware of ASTM methods.**

Approximately half of single-facility end-users and over a third of multi-facility end-users reported they were aware of ASTM test methods (Table 4-1). However, multi-facility end-users aware of ASTM test methods were more likely to have used them when purchasing equipment.

Table 4-1.
Awareness and Use of ASTM test methods

	Aware of ASTM test methods	Used ASTM test when purchasing equipment (if aware)
Single-facility	47%	32%
Multi-facility	38%	69%

Source: Participant Survey, October–November 2007

b. MANUFACTURER IMPACTS

- **Virtually all the manufacturer respondents said that their product lines have changed and become more efficient over the past five years.**

For some this was an evolutionary change as they are constantly improving products. For others this was due in large part to the FSTC testing and the development of ENERGY STAR standards that changed the competitive landscape in specific product categories.

"The FSTC has had a tremendous impact. They are on the forefront – a 'key catalyst'."
—Manufacturer

For the very few whose product lines were not impacted over the past five years, either this is the year of change or they feel that the FSTC needs to go after a specific, popular "energy hog" (e.g., "grab n' go" units).

Manufacturers report their marketing is changing with the times too. Some have rolled out new lines touting their efficiency and performance up front, while others have focused on promoting their line of ENERGY STAR approved products with supporting ENERGY STAR materials. For a few, LEED certification and other new standards are more important because they deal with the restaurant design holistically. For a couple, the marketing has not changed due to sub segment peculiarities (e.g., ice machines). In these cases, they said it is not just the efficiency that is in question, but the quality, safety, and the longevity of the food produced that have a greater influence in sales.

National chains report that they, coupled with FSTC, are moving manufacturers to more efficient practices. Three of the five interviewed national chains said they tell manufacturers they have to get their equipment tested by the FSTC before they will consider it. These national chains discussed that they feel this pressure was necessary to get some manufacturers to participate in testing. National chains discussed that many manufacturers are afraid to be put under scrutiny. These three national chains are sending a consistent message to manufacturers that energy efficiency is important to them.

"*We tell them they have to let the FSTC test it and it must be more energy efficient.*"
—National Chain

At the same time, two of the interviewed national chains recognize that their companies are not sending a consistent message to the industry about efficiency. While they personally believe in energy efficiency, their corporate culture does not.

c. END-USER IMPACTS

- **All of the national chains report that, as a result of working with the FSTC, they have more efficient cooking equipment. All of the interviewed chains report that they have worked with the FSTC to either develop or specify more efficient equipment across all cooking equipment categories.**

"*We are a big company and it is hard to focus. That's why we need a 3rd party where we have a high confidence in their data. The FSTC has provided that. Our head architect pores over the FSTC reports and uses them when he specs equipment.*"—National Chain

Manufacturers report that interest in "green" construction (new and retrofits) seems to be increasing, particularly among chains. They believe food services is beginning to recognize the importance of not just the efficiency of kitchen equipment but how better restaurant design and a more efficient envelope can reduce operating costs. Although chains may not achieve LEED status in any one particular store, they are consciously taking measures to improve kitchen and overall efficiency and applying lessons learned to each consecutive store.

The national chain interviews for the most part confirm these manufacturer reports. All of the national chains report that their internal attention to energy has really increased in the last five years or so. They attribute this to rising energy prices and an increasing awareness of social responsibility as well as efforts of organizations such as the FSTC. Two of the interviewees said that being as energy efficient as possible is now their corporate philosophy.

Manufacturers report the ease with which energy efficient equipment is specified or sold varies depending on the customer. For some customers, it is a very easy sell because of their niche or as part of an overall society-wide awareness that they tap into. For others, it is more difficult due to change coming hard in the industry or to the organizational and reward structure of companies (purchasing managers vs. facility managers and operations specialists) that run counter to efficiency goals. Finally, others suggested that the culprits are the structure of the food service market with buying groups' "cheaper by the dozen" mentality, and the complex puzzle of combining equipment performance and efficiency with skilled labor, training and restaurant design for outfitting a kitchen.

Three of the five national chains said they are beginning to look at the building shell, but it is still not at the forefront of their thinking. Only one national chain reports they use high efficient HVAC and lighting, but they still need improvement in this area. They report they mainly work with their HVAC and lighting manufacturers--the FSTC to-date has not been a major source of information on building shell for them. Another chain is working with the FSTC now on a store that has make-up air to integrate the shell with the equipment. They will 'test' how it goes with this case and if they will do it again.

A food to-order chain is a member of the US Green Business Council and is working with the FSTC now on being the first-ever LEED-certified restaurant. Food to-order chain discussed that this is very difficult for restaurants. While others have gotten LEED certification, it has really been for a particular building, not for their entire restaurant (i.e., the certification excluded the kitchen). LEED does not have a restaurant specific certification—they fall under retail. Food to-order chain is working very closely with the FSTC to get LEED certification of an entire restaurant. They will then duplicate that prototype for all of their new stores. They do not feel they could manage getting LEED certification for their restaurants without working so closely with the FSTC. They expect to construct 100–120 new stores in the next year that they would like to certify with a LEED certified freestanding prototype. FSTC's support will make this possible for them.

Most manufacturers believe the PG&E food services rebate addresses the primary barrier—price sensitivity—for energy efficient equipment. National chains discussed that for corporate stores the PG&E rebates has limited impact. This is because they make national specifications and it would not be cost-effective for them to try and tailor their equipment specifications based on rebates at a regional level. In addition, they discussed that the most important thing is consistency in their equipment because it is set up for consistency in their recipes. They said, however, that rebates could have an impact by influencing their national specifications at the design stage.

Some manufacturers and national chains discussed that the paperwork for the rebates is too onerous and therefore is limiting the impact of the rebates as well.

National chains interviewees said the rebates do have a great deal of impact on franchisees. They said franchisees are often hesitant to try a new technology and the initial cost is a large barrier to them. The rebate is often what is needed to get franchisees to go with the more efficient equipment.

"*Franchisees get comfortable with a technology and it's hard to convince them to try a new one even though it's much more efficient. The $4,500 savings in energy just isn't getting through to them; it's hard to get them to make the right business decision. Utility incentives really help convince them to try the new technology*."—National Chain

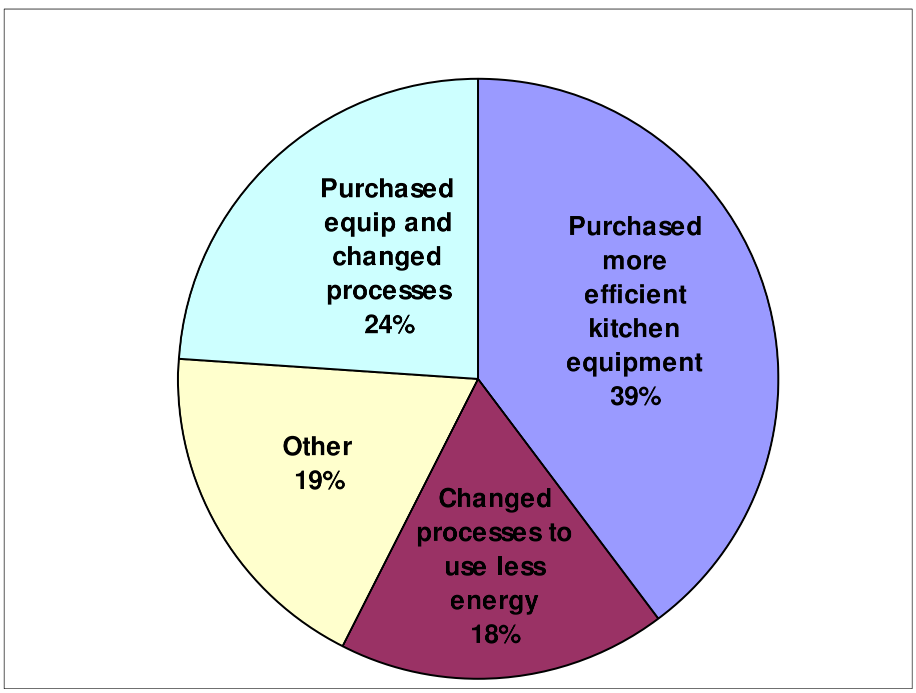
The customer survey indicates the FSTC is impacting participant end-users' behavior, especially regarding cooking equipment. Forty percent of participants reported they used FSTC resources to make energy changes at their facility or are planning to make changes within the next year. Respondents reported a wide range of how they used what they learned from the FSTC. Reported changes include:

- Changed cooks' habits toward energy use
- Are more aware of energy use
- Specify efficient equipment
- Use energy efficient lighting
- Have a green facility
- Monitor energy use at facility

- Calculate life cycle costs or use cost calculators
- Specify ENERGY STAR eligible equipment
- Specify efficient processes
- Use demand ventilation for energy savings
- Use timers and controls
- Turn off appliances when can.

Participants who reported making a specific change as a result of the FSTC were asked if the change involved more efficient equipment, more efficient processes, or both (Figure 4-9). The largest percentage reported using FSTC resource to purchase more efficient kitchen equipment, but a quarter reported purchasing both more efficient equipment and changing their processes to use less energy.

Figure 4-9
How did you use the FSTC resources to make energy-efficiency improvements?
(Participant n=22)



- **Participant end-user results indicate the FSTC is impacting end-users' cooking, lighting and ventilation equipment the most. The FSTC is having less impact in HVAC and water heating equipment.**

Participant end-users were asked what types of equipment they had purchased since interacting with the FSTC and the efficiency level of the purchased equipment (Table 4-2). If participants purchased above-standard efficiency equipment, they were asked the FSTC's influence on their decision to by energy efficient equipment. The results indicate the FSTC is impacting end-users' lighting and cooking equipment the most. It has also been influential in refrigeration and ventilation. The FSTC is having little to no impact in HVAC. The FSTC was also not very influential in increasing the efficiency of water heating equipment purchased.

Participants were asked how their FSTC participation influenced them to purchase more efficient equipment. The types of responses given most often to this question were:

- The FSTC provides information on a broad scope of equipment that qualifies for rebates and gives information on the energy efficiency levels.
- The FSTC allows us to find equipment with the maximum efficiency for the best price.
- The people there are very helpful and knowledgeable, also eager to help.
- The equipment needs to be purchased anyways, but the FSTC helped guide us towards the equipment with the best rebates.
- The Center made purchasing a lot easier.
- FSTC services are free and saved me money.
- The FSTC is influential, but not the deciding factor.
- Made us conscience about energy efficiency.
- Made us see it was very important what kind of energy saving equipment we have.

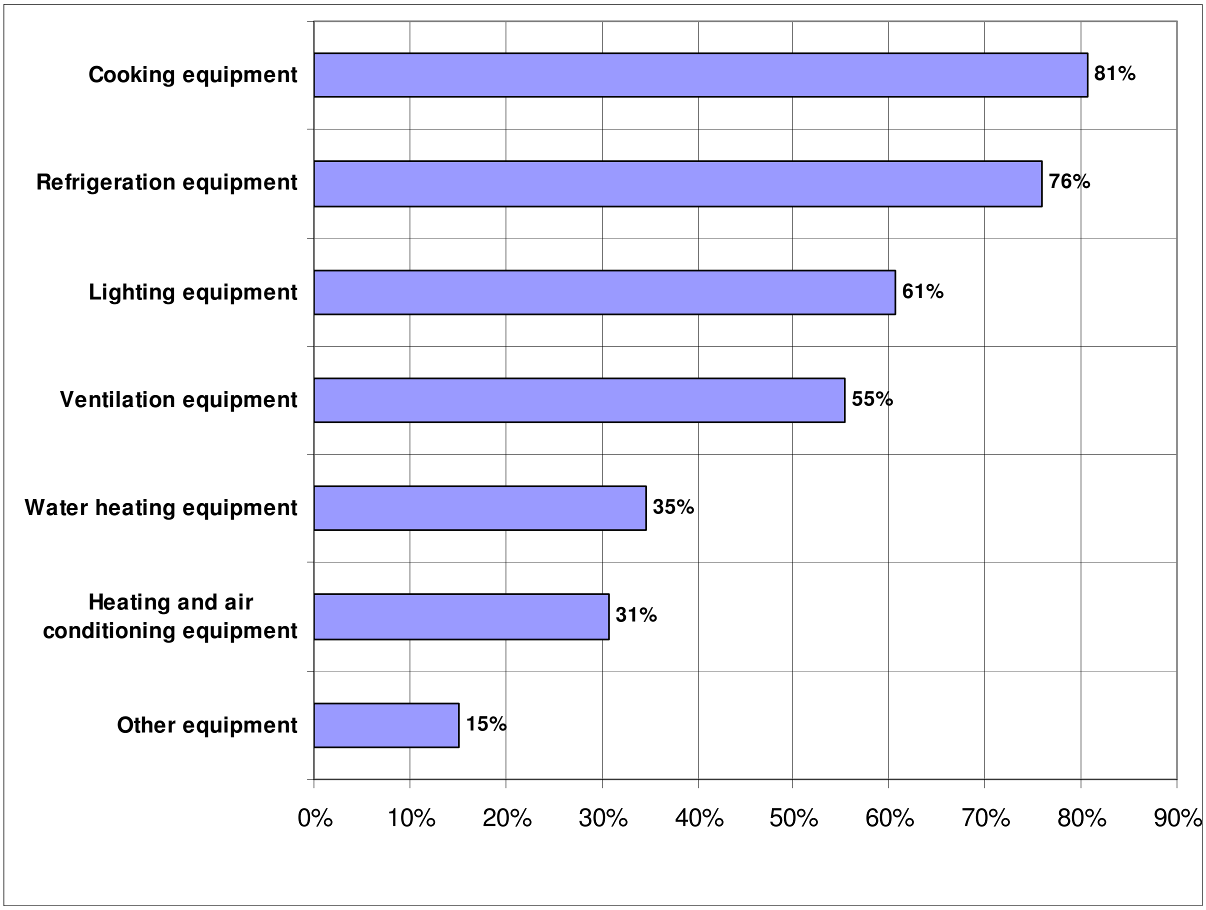
Table 4-2.
Equipment Purchased since FSTC Interaction by FSTC Participants (n=137)

Type of Equipment	Have Purchased Equipment Since Interacted with FSTC	Reported above average efficiency level of purchased equipment	Reported very high efficiency level of purchased equipment	Mean of influence from resources at the Center*
Cooking equipment	34%	45%	39%	8.0
Refrigeration equipment	32%	32%	54%	6.5
Ventilation equipment	22%	62%	38%	7.2
Lighting equipment	27%	41%	52%	9.1
Heating and air conditioning equipment	6%	67%	33%	1.0
Water heating equipment	20%	32%	68%	6.1

*(1="not at all influential", 10="very influential")
Source: 2006–2007 participant end-user survey

The above results are strengthened by another survey question. Participant end-users were asked which types of information they learned about from FSTC. Over half of participants reported learning about cooking, refrigeration, lighting, and ventilation equipment (Figure 4-10). Significantly fewer participants reported learning about HVAC and water heating equipment.

Figure 4-10.
Which of the following types of information did you learn about during your interactions with the Center?
(Participant n=102)

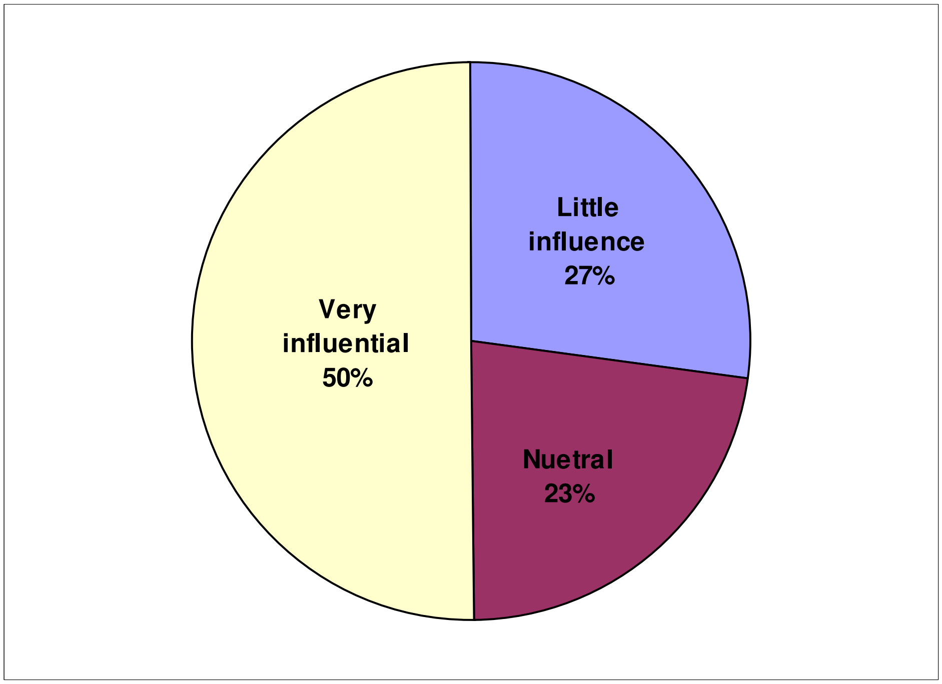


d. EFFICIENCY PROGRAM IMPACTS

- **The participant end-user survey indicates the FSTC is playing a valuable role in getting participants into other utility energy efficiency programs, particularly the food services equipment rebate program.**

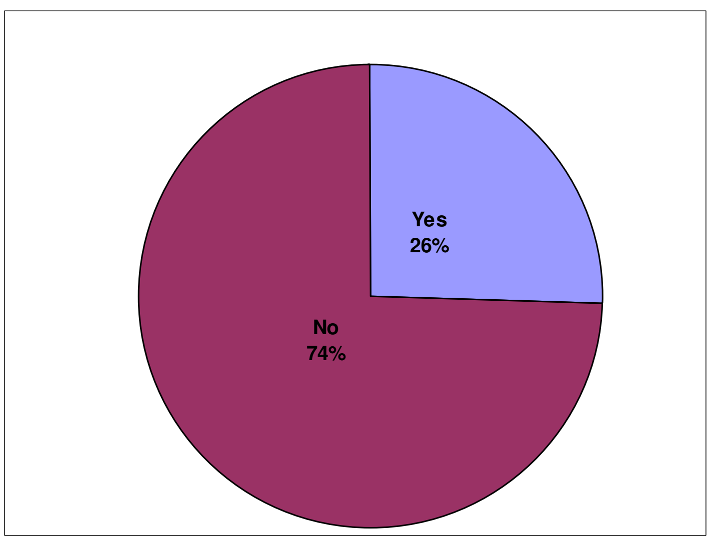
Half of participant end-users said the FSTC was very influential in their decision to purchase equipment that qualified for a rebate (Figure 4-11).

Figure 4-11.
How influential was the information you received from the FSTC on your decision to purchase efficient equipment that qualified for the rebate? (Participant n=84)



FSTC participants were also asked if they had participated in any utility energy efficiency programs as a direct result of interactions with the FSTC. Approximately a quarter of participants indicated they had.

Figure 4-12.
Have you participated in any utility energy efficiency programs as a direct result of your interactions with the Center? (Participant n=153)



4.2.3 Industry needs

- **All of the market actors assert the FSTC is serving industry needs very well. High customer satisfaction with the FSTC indicates this as well.**

Participants were asked their satisfaction with various aspects of the FSTC on a 10-point scale (1=not at all satisfied, 10=very satisfied). For all components, average satisfaction was high (Table 4-3). The FSTC aspect participants were least satisfied with, although satisfaction was still high, is the responsiveness of FSTC staff. This is not surprising given reports that requests for both site surveys and trainings have grown considerably whereas FSTC staff resources have not as discussed further under “Evaluation Objective #3, Educational Outreach.”

Table 4-3.
Participant Satisfaction with FSTC

FSTC Aspect	Average (mean) satisfaction
Quality of resources	8.1
Responsiveness of FSTC staff	7.6
Knowledge of FSTC staff	8.4
Applicability of information	8.0

a. TECHNICAL NEEDS

Market actor interviewees suggested the following technology or equipment related activities for the FSTC to better meet industry needs:

- Expand technologies reviewed by FSTC (e.g., filter performance testing, ‘grab-n-go’ units).
- Increase California rebates to various equipment (ventilation systems, new energy efficient broiler).
- Expand ENERGY STAR categories for cooking equipment.
- Work more closely with ASHRAE to develop and promulgate standards for more cooking equipment.
- Increase technical assistance. One suggestion was to set up a helpline that consultants, designers and even operators can call for specific concerns or questions on energy efficiency and commercial kitchens.
- Take a more holistic approach—expand beyond efficiency to look at other impacts such as water savings and public health, sanitation and maintenance concerns in the industry
- Lobby to tighten existing standards to have sufficient “teeth” to make them worthwhile (e.g., California Energy Commission refrigeration standards) or to prevent the sale of sub-standard equipment (e.g., stoves).

National chains identified their biggest technology need as hot water. Without hot water, restaurants have to shut down. Therefore, while they are interested in getting efficient hot water, reliability is paramount. All of the national chains said they are watching FSTC's efforts in this area closely and two of them are working with the FSTC on a hot water study.

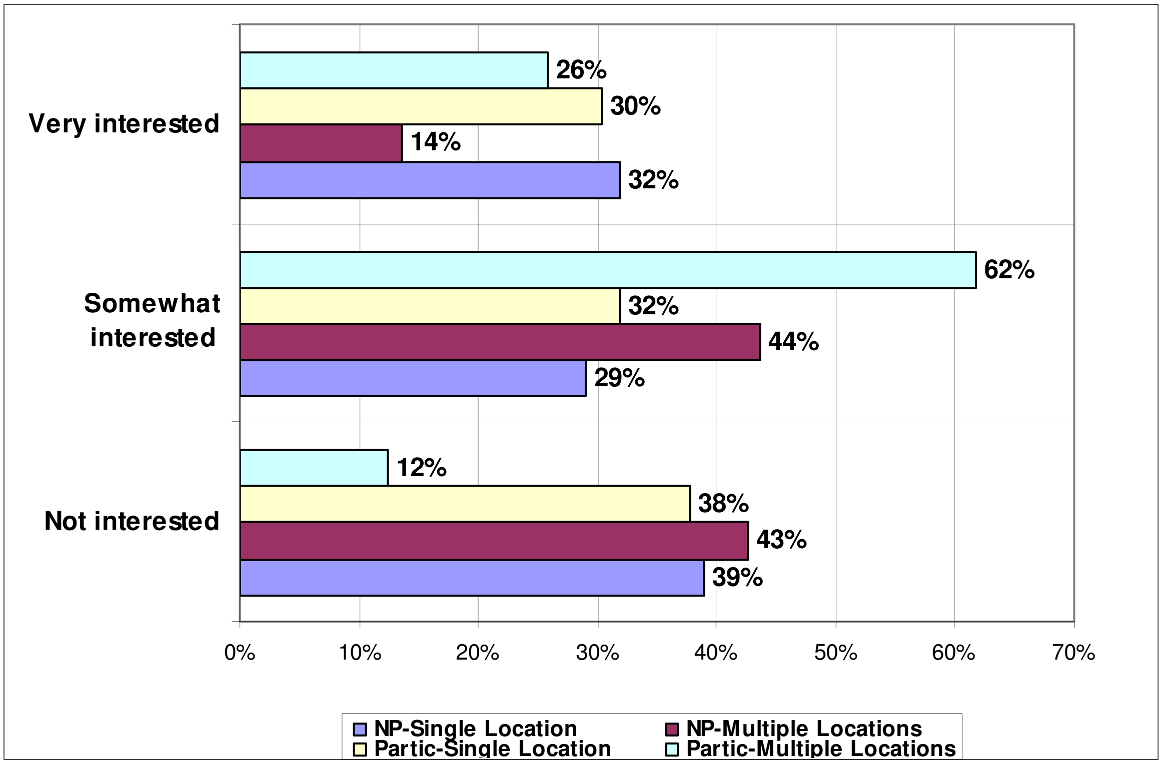
"*Hot water scares the hell out of all of us. What we need is something that is fail-safe and energy efficient*."—National chain

National chains also identified that they would like to have more help from the FSTC on building material efficiency. In general, they report that the FSTC has helped them a great deal with equipment, but not sealing system and building shell issues. National chains also discussed that they could use more assistance with mechanical systems.

One national chain and one industry interviewee said they think the industry's biggest need is the ability to accurately and effectively energy model the kitchen. These interviewees discussed HVAC-proprietary models and DOE models that are about the shell, but not about the kitchen processes. It is reported that in the food services industry, the shell is 40 percent and the kitchen is 60 percent of energy consumption.

Staff and market actor interviews raised the need for a more turn-key approach to end-user technical assistance. The customer survey explored this identified need (Figure 4-13). The majority of participant and nonparticipant end-users are somewhat or very interested in receiving this type of technical assistance. Single locations are particularly interested in this option as approximately a third of both participant and nonparticipant single locations said they were very interested in this type of assistance.

Figure 4-13.
How interested would your company be in the Center providing technical assistance that includes a turn-key approach to implementing technical assistance?
This would include a food services expert coming to your facility to identify energy-saving opportunities and overseeing the implementation of identified improvements that you wanted to move forward with.
(Participant n=153, Nonparticipant n=84)



b. *OUTREACH NEEDS*

Most manufacturers feel that while the FSTC is changing the industry positively, in reality the operator still is largely unaware of the benefits of efficient equipment and additional critical information, such as regular maintenance, are key to ensuring the longevity and optimal performance of efficient equipment. They report the lack of that critical information can quickly negate any efficiency gains made.

To improve awareness in the target market some manufacturers felt that the message is on target, but additional channels that lower the cost of implementation should be used to expand its reach (e.g., the “free product” distribution like low-flow faucets, showerheads, CFLs). Others felt that highlighting the operating costs and life-cycle analysis would attract more attention, or expanding outreach to operators, consultants and designers at local and regional conferences and through dealer associations.

All of the market actors generally feel FSTC should increase their outreach to the industry and, most specifically, food service facilities. Suggestions include:

- Increase marketing of California rebates.

- Collaborate more with water utilities to reduce water heating and water consumption costs, especially with water availability issues looming statewide.
- Create more marketing pieces. One suggestion was to put together generic one-page case studies as advertisements in trade magazines that highlight a particular niche (QSR, casual dining, white tablecloth) in order to bring real numbers to parts of the market not currently considering the benefits of energy efficiency.
- Create continuing college education credit for consultants and designers to get them better educated on the issues.
- Increase FSTC participation in national and regional conferences and national chain meetings.
- Increase current marketing efforts such as bill stuffers, direct mail, email, advertisements in industry magazines, or a mix of all of them.
- Educate the dealers' sales force and create a simple ranking system that covers all equipment so that the end user on the sales floor begins to recognize/internalize the operating costs/ROI benefits of energy efficiency.
- Develop strategic partnerships with manufacturers' marketing departments to leverage expertise and marketing dollars.
- Expand the FSTC technical staff to permit more speaking engagements.
- Develop a scorecard and award system for dealers that reward both sales and education level (seminars attended) related to energy efficiency equipment.
- Simplify the explanation of lifecycle costs and heavily promote that message to end-users.

4.3 OBJECTIVE #3: EDUCATIONAL OUTREACH

FSTC educational outreach activities, primarily consisting of training seminars and on-site support, are agreed to be high-quality, well-delivered activities. End-users' demand for educational outreach activities has grown exponentially in the last two years.

Of the FSTC's different educational outreach and information dissemination activities, the largest percentage of participants rate trainings as very useful. The smallest percentage of participants rate on-site surveys or technical assistance as very useful. While site surveys have enormous appeal to end-users, the evaluation identified opportunities to improve their comprehensiveness and resulting usefulness to end-users.

The FSTC's two main venues of educational outreach are (1) training seminars including specific speaker engagements, and (2) on-site support.

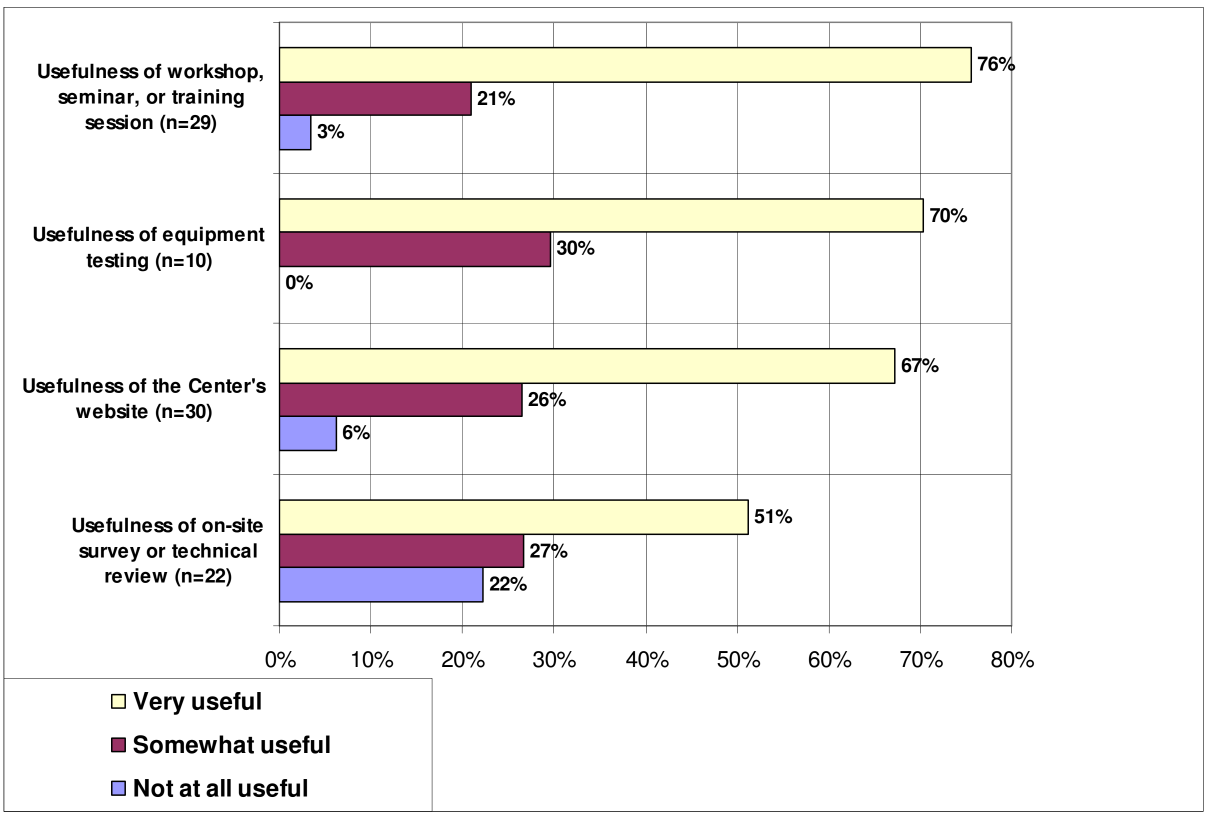
- **All the market actors concur that the FSTC is looked upon as one of the leading educators in the food services industry.**

Industry interviewees report that their members are always interested in paying to have FSTC come and deliver education to their customers.

"*Their activity in education is ideal. There are not enough hours in the day to do all the education that is needed. Energy and green are topics the industry can't get enough of right now.*"—Industry

Participants were asked how useful different FSTC resources were that they used. The majority of participants who participated in a training event, equipment testing or the website rated the resource as very useful with training activities topping the list (Figure 4-14). While the majority of site survey or technical review participants rated the resource as very or somewhat useful (78 percent), about one out of five said the service was not at all useful. Specific comments on satisfaction and opportunities for improvement for training and site surveys are discussed more below.

Figure 4-14.
Usefulness of FSTC resources (n=127)



4.3.1 Training seminars

FSTC training seminars are held at the FSTC's facility as well as at requested locations. FSTC staff estimate that 75 percent of their training seminars are in California. They estimate 50 percent are delivered in PG&E's territory whether it's them going to a customer site or the customer going to the FSTC. When they go to other utility territories to deliver training, those utilities pay their travel costs.

FSTC training topics stay with the same core ideas. Topics are: refrigeration, lighting, water, appliances and ventilation. FSTC staff report that they spend considerable time and effort in tailoring the information and presenting the story to the specific audience. FSTC staff do not feel these topic areas get stale because there is change in the technologies each year.

"*In food services, lighting for example, every year there is so much more to add and change. Training is the conduit from the lab to people getting info.*"—FSTC staff

- **FSTC staff report that their training seminars and speaker engagement requests are growing significantly.**

"*The curve of demand for our info is not linear, it's going up exponentially.*"—FSTC staff

Staff interviewed at other California IOUs also noted the growth in training requests within the last two years. It was hypothesized that interest is a result of the food services equipment rebates as well as the industry's greater attention to energy.

"*We have more to offer them now so they have more reason to listen.*"—CA utility staff

FSTC staff report they used to follow leads to speak at conferences. Now they are approached and their schedules book up well in advance. FSTC staff said while their national speaker engagements are highlighted, they are the minority of the training they deliver. The majority of trainings are the fundamentals trainings discussed above.

Market actor interviewees said that the FSTC staff speak at a variety of places targeting a variety of groups such as manufacturers, operators, inspectors, etc. For example, the North American Association of Food Services Equipment Manufacturers (NAFEM) has approximately 600 member companies that are somehow involved in food services equipment and supplies. NAFEM's main event is a biannual trade show, which attracts over 20,000 people from around the world. The focus is on equipment and supplies although they do have some education and conference workshops. FSTC staff are delivering three of the conference's workshops in 2007.

- **Training seminars are reported as a good way to start building relationships, which can lead to impacts.**

"*This industry is all about relationships.*"—Utility staff

Most manufacturer interviewees have attended at least one seminar or educational outreach event hosted by FSTC or a conference where FSTC staff is a presenter. All of the national chains said they or a member of their staff have attended at least one educational outreach event of the FSTC.

In general, the FSTC seminars are considered better than those put on by other organizations, and most respondents are satisfied with the information they received.

"Found them to be very informative, very concise and to the point, with just the facts and no opinion."—Manufacturer

Manufacturers interviewed report the following changes resulting from the seminars or trainings they attended.

- Spurred conversations internally among their colleagues.
- Modified their product offerings to improve performance.
- Rolled out a new line of equipment.
- Used information to increase sales.
- Encouraged customers to attend certain seminars.
- Educated people in the industry that still needed to hear the information.

The majority of the end-user respondents stated they were pleased with the trainings and would not change anything. Suggestions for improvement from participant end-users included:

- More design examples during the workshops.
- Trainings geared more specifically to the restaurant business.
- Post examples along with case studies on the FSTC website.
- More information on rebates.
- **PG&E staff, other California IOU staff and manufacturers all discussed the need for the FSTC to offer seminars that specifically focus on what food services equipment are eligible for rebates and how to select the equipment.**

Account services staff report that customers are specifying ineligible equipment. It was further pointed out that the seminar should include an emphasis on why the equipment is eligible to customers. A specific example given is that many customers think they should receive a rebate if the equipment is ENERGY STAR. They are then confused and frustrated when they do not receive a rebate for ENERGY STAR equipment.

Another suggestion from interviews is to include more holistic seminar topics—focusing on overall restaurant design and how that impacts ventilation and energy efficiency, and how energy efficiency impacts design.

FSTC staff distribute evaluation forms for their training seminars. These forms collect process information such as satisfaction with the workshop, presenter and content as well as preferred subjects, seminar locations and schedules, and how participants learned about the FSTC. Although summary evaluation statistics are not compiled at this time, evaluators perused the forms, which indicate high participant satisfaction with the training seminars, confirmed in the participant end-user survey. No information is collected about how the training seminar impacts behavior. FSTC staff reported they did try pre- and post-training evaluations when they operated as a third party program, but they found considerable participant resistance to them.

The FSTC puts the training presentations on the website. They are trying to think outside the box to make training information more digestible. For example, one course was made into an animated training presentation that can be viewed as a video on the website.

4.3.2 On-site Support

FSTC provides end-user on-site support through audits/on-site surveys and design reviews.

- **Staff report while on-site support requests normally come in waves, they have seen a definite increase in requests in the last year.**

FSTC staff estimate a 50 percent increase in end-user requests for on-site support in the last year. PG&E and the FSTC staff have cautiously approached marketing of site-surveys because they do not want to over-subscribe.

According to FSTC staff, when they conduct an on-site they typically visit the customer facility for a walk-through. They then try to go back in person within a week to present the results. First they identify low-cost, no-cost measures, then equipment rebate measures that apply. They have a standard template, but they do tailor the information within this template.

- **Staff interviews indicate high customer satisfaction with FSTC site surveys. While the participant survey supports considerable customer satisfaction it also indicates areas for improvements discussed more below.**

"*I've been pretty impressed with the FSTC site surveys. Customers are very pleased with them*."—PG&E account services staff

Interviewed PG&E staff said they found the audit reports very clear and easy to read. At the same time, several interviewees identified that audit reports need to be more comprehensive by including costs and energy savings for recommendations.

Participant survey results support staff reports. As noted earlier, the smallest percentage of participants reported on-site surveys or technical assistance as very useful. Participant end-users offered the following suggestions to improve the usefulness of site surveys:

- More specific information on brand and model recommendations
- More detail on actual comparative energy use.

FSTC staff report they do not have the budget to do further hand-holding to see whether audit recommendations are carried out to retrofits. They would like to be able to offer a service more like the Smart Lights Program[8]. This program walks into a restaurant and identifies where lighting could be better and offers a turn-key approach. As discussed under "Evaluation Objective #2, Industry Needs and Impacts", end-users are interested in a turn-key approach.

[8] Smart Lights is funded by grants from the California Public Utility Commission. The program is administered by the cities of Berkeley and Oakland through the non-profit organization Community Energy Services Corporation.

PG&E staff recognize that because the FSTC audits are free, the FSTC has to make decisions about what type of information they provide. If they are to provide more detailed information, then they will have to conduct fewer audits. As a result, some PG&E staff report to-date the FSTC audits have been more "*quick and dirty*."

FSTC staff report that site surveys can lead to design consultations. For example, they just completed a design consultation for Stanford that resulted from a site survey. Again, they are limited in the number of design consultations they can perform. PG&E staff noted the FSTC is not a certified engineering firm, and the FSTC is not licensed to do design work. Therefore, they provide guidelines only.

- **The FSTC may be doing more integrated audits and retro-commissioning for PG&E in the future.**

PG&E would like to utilize FSTC's expertise in food services to address these processes. In order to do this, the FSTC will need to provide cost and project payback information. FSTC staff said they recognize the importance of being able to deliver this information to do integrated audits.

4.4 OBJECTIVE #4: FSTC AND PG&E CO-BRANDING

While staff interviewees indicate the contractual relationship between PG&E and Fisher-Nickel is working, the issue identified as most problematic resulting from the contractual relationship is co-branding. Because the FSTC is run by Fisher-Nickel, a third party administrator, it has more complex co-branding issues than the other California food services centers that are utility owned and operated. In addition, there are legacy co-branding issues from the two-year sabbatical (2002–2003) when the FSTC was not affiliated with PG&E.

Program design and delivery staff interviewees identified that the primary question about co-branding is: Are PG&E and the FSTC interchangeable for customers—to what extent do customers recognize the FSTC as PG&E?

Customer surveys indicate limited co-branding awareness. The customer survey and market actor interviews show the importance of PG&E in strengthening the brand of the FSTC. The most common way for end-users to learn of the FSTC is through PG&E. In addition, market actors discussed that PG&E's sponsorship, as a dual-fuel utility without a fuel-specific agenda, greatly increases the reputation of FSTC's objectivity.

The evaluation indicates that PG&E needs to provide more guidance to Fisher-Nickel about FSTC branding. The main co-branding issue raised by staff interviewees is the FSTC website, www.fishnick.com.

- **Program design and delivery staff interviewees identified that the primary question about co-branding is: Are PG&E and the FSTC interchangeable for customers—to what extent do customers recognize the FSTC as PG&E?**

Because the FSTC is run by Fisher-Nickel, a third party administrator, it has more complex co-branding issues than the other California food services centers that are utility owned and operated. In addition, there are some legacy co-branding issues from the two-year sabbatical

(2002–2003) when the FSTC was a third-party program. It was reported the FSTC had to establish autonomy from PG&E during that time. All interviewees were unanimous that it is PG&E's FSTC and that Fisher-Nickel is PG&E's partner in running the FSTC.

"*The FSTC is our partner.*"—PG&E staff

"*PG&E made us partners again. We have been making an effort to get co-branding back, but there is a legacy period of separation.*"—FSTC staff

Staff interviewees discussed the need to balance who Fisher Nickel is as a company and what the PG&E FSTC is. Fisher-Nickel is an independent company that does some other business outside of running the FSTC, although the FSTC is their primary focus.

The main co-branding issue raised by staff interviewees is the FSTC website, www.fishnick.com. This is a legacy issue from when the FSTC was a third-party program. The Fisher-Nickel staff developed the website www.fishnick.com during this time. Recently, PG&E food services rebate applications were only on fishnick.com. It was reported that it is a positive development that rebate applications are now on www.pge.com/fstc as well. There are reported advantages of the "fishnick website"—mainly that it limits PG&E's liability and changes and updates are able to be made quicker. Several staff are interested in changing the URL to something more related to the FSTC in order to improve co-branding.

Some PG&E staff feel that the FSTC has more branding of Fisher-Nickel than PG&E. These interviewees do not feel this is correct given that PG&E funds the FSTC.

"*If we're doing the funding, then the branding needs to be with PG&E. PG&E needs to get the credit it deserves.*"—PG&E staff

In addition, some interviewees feel that opinion and non-technical FSTC publications should have the look and feel of PG&E. The FSTC is increasingly asked to contribute to media articles. It was discussed that ideally PG&E would review all articles with FSTC contributions before they go out. PG&E has a news department that could conduct the review prior to publication. This review could ensure that articles do not have editorial comments that would not agree with PG&E's position. This has not been done to-date. The reported problem is that the media operates on tight deadlines and the PG&E review process is not able to accommodate the tight turn around.

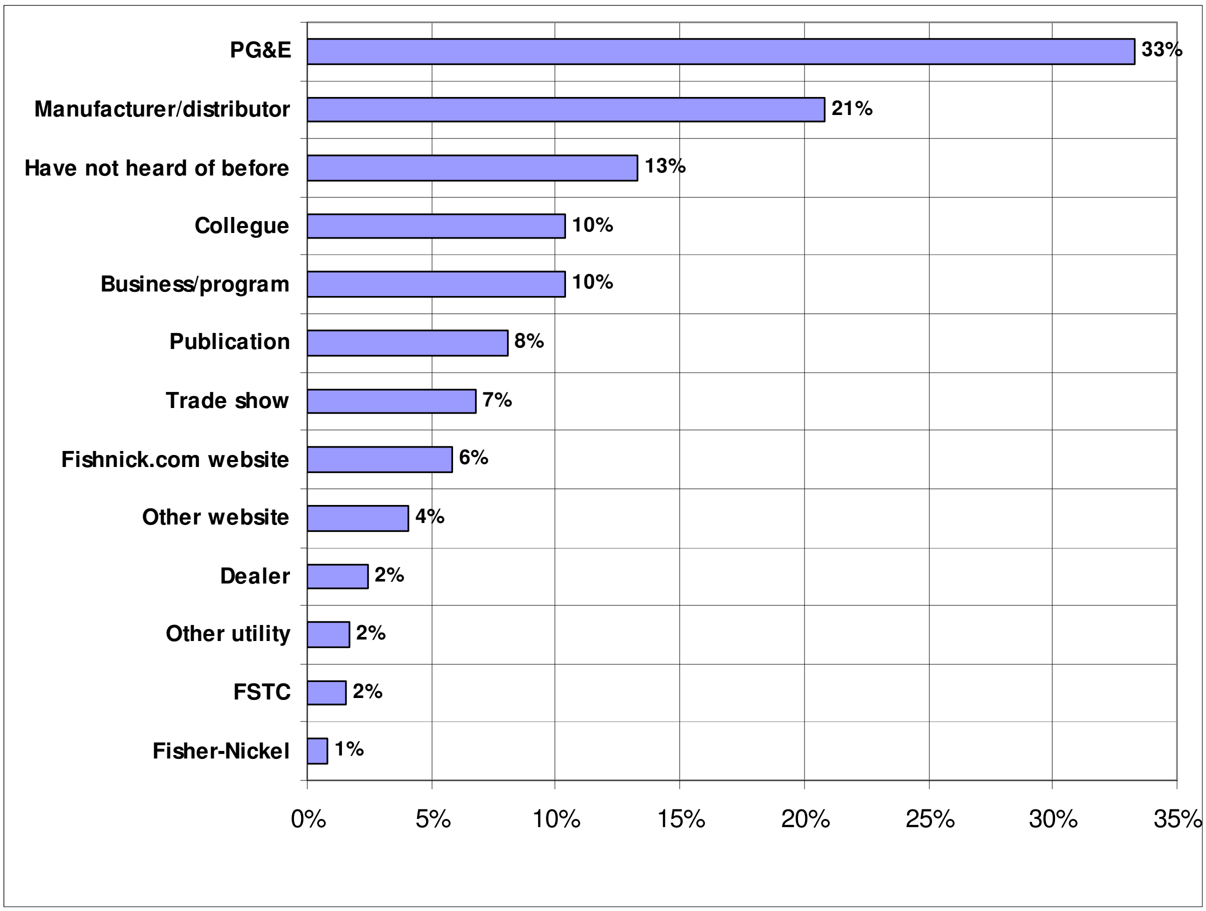
FSTC staff provided the PA team with several examples of their marketing and outreach materials and discussed how they included co-branding with PG&E. PG&E's logo was on all documents reviewed. The FSTC staff expressed a desire to do more co-branding with PG&E. Despite this shared desire for more co-branding, the interviewees suggest there are communication issues regarding co-branding. Several PG&E staff are dissatisfied with current co-branding. While FSTC staff seem ready and willing to address co-branding issues, FSTC indicates they are in need of additional guidance and direction on how to best do this for PG&E. For example, it was suggested by a PG&E senior manager that PG&E's role and logo should be on every page of www.fishnick.com and visually compatible with PG&E's website.

In terms of co-branding, it was also discussed that the FSTC should be more closely aligned with the CEE target market segments such as the mass markets and the hospitality programs.

- **The customer survey and market actor interviews show the importance of PG&E in strengthening the brand of the FSTC.**

The most common way for end-users to learn of the FSTC is through PG&E (Figure 4-15). In addition, market actors discussed that PG&E's sponsorship, as a dual-fuel utility without a fuel-specific agenda, greatly increases the view of FSTC's objectivity. Figure 4-15 also shows the importance of FSTC's work with manufacturers and suppliers because they are the second most common way end-users learned of the FSTC.

Figure 4-15.
Where did you hear about the Center? (n=153)



All of the manufacturer interviewees know that PG&E is a sponsor of the FSTC, although some of these interviewees mentioned that other utilities or organizations also sponsor the FSTC. Some of them also feel that PG&E's sponsorship is known both locally and nationally. Other manufacturers report that while individual staff at the FSTC have great individual name recognition, few customers know that they belong specifically to the FSTC or PG&E.

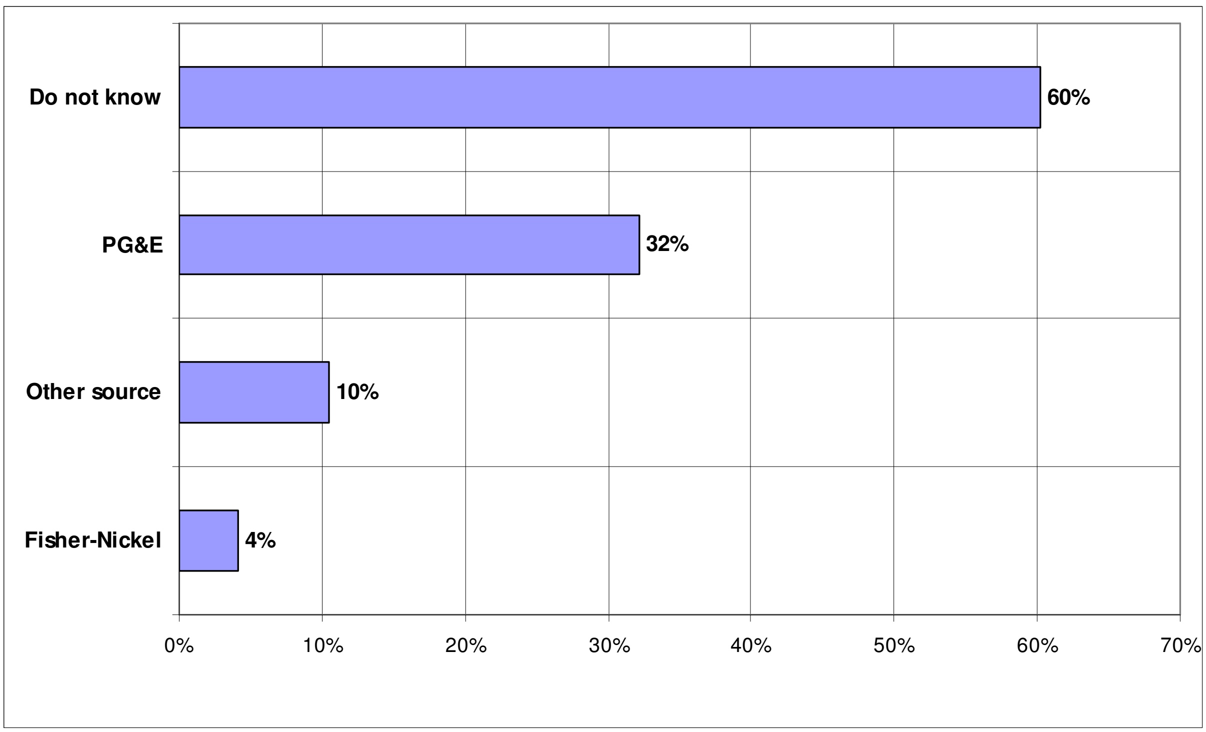
The industry and national chain account interviews indicate some confusion about the branding of the FSTC. Several of these interviewees referred to the FSTC staff as "Fisher-Nickel" in interviews although they were aware of PG&E's sponsorship.

National chains discussed that they were in fact confused about what services the FSTC provides to PG&E customers versus the industry. For example, one national chain interviewee said that because the FSTC is PG&E-funded, there is a perception that only organizations in California can use it, but he thinks that is not true.

Manufacturers do not feel there is strong customer awareness of the FSTC, although they think it is higher among national chains. All market actors are in favor of more FSTC marketing to customers, which was an identified industry need discussed above.

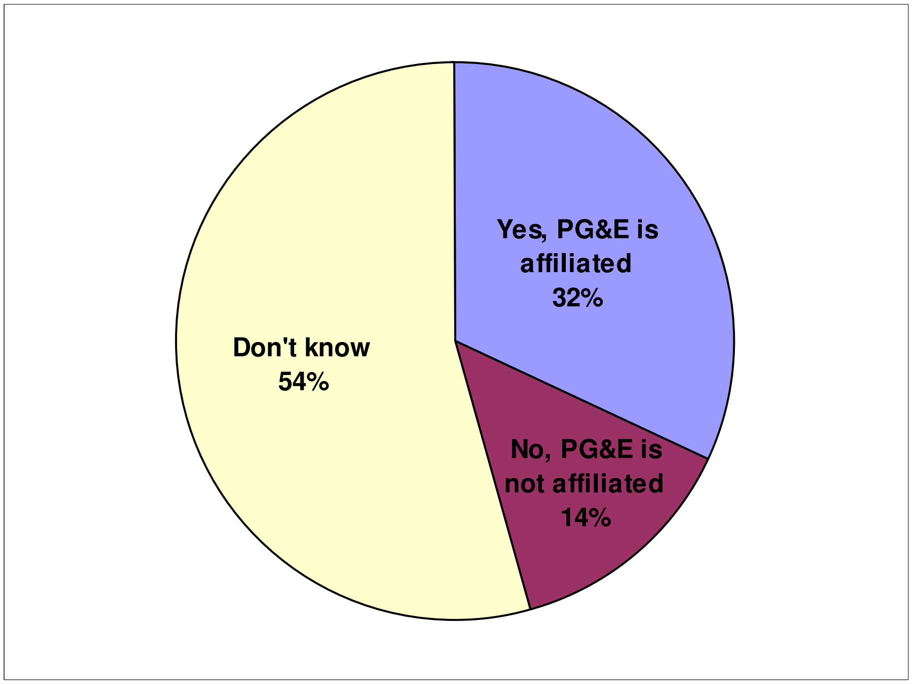
Even though PG&E is a prominent way of learning about the FSTC, there is a general lack of awareness that PG&E sponsors the FSTC among participant end-users (Figure 4-16). Only a third know PG&E sponsors the FSTC. Over half are unsure of the FSTC's sponsorship.

Figure 4-16.
Do you know what organizations fund or sponsor the Center?
(Participant n=153)



Participants who did not know if PG&E is the FSTC sponsor were then asked if they knew whether or not PG&E is affiliated with the FSTC (Figure 4-17). Even with this assisted awareness issue, only another third of respondents thought PG&E is affiliated with the FSTC. This further supports limited end-user awareness of PG&E's role.

Figure 4-17
Do you know whether or not PG&E is affiliated with the Center?
(Participant n=81)



4.5 OBJECTIVE #5: FSTC AND PG&E ADVOCACY

Interviews established how important it is that the FSTC's information is viewed as objective and fair. While FSTC has not been caught in any policy debates to-date, the potential exists because of its role as a leading expert in the food services industry. PG&E needs to provide the FSTC with clear rules on what role they should or should not play in advocacy.

- **All staff interviewees expressed that it is important that the FSTC be an objective, non-biased source of information. They report this objectivity is extremely important to customers in making decisions.**

"*Customers see the PG&E FSTC as a non-biased strictly technical expert resource. They really appreciate this neutrality and it is great for us to be affiliated with this reputation.*"
—PG&E staff

The majority of staff interviewees believe that the FSTC is objective. They state that PG&E's sponsorship as a dual-fuel utility, promoting neither gas or electric, enhances the industry's view of the FSTC as objective as discussed under "Evaluation Objective #4, Co-branding" above.

"*PG&E is a dual fuel utility which is huge to the industry. The industry doesn't like the selling of gas or electric. PG&E being fuel neutral is huge."—FSTC staff*

Market actor interviewees concurred that the FSTC's information is objective and fair.

There was some questioning by PG&E staff of the FSTC's objectivity relating to codes and standards. PG&E provides long-term advocacy and support of the Codes and Standards Document. Regarding codes and standards, one interviewee discussed that the FSTC business model does not lend itself to support development of new codes and standards. Some staff felt that because the FSTC is too dependent on the food service industry for their existence, they are not totally independent of the food services industry for their recommendations. For example, the FSTC writes equipment test standards, but does not support performance standards. Several staff reported they would like the FSTC's work in codes and standards to increase.

Some interviewees identify that the main point of advocacy is that PG&E does not want to be in a conflict. Because of the FSTC's reputation in the food services industry they are sometimes asked to take a position in policy debates. For example, the Bay Area was considering a ventilation standard. The California Restaurant Association was pushing the FSTC to become an advisor, which would result in them playing an advocacy role in an air/health issue.

Some PG&E staff feel it is appropriate for the FSTC to play a role in policy discussions in the food services industry, but the FSTC must only discuss the policy side that PG&E wants expressed and supported.

FSTC staff are not aware of PG&E's advocacy rules and were surprised to see this topic on the staff interview guide. This indicates additional contractual guidelines on advocacy are needed for the FSTC.

4.6 OBJECTIVE #6: FSTC PROGRAM BENEFITS

The participant and nonparticipant end-user surveys indicate that the majority of FSTC services benefit locations within California and primarily within PG&E's service territory. At the same time, there are significant benefits to the other California utilities and to others outside of California based on participant responses and other available data.

Some of the benefits from equipment testing and information dissemination are realized by major market actors (such as equipment manufacturers and large national chains) that also influence the overall availability of energy-efficient equipment. The increased availability of energy-efficient equipment is likely to also benefit PG&E end-user customers. At the same time, there will be more emphasis on specifically identifying and reporting PG&E customer energy savings from the range of FSTC activities.

The attribution of program benefits are difficult to measure although it would be helpful to have more information on who accesses the website and who attends training and conferences conducted outside of PG&E's service area. In particular, there is interest in knowing whether the other California utilities, particularly investor-owned utilities, are providing appropriate levels of cost-sharing for the FSTC services that they use.

As discussed under Evaluation Objective #2, Program Impacts, the evaluation indicates the FSTC is affecting both customers' and manufacturers' practices, resulting in more efficient equipment. The primary focus of Evaluation Objective #6 is to assess the degree to which the benefit/value provided by the FSTC is accruing to PG&E's customers. Interviews provide strong evidence that these more efficient practices are benefiting not only PG&E customers, but customers throughout the US.

- **A prominent theme across all of the market actor interviews is that the FSTC is resulting in national benefits to the food services industry.**

"*The FSTC is providing a unique value that is being recognized across the country.*"
—Industry

While market actors discussed that they do think California is the leader in food services energy efficiency at least in some part as a result of the FSTC, interviewees discussed several national benefits of the FSTC. These include:

- *ASHRAE codes for food services*. Several market actors discussed that there would be no ASHRAE codes without the FSTC. One industry market actor estimated that 80 percent of the technical resources to develop the specifications for food services are provided by FSTC.
- *ENERGY STAR food services equipment*. Several market actors also said that ENERGY STAR for food services equipment would not exist without FSTC's efforts. Manufacturers identified ENERGY STAR as an extremely valuable national sales tool for them. In addition, FSTC developed the ENERGY STAR best practices tools (on the ENERGY STAR website) for quick service restaurants and full-service restaurants.
- *Support of the national CEE Commercial Kitchen Initiative*. In 2004, the Consortium for Energy Efficiency (CEE) expanded their Commercial Refrigeration Initiative to the Commercial Kitchen Initiative, a suite of cooking and sanitary equipment offerings to combine electric, gas and water savings. The FSTC has provided considerable research and advice to support this effort. PG&E is a member of CEE.
- *Support of the Electric Foodservices Council*. The Council provides a collaborative opportunity for its member electric utilities throughout the US to work with the chain restaurants on efficiency. To support this work, they conduct modified ASTM testing. They report the FSTC laid the necessary foundation for doing this testing.

"*We wouldn't be able to do the testing without the criteria as a basis to use. The FSTC has developed the ASTM test methods we use.*"

- *Technical assistance for NAFEM*. The FSTC is part of the NAFEM technical liaison committee. This group is solely responsible for communicating technology updates on equipment to NAFEM members. They meet every six months. The FSTC provides an independent third-party perspective to the committee. FSTC also contributes to NAFEM's magazine. They will have an article in their winter magazine about sustainability. NAFEM also works with the FSTC through special projects such as a life cycle cost calculator they just developed. The FSTC energy calculators are the basis for this and they refer customers to the FSTC website for these cost calculators.

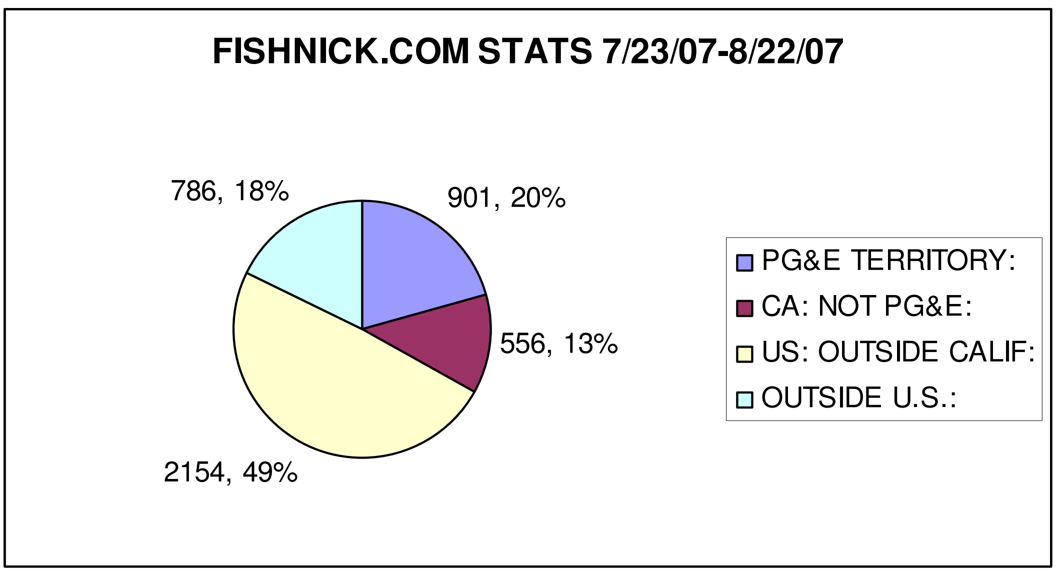
- *Food services equipment rebates*. All market actors recognized that California is taking the leadership role in food services rebates. Other utilities throughout the nation are beginning to roll out food services equipment rebates following California's example. The FSTC worked closely with the PG&E food services equipment rebate manager to develop the California rebates, which are used by all of the California investor-owned utilities.

- *LEED certification*. FSTC staff sit on a UGBC LEED subcommittee that is looking at certification to make sure that they understand how food services is a different entity. In addition, the FSTC is actively helping Food to-order chain become the first ever LEED certified "restaurant." This will pave the way for other restaurants to become LEED certified.

- **The data provided by FSTC staff on website users indicates that the food service industry in general benefits from the information on the www.fishnick.com website. About two-thirds of the website users are based outside of California.**

The following figure shows the breakdown of users for the www.fishnick.com website. Although the data is from only one month, FSTC supplied another report dated November 2007 that showed identical percentages for the geographic breakdown of website users.

Figure 4-18.
Geographic Distribution of Website Users



The customer surveys indicated that 28 percent of the participant and 28 percent of the nonparticipant respondents were part of organizations that had multiple locations. The majority of nonparticipants are independents with one location.

Table 4-4.
Participant and Nonparticipant Responses on Types of Ownership

Type of Company Ownership	Rebate	Site	Seminar	Total Participants	Total Nonparticipants
Equipment supplier	0%	0%	2%	1%	
Franchise w/ multiple locations	12%	4%	0%	7%	10%
Kitchen designer/specifier/consultant	1%	0%	27%	8%	
Independent w/ several locations	8%	13%	9%	9%	18%
Corporate chain w/ multiple locations	10%	29%	7%	12%	8%
Other business type	20%	4%	38%	22%	2%
Independent w/ one location	49%	50%	18%	41%	62%
Total	100%	100%	100%	100%	100%
Total Unweighted N	*84*	*24*	*45*	*153*	*84*

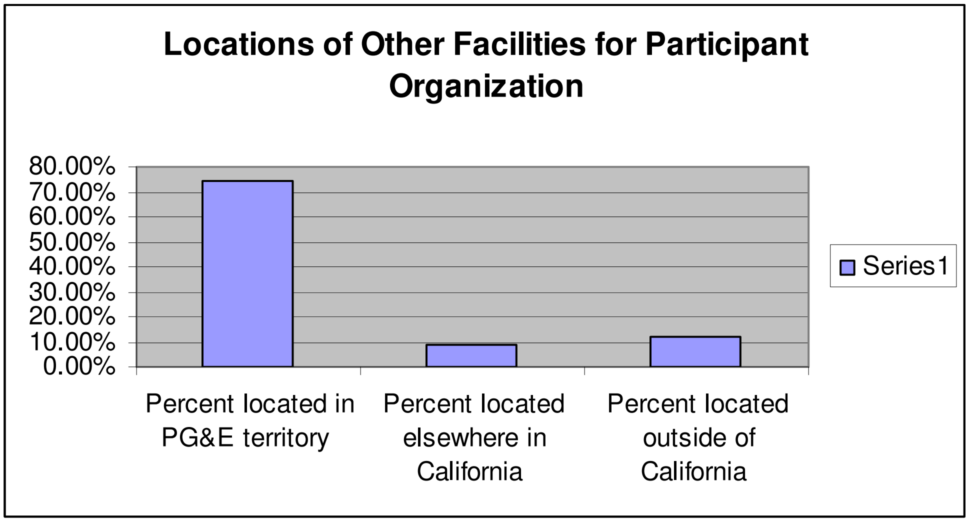
Table 4-5 shows that nonparticipant respondents are often full service or sit down restaurants.

Table 4-5.
Participant and Nonparticipant Responses on Business Description

Description of Business	Rebate	Site	Seminar	Total Participants	Total Nonparticipants
Drinking place with alcoholic beverages	0%	0%	2%	1%	
Hospitality facility such as a hotel	1%	4%	0%	1%	
Grocery store	6%	0%	4%	4%	
Cafeteria style dining establishment	6%	4%	4%	5%	
Architecture and engineering	1%	0%	18%	5%	2%
Institutional facility	7%	8%	11%	8%	
Fast food or limited service restaurant	14%	17%	4%	12%	21%
Other	25%	21%	44%	29%	1%
Full service or sit down restaurant	39%	46%	11%	33%	75%
Total	100%	100%	100%	100%	100%
Total Unweighted N	*84*	*24*	*45*	*153*	*84*

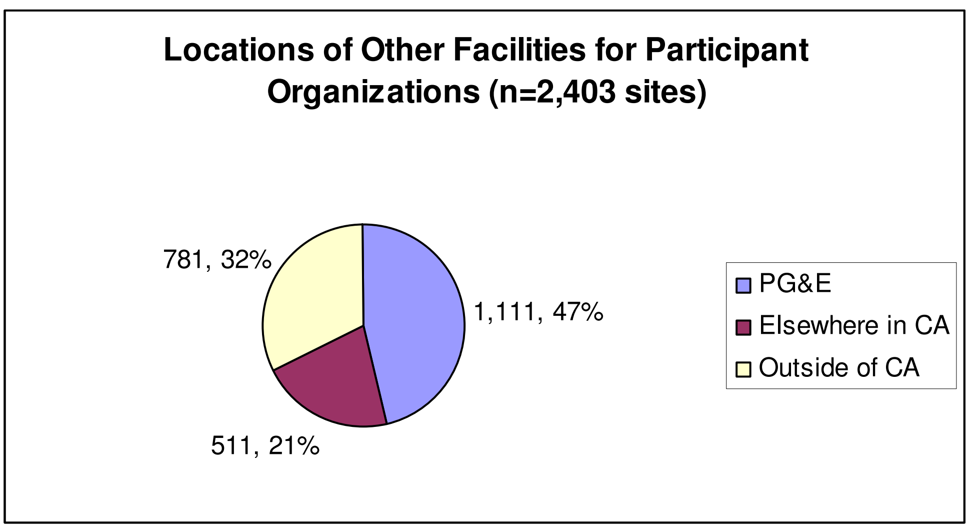
Participants where asked how many other locations are there in the U.S. where the participant or someone else in the organization is responsible for making decisions on equipment purchases or kitchen designs. The total number for the 153 participants was about 3,100 sites. When asked what percentage of the locations are in PG&E’s territory, the average response was over 70 percent (Figure 4-19).

Figure 4-19.
Mean Response for Percent of Organization's Sites by Geographic Area (n=56)



The results are somewhat different when weighting the responses by total number of sites or locations in the US for their organization. The participants reported location data for about 2,400 sites including single-location sites.[9] The participants indicated that about half (47 percent) of the reported sites for their organization, including those for which others may have decision-making responsibility, were located in PG&E's service territory. Another 21 percent were not in PG&E's service territory but were in California. These figures do not indicate direct participation in the FSTC program, which is discussed in the next section.

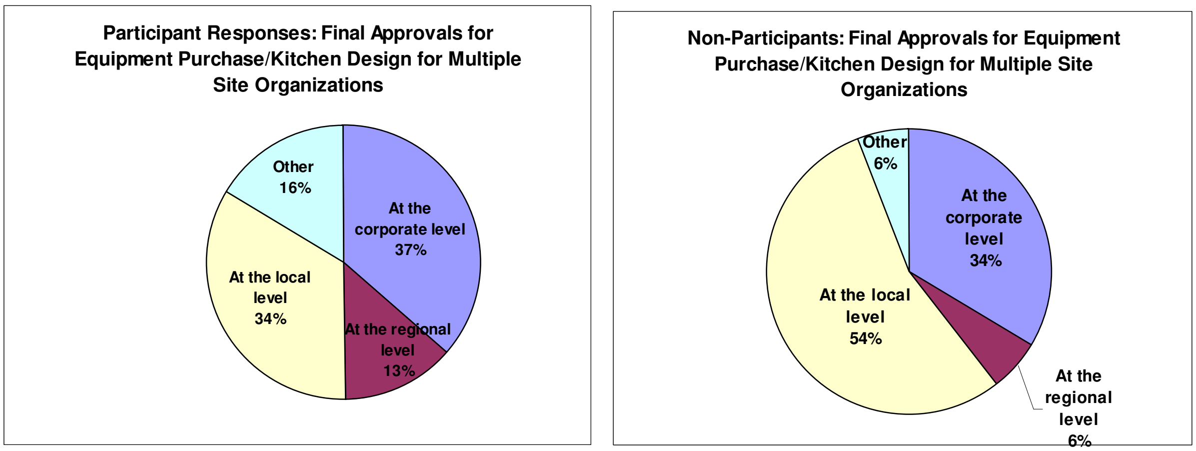
Figure 4-20.
Geographic Location of Sites in the US for Participant's Organization



[9] One reported 650 sites for a national chain but did not know how many were in various locations.

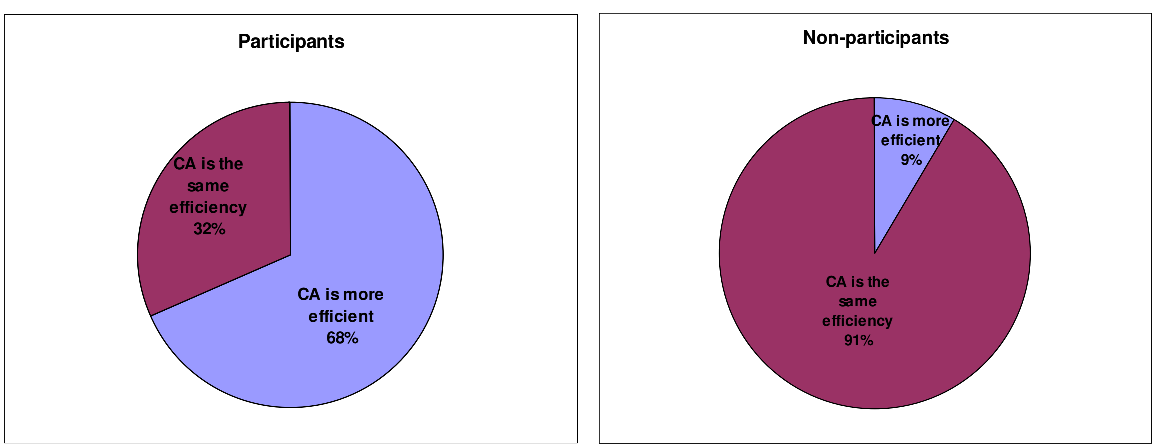
Final approvals for equipment are just as likely to be made at the local level as the national or corporate level. For those with multiple sites, the participant and nonparticipant were asked: "Where is the final approval made for purchase of food service equipment or new construction kitchen design?" The nonparticipants with multiple sites were more likely (over half) to work for organizations with decision-makers at the local level. About one-third of the participants and the nonparticipants said decisions were made at the corporate level, which may or may not be in California.

Figure 4-21.
Decision-making Responsibility for Organizations with Multiple Sites



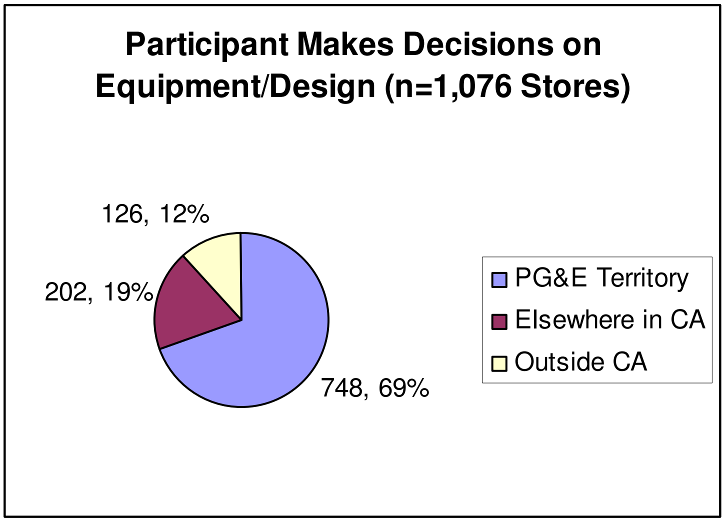
The majority (more than two-thirds) of those program participants who make decisions for multiple locations feel the equipment or kitchen designs they make decisions for in California are more energy-efficient than for their locations outside of California. The nonparticipants were more likely (over 90 percent) to say there was no difference in the energy-efficiency of the equipment or kitchen designs they make decisions for in California compared to their locations outside of California (Figure 4-22).

Figure 4-22.
Decision-making Responsibility for Organizations with Multiple Sites



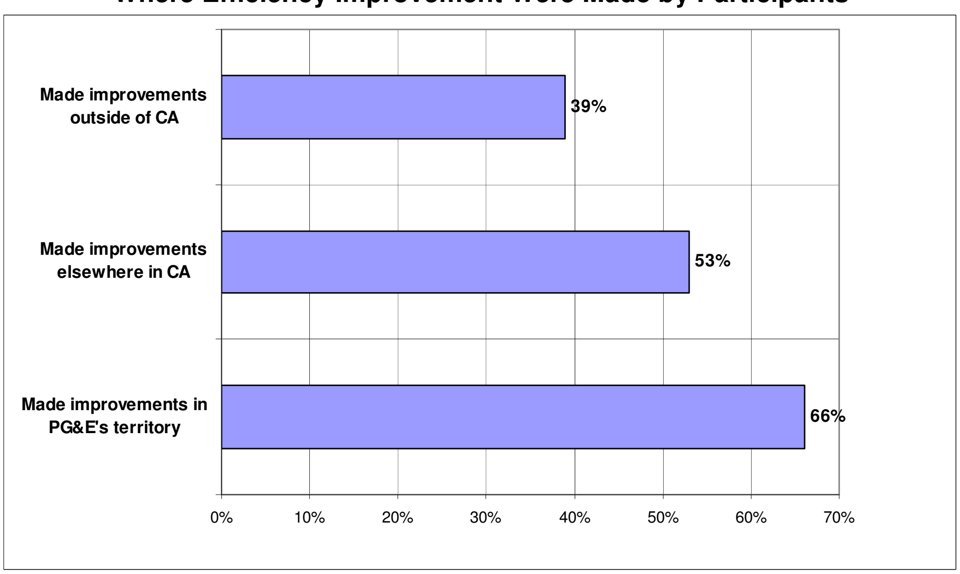
Additional questions were asked of the program participants to determine the number of stores and locations for which the respondent had decision-making responsibilities for specifying, recommending, and/or approving equipment or kitchen design. The results are weighted by number of sites for the individual respondents (Figure 4-23) and include single-location sites. Those sites are primarily located within PG&E's service territory (69 percent).

Figure 4-23.
Percentage of Sites for Which the Participants Make Decisions



There is some spillover in that decision-makers who purchased equipment based on participation in FSTC activities made improvements outside of PG&E service area—53 percent made improvements in California and 39 percent outside of California (Figure 4-24). These are based on those with multiple locations who have purchased/specified new equipment since interacting with the Center.

Figure 4-24.
Where Efficiency Improvement Were Made by Participants



4.7 OBJECTIVE #7 PROGRAM METRICS

A shift in FSTC's metrics to outcome-driven instead of output-driven may be needed to align FSTC's operations more with PG&E's goals.

FSTC's activities have the market primed for energy savings. Some interviewees believe the market is ready for PG&E food services customers to realize 10 percent energy savings. It is in the best interest of PG&E to accurately capture and receive credit for these impending energy savings.

FSTC may need to establish baseload food services cases and conduct end-user follow-up if energy savings metrics are established for the FSTC.

The FSTC has been meeting the metric numbers laid out in their contract. A previous program manager developed these metrics. The PA team reviewed the metrics and determined that the metrics are related more to program "outputs" (e.g., number of trainings delivered) than "outcomes" (e.g., results of trainings).

Some PG&E staff discussed the need for better metrics with emphasis on PG&E's needs and priorities. An example given are metrics that track the number of measures transferred to the market segments. The primary reported issue with the established program metrics is whether the FSTC is or should be more than an education program. The question across the board about program metrics is:

"*How can PG&E measure the energy savings resulting from FSTC activities*?"

Interviewees report the FSTC's activities have the market primed. Some interviewees believe the market is ready for PG&E food services customers to realize 10 percent energy savings. They want PG&E to be able to capture and receive credit for these impending energy savings.

The FSTC staff are particularly in favor of developing metrics to capture energy savings so that PG&E will recognize the FSTC's value.

"*We believe we're having an impact and we want to have that documented*."—FSTC staff

PG&E is capturing energy savings now for rebated food services equipment. However, there is no follow-up now to site surveys or training to see what customers implement on their own as a result of these FSTC activities. The primary question for follow-up to these activities reported by interviewees is "*What impacts is it having on the decision-making process of the customer*?" Other interviewed California food services centers are also currently not capturing energy savings beyond the food services equipment rebates.

Another identified issue with measuring the energy savings is that there is currently not a baseload case for food services. The FSTC will need to establish a baseload case in order to quantify energy savings according to several interviewees.

Incorporating energy savings as a program metric also raises the question of who the FSTC should target to best capture energy savings. While it is important to equitably serve PG&E customers, the question is raised if the FSTC should target chains more to multiply the effects of FSTC activities and give them greater touch. On the other hand, the end-user survey indicates a large percentage of PG&E end-users are independents.

Interviewees identified the following additional issues they would like to see incorporated into the FSTC's metrics:

A. How the FSTC influences customers' consideration of energy efficiency

B. Use of the FSTC website

C. The effectiveness of education and outreach such as actions taken as a result of a FSTC activity

D. Customer satisfaction with the FSTC

E. Internal training of account services staff.

4.8 OBJECTIVE #8 BUDGET ALLOCATION

The FSTC is resource constrained and a shift in the budget allocation among activities may be needed to better align FSTC operations with PG&E's goals. Activities identified to increase are site surveys, end-user technical assistance and end-user marketing. The market actor interviews support a rationale for cost-sharing because of the program benefits accruing nationally beyond PG&E's customers. Interviews with market actors indicate receptivity to cost-sharing of the FSTC equipment testing.

Almost all of FSTC's funding is from PG&E. They receive some supplemental funding from PIER projects through California Energy Commission and the Emerging Technologies Collaborative, which is also public goods money. Fisher-Nickel contracts directly with ICF Consulting to cover its costs involved with ENERGY STAR.

PG&E staff discussed that the FSTC is definitely "*resource constrained*." Three options were identified to address FSTC's resource constraints. The first is to shift priorities within the existing budget. The second is to increase the size of the contract with PG&E to meet the additional needs. The third is for Fisher-Nickel to find additional funding from other sources.

PG&E's contract with the FSTC covers soft and hard costs and pays for the lease. The approximate budget breakdown for PG&E funding for the FSTC is:

- Equipment testing procedures/equipment assessments: 10%
- Manufacturer product testing service: 30%
- Code and Standards and industry support (ASTM/ASHRAE): 10%
- Information dissemination (Website/Seminars): 25%
- Customer support (Site Surveys/Design Support): 5%

- Operation and maintenance: 15%
- Energy efficiency program support: 5%
- **Whether or not this current allocation is still valid, given PG&E's objectives for the FSTC is a question. PG&E staff discussed that PG&E's needs have changed in the past few years and the FSTC needs to have the ability to change their focus to meet PG&E's needs.**

Both FSTC and PG&E interviewees indicated that the part of the budget they think is under-funded is customer educational outreach and support including both training seminars and site surveys. Several interviewees, but not all, would like to see more FSTC resources devoted to more customer technical assistance. It was also voiced that it is these activities that will result in measurable energy savings for PG&E. In addition, as discussed earlier, almost all interviewees would like the FSTC to do more internal outreach to PG&E account services staff and CEE program staff. The aim of more outreach would be to increase staff's use of the FSTC to serve customers.

Some PG&E interviewees would like to see the percent of the budget for equipment and product testing, currently 40 to 50 percent combined, decreased. This was reported as especially the case for technologies with small loads. These interviewees believe that the standards development has "*reached a plateau.*" It was suggested the FSTC scale back funding in the area of equipment testing or find an alternative funding source for those activities. Currently, manufacturers do not pay for the majority of testing. FSTC reports that only 10 percent of their testing now is paid for by manufacturers.

An additional identified need for resources is marketing. Currently, the FSTC does not have an advertising budget. When they want to do advertising, they have to ask for funds from mass market or target markets. This was characterized as "*begging for funds.*"

Closely related to the national benefits of the FSTC discussed above in Objective #6 Program Benefits, is the issue of cost-sharing. Overall, the market actor interviews support a rationale for cost-sharing because of the program benefits accruing nationally as well as to PG&E's customers. ENERGY STAR reports that the FSTC is paid for much of their ENERGY STAR-related activities through a contract with ICF Consulting. A similar arrangement could be sought for other national efforts.

- **The primary identified area for cost-sharing in the staff interviews was for equipment testing.**

Interviews with market actors do indicate receptivity to cost-sharing of the FSTC equipment testing. The industry organizations interviewed said they believe their members see the value of the FSTC and would be open to cost-sharing for equipment testing. One market actor said a water agency specifically asked them if the FSTC needed more funds.

Some manufacturers also indicated a willingness to cost-share. Most of the manufacturers use the FSTC for third party verification and evaluation testing (either San Ramon facilities or the CKV lab in Chicago). A few manufacturers where internal testing is too costly use the FSTC as a Research and Development (R&D) lab as well. All of these functions were very important to the interviewees, even for those that have considerable in-house capabilities.

For those manufacturers that use the FSTC for ENERGY STAR approval or other design and performance verification testing, there seems to be willingness to cost-share if they are not already doing so. For others, they like the current set-up where they can be part of a no-fee comparison test since it helps them in their marketing efforts and builds the overall information base within the industry.

Seven of the 20 interviewed manufacturers use the FSTC as their single food service center resource. Some also use other centers—Duke and Southern California Gas were the two other centers most frequently mentioned. A couple of interviewees complained of (fuel) bias and/or incompetence at other centers. Most interviewees feel the FSTC is the nation's (and industry's) only fuel-neutral, scientifically rigorous research and testing center. A few, depending on their particular niche, said they use specialized technical research centers (e.g., CKV lab in Chicago or the American Refrigeration Institute for refrigeration and ice-machines).

As discussed above, three of the interviewed national chains said that they require manufacturers to get FSTC tests before they will consider their equipment. This again indicates a rationale for cost-sharing since it has significant marketing value for manufacturers.

There also may be opportunities for cost-sharing with national chains. The national chains also do their own equipment testing. Corporate chains have their own labs and often also have R&D restaurants where they change out their equipment often. National chains discussed doing several equipment tests in San Ramon locations where the FSTC assisted them. They also discussed that they approach the FSTC to do equipment testing for them when their labs do not have the appropriate equipment. The Chicago ventilation lab was cited as particularly utilized in these cases. While it would not be appropriate to seek cost-sharing for equipment testing in PG&E territory restaurants as this directly benefits PG&E customers, it may be a possibility for testing outside of PG&E's territory or specifically for the Chicago ventilation lab, which has more specialized and sophisticated capabilities than national chains currently have, according to interviewees.

5. CONCLUSIONS AND RECOMMENDATIONS

All of the evaluation data collection activities—secondary data review, interviews with program design and delivery staff, industry representatives, national chain accounts, manufacturers and manufacturer representatives and surveys with PG&E's food services end-users—indicate that the FSTC is one of (if not the) leading providers of energy efficiency information to the food services industry. The FSTC staff are well-respected as experts in their field and interviewees report they are extremely effective in their dealings with the industry.

The evaluation results indicate the FSTC has had an impact in increasing the energy efficiency of the food services industry and that the food services industry is now—largely as a result of FSTC efforts—well-positioned to realize energy efficiency gains. This raises the question of how to quantify the FSTC's reported successes.

This strategic assessment is to offer recommendations of how to better align the FSTC's operations with PG&E's goals. Interviews with PG&E staff indicate that PG&E's primary goal in relation to the FSTC is to be able accurately capture the energy savings resulting from FSTC activities for PG&E customers, other California IOUs, and outside the state.

In light of the importance of this goal, we offer the following recommendations:

1. **Consider opportunities for budget re-allocation that better align the FSTC's operations with PG&E's goals.** A budget re-allocation should consider expanding FSTC's seminars, site surveys and technical assistance offered to end-users. At the same time, FSTC should seek cost-sharing opportunities for FSTC activities that are resulting in benefits outside of PG&E's territory. The evaluation found that the FSTC is resulting in national benefits to the industry as a whole as well as to specific national chains and manufacturers. To date a national approach has most likely been a positive strategy to pursue because the food services industry is national—regional and utility service territory lines are arbitrary. In addition, FSTC's national work that has increased the availability of energy efficient equipment has benefited PG&E customers. However, the evaluation research suggests the industry may have reached a certain point in its efficiency development that cost-sharing for activities resulting in national benefits could and should be explored. These may be available through other energy efficiency or industry organizations as well as manufacturers and national chains that need the FSTC's advanced equipment testing services. Cost-sharing of equipment testing services, particularly the specialized services available through the Chicago Ventilation Laboratory, would allow a greater percentage of the FSTC budget to be expended on other of its activities that result in quantifiable energy impacts for PG&E end-users.
2. **Increase FSTC's coordination with PG&E's Customer Energy Efficiency (CEE) mass and target market programs that result in quantifiable energy savings.** Several PG&E staff said they would like to make greater use of FSTC resources for PG&E's integrated energy audits and retro-commissioning when customers have food services processes. Interviewees indicate that the FSTC brings an expertise in food services processes that other contractors do not have. However, some interviewees also noted that in order to do this, the FSTC must be able to provide clear cost information. Without this information, the FSTC's usefulness to these CEE programs is limited. The FSTC reports they are working on developing cost information. The FSTC should continue to

develop its portfolio to enable increased coordination with these CEE target market programs. The primary recommendation regarding coordination with the mass market programs is expansion of the food equipment incentive program, discussed under the next recommendation.

3. **Expand FSTC's efforts to support PG&E's food services equipment incentive program.** End-users reported the FSTC was influential in their decision to purchase rebated equipment. National chains also reported that the food services equipment rebate is necessary for many franchisees to go with more efficient equipment. The FSTC works with the PG&E food services equipment incentive program manager to develop a catalog of rebates for food services equipment. The FSTC's equipment testing is reported as essential to set the rebate levels. Before the FSTC, every food services equipment manufacturer used different test methods and it was not possible to determine defendable efficiency levels necessary to set rebate levels, according to interviewees. While PG&E's efforts in food services equipment incentives are leading the country, market actors report that the selection of qualifying equipment is still fairly limited. The FSTC should continue to work closely with the PG&E food services equipment rebate program manager to expand both the breadth and depth of rebated equipment as appropriate to expand energy saving opportunities. Related to recommendation #1 above, we also recommend PG&E explore cost-sharing opportunities with the other California IOUs for the work necessary to expand the food services equipment incentive program. The rationale for cost-sharing is that the other California IOUs use food services equipment rebate information developed by PG&E and FSTC. In addition, staff report considerable confusion regarding end-users' understanding of the food services equipment incentives. FSTC seminars should expand their coverage of explanation of what qualifies for utility incentives and why this equipment qualifies.

4. **Increase the marketing of the FSTC to PG&E food services end-users.** The lack of end-user awareness found in the nonparticipating end-user surveys may be limiting the energy savings opportunities of the FSTC**.** PG&E account services staff who work with the FSTC to serve their food services clients report the FSTC is a valuable resource to facilitate food services customers' participation in PG&E's CEE programs. At the same time, interviewed account staff reported that the majority of PG&E account staff do not take advantage of the FSTC as an internal resource. PG&E staff interviews suggest that the primary way the FSTC should be promoted to end-users is through PG&E account services. Therefore FSTC should continue to look for opportunities to train account services staff on FSTC services and perhaps also provide account managers FSTC marketing materials to share with their customers. Interviews also indicate there may be a role for the FSTC in direct outreach to end-users. PG&E will need to decide to what extent they want to balance the outreach they do directly to end-users through account services and the extent to which they want to fund FSTC to conduct direct customer outreach. One possible venue to explore for FSTC direct outreach would be to increase FSTC staff speaker engagement at end-user specific activities such as regional franchisee meeting for national chains. Any marketing efforts need to specifically address the issues raised regarding co-branding. The evaluation shows general lack of awareness of PG&E's sponsorship of the FSTC. FSTC's current budget allocation does include limited direct marketing to end-users although outreach does occur through educational activities such as seminars. Therefore this recommendation is related to #1 above since it has budget allocation ramifications.

5. **Establish Internet capabilities to track who is using the FSTC website and what information is being used.** The Internet was identified as the primary preferred means of information dissemination and half of participating end-users said they had used the FSTC website. Furthermore, this trend is likely to continue as the food services industry becomes more wired. In order to understand if and how the website is resulting in energy impacts for PG&E end-users, user information needs to be captured. Market actor and end-user interviews indicate a willingness to complete a free registration to use the website. This should be the first implemented step to capture this information. In addition, we recommend following up with users to capture how the information they used affected their practices. This would be part of a more comprehensive evaluation plan to capture energy savings, which is discussed under recommendation #7 below.
6. **Continue information dissemination to equipment manufacturers/suppliers and related organizations.** While it is harder to quantify the effects of FSTC's information dissemination in the industry, the customer survey shows that the majority of PG&E end-users are still not primarily turning to the FSTC for information when making equipment and design decisions. The primary source of information on energy is manufacturers and suppliers. While the percentage going to the FSTC for energy information should increase with increased marketing of the FSTC discussed above, manufacturers/suppliers, trade publications and other associations and organizations will most likely remain important sources of information for end-users. Therefore the FSTC should continue their work with these market actors. In addition, FSTC's work with the supply chain has increased the availability of energy efficient equipment, which then benefits PG&E's customers. The evaluation indicates that the FSTC's work with the industry, especially in equipment testing, has been necessary to prepare the market to realize energy efficiency gains.
7. **Develop an evaluation framework to quantify energy saving resulting from FSTC activities.** Currently no customer follow-up is conducted with FSTC participants. A tracking system should be developed to identify end-use customers that have made improvements as a result of FSTC. The tracking system should include the following to help quantify energy savings:
   - Continue to estimate and track energy savings from rebate participants.
   - Match rebate participants with participants in other FSTC activities such as workshops and site surveys to assess whether FSTC may have influenced their installation of rebated equipment.
   - Collect key data for each FSTC participant including decision-maker contact information, type of business, responsibility for equipment/kitchen design decision-making, number and location of facilities for which they make decisions.
   - Develop tracking system with key data from site surveys and technical assistance that includes recommended measures, costs, and potential energy savings.
   - Design/implement follow-up surveys for site visit and training/workshop (and possibly product test) participants to identify actions taken as a result of their participation in the program.
8. **PG&E staff should work closely with Fisher-Nickel to establish a business plan for the FSTC that fits PG&E's objectives and includes metrics that are more closely**

aligned to those objectives. This process is already starting but the following should be considered and covered in the next FSTC business plan:

- Identify staff resources and budgets specifically allocated to activities that support PG&E customers.
- Track and report actual expenditures and funding sources for PG&E customers and non-PG&E customers.
- Develop participation targets by type of business to increase end-user involvement and promote installation of energy-efficient equipment in PG&E customer facilities.
- Establish specific requirements for data collection and reporting of results to support energy-savings estimates.
- Include specific guidelines on PG&E branding and advocacy.
- Specify cost-sharing for product testing and other FSTC activities that have significant national benefits.
- Decide on PG&E staff and FSTC roles for marketing to PG&E end-users and assign marketing budget accordingly.

APPENDIX A: FSTC PRIMARY DATA COLLECTION ACTIVITIES SAMPLE

This appendix outlines the sampling methodology for the primary data collection activities for the evaluation. We begin with a definition of the groups of interviewees.

A.1 INTERVIEWEE DEFINITIONS

Program design and delivery staff: These include staff involved in the design or delivery of energy efficiency programs for PG&E or other California IOUs as well as Fisher-Nickel staff who subcontract to PG&E to run the FSTC.

Market actors: Three different groups of market actors were interviewed for the study. The first included industry market actors. Industry market actors are food services industry stakeholders such as energy efficiency organizations, government organizations, and food services-related associations. The second group is composed of corporate decision-makers for national chains. The third group of market actors represented is made up of supply chain market actors. Supply chain market actors are food services equipment manufacturers, distributors, and suppliers involved in the production and delivery of food services equipment. Market actors such as kitchen specifiers and architecture and engineering firms were interviewed as part of the end-user survey since they make decision for food services establishments.

End-user: End-users are PG&E commercial customers who are involved in food services. These include restaurants as well as hospitality customers who have food services establishments and institutional facilities with food services establishments. As discussed above, this group also includes firms that make food services equipment and design decisions for end-users such as a kitchen specifier. A participating end-user utilized FSTC resources in some trackable way such as attending a training seminar, receiving a site survey, or applying for a rebate in 2006 or 2007. A nonparticipating end-user did not participate in a FSTC resource in some trackable way during this time period.

A.2 SAMPLE METHODOLOGY

A.2.1 Program design and delivery staff interviews

The initial list for program design and delivery staff interviews was developed with the PG&E FSTC program manager and evaluation manager. As interviews were conducted, additional staff were identified for interviews based on their role with the FSTC. Therefore, the program design and delivery staff interviews did follow a “snowball” sampling approach by building on recommendations of previous interviewees.

A.2.2 Market actor interviews

Fisher-Nickel supplied PA with a list of all of the organizations, national chains, and supply chain market actors they work with. PA worked with the PG&E program manager and evaluation manager to identify market actors they should interview. All five industry market actors identified for interviews agreed to complete interviews. The sample of national chains and supply chain interviewees were selected so that a 50 percent response rate was achieved. Cooperation with the market actor interviews was high and a 50 percent response rate was easily achieved. More interviews could have been conducted if budget had allowed. The market actor sample was not a scientific sample, but a purposive sample designed to solicit a range of views.

A.2.3 Sample Methodology for PG&E Food Service Participant and Nonparticipant Study

The PG&E food service end-user survey consists of two groups:

- PG&E Participants: Food service businesses who have received/applied for a rebate, attended a workshop or seminar, or had a site survey in 2006 or 2007.
- PG&E Nonparticipants: Food service businesses who have not utilized the resources from PG&E or the FSTC in 2006 or 2007.

We spoke with 439 participants as well as 400 nonparticipants. Because all sample points are businesses, we strived for a response rate of around 50 percent for participants and 30 percent for nonparticipants. With that said, there was difficulty in reaching this population by phone, and combined with their busy schedules and the area being heavily surveyed, the response rate reduced to 48.7 percent for participants and 22.5 percent for nonparticipants.

Four data sources served as the sample source for this study: (1) PG&E’s customer database, (2) MDSS, PG&E's database for their Customer Energy Efficiency Programs, (3) FSTC’s participant files kept as Excel spreadsheets, and (4) RestaurantChains.net website, which is a directory used to locate contact information for the nonparticipant sample.

A.2.4 Participant Sample Identification

We identified participants through the FSTC’s records provided to us and stratified by participant type (e.g., rebate participants, site survey participants, and workshop/seminar participants).

- Rebate Sample: Using data from the 2006 and 2007 participant years, the rebate participants were first combined to remove duplicate addresses and contacts. The file was largely made up of rebates for purchasing ice makers. In order to ensure other equipment types were represented in participant responses, the population was split into two strata—ice maker rebate participants and non ice maker rebate participants. We then pulled a total of 251 records between the two strata.
- Site Survey Sample: Due to the small population, a census of site-survey participants was taken for the 2006 and 2007 years for a total of 73, after duplicate addresses and contacts were removed.
- Workshop/Seminar Sample: Using data from the 2006 and 2007 participant years, the workshop/seminar participants were first combined to remove duplicate addresses and contacts. Manufacturers and manufacturer representatives were then removed from the sample to ensure we speak to PG&E end-users since supply chain market actors were previously interviewed. After these processes were completed, a census of 115 sample points was selected between the 2006 and 2007 participant years.

A.2.5 Nonparticipant Sample Identification

PG&E had analyzed their customer database to identify food services end-users by NAIC codes. This resulted in a population size of 38,030. PG&E had further identified chain entities (five or more locations) versus non chain entities (less than five locations). PA compared these records to the participant files to remove duplicate addresses and contacts.

To obtain more influential sample for the purposes of this study, PA set a minimum requirement on annual gas and electric use. The minimum requirements would ensure that the study collected information from end-users with energy savings potential. PA set a minimum threshold for gas customers of annual gas usage of 5,000 therms and a minimum threshold for electric customers of an annual electric use higher than 50,000 kWh. End-users with gas and electric below these criteria were removed from the population. PA then randomly selected a total of 400 sample points of qualified entities; 200 from the chain entities and 200 from the non chain entities.

A.3 DISCUSSION OF CHAIN ACCOUNTS SAMPLE REPRESENTATION

The 2003 Market Effects Study showed NPD RECOUNT data indicating about 40 percent of all California restaurants were national chains. However, the analysis of PG&E customers indicates this percentage is lower in PG&E's territory. The spreadsheet with the 38,030 food service industry accounts provided for PG&E customers showed a summary with about 1800 accounts being national chains. In addition, our analysis indicated that 5,500 were multi-location (five or more location) businesses, which is about 15 percent.

Given that this study included a process evaluation and strategic assessment, it was important to include national chains because of their larger impact on the market. National chains represent 19 percent of our participant survey sample. The 2003 Market Effects Study showed participants from national chains dropping from 60 percent in 1999 to 40 percent of participants in 2003. The participants in our study were defined as food services customers who attended a workshop, had a site-survey, or received a rebate during that time period. The participant survey was conducted using the census of all 2006–2007 participants (as of the evaluation) for the sample list and achieved around a 50 percent response rate. Therefore, it can be said to be representative of the mix of food services participants during that time period. We expect the small percentage of national chains in the "participant" survey is a result of the fact that many national chains do NOT use those particular services (FSTC workshop, FSTC site-survey, PG&E rebate).

National chains decision-makers in the market actor interviews discussed with us how important personal relationships with FSTC staff are and how they pick up and call FSTC staff every week or so for advice. This type of national chain "participant" would not have been captured in one of the three definitions of participants. This would also be true of how intensive the FSTC is working with chains now on LEED certification. Consequently, this is why the qualitative interviews with national chains managers conducted for the evaluation were so important. These interviews gained in-depth information into the decision-making processes of national chains and FSTC's influence on this group. These interviewees were selected from a sample of national chains that FSTC identified as chains they work with. Ideally more of these interviews would have been conducted, but the overall budgeted amount of 30 total market actor interviews gained important insight from interviews with others such as manufacturers, suppliers, and food services associations and organizations.

As discussed above, the nonparticipant survey sample was stratified so that half of the restaurants would represent those with over five facilities, which included national chains. The nonparticipants represented the general population of food service customers, excluding the small percentage of participants. At the same time, minimum energy consumption thresholds (50,000 kWh and 5,000 therms) were set and some of the smaller, limited services chains did drop out from the nonparticipant sample. It is not apparent that a higher proportion of national chain accounts dropped out than other small accounts though when we set that threshold of minimum energy use. We agreed with PG&E staff that, with the limited number of surveys to be completed for the entire group of PG&E's food service industry customers, it was valuable to focus on those customers that individually were above the minimum threshold of energy use. They are more likely to have greater potential for energy savings.

We believe that taking all three primary data collection activities together, there was sufficient national chain data to support several key findings related specifically to national chains.

A.4 SURVEY FIELD PERIOD

The survey field period began in September 2007 for the participant sample, the nonparticipant interviews started a couple weeks later for a staggered start. The interviewing field period ended the beginning of December 2007.

- Participant Interviews: Prior to contacting participants by phone, a letter was mailed from PA Consulting Group on September 23, 2007, notifying participants of the study and our plans to contact them in the following days. Phone calls to the participants started three days later on September 26, 2007, to allow time for delivery of the letter. Participant calling continued through November 29, 2007. In an attempt to increase participation in the study, a second letter was mailed on October 29, 2007, to added rebate participant sample on PG&E letterhead instead of PA Consulting Group letterhead.

- Nonparticipant Interviews: Prior to contacting nonparticipants by phone, a letter was mailed from PA Consulting Group on October 30, 2007, using PG&E letterhead notifying the nonparticipant sample of the study and our plans to contact them in the following days. Phone calls began a few days later on November 4, 2007, and continued through December 3, 2007.

Contacting both the participants and nonparticipants proved to be a difficult task as respondents were very hard to reach due to their busy schedules. Contacts averaged 20–30 attempts before completion of an interview and those who were reached often declined participation due to lack of time and due to comments of being heavily surveyed.

A.5 FINAL RESPONSE RATES

After the close of the field period, PA achieved a total of 153 participant completes, 48.7 percent overall response rate, and 84 nonparticipant completes, 22.5 percent overall response rate. Below are response rate tables to break down the final dispositions of both the participant sample and the nonparticipant sample.

Table A-1.
Final Participant Response Rate

	Participant			OVERALL
	Seminar	Site Survey	Rebate	
Starting sample	115	73	251	439
Bad phone numbers	4	0	11	15
Refused	19	22	46	87
*Ineligible - (see definition below)	29	14	82	125
Unavailble for Duration of Study	6	0	12	18
Language barrier/R incapable	1	2	13	16
Called out (more than 20 attempts)	11	11	3	25
Completed phone interview	45	24	84	153
Response Rate	52.3%	40.7%	49.7%	48.7%

*Ineligible is defined as those who state they do not do any recommending, designing, or specifying of kitchen equipment and can't identify another contact. Other reasons are signing up for workshop/seminar and not attending, claim to not have had a site survey even if records indicate so, or discover person of contact is listed under another business in our sample.

Table A-2.
Final Nonparticipant Response Rate

	Non Participant		OVERALL
	Chain	Non Chain	
Starting sample	191	209	400
Bad phone numbers	9	20	29
Refused	44	34	78
*Ineligible - (see definition below)	16	10	26
Deceased	0	2	2
Unavailble for Duration of Study	9	28	37
Language barrier/R incapable	8	24	32
Called out (more than 20 attempts)	62	50	112
Completed phone interview	43	41	84
Response Rate	24.6%	20.6%	22.5%

*Ineligible is defined as those who state they do not do any recommending, designing, or specifying of kitchen equipment and can't identify another contact.

B.1 PROGRAM DOCUMENTATION REVIEW

Summary List of Relevant Links for PG&E

Food Service Technology Center

24 July 2007

Prior research related to the FSTC

Pacific Gas & Electric Company's "1998 Food Service Technology Center Market Effects Study" (published June 1999). By Equipoise Consulting Incorporated; Ridge & Associates; RJ Research; Energy Solutions. http://www.calmac.org/results.asp?t=1 CALMAC DB#: PGE0146.01; 420d

CPUC's Final Report for Energy Efficiency in Commercial Food Service, Equipoise Consulting Incorporated (published April 2, 2004). By Equipoise Consulting Incorporated; Quantum Consulting Inc.; Energy Solutions, and RJ Research.

Regulatory Policies, Opinions, Rulings Related to the FSTC

Interim Opinion Adopting Funding for 2004–2005 Energy Efficiency Programs and Addressing Certain Petitions and Motions. Decision 04-02-059, February 26, 2004. Mailed 3-3-2004.

FSTC Communication, Outreach, Branding Materials, and Information

Food Service Technology Center (FSTC)

Fact sheets and other publications on food service equipment

PG&E's Branding and Co-branding Rules

Communications/Marketing Plans

Educational Outreach Results and Statistics (# and demographics of participants/recipients by type of outreach/service)

Website Hit Data (demographics)

FSTC Training and Technical Support Materials and Information

Seminar Presentations are on the FSTC Website

Training Evaluation Surveys/Summaries

Samples of Technical Assistance and On-site Survey Reports

Budgeting and Expenditures Data

Program Budget with Breakdown by Type of Expenditure/Service/Activity

Reports of Program Expenditures by type and activity

Other Documents/Information Relevant to FSTC/Evaluation Project

Sample Program Logic Model Template: DRAFT Hospitality Segment Full Program Theory and Logic Model; Prepared for Pacific Gas & Electric Company Customer Marketing and Analysis; Prepared by The Heschong Mahone Group, Inc.; June 30, 2006

PG&E's contract with Fisher-Nickel for FSTC (program metrics)

The FSTC business plan

FSTC's 2006 annual report and budget allocation

PG&E Co-branding guidelines

PG&E Advocacy Policy

Program Tracking Data including target lists, participants, program impacts (market effects and energy savings)

Documentation on PG&E program goals including energy savings

Research/Information on Other California Energy-Efficiency Programs Targeting Food Service Industry

Pacific Gas & Electric: Food Service Guide

Customer Technology Application Center (CTAC) Market Effect Study: Volume I: Final Report. CALMAC DB #: SCE0082.01 (published 1998) by Hagler Bailly for SCE

Customer Technology Application Center (CTAC) Market Effect Study: Volume II: Final Appendices. CALMAC DB #: SCE0083.01 (published 1998) by Hagler Bailly for SCE. http://www.calmac.org/results.asp?t=1

California Flex Your Power: Small Business Solutions

Research/Data on California Food Service Industry in General

SBW Report No. 0605; CALMAC Study ID CUW0001.01

Impact and Process Evaluation Final Report for California Urban Water Conservation Council 2004-5 Pre-Rinse Spray Valve Installation Program (Phase 2) (PG&E Program # 1198-04; SoCalGas Program 1200-04) *Submitted February 21, 2007 to* the CPUC by **SBW Consulting, Inc.,** Bellevue, WA, **Glacier Consulting Group, LLC,** Madison, WI, **ASW Engineering Management Consultants,** Tustin, CA, **Conservision,** Aliso Viejo, CA,

Improving Energy Efficiency of Commercial Kitchen Exhaust Systems, California Energy Commission

California Institute of Food and Agricultural Research **Survey on Energy Management in the Food Industry, Executive Summary**

http://www.energy.ca.gov/process/pubs/INST_FOOD_AG_RESRCH_SURVEY.PDF

Other Major Programs (Outside of California)

Task 2.1 Report: ***National Account Sector Energy Profiles***, Final Report, April 2003 by Energy and Environmental Analysis, Inc. (Energy Nexus Group) for Oak Ridge National Lab (particularly relevant is Section 5 on restaurants)

Executive Summary of 1998 ACEEE study on energy use in the food industry: http://www.aceee.org/pubs/ie981.htm

Arizona Public Service: "Energy Efficient Commercial Kitchen"

Energy Savings in Restaurants: Roy Johannesen, adapted for Florida, with permission, from a document originally created by the Texas Energy Extension Service

Florida Power & Light Commercial Energy Advisor: "Managing Energy Costs in Restaurants"

Wisconsin Focus on Energy: Restaurants

Food Service Equipment/Technology Assessments/Specifications

Consortium for Energy Efficiency Commercial Kitchens Initiative http://www.cee1.org/com/com-kit/com-kit-main.php3

Qualifying product lists are currently available for:

Commercial fryers (ENERGY STAR-qualified models)

Steam cookers (ENERGY STAR-qualified models)

Commercial solid-door refrigerators

Commercial ice-makers

Commercial solid-door freezers

Commercial glass-door refrigerators

ENERGY STAR (Scroll to Commercial Food Service for specifications and product lists)

ENERGY STAR Small Business: Restaurants

ENERGY IDEAS Clearinghouse: "Restaurant Energy Saving Tips"

American Society for Testing and Materials (ASTM)

Test standards for food service equipment

North American Association of Food Equipment Manufacturers (NAFEM) Information on standards, guidelines, and other publications on food service equipment

Foodservice Equipment Reports (On-line trade journal)

Architectural Energy Corporation (Fact sheets)

Case study: Reedville Cafe (Hillsboro, Ore.) Submitted by ENERGY STAR

Regular upkeep, efficient equipment can help restaurants control energy costs by Linda Busche, National Restaurants Association

Commercial Kitchen Ventilation Design by Energy Design Resources

Restaurant Energy Efficiency Pilot – Program Process Evaluation by the Energy Trust of Oregon

Additional Related Topics:

Emerson Climate Solutions: “Emerson Climate Solutions White Paper on Food Service”, Nov. 2006 (www.emersonclimate.com/energy.htm)

Emerging technologies from the NW Food Processors Association (http://www.nwfpa.org/eweb/DynamicPage.aspx?site=energy&webcode=landing&wps_key=0829FD5E-F23B-46F6-AFDB-8D599BD29429). Includes resource links for:

Blanching	Cleaning	Compressed Air
Cooling and Refrigeration	Evaporation and Concentration	Fermentation
Filtration and Separation	Homogenization	HVAC
Materials Handling	Motors	Pasteurization
Process heating and drying	Waste Water Management	Industrial Sectors

Northwest Industrial Efficiency Alliance:

- Food processing industry http://www.industrialefficiencyalliance.org/resources.html#FoodProcessing
- 2006 NWFPA Continuous Energy Improvement Champions

Food Processing

- Continuous Energy Improvement & the Food Processing Industry 4-page brochure Industrial Efficiency Alliance - 2007 03 08

- Industrial Steam Training for Manufacturing Facilities - PowerPoint Presentation
- Efficiency Related Articles and Reports
- "Using Energy Efficiency Cluster Training to Improve Regional Economic Performance" - An article from the October 2006 Issue of *Compressed Air Best Practices* magazine, co-authored by IEA Food Processing Director Ed Birch, and John Molitor, Industrial Accounts/Energy Services for Grant County Public Utility District.
- "The State of Food Manufacturing: The Quest for Continuous Improvement", from *Food Engineering*, September, 2006
- NWFPA Energy Insider - June 2006 - The June 2006 issue features an article by Ed Birch, Food Processing Director - "Avoid Radical Change by Considering Continuous Energy Improvement."
- "Cluster Training Increasing Companies' Competitive Edge" - The *Columbia Basin Herald* (May 19, 2006) article focuses on the compressed air cluster strategy and includes information about IEA key partnerships.
- NWFPA Energy Insider - Dec. 2005 - The December 2005 issue featured and article from Ed Birch - "A Palatable Solution to Rising Energy Prices" - focused on CEI and includes mention of several customers.
- *"Food Industry Puts Energy Efficiency on the Menu"* By Dave Zepponi, NWFPA President, *Seattle Daily Journal of Commerce,* July 28, 2005

B.2 STAFF INTERVIEW GUIDE

Pacific Gas and Electric (PG&E)
The Food Services Technology Center (FSTC)
Internal Staff Interview Guide
July 2007

The internal staff interviews, combined with other evaluation tasks, will address the following evaluation objectives:

- Objective 1: Evaluate the dissemination of information on energy efficiency technology and the associated energy savings.
- Objective 3: Assess the effectiveness of the FSTC educational outreach programs in promoting efficient equipment purchases.
- Objective 4: Assess the FSTC's co-branding with PG&E programs and adherence to PG&E rules.
- Objective 5: Review PG&E's advocacy rules and the FSTC's adherence to them.
- Objective 7: Assess current program metrics and whether they provide right incentives to meet PG&E's objectives.
- Objective 8: Review the FSTC's budget and assess whether allocation enables FSTC to meet objectives.

Introduction

We are conducting several interviews with staff involved in the design and delivery of the FSTC as part of the process evaluation and strategic assessment of the FSTC. The information we obtain in these interviews will not be reported by individual. The interview results will be combined with the results of other data collection activities such as surveys with food services market actors to make recommendations about FSTC's operations. Depending on your role in the Program, the interview should take from 30 to 60 minutes.

Note: Not all interview guide sections will apply to all interviewees. Interviewees will only be asked about relevant topic areas.

While a great deal of program documentation is available on the Web and evaluators have reviewed those pieces, specific program documentation needed that was not found on the Web is noted in the applicable topic area.

I. General Information on Roles and Responsibilities

A. What are your responsibilities regarding this Program? What role do you play, if any, in:
   - Planning, designing, managing, and administering the Program
   - Targeting and marketing the Program to industry representatives
   - Targeting and marketing the Program to food services customers
   - Delivering the various program services (e.g., program educational outreach, equipment testing, equipment efficiency standards, information dissemination)
   - Establishing and assessing Program performance
   - Other aspects of the Program

B. What PG&E and FSTC staff and contractors do you interact with regarding this Program and what are their responsibilities? Are responsibilities well-defined? Are staff resources adequate?

C. What are your interactions with other stakeholders (e.g., PIER, CPUC, other utilities) in your responsibilities related to the FSTC?

D. What tools and resources do you use in completing your responsibilities for the Program?

E. What other types of information or support would you like to most effectively complete your program responsibilities?

II. Information Dissemination (Evaluation Objective #1)

A. How does the FSTC disseminate information? Probe about type of information, venue for dissemination and target audiences.

B. What do you think are the most effective types of information dissemination? The least effective? Probe specifically about the use and effectiveness of the following types of information if not mentioned: equipment reports, testing results and web-based tools for customers to select and evaluate the energy efficiency of appliances.

C. What impacts do you think the FSTC's information has had on the technology of the food services industry in California?

D. What impacts do you think the FSTC's information dissemination has had on the technology of the food services industry outside of California? Probe about specific regions and types of nonparticipants impacted.

E. What types of program information dissemination do you think are resulting in the most energy savings? The least?

F. How has the program's information dissemination changed since you have been involved with the Program? Have those changes been effective? Are there additional information dissemination changes being considered?

G. What changes do you think could be made to how the Program disseminates information that could increase the Program's energy savings?

III. Educational Outreach (Evaluation Objective #3)

Program Documentation Needs: Educational Outreach Statistics, Training Evaluation Summaries (if available), Examples of technical assistance and on-site survey reports (seminar presentations are available on the FSTC website).

F. It is our understanding the FSTC's educational outreach includes 3 main activities: trainings (primarily seminars held on-site at FSTC and upstream industry training), restaurant audits and design reviews, and site surveys. Could you briefly describe each of these main categories of educational outreach? Are there other types offered?

G. How are participants targeted and recruited for each of the main categories of the FSTC's educational outreach?

H. What is customer receptivity to each of the main categories of the FSTC's educational outreach?

I. Are there certain target segments that are reluctant to participate or hard to reach?

Training

J. How are training topics determined?

K. Are trainings well attended? Who attends seminars? What types of seminars are in the most demand? Least demand?

L. How is training participant feedback tracked and responded to? [If evaluation forms are distributed, ask if we can see summary results]

Restaurants' audits and design reviews and on-site facility surveys

M. What is customer demand for restaurant audits and design reviews and on-site surveys? How are these scheduled and the work-flow managed to complete these? How are projects prioritized to receive technical assistance or an on-site audit?

N. What is customer response to recommendations made as a result of design reviews? on-site facility surveys? Is customer actions as a result of these services tracked?

IV. FSTC and PG&E co-branding (Evaluation Objective #4)

Program Documentation Needs: PG&E's co-branding rules.

A. What are expectations of FSTC co-branding with PG&E programs? How were there expectations set? How well do you think these are adhered to?

B. What are the objectives of co-branding with PG&E programs? (For example, are X number of rebates expected to result from FSTC co-branding efforts?)

C. How do you think the FSTC has affected the food industry's participation in other PG&E programs?

D. Are there areas where you would like to see co-branding improved? How?

V. FSTC and PG&E advocacy (Evaluation Objective #5)

Program Documentation Needs: PG&E's advocacy rules.

A. What are expectations of FSTC's adherence to PG&E's advocacy rules? How were there expectations set? How well do you think these are adhered to?

B. What are the objectives of the advocacy rules?

C. Are there areas where you would like to see the FSTC's adherence to the advocacy rules increased? How?

VI. Program Metrics (Evaluation Objective #7)

Program Documentation Needs: Formal documentation of program goals and metrics, annual reports

A. What are the FSTC's formal goals (those with written targets and metrics) and informal goals (no targets, but generally understood program ambitions or "stretch" goals) and objectives for the Program?

B. How were these goals and objectives set? Are these goals reasonable? Why or why not?

C. What performance metrics are established for the Program? How were they set? How is program progress in relation to the metrics tracked?

D. If program progress toward a metric is not correct, how does the program adjust?

E. Are all of the FSTC's goals and objectives being met? If not, what factors prevented certain goals from being met? What could increase the program's performance in relation to these goals?

VII. Budget (Evaluation Objective #8)

Program Documentation Needs: the FSTC program budget for 2006 and 2007.

A. How is the overall budget for the FSTC determined? How has the FSTC's budget allocation changed from its inception in 1987 to now?

B. In the past, has the FSTC's overall budget allocation been sufficient to meet the Program's objectives? What is the future expectation?

C. How is the overall budget allocated among the different activities? Has this allocation changed over the years? Is the current budget allocation in line with the FSTC's objectives? Do you feel any activities are over funded? Under funded?

D. Do you feel the current the budget provides for adequate:
   a. staff resources
   b. testing facilities
   c. equipment
   d. marketing
   e. educational outreach
   f. information dissemination
   g. administration

E. Do you feel you have sufficient resources to conduct your responsibilities related to the program?

VIII. Conclusion

B. Are there any other topics that we have not covered in this interview that we should be aware of for our process evaluation and strategic assessment of the FSTC?

THIS CONCLUDES OUR INTERVIEW. THANK YOU FOR YOUR TIME.

B.3 MARKET ACTOR GUIDES

B.3.1 The PG&E Food Services Technology Center Process Evaluation and Strategic Assessment Market Actor Interview Protocol for Industry Contacts

This is the interview guide for industry market actors such as energy efficiency organizations. The organizations we will interview using this guide are: EPA ENERGY STAR, ACEEE, CEE, CEC, NAFEM and the Electric Food Service Council.

There is a separate market actor interview guide for manufacturers, suppliers and corporate decision makers. Together, the market actor interviews will address the following evaluation objectives:

- Objective 1: Evaluate the dissemination of information on energy efficiency technology and the associated energy savings.
- Objective 2: Assess the needs of the food services market and determine the FSTC program's impacts on commercial food services cooking appliance purchasers, especially corporate management.
- Objective 3: Assess the effectiveness of the FSTC educational outreach programs in promoting energy efficient equipment purchases.
- Objective 4: Assess the FSTC's co-branding practices with PG&E programs and adherence to PG&E rules.
- Objective 6: Evaluate where FSTC program benefits accrue that result in credits to Customer Energy Efficiency at PG&E.
- Objective 8: Review FSTC's budget and assess whether the task allocation enables FSTC to meet objectives.

INTRODUCTION

Note: Because senior staff will be conducting interviews, market actor interviews will be semi-structured. Therefore the following interview protocol is only a guide to ensure certain topics are covered, but evaluators will follow the flow of the interview and modify questions as needed to fit the interviewee's circumstance.

NAME: ____

COMPANY:____

TITLE: ____

PHONE: ____

INTERVIEWER: ____

DATE COMPLETED: _________________ LENGTH: _____________

INDUSTRY MARKET ACTOR

My name is _______, with PA Consulting Group. We are evaluating the Food Services Technology Center for PG&E. The information you provide will assist PG&E in identifying ways to better serve the food services industry. This interview should take approximately 20 minutes of your time. Can we take some time now to do the interview? (If no, when would be a convenient time?)

BACKGROUND

Research website before interview to gather additional information about how the organization works with the food services industry.

B1. What types of products and services does your organization provide to the food service industry?

B2. How do you work with PG&E's Food Services Technology Center (the FSTC)?

What types of resources does FSTC provide to your organization or your constituents/members?

B3. Who primarily uses the resources provided by FSTC for your organization or members? What types of businesses?

What percent of these businesses are located in California or make decisions for businesses in California? PG&E's territory? [Interviewer should know the geographical limits of the PG&E territory]

B4. How are you involved in developing or recommending the adoption and / or purchase of high efficiency (low energy consuming) food service equipment and building processes? How long have you been working in this area and what is your current role?

In this role, what information or research have you found useful in informing your decisions?

B5. When did you first start working with the FSTC? How do you work with the FSTC? How often do you work with them? In general, how helpful have these interactions been?

B6. Do you do any cost-sharing for the FSTC's work that benefits your organization? If use testing services: Could there be cost-sharing available for equipment testing from your organization or constituents/members?

INFORMATION DISSEMINATION

I1. How do your constituents/members usually get information on energy-efficient equipment and energy-efficient building systems for the food services industry?

I2. What FSTC informational resources or materials have you used? How useful have FSTC resources and materials been? Probe about case studies, newsletters, web-based tools, equipment testing reports. Would you mind registering when using the site? What specific service would you like for registered only visitors?

I3. Which program resources and materials have been most valuable (and why) and which have been least valuable (and why)?

I4. What do you think are the food services industry's information needs? Probe specifically about upstream market actor needs and end-use customers.

What is the most effective way to get this information to them? Probe specifically about whether they think the internet is an effective venue for the industry. How about a directed monthly newsletter to registered users?

I5. Can you tell me specific examples of how you have seen the resources provided by the FSTC used in the food services industry?

I6. What other technical resources do you use outside of FSTC and from what sources?

EDUCATIONAL OUTREACH

E1. Do you think training is an effective way to promote energy efficiency to the food services industry? What types of seminars or training are effective for the food services industry? Probe specifically about who should be trained such as owner, operator, upstream market actors, etc.

E2. Are you familiar with the FSTC's training seminars? If yes, do you think they cover the right topics and issues for the food services industry? How about delivery?

E3. What role do you think technical assistance plays in helping food services operations move toward energy efficiency? What types of technical assistance (e.g., audits, site-surveys, design review, turn-key programs) do you think are the most effective way to serve the food services industry?

FOOD SERVICES MARKET IMPACTS

M1. Do you think the industry's business practices regarding high-efficiency food service equipment and processes has changed in the last five years? How? Probe specifically about practices in: production/inventory, specification/design, marketing and equipment purchasing. Probe specifically about any changes they are aware of in high efficiency cooking platforms.

Probe specifically about any changes they are aware of in looking at the building processes (hot water, ventilation, HVAC and lighting) as well as equipment.

What data or information do you have available to identify or quantify these changes? Is there any data on energy savings from your program?

M2. To what extent has the FSTC helped influence these efficiency changes? Probe specifically about changes in Northern California (PG&E's territory) versus other regions, both other regions of CA and the rest of the nation. What other factor are influencing this change?

M3. What direction do you think the food services industry is moving toward in the future in terms of energy efficiency?

M4. What industry need is currently not being met that would help the industry move forward in terms of energy efficient equipment and kitchen design? Should FSTC play a role in meeting any of these additional needs and in what way?

CUSTOMER IMPACTS

C1. In general, do you think commercial food services facilities are aware of the FSTC or other resources like them? What do you think is the best way to make end-users aware of services to help them improve their energy-use?

C2. On a scale of 1 to 5 where 1 is not at all difficult and 5 is very difficult, how difficult do you it is to convince end-users to specify high efficiency equipment or services in the food services industry? Does this differ from other industry end-users you work with? How? Probe to understand why the high efficiency equipment is easy or difficult to sell/specify in food services. How could the FSTC be more effective at getting end-users to increase the efficiency of their food services operations?

C3. What additional services would you like to see the FSTC provide to your organization and its constituents?

CONCLUSION

W1. Are there other types of food services centers that you use/are aware of? If yes, do you think there are lessons to be learned for the PG&E FSTC from these other centers (*Ask if not previously mentioned in other interview questions)*

W2. Is there anything else that we haven't discussed that you would like the evaluation to note?

Thank you for your time. This completes our interview.

B.3.2 The PG&E Food Services Technology Center Process Evaluation and Strategic Assessment Supply Chain Market Actor Interview Protocol

This is the interview guide for supply chain market actors including manufacturers, manufacturer representatives and corporate decision makers for chain restaurants.

There is a separate interview guide for industry market actors such as energy efficiency organizations. Together, the market actor interviews will address the following evaluation objectives:

- Objective 1: Evaluate the dissemination of information on energy efficiency technology and the associated energy savings.
- Objective 2: Assess the needs of the food service market and determine the FSTC program's impacts on commercial food services cooking appliance purchasers, especially corporate management.
- Objective 3: Assess the effectiveness of the FSTC educational outreach programs in promoting energy efficient equipment purchases.
- Objective 4: Assess the FSTC's co-branding practices with PG&E programs and adherence to PG&E rules.
- Objective 6: Evaluate where FSTC program benefits accrue that result in credits to Customer Energy Efficiency at PG&E.
- Objective 8: Review FSTC's budget and assess whether the task allocation enables FSTC to meet objectives.

INTRODUCTION

Note: Because senior staff will be conducting interviews, market actor interviews will be semi-structured. Therefore the following interview protocol is only a guide to ensure certain topics are covered, but evaluators will follow the flow of the interview and modify questions as needed to fit the interviewee's circumstance.

NAME: ____

COMPANY:____

TITLE: ____

PHONE: ____

INTERVIEWER: ____

DATE COMPLETED: __________________ **LENGTH:** ______________

TYPE OF MARKET ACTOR [FROM SAMPLE INFORMATION]

1. Manufacturer and suppliers to the food service industry, both independents and chain restaurants. Equipment includes cooking platform (fryers, broilers, steamers, griddles, braising pans, etc.), site ventilation systems , site process (hot water, ice makers, refrigerators, etc.),
   Note equipment type:____________________

2. Kitchen Designer [Food Service Consultant or similar]

3. Multi-unit specifier (e.g., corporate management for food service chains)

My name is _______, with PA Consulting Group. We are evaluating programs and services for the food service industry. The information you provide will assist us in identifying ways to better serve the food services industry. This interview should take approximately 20 minutes of your time. Can we take some time now to do the interview? (If no, when would be a convenient time?)

Ask first to get unbiased answer:

I1. Have you heard of the Food Services Technology Center?

I2. Do you know who sponsors and funds the FSTC?

FIRMOGRAPHICS – ALL

Research company website before interview to learn about company.

F1. To get us started, could you tell me a little bit about your business relative to the food services industry (or position for multi-unit specifiers)?

Manufacturer/suppliers [distributors]: What types of products and services do you offer?

Multi-unit specifiers: What are your responsibilities and for what businesses?

F2. What geographic areas do you primarily work in? What percent of your business is in California, PG&E's territory? [Interviewer should know the geographical limits of the PG&E territory]

Multi-unit specifiers: Where are your businesses/stores located?—check for website with listing of stores

PROGRAM AWARENESS AND INVOLVEMENT – ALL

P1. Could you describe for me what types of products, services, information, etc., you use when considering energy-efficiency equipment and kitchen design from the following groups?

The FSTC

Other food services centers (Specify:_____________________)

American Society for Testing and Materials (ASTM)

ENERGY STAR

Consortium for Energy Efficiency (CEE)

Other (Specify:______________________)

P2. When did you first start working with the FSTC?

Why did you decide to work with the FSTC?

How often have you worked with the FSTC over the last 3 years?

P3. How did you first hear about the FSTC? (Do not prompt. Circle all that apply)

Through PG&E (Specify if learned of the FSTC through account manager, website, literature, newsletter, etc. Specify which publication if learned of the FSTC through a publication)

Through website (If mentioned, provide if it was PG&E/FSTC or fishnick.com or other website (specify other website))

Attended workshop or training seminar (FSTC or specify other location)

Through a manufacturer

Learned about the FSTC at trade show

Saw media about the FSTC (Where?_____________)

Business Colleague

Food Services Customer

Other ____

Don't know/unsure

P4. Do you expect your use of the FSTC to increase, decrease or stay the same in the next 12 months? Why?

P5. Overall how satisfied have you been with your interactions with FSTC?

INFORMATION DISSEMINATION

I1. How do you usually get information on energy-efficient equipment and energy-efficient designs?

I2. What FSTC resources or materials have you used? How useful have FSTC resources and materials been? Probe about case studies, newsletters, seminar presentations, web-based tools, equipment testing reports.

I3. Which program resources and materials have been most valuable (and why) and which have been least valuable (and why)?

I4. How often do you visit the FSTC website in a month? What information do you use on the website? How could the website better meet your information needs?

I5. Would your company complete a free registration to use the FSTC website in order to obtain additional services from the FSTC or PG&E's customer energy efficiency programs? Information collected could during the registration could help the FSTC better serve you in the future.

I6. What is your preferred way to receive information from or about the FSTC?

I7. Can you tell me specific examples of how you have used the FSTC's information in your business?

EDUCATIONAL OUTREACH

E1. Have you attended any food services equipment energy training or seminars ? If yes, probe about the seminars attended and satisfaction with seminars. What seminars have you attended at the FSTC? What seminar have you attended elsewhere? Specify other locations where they have attended seminars. (Review seminar participant list to prompt interviewee about attendance if needed)

E2. If attended FSTC training or seminar: How specifically did you use the seminar information?

Did you complete an evaluation form? Did you have any specific follow-on requests?

What changes did you make in your business practices in response to the information covered in the seminars?

If no changes were made, probe about barriers to changes and ways the FSTC could help overcome barriers.

E3. Are there types of workshops or training events you would like to see the FSTC sponsor to help you in your work with the California food services industry? Probe about education for customers as well as market actors.

E4. If equipment mfg/supplier or kitchen designer:

Have your customers used the FSTC site-survey or design review process? Which customers? If yes, probe about how they worked with the FSTC to deliver this service to end-users and their satisfaction with the process.

Are you aware of any changes your end-users made in their processes in response to a FSTC site-survey or design review process?

E4. If multi-unit specifier:

Have you used the FSTC site-survey or design review process? For which business locations? How did this service affect/change your design? If it did not change design, what could the service have done differently to help you design a more efficient kitchen?

FOOD SERVICES MARKET IMPACTS

M1. Has your production/inventory (specification/design for multi-unit specifiers) of high-efficiency food services equipment and processes changed in the last 5 years? How? To what extent has the FSTC influenced this change?

Probe specifically about the energy efficiency of cooking platforms and how integral they are to menu planning.

Probe specifically about changes in Northern California (PG&E's territory) versus other regions, both other regions of CA and the rest of the nation.

M2. Mfg./suppliers: Have you had any changes in how you market energy-efficient equipment? What have those changes been? To what extent has the FSTC influenced this change?

M3. What FSTC services or information do you think are most influential in moving the food services industries to better energy efficiency?

M4. What industry needs is the FSTC currently not meeting that would help the industry move forward in terms of energy efficient equipment and kitchen design?

M5. Are there other opportunities to promote energy-efficient products and services to the food services industry that the FSTC is not currently addressing?

CUSTOMER IMPACTS

C1. What percent of your customers (locations for multi-unit specifiers) do you think are aware of the FSTC? What percent in California? What percent in PG&E's service area? The following services…

Rebates for food services equipment available from PG&E?
FSTC seminars
FSTC site-surveys
FSTC design reviews
Information available on the FSTC website

C2. How do your customers/locations find out about the FSTC services? Do you think there needs to be more marketing of the FSTC to customers? What type of marketing should be done and by whom?

C3. Multi-unit specifiers: On a scale of 1 to 5 where 1 is not at all difficult and 5 is very difficult, how difficult do you find it to specify high efficiency equipment or processes for the locations you are responsible for?

C3a. Probe to understand why the high efficiency equipment/processes is easy or difficult to sell/specify for respondent and why there are “lost opportunities” for PG&E (e.g., projects that are not high efficiency that could have been).

C4. Do you help market the PG&E equipment rebates? (may not be appropriate for all groups in the sample list) If yes, are there materials/support you need to better market these rebate? If no, probe why not and materials/support needed to facilitate their marketing of rebates to end-users.

Do you feel the rebate appropriately addresses barriers you face to selling high efficiency equipment in the food services industry?

C5. One of the FSTC’s objectives is to increase the efficiencies of end-users’ food services operations. Do you feel the program is accomplishing this? Why or why not? How could the FSTC be more effective at getting end-users to increase the efficiency of their food services operations?

C6. What is the most valuable sales tool you have for getting your customers/locations to purchase high efficiency equipment?

C7. What additional tools or services could the FSTC or PG&E provide you to better sell or specify high efficiency equipment/projects to your customers?

C8. What additional services would you like to see the FSTC provide customers?

C9. How can the FSTC reach more food services end-users?

C10. Would you like to see the FSTC do more direct marketing to customers? If yes, what kind of marketing would you like to added?

EQUIPMENT TESTING – FOR MANUFACTURERS ONLY

T1. How does your company conduct research/testing about the energy efficiency of your equipment? Probe about if they do internal research, use an external source (which one?), use the FSTC or if they do not do research.

T2. How does your organization use the results of the research/testing? Is equipment research very important to your company, somewhat important or not important?

T3. How does your company fund equipment research? If they use the FSTC for equipment testing, ask if cost-sharing is feasible.

CONCLUSION

W1. What do you think is working best in the FSTC?

W2. What do you think is most in need of improvement?

W3. Are there other types of food services centers that you use/are aware of? If yes, do you think there are lessons learned for the PG&E FSTC from these other centers?

W4. Is there anything else that we haven't discussed that you would like the evaluation to note?

Thank you for your time. This completes our interview.

B.4 CUSTOMER SURVEY

Good (morning/afternoon/evening). My name is ____________, and I am calling on behalf of Pacific Gas & Electric. We are conducting a study about some of the services available in California to food service providers and kitchen designers. We'd also like to learn how the food service industry makes decisions about energy using equipment. This should take about 15–20 minutes, and your individual responses will be kept confidential.

NOTE: Unless otherwise indicated, questions are asked of both participants and nonparticipants.

DK = DON'T KNOW
R = REFUSED

S1 Are you involved in specifying, recommending, or approving kitchen equipment or kitchen design for food services facilities?

1 Yes
2 No [get other respondent contact info; thank and terminate]

A. CONFIRM PARTICIPATION (Participants only)

A1 According to our records, your organization has used the resources available from the Food Service Technology Center, through [fill with FSTC services received]. Is this correct?

1 Yes
2 No [get other respondent contact info; thank and terminate]

A2 Are you the person at your organization that is most familiar with the Food Service Technology Center?

1 Yes
2 No [get other respondent contact info; thank and terminate]

B. OVERVIEW OF BUSINESS (ALL)

I'd like to start out by asking some general questions about your organization or business as it relates to the food service industry.

B1 Which of the following best describes the ownership of your company? Is it a . . . ?

1 Food Service Business Corporate Chain with Multiple Locations
2 Food Service Business Franchise with Multiple Locations
3 Independent Food Service Business with One Location
4 Independent Food Service Business with Several Locations
5 Equipment supplier (workshop/seminar participants)
6 Kitchen designer/equipment specifier/consultant (workshop/seminar participants)
7 Other (specify: ______________________)

B2 Which of the following best describes your organization. Is it a . . . ? (READ LIST)

1 Full-service or sit down restaurant
2 Fast food or limited service restaurant
3 Grocery store
4 Institutional facility such as a school or hospital or prison
5 Cafeteria style dining establishment (could be a school cafeteria etc.)
6 Drinking place with alcoholic beverages
7 Hospitality facility such as a hotel
8 Other (specify ________________________)
9 Architecture and engineering

B3 (IF B1=MULTIPLE LOCATIONS) About how many other locations are there in the U.S. where you or someone else in your organization is responsible for making the decisions for food service equipment purchases or new construction kitchen design specifications?

______
777 Not applicable, only has one location

B4a (IF B1=MULTIPLE LOCATIONS) What percentage of these locations are located in PG&E's territory? Elsewhere in CA? Outside of California?

1 In PG&E's territory: _____ %
2 Elsewhere in CA: _____ %
3 Outside of California: _____ %

B4B (IF B1=SINGLE LOCATION) Is this organization located . . . ? (READ LIST)

1 In PG&E's territory
2 Elsewhere in CA
3 Outside of California

B5 (IF B1=MULTIPLE SITES) Thinking about all of the locations that your organization is responsible for making decisions for purchase of food service equipment or new construction kitchen design, would you say that final <u>approval</u> for a majority of the locations are made . . . .? (READ LIST)

1 At the corporate level →In what state? ________________
2 At the regional level →In what state? ________________
3 At the local level
4 Other (specify: ________________________________)

C. INDIVIDUAL'S ROLE (ALL)

C1 What is your role in determining the types of food service equipment or the design of the kitchens for your organization? Do you . . . .? READ LIST

a.	Develop equipment specifications or kitchen designs?	1 Yes	2 No
b.	Recommend the equipment or kitchen design?	1 Yes	2 No
c.	Approve the equipment or kitchen design?	1 Yes	2 No

C2 Are you responsible for making these types of decisions for any locations in California?

1 Yes [SKIP TO C3]
2 No

C2alt Do you know who would be responsible for making the decisions for locations in CA?

1 Yes
2 No [THANK AND TERMINATE]

C3 (CUSTOMERS ONLY) How many separate locations do you make these decisions for regarding food service equipment or kitchen design?

_____ locations

C4 What percentage of the locations you make decisions for are located in PG&E's territory? Elsewhere in CA? Outside of California?

1 In PG&E's territory: _____ %
2 Elsewhere in CA: _____ % → What electric and gas providers serve these locations? ______________
3 Outside of California: _____ % → What regions of the country? (INT: REFER TO CENSUS MAP IF NEEDED)
1 West
2 Midwest
3 South
4 Northeast

C5 (IF DOESN'T KNOW PG&E'S TERRITORY TO QUESTION ABOVE) In what counties in California are these sites located?

_____ (#) ____________________________________
_____ (#) ____________________________________
_____ (#) ____________________________________
_____ (#) ____________________________________
_____ (#) ____________________________________
_____ (#) ____________________________________

D. PURCHASING OF ENERGY-EFFICIENT EQUIPMENT (ALL)

D1 Do other people within your organization make decisions for locations other than the ones we just discussed on the types of food service equipment or kitchen designs?

1 Yes
2 No [SKIP TO D3]

D2 (CUSTOMERS ONLY) Who else outside of your organization is involved in specifying or making final decisions on food service equipment or kitchen designs? (DO NOT READ; INDICATE ALL THAT APPLY)

1 Kitchen design professional
2 Project architect
3 Engineer
4 Equipment supplier
5 Utility account manager
6 All decisions made within organization
7 Other (specify: ____)

D3 (IF B1=MULTIPLE LOCATIONS--CUSTOMERS ONLY) When new food service equipment is purchased, are multiple units of the same exact equipment typically purchased for multiple locations, or is equipment typically purchased on an as needed basis?

1 Multiple units purchased for multiple locations
2 Purchased on an as needed basis
3 Other (specify: ________________________________)

D4 (IF B1=MULTIPLE LOCATIONS--CUSTOMERS ONLY) When new food service equipment is purchased, is there a conscious effort to use high efficiency equipment, or is the decision made based on whatever efficiency level of equipment is readily available?

1 Replaced with high efficiency equipment
2 Replaced with available efficiency equipment
3 Other (specify: ________________________________)

D5 (IF C4=OUTSIDE CALIFORNIA) Is the new equipment or kitchen designs you make decisions for in California typically more energy efficient, less energy efficient or of the same efficiency as equipment and designs made for locations outside of California?

1 CA is more efficient
2 CA is less efficient
3 CA is the same efficiency
4 It varies → How? ____________________________________

D6 What factors into the decision about the level of energy efficiency when purchasing new equipment or during a remodel or new construction? (DO NOT READ; INDICATE ALL THAT APPLY)

1 Rebates available
2 Recommendation of experts (kitchen specifier/consultant, equipment supplier, FSTC, PG&E, etc.)
3 Manufacturer warranties
4 Energy savings
5 Being perceived as green company
6 Standard specifications for business
7 Required for business in other regions
8 Efficiency level of equipment available from manufacturers
9 Past experience with equipment brand
10 Building codes
11 Other (specify) _____________________________

D7 (CUSTOMERS ONLY) Does your organization have written specifications or guidelines for new equipment in terms of size, brand, efficiency levels, etc.?

1 Yes
2 No [SKIP TO E1]

D8 Do these same specifications/guidelines apply to both new construction/renovation and to replacement of existing equipment (including emergency and planned replacement)?

1 Yes
2 No

E. SOURCES OF INFORMATION ON HIGH EFFICIENCY (ALL)

E1 In thinking about kitchen design or purchasing kitchen equipment to maximize energy efficiency, what is your primary source of information? (LIST ONE)

1 Manufacturers/suppliers
2 Consortium for Energy Efficiency (CEE)
3 ENERGY STAR
4 PG&E
5 FSTC
6 Fisher-Nickel
7 Professional Trade Associations (California Restaurant Association, National Restaurant Association, etc.)
8 Other________________________________

E2 How do you most prefer to get information about high efficiency kitchen equipment or design? (SELECT ONLY ONE)

1 Website
2 Email
3 Newsletters
4 Conferences, seminars, workshops
5 One-on-one technical assistance
6 Trade publications
7 Utility company
8 Other__________________________

F. FSTC AWARENESS AND SOURCES OF INFORMATION (ALL)

I'd like to ask you some questions about the Food Service Technology Center, which I'm going to call "the Center" from now on.

F1 (NONPARTICIPANT ONLY) Before today, had you heard of the Center?

1	Yes	
2	No	[SKIP TO H1]
3	DK	[SKIP TO H1]

F2 Where did you hear about the Center? (DO NOT READ; MARK ALL THAT APPLY)

1 Manufacturer/distributor
2 Dealer
3 Publication
4 Trade show
5 Fishnick.com website
6 Other website
7 Fisher-Nickel
8 PG&E (How? Mailing, bill insert, account representative, other)
9 Other Utility (which utility: ______________________________)
10 Other (specify: __________________________________)

F3 Do you know what organizations fund or sponsor the Center? (DO NOT READ; MARK ALL THAT APPLY)

1 Do not know
2 Fisher-Nickel
3 PG&E
4 Other (specify: __________________________)

F4 (IF F3 NE PG&E) Do you know whether or not PG&E is affiliated with the Center?

1	Yes, PG&E is affiliated	
2	No, not affiliated	[SKIP TO G1]
3	DK	[SKIP TO G1]

F5 How is PG&E affiliated with the Center?

1 Funds it
2 Promotes it
3 Co-sponsor
4 Other (specify: _____________________________________)

G. USE OF FSTC RESOURCES (THOSE AWARE OF FSTC OR F-N)

General

G1 Have you used any of the resources available from the Center to learn more about energy-efficient food services equipment, kitchen design, or processes?

1 Yes
2 No [SKIP TO H1]
D DK

G2 The Center offers a number of different types of resources to the food service industry. Which of the following resources has your company used? (READ LIST; MARK ALL THAT APPLY)

1 Educational workshops, seminars or training
2 Facility audit or site survey
3 Design review or other technical assistance
4 The Center Website (www.fishnick.com)
5 Publications from the Center
6 Information on California food services equipment rebates offered by utilities
7 Web-based tools such as cost calculators
8 Product testing
9 Other (specify: ________________________________)
10 Haven't used any of their services [SKIP TO H1]

G3 Which of the following types of information did you learn about during your interactions with the Center? Did you receive energy efficiency information for . . . ? (READ LIST; MARK ALL THAT APPLY)

1 Cooking equipment
2 Ventilation equipment
3 Refrigeration equipment
4 Lighting equipment
5 Heating and air conditioning equipment
6 Water heating equipment
7 Other types of equipment (specify: ____________________________)

G4 What have you used that you learned from the Center? (DO NOT READ, INDICATE ALL THAT APPLY)

1 How to monitor energy use at my facility
2 How to design an energy efficient kitchen
3 How to have a "green" facility, acquire LEED or Green Building certification
4 How to calculate life cycle costs or use energy cost calculators in making decisions to purchase equipment
5 How to determine equipment operating costs
6 To specify ENERGY STAR eligible equipment and appliances
7 To specify efficient processes
8 To specify efficient equipment and appliances
9 To use the California utility rebates for efficient equipment
10 To use timers and controls
11 To use standard test data to specify the right equipment for my kitchen
12 To use demand ventilation for energy savings
13 To conserve hot water/more efficient hot water systems
14 To use energy efficient lighting such as CFLs
15 To turn off appliances when I can
16 Other (Specify:____)
17 Haven't used any concepts learned

G5 (ASK IF G4=17) Do you plan to use some of the concepts and technologies you learned about from the Center?

1 Yes
2 No
D DK

G6 Have you used these Center resources to make energy-efficiency improvements to your sites?

1 Yes
2 No [SKIP TO G6]

G7 Specifically, how did you use the Center resources to make energy-efficiency improvements? (PROBE FOR DETAILS)

1 Purchased more efficient kitchen equipment as a result
2 Changed processes and procedures to use less energy
3 Other (specify: _______________________________________)

G8 Have you participated in any utility energy efficiency programs as a direct result of your interactions with the Center?

1 Yes (which utility and program: ______________ _________________)
2 No
D DK

REPEAT NEXT 3 QUESTIONS FOR COOKING, REFRIGERATION, VENTILATION, LIGHTING, HEATING AND AIR CONDITIONING, AND WATER HEATING

G9 Since you first interacted with the Center, have you [purchased/specified] any new [TYPE] equipment for the locations where you are responsible for making decisions?

1 Yes
2 No [SKIP TO NEXT EQUIPMENT TYPE OR G12]
D DK [SKIP TO NEXT EQUIPMENT TYPE OR G12]

G10 Which of the following best describes the efficiency level of the [TYPE] equipment that you [purchased/specified]?

1 Standard efficiency [SKIP TO NEXT EQUIPMENT TYPE OR G12]
2 Above average efficiency
3 Very high efficiency
D DK [SKIP TO NEXT EQUIPMENT TYPE OR G12]

G11 (ASK IF G10 = 2 or 3) On a scale of 1 to 10, with 1 being not at all influential and 10 being extremely influential, how influential were the resources you used from the Center in your decision to [purchase/specify] [TYPE] equipment that was above average in efficiency?

____

G12 (IF G9 = 1 FOR ANY EQUIPMENT TYPE AND B1=MULTIPLE LOCATIONS) At what locations did you make these improvements based on Center services? (PROBE: within PG&E's territory, elsewhere in California, outside of California?) CHECK ALL THAT APPLY

1 PG&E's territory
2 Elsewhere in CA
3 Outside of CA

G12 On a scale of 1 to 10, with 1 being not at all satisfied and 10 being very satisfied, how satisfied were you with the . . . . .?

a. Quality of the resources received from the Center
b. Responsiveness of the Center staff
c. Knowledge of the Center staff
d. Applicability of the information for your company

Use of Website

G13 (ASK IF DOESN'T MENTION WEBSITE IN G2) The Center hosts a website that contains information on food services equipment and processes. Have you used this website?

1 Yes
2 No [SKIP TO G15]

G14 How useful is the information on the Center's website? Did you find it . . . ?

1 Not at all useful (why? ________________________________)
2 Somewhat useful
3 Very useful

G15 Currently, companies do not need to register to use the Center website. Would you use the website if it required companies to complete a free registration prior to using it? The registration would be a short survey to collect company information to allow the Center to better understand users' needs.

1 Yes
2 No

Use of Site Surveys or Technical Assistance

G16 (ASK IF RECEIVED ONSITE SURVEY OR TECHNICAL ASSISTANCE—G2 = 2 OR 3) You indicated that you have received an on-site surveys or technical review from the Center. Is that correct?

1 Yes
2 No [SKIP TO G19]

G17 How useful was this type of technical support in purchasing energy-efficient food service equipment or in kitchen design? Did you find it . . . ?

1 Not at all useful (why? ________________________________)
2 Somewhat useful
3 Very useful

G18 How could the site survey or technical review have been improved?

____

Workshops/Seminars/Training

G19 (ASK IF ATTENDED WORKSHOP/SEMINAR/TRAINING—G2=1) You indicated that you or someone in your organization has attended workshops, seminars, or training sessions sponsored or conducted by the Center. Is that correct?

1 Yes
2 No [SKIP TO G22]

G20 How useful was this technical resource? Did you find it . . . ?

1 Not at all useful (why? ________________________________)
2 Somewhat useful
3 Very useful

G21 How could the workshops, seminars, or training have been improved?

____

Equipment Testing

G22 There are standard test methods, adopted by the American Society for Testing and Materials (ASTM), which provide accurate and reproducible results on production efficiency and energy efficiency for different types of cooking equipment. Are you aware of these standard test methods?

1 Yes
2 No [SKIP TO G24]
D DK [SKIP TO G24]

G23 Have you ever used the ASTM test results for specific pieces of equipment before purchasing them?

1 Yes
2 No
D DK

G24 Have you used the Center for equipment testing or to obtain information on the test results of food service equipment?

1 Yes
2 No [SKIP TO H1]

G25 How useful was this technical resource? Did you find it . . . ?

1 Not at all useful (why? ________________________________)
2 Somewhat useful
3 Very useful

G26 How could the equipment testing process have been improved?

____

H. USE OF PG&E REBATES (ALL—CUSTOMERS ONLY)

H1 (IF HAS SITES IN PG&E'S TERRITORY AND NOT A REBATE PARTICIPANT) As far as you know does PG&E offer rebates for installing energy efficient equipment or efficient building measures?

1 Yes
2 No [SKIP TO I1]
D DK [SKIP TO I1]

H2 Has your organization applied for or received a rebate from PG&E for purchasing energy efficient equipment or installing energy efficient building measures?

1 Yes, applied for but didn't receive
2 Yes, applied for and received
3 Did not apply for [SKIP TO H5]
D DK

H3 On a scale of 1 to 10, with 1 being not at all influential and 10 being extremely influential, how influential was the information you received from the Center on your decision to purchase efficient equipment that qualified for the rebate?

_____

H4 Could you describe in your own words what impact, if any, the information or assistance you received from the Center had on your decision to install the energy efficient equipment at the time you did?

____
[SKIP TO I1]

H5 (IF H2=2) Why hasn't your organization ever applied for a rebate from PG&E?

1 Equipment/measures would not qualify
2 Too much paperwork
3 Don't know where to apply for the rebate
4 Not interested
5 Other (specify: ____)

I. UNMET FOOD SERVICE INDUSTRY NEEDS

I1 What technical assistance needs does your company have related to food services that are currently not being met?

____

I2 How interested would your company be in receiving that technical assistance from the Center?

1 Not interested
2 Somewhat interested
3 Very interested

I3 How interested would your company be in the Center providing technical assistance that includes a turn-key approach to implementing technical assistance? This would include a food services expert coming to your facility to identify energy-saving opportunities and overseeing the implementation of identified improvements that you wanted to move forward with.

1 Not interested
2 Somewhat interested
3 Very interested

J. OTHER COMPANY CHARACTERISTICS (ALL)

J1 Compared to other food service providers similar to yours, would you consider yourself to be small, medium, or large in terms of revenues

1 Small
2 Medium
3 Large

J3 What is your title?

1 Owner/operator
2 President
3 Manager
4 Chef
5 Other

Thank you for your time. Do you have any final comments or questions?

C.1 PROGRAM STAFF DESIGN AND DELIVERY STAFF

Subject **PG&E FOOD SERVICES TECHNOLOGY CENTER PROCESS EVALUATION SUMMARY MEMO: PROGRAM DESIGN AND DELIVERY STAFF INTERVIEWS**

To Bill Pietrucha and Tsosie Reyhner

From Lark Lee and Carol Sabo

Date August 31, 2007

The PA team conducted in-depth interviews in July and August 2007 with 24[10] staff who work with PG&E's Food Services Technology Center (FSTC). Interviewed staff represent:

- 15 PG&E staff including senior managers, Customer Energy Efficiency (CEE) program managers, and account services staff
- 5 Fisher-Nickel staff
- 4 staff of other California investor-owned utilities (IOUs) including SoCalGas, SoCal Edison, and San Diego Gas and Electric

Interviews ranged from 30 minutes to 2 hours, depending on the interviewees' involvement with the FSTC. Staff interviews focused on background information including staff roles and responsibilities, and six of the eight evaluation objectives listed below. Following the interviews, we submitted our draft notes to key interviewees to review prior to preparing this summary memo. This approach provided key staff members with an opportunity to clarify or expand upon our discussion with him or her. This approach also helps ensure we have correctly characterized the discussion.

First we present key findings from the staff interviews as well as relevant observations from the information and document review. Then we discuss more detailed results around the following topic areas:

- Background including staff roles and responsibilities
- Information dissemination and resulting energy savings (Evaluation Objective #1)

[10] The PA team is planning on conducting one additional staff interview, but we have not been able to schedule it yet. It is not expected that this one interview will change any of the key findings as the key findings are based on consensus found in interviews.

- Educational outreach (Evaluation Objective #3)
- FSTC and PG&E co-branding (Evaluation Objective #4)
- FSTC and PG&E advocacy (Evaluation Objective #5)
- Program metrics (Evaluation Objective #7)
- Budget allocation (Evaluation Objective #8)

We have not reported comments by individual to protect interviewees' confidentiality.

It is important to note up-front that the results presented in this memo are based on qualitative information and represent interviewees' opinions and observations. We will combine the results of the interviews with all of the other evaluation data collection tasks before the PA team identifies opportunities for program improvement and suggests possible solutions. These interviews are also being used to identify key researchable issues for the market actor interviews and customer surveys, summarized in the Conclusion section at the end of this memo.

Summary of Key Findings

Background

- For the most part, interviewees indicate the contractual relationship between PG&E and Fisher-Nickel is working. Interviewees did identify some issues relating to co-branding, customer outreach, and communication.
- It was widely reported that the FSTC is recognized as a leader in the industry and has excellent industry relationships.
- For the last several years, PG&E has experienced high turnover in the role of the FSTC program manager. Interviewees recognize the need for consistency in the FSTC program manager position within PG&E to improve communication and guidance for the FSTC.
- The FSTC has played an essential role in setting the rebate levels for PG&E's food services equipment catalog. Several PG&E staff said they would like to use the FSTC more for PG&E's integrated energy audits and retro-commissioning when customers have food services processes. The FSTC must develop cost information to meet PG&E's Customer Energy Efficiency (CEE) Programs' needs.
- PG&E account services staff who work with the FSTC to serve their food services clients find them a valuable resource to facilitate food services customers' participation in PG&E's CEE programs. At the same time, interviewed account staff reported that the majority of PG&E account staff do not take advantage of the FSTC as an internal resource.

Information Dissemination (Evaluation Objective #1)

- Interviewees view the www.fishnick.com website as the FSTC's primary vehicle for information dissemination.

- Interviewees' satisfaction with the website's content is high. Interviewees are less satisfied with the design and co-branding of the website.
- The website is currently under a re-design effort. While both PG&E and Fisher-Nickel recognize the importance of improving the FSTC website, staff interviews indicate more collaboration in the re-design effort is needed.
- The majority of interviewees identified the need to know who is using the website. Primarily, to what extent are website users PG&E customers or serving PG&E customers?
- An additional question raised is the extent to which the website is the correct venue for disseminating information to the food services industry. Customer relationship building and touch is extremely important to affect changes, especially in the food services industry, according to several interviewees.
- Several interviewees noted that the largest obstacle for effective FSTC information dissemination is the lack of customer awareness of the FSTC.
- All interviewees, both FSTC and PG&E staff, concurred that PG&E account services staff should do more marketing of the FSTC to food services customers. Interviewees are mixed regarding the extent to which FSTC staff should also do customer outreach and marketing.
- Several interviewees believe that the FSTC's information dissemination has raised the level of energy efficiency of food services equipment. Interviewees discussed that much of this is a result of the FSTC working upstream with market actors to change their production based on FSTC equipment testing results.
- Interviewees report that the majority of the FSTC's energy impacts are for large renovation or construction projects and multiple locations. Customers are not motivated to use the FSTC for small purchases or projects.

Educational Outreach (Evaluation Objective #3)

- FSTC staff report that their training seminars and speaker engagement requests are growing significantly. It was hypothesized that the increased interest is a result of the food services equipment rebates as well as the industry's greater attention to energy.
- PG&E staff and other California IOUs staff identified a need for a seminar specifically on food services equipment rebates. Account services staff report that customers are specifying ineligible equipment.
- FSTC staff estimate a 50% increase in customer requests for on-site support in the last year.
- Interviewees report that the FSTC staff have valuable expertise to provide technical assistance to food services customers. However, the effectiveness of the FSTC's customer support may be limited for the following two reasons:
  - FSTC staff report they do not have the budget to do further hand-holding to see audit recommendations carried out to retrofits. They would like to be able to offer a more turn-key service.

  - Because the FSTC audits are free, the FSTC has to make decisions about what kind of information they provide. If they go into more in-depth information, then they will have to conduct fewer audits.

FSTC and PG&E co-branding (Evaluation Objective #4)

- Interviews identified that the primary question about co-branding is: Are PG&E and the FSTC interchangeable to customers—to what extent do customers recognize the FSTC as PG&E?
- Because the FSTC is run by Fisher-Nickel, a third party administrator, it has more complex co-branding issues than the other California food services centers that are utility owned and operated.
- There are some legacy co-branding issues from the 2-year sabbatical (2002-2003) when the FSTC was a third party program. The main legacy co-branding issue raised by interviewees is the FSTC website, www.fishnick.com.
- Some interviewees feel that all FSTC publications should have the look and feel of PG&E.
- The FSTC is increasingly asked to contribute to media articles. It was discussed that ideally PG&E would review opinion or non-technical articles with FSTC contributions before they go out. The reported problem is that the media operates on tight deadlines and the PG&E review process is not able to accommodate the tight turn around.
- The interviews suggest there are communication issues regarding co-branding. Several PG&E staff are dissatisfied with current co-branding. While FSTC staff seem ready and willing to address co-branding issues, interviews indicate they are in need of additional guidance and direction on how to best do this for PG&E.
- It was also discussed that the FSTC's co-branding should be more closely aligned with PG&E's CEE target market segments such as mass markets and the hospitality programs.

FSTC and PG&E advocacy (Evaluation Objective #5)

- All interviewees expressed that it is important that the FSTC is an objective, non-biased source of information. They state that PG&E's sponsorship as a dual-fuel utility, promoting neither gas or electric, enhances the industry's view of the FSTC as objective.
- Regarding codes and standards, one interviewee expressed an opinion that the FSTC business model does not lend itself to support development of new codes and standards because the FSTC is too dependent on the food service industry for their existence.
- FSTC staff are not aware of PG&E's advocacy rules and no advocacy rules are stated in PG&E's contract with the FSTC-- this indicates that additional contractual guidelines on advocacy are needed for the FSTC.

Program Metrics (Evaluation Objective #7)

- The FSTC has been meeting the metric numbers laid out in their contract, which are activity or output based. Some PG&E staff discussed the need for better metrics with emphasis on PG&E's needs and priorities including more focus on energy savings. One example given is metrics that track the number of measures transferred to the market segments.
- The number one issue reported across the board about program metrics is: How can PG&E measure the energy savings resulting from FSTC activities?
- PG&E is capturing energy savings now for rebated food services equipment. There is no follow-up now to site surveys or training to see what customers implement on their own as a result of these FSTC activities.
- The FSTC will need to establish a baseload case in order to quantify energy savings.
- An additional question to consider beyond California savings is energy savings the FSTC is generating outside of PG&E's territory. The FSTC provides extensive support of national programs such as ENERGY STAR. (This key finding also relates to Evaluation Objective #6, Evaluate where FSTC benefits accrue and the portion realized by PG&E, which we will explore further in other data collection activities.)

Budget Allocation (Evaluation Objective #8)

- PG&E staff recognize that the FSTC is definitely "resource constrained."
- The main question raised by several staff is whether the current budget allocation is the right budget allocation to best meet PG&E's objectives for the FSTC .
- Several interviewees indicated that the part of the budget they think is under-funded is customer educational outreach including both training seminars and customer support, including audits and site surveys. Interviewees also identified internal outreach as a need. Almost all interviewees would like the FSTC to do more outreach to PG&E account services staff and CEE program staff. The aim of more outreach would be to increase staff's use of the FSTC to serve customers.
- Some interviewees would like to see the percent of the budget for equipment and product testing, currently 40% combined, decreased. These interviewees believe that the standards development has "*reached a plateau.*" But this could be in conflict with another expressed desire--to see the FSTC's role in promoting emerging technologies in the food services industry expanded.
- An additional identified need for resources is marketing. Currently, the FSTC does not have an advertising budget.

Detailed Findings

Background

Detailed findings for FSTC's background, including staff roles and responsibilities, are reported in the following sub-sections:

- Fisher-Nickel
- The FSTC's History
- PG&E
- Other California IOUs

Fisher-Nickel

PG&E contracts with Fisher-Nickel, an external firm, to run the FSTC. Fisher-Nickel is in the middle of a two-year contract (2006-2008) with PG&E to administer the FSTC. Fisher-Nickel operates the FSTC with a 12-person team. The FSTC's contractual relationship with PG&E has evolved over its 20 year history, briefly summarized later in this section.

For the most part, interviewees indicate the contractual relationship between PG&E and Fisher-Nickel is working. Interviewees did identify some issues relating to co-branding, customer outreach and communication, which we will discuss later in this memo.

Almost all interviewees are complimentary of the Fisher-Nickel staff's professionalism and expertise. It was widely reported that the FSTC is recognized as a leader in the industry and has excellent industry relationships.

"*The FSTC is a wealth of knowledge in terms of food services equipment. The FSTC is everywhere—every trade show, association meeting. They have lots of industry contacts.*"
—Utility staff

The scope of FSTC's objectives outlined in the 2006-2008 business plan are to:

- Stimulate the development and promoting the purchase of energy efficient commercial food service equipment through continued development and application of standard performance test methods.
- ıdentify energy efficient appliance models, technologies and control strategies for the major categories of cooking, dishwashing, ventilating and refrigerating equipment.
- Recommend efficiency rating criteria or indices for the major categories of commercial food service equipment. On a state level these efficiency criteria provide a foundation for IOU food service incentives and the California Energy Commission Appliance Rulemaking; on the national level, they support the EPA ENERGY STAR® Program, FEMP and codes and standards advocacy groups such as the CEE and ACEEE, thereby accelerating the development and purchase of energy efficient appliances and systems for commercial food service.

- Maintain an information dissemination program that includes customer workshops and seminars as well as upstream industry training, web-based resources, and research publications.
- Provide site survey support for food service operators. This includes offering technical support for energy-efficiency retrofits and new facility design and support to PG&E for its “Savings by Design” and “Express Efficiency” programs.
- Offer design support to food service designers/specifiers via energy efficiency consultations, seminar presentations, and web-based tools.
- Support PG&E local and statewide energy-efficiency programs for the food service sector including rebates, emerging technology, and joint-utility seminar programs.

Staff interviews suggest that the FSTC is for the most part successfully meeting these objectives. It was discussed that Fisher-Nickel staff are not contractually obligated to do customer outreach. While staff interviews were unanimous that the FSTC is seen as a technical leader by the food services industry, the general consensus among interviewees is that the majority of PG&E food services customers are not aware and do not take advantage of the FSTC. This suggests that limited customer awareness may be affecting how well the FSTC is meeting these objectives. There was discussion about how much direct customer marketing and outreach Fisher-Nickel staff should do versus PG&E, which is discussed more under the section, Information Dissemination (Evaluation Objective #1)

The FSTC’s History

The FSTC is approximately 20 years old. Several interviewees discussed the importance of the FSTC’s longevity in the market, establishing it as a trusted player. The FSTC’s aims and functions have evolved over those 20 years. The main objectives of its first five years (1986 to 1991) were to develop good services equipment test methods for PG&E’s Research and Development (R&D) Department. It took FSTC those 5 years to get two—griddle and fryers—equipment testing methods ratified. After 10 years, the FSTC had 10 test methods established.

“*Developing test methods is what we really started doing. [Large grocery store chain] was one of largest drivers behind it. [Large grocery store chain] wanted to get appliance specs in order to better use their buying power. [Large grocery store chain] sent 20 appliances to us for testing.[Large grocery store chain] won’t specify a piece of equipment now without ASTM test data. It probably took another 6 years before other chains started doing it.[Large grocery store chain] really started to open up in terms of testing and it was the beginning of performance.*”—FSTC Staff

Originally the FSTC had a PG&E project manager with contracted researchers and members of the now Fisher-Nickel staff (not yet a company) as consultants. In 1991, PG&E decided they wanted a third party administrator of the FSTC. Fisher-Nickel was then formed by some of the FSTC staff to externally administer the FSTC for PG&E.

When PG&E’s R& D Department was discontinued, the FSTC fell under PG&E’s marketing and information budget in 1995. This is when they started diversifying more as an information/education program. The FSTC started offering seminars and customer outreach, but equipment testing was still about 75% of what the FSTC did at this time.

In 2002–2003, the FSTC operated as a California public benefits program instead of being funded by PG&E. The FSTC was brought back into PG&E's portfolio program in 2004–2005. Interviewees indicate there are legacy issues from this two-year period where PG&E and the FSTC were separate. Mostly these relate to less PG&E and FSTC co-branding as a consequence, discussed in more depth in the section, PG&E and FSTC Co-branding.

PG&E

Within PG&E's Customer Energy Efficiency (CEE) Organization, the FSTC fell under Emerging Technologies at the beginning of the evaluation. Interviews indicate this may be the appropriate internal organizational structure for the FSTC as some PG&E staff would like to see the FSTC play an expanded role in the design and acceptance of emerging technologies in the food service industry.

"*The FSTC has a unique core competence that PG&E should utilize to promote the development and commercialization of new energy efficient food service technologies.*"—PG&E Staff

Several PG&E staff members closely work with the FSTC. These include: the Emerging Technologies program manager, the FSTC program manager, the food services equipment rebates program manager, and the hospitality program manager. Other interviewed staff report they work with the FSTC more on the periphery of their responsibilities, normally when they have a specific food services need.

For the last several years, PG&E has experienced high turnover in the role of the FSTC program manager. Interviewees recognize the need for consistency in the FSTC program manager position within PG&E to improve communication and guidance for the FSTC. It is believed that the current PG&E FSTC program manager will provide that consistency. The PG&E FSTC program manager considers other PG&E energy efficiency program managers to be the FSTC's "*internal clients*." PG&E staff may work through the FSTC PG&E program manager as a liaison or work directly with the FSTC. One of the reported responsibilities of the PG&E FSTC program manager is to keep abreast of internal satisfaction with the FSTC.

The FSTC works with the PG&E food services equipment rebate program manager to develop a catalog of rebates for food services equipment. The FSTC's equipment testing is reported as essential to set the rebate levels. Before the FSTC, every food services equipment manufacturer used different test methods and it was not possible to defensively determine efficiency levels necessary to set rebate levels, according to interviewees.

Several PG&E staff said they would like take advantage of the FSTC more for PG&E's integrated energy audits and retro-commissioning when customers have food services processes. Interviewees indicate that the FSTC brings an expertise in food services processes that other contractors do not have. However, it was also voiced that in order to do this, the FSTC must be able to provide clear cost-savings information. Without this information, the FSTC's usefulness to PG&E's CEE programs is limited.

Several interviewees recognized the difficulty in providing cost-savings information in the food services industry--food services equipment prices vary considerably depending on the customer's buying power. But at the same time, it was asserted that cost information is necessary for a customer to make a decision on whether or not to go forward with an energy efficiency project. Customers need to know the project payback. It was also discussed that the FSTC should establish a food services baseline case so that energy savings can be calculated.

"*It is difficult for end-users to go any further in making decisions without cost information. The FSTC needs a turn-key approach. They need to be able to give end-users a number and how long the payback is."* —PG&E management staff

"*The FSTC really does know about food services and there will be a lot of missed opportunities because they won't supply cost information. They have to have costing information. There's no bang there without it. The customer wants to know what it costs*." —PG&E management staff

PG&E corporate account leads, managers and account representatives report working with the FSTC to serve their food services clients. All account services staff report the FSTC staff are responsive to their information and technical requests. However, some account staff said that the FSTC's staff is more constrained in conducting on-site audits and these are more difficult to schedule in a timely fashion.

Account staff report that the FSTC's involvement has greatly facilitated food services customers' participation in PG&E's CEE programs. The FSTC has done this by educating customers about the benefits of the higher efficiency equipment and by making participation requirements more understandable to customers.

"*The FSTC made it a lot easier for the customer to participate in our programs by verifying the savings were legitimate and making a deemed approach possible*." —PG&E account services staff

Account staff further elaborated that because of the unique needs of the food services industry, the FSTC fills a technical gap that they can not.

"They answer the technical questions that I can't answer." —PG&E account services staff

At the same time, interviewed account staff reported that the majority of PG&E account staff do not take advantage of the FSTC as an internal resource. Account reps are assigned to food services customers, but because there are over 38,000, interviewees feel it is hard to give them the attention they need. Account interviewees recommend that the FSTC increase its visibility to account services staff, conduct more trainings for them, and stress that they are PG&E and an internal resource for the account staff to use to help them serve their food services customers.

"*Lure us in by reminding us about the FSTC as a resource. We forget it's there. There are hundreds of us in the field*." —PG&E account services staff

Other California IOUs

Other California IOUs – SoCalGas, SoCalEdison, and San Diego Gas and Electric (SDG&E), work with the FSTC. The main reported advantages of the FSTC to the other California utilities is that the FSTC's equipment testing is the basis for setting statewide food services equipment rebate levels. It was reported that in terms of the food services equipment rebate levels, the other California IOUs are "*getting a freebie*" because they do not have to put the resources into determining food services equipment rebate levels themselves.

SoCalGas and SoCalEdison also operate food services centers. Unlike the FSTC, these food services centers are directly operated by the utilities and their staff are utility employees. Interviewed staff of these food services center thought the FSTC as an external contractor had the advantage of being able to make updates to their offerings more quickly than a utility can.

The interviewed staff report that they work well with the FSTC on engineering tests of equipment, seminars, and training at different events. It was reported that all of the California food services centers work well together and share the costs of the events they do together. One interviewee reports this collegial relationship greatly benefits California and the industry.

"*The FSTC is always helpful and responsive. They excel in their knowledge of the industry."*
—Other CA utility staff

SDG&E does not have a food services center, although their sister utility, SoCalGas does. Consequently, SDG&E relies heavily on the FSTC. SDG&E pays FSTC staff to conduct seminars in their territory. SDG&E would like to take more advantage of the FSTC's site surveys and audit capabilities because their auditors do not understand food services equipment. SDG&E flies FSTC staff down for large projects, but not on a regular basis.

Information Dissemination (Evaluation Objective #1)

Fisher-Nickel maintains the FSTC website, www.fishnick.com. PG&E links to this website from www.pge.com/fstc. Interviewees view the "fishnick website" as the FSTC's primary vehicle for information dissemination. The website is a "*repository of information*" including reports, seminar presentations, and web-based tools such as life cycle cost calculators. PG&E staff, FSTC staff, and other California IOU staff report that they are constantly referring food services customers to this website.

Interviewees' satisfaction with the fishnick website's content is high. Interviewees are less satisfied with the design and co-branding of the website. The branding issue is discussed more under the section, FSTC and PG&E Co-branding (Evaluation Objective #4). Regarding the website's design, it is currently under a re-design effort in order to increase its functionality, appeal, and effectiveness. While both PG&E and Fisher-Nickel recognize the importance of improving the FSTC website, staff interviews with both PG&E and FSTC staff indicate more collaboration in the re-design effort is needed.

The majority of interviewees identified the need to know who is using the website. In general, FSTC staff believe it is primarily industry market actors such as national organizations, utilities, manufacturers and suppliers that are using the website, not customers. Interviewees discussed options for capturing information on users. A free registration to access information that would contain key questions was the most commonly discussed option. Some interviewees voiced that they are afraid that required registration will decrease the use of the website. Interviewees also discussed that PG&E does not have a precedence of requiring registration to access information. Evaluators will look into this issue in interviews with market actors and customers.

Another issue to examine in terms of website usage is the extent to which hits are from PG&E customers or those serving PG&E customers. PG&E and FSTC Interviewees said there is not a marginal cost to PG&E for customers outside of California using the FSTC website. But PG&E staff said that if most of the hits are outside of California, then the problem is "*we're not getting our customer*."

Some staff think the traffic on the FSTC website is not great, limiting its effectiveness as a vehicle for information dissemination. The evaluation will conduct further analysis about the FSTC website usage to the extent data is available.

"*To really do an information transfer, they need businesses to see it*."—PG&E staff

An additional question raised is the extent to which the website is the correct venue for disseminating information to the food services industry. Evaluators will also explore this question in interviews with market actors and customers. Several interviewees believe information dissemination through the website can only be somewhat effective. Customer relationship building and touch is extremely important to affect changes, especially in the food services industry, according to several interviewees.

"*Face-to-face is very important in the hospitality industry. It's hard to get the virtual world working for you. The industry is running behind on virtual world*." —FSTC staff

At the same time, the website is a less labor-intensive way to get information out. This is important given the current FSTC budget allocation. FSTC staff resources are operating at capacity.

"*We're maxed out in our ability to transfer information with our current staff. We've ramped up. We're open to get more field staff and getting out there more*." —FSTC staff

Several interviewees noted that the largest obstacle for effective FSTC information dissemination is the lack of awareness of the FSTC by customers as discussed earlier in this memo. All interviewees, both FSTC and PG&E staff, concurred that PG&E account services staff should do more marketing of the FSTC to food services customers. Interviewees are mixed regarding the extent to which FSTC staff should also do customer outreach and marketing. Some interviewees felt PG&E should be the primary lead on marketing the FSTC to its customers, while others thought an increased effort on both PG&E's and the FSTC's part is needed.

Interviewees discussed challenges to serving PG&E customers. One of the primary challenges is that there are few corporate chain headquarters in the PG&E territory. It is harder to reach out to and affect independent restaurants. Several interviewees feel the FSTC can have a bigger impact by reaching out to corporations and affecting their behavior.

Energy Impacts

In terms of energy savings resulting from the FSTC's information dissemination, interviewees note that the food services industry accounts for 10% of PG&E's revenue. But it is a difficult industry to move toward energy efficiency because of first costs, fragmentation, and a culture that tends toward being slow adopters.

"Food services is a very, very hard industry to move toward energy efficiency." —CA utility staff

Interviewees believe the industry has not had energy in the forefront of their thinking in the past. But, lately energy has become a hot issue in the industry. The chain restaurants are the first to embrace energy efficiency (reported leaders are leading fast food national chains, and Chain Supermarkets). In general, corporate restaurants are generally more progressive than franchises. For example, one fast food chain has both corporately owned and operated restaurants as well as franchises, whereas a different fast food chain is all franchises.

Several interviewees believe that the FSTC's information dissemination has raised the level of energy efficiency of food services equipment.

"*We've seen real-time market transformation of equipment. We can watch the impact. The last six years have been exciting, the last three, very exciting*." —FSTC staff

Interviewees discussed that much of this is a result of the FSTC working upstream with market actors to change their production based on FSTC equipment testing results. FSTC staff estimate 90% of manufacturers know about and use FSTC's information.

"*Manufacturers know they have to think about efficiency now to sell against their competitors because of the FSTC."* —Utility staff

Interviewees report that the majority of the FSTC's energy impacts are for large renovation or construction projects and multiple locations. Some interviewees discussed that they would like more customers to use the FSTC, but customers are not motivated to do so for small purchases or projects. This was identified as a major barrier for reaching independent restaurants.

"*If it's a small store or purchase, the customer interest isn't great in using the FSTC. But if the customer is doing a major re-vamp, there is considerable value in the FSTC as a resource up front. Customers will use the FSTC when they are buying for several stores*." —PG&E account services staff

FSTC staff discussed other energy efficiency developments that the FSTC is trying to take advantage of to further information dissemination. These include LEED certification and Green Businesses in California as well as ENERGY STAR.

Educational Outreach (Evaluation Objective #3)

The FSTC's two main venues of educational outreach are (1) training seminars including specific speaker engagements and (2) on-site support.

Training seminars

FSTC training seminars are held at the FSTC's facility as well as at requested locations. FSTC staff estimate that 75% of their training seminars are in California. They estimate 50% are delivered in PG&E's territory whether it's them going to a customer site or the customer going to the FSTC. When they go to other utility territories to deliver training, those utilities pay their costs.

FSTC training topics stay with the same core ideas. Topics are: refrigeration, lighting, water, appliances and ventilation. "*Those are the places energy go.*" FSTC staff report that they spend considerable time and effort in tailoring the information and presenting the story to the specific audience. FSTC staff do not feel these topic areas get stale because there is change in the technologies each year.

"*In food services, lighting for example, every year there is so much more to add and change. Training is the conduit from the lab to people getting info.*" —FSTC staff

FSTC staff report that their training seminars and speaker engagement requests are growing significantly.

"*The curve of demand for our info is not linear, it's going up exponentially.*" —FSTC staff

Staff interviewed at other California IOUs also noted the growth in training requests within the last two years. It was hypothesized that interest is a result of the food services equipment rebates as well as the industry's greater attention to energy.

"*We have more to offer them now so they have more reason to listen.*" —CA utility staff

FSTC staff report they used to follow leads to speak at conferences. Now they are approached and their schedules book up well in advance. FSTC staff said while their national speaker engagements are highlighted, they are the minority of the training they deliver. The majority of trainings are the fundamentals trainings discussed above.

PG&E staff and other California IOU staff discussed the need for the FSTC to offer seminars that specifically focus on what food services equipment are eligible for rebates and how to select the equipment. Account services staff report that customers are specifying ineligible equipment. It was further pointed out that the seminar should include an emphasis on why the equipment is eligible to customers. A specific example given is that many customers think they should receive a rebate if the equipment is ENERGY STAR. They are then confused and frustrated when they do not receive a rebate for ENERGY STAR equipment.

FSTC staff distribute evaluation forms for their training seminars. FSTC staff gave copies of the evaluation forms to the PA team. These forms collect process information such as satisfaction with the workshop, presenter and content as well as preferred subjects, seminar locations and schedules, and how participants learned about the FSTC. Summary evaluation statistics are not compiled at this time. For the most part, a perusal of the forms indicate high participant satisfaction with the training seminars. No information is collected about how the training seminar impacts behavior. FSTC staff reported they did try pre- and post-training evaluations when they operated as a third party program, but they found considerable participant resistance to them.

The FSTC puts the training presentations on the website. They are trying to think outside the box to make training information more digestible. For example, one course was made into an animated training presentation that can be viewed as a video on the website.

Training seminars are reported as a good way to start building relationships.

"*This industry is all about relationships*." —Utility staff

On-site Support

FSTC provides customer support through audits/on-site surveys and design reviews. Staff report while on-site support requests normally come in waves, they have seen a definite increase in requests in the last year. FSTC staff estimate a 50% increase in customer requests for on-site support in the last year. PG&E and the FSTC staff have cautiously approached marketing site-surveys because they do not want to over-subscribe.

Staff interviews indicate high customer satisfaction with FSTC site surveys.

"*I've been pretty impressed with the FSTC site surveys. Customers are very pleased with them*."—PG&E account services staff

According to FSTC staff, they typically visit the customer facility for a walk-through. They then try to go back in person within a week to present the results. First they identify low-cost, no-cost measures, then equipment rebate measures that apply. They have a standard template, but they do tailor within this template. Interviewed PG&E staff said they found the audit reports very clear and easy to read. At the same time, several interviewees identified that audit reports need to be more comprehensive by including costs and energy savings for recommendations.

FSTC staff report they do not have the budget to do further hand-holding to see whether audit recommendations are carried out to retrofits. They would like to be able to offer a service more like the SmartLights Program. This program walks into a restaurant and identifies where lighting could be better and offers a turn-key approach.

PG&E staff recognize that because the FSTC audits are free, the FSTC has to make decisions about what type of information they provide. If they go into more in-depth information, then they will have to do fewer audits. As a result, some PG&E staff report to-date the FSTC audits have been more "*quick and dirty*."

FSTC staff reported site surveys can lead to design consultations. For example, they just did a design consultation for Stanford that resulted from a site survey. Again, they are limited in the number of design consultations they can do. PG&E staff noted the FSTC is not a certified engineering firm, and the FSTC is not licensed to do design work. Therefore, they provide guidelines only.

As discussed earlier under Background, the FSTC may be doing more integrated audits for PG&E in the future. PG&E would like to utilize FSTC's expertise to in food services to address these processes. In order to do this, the FSTC will need to provide cost and project payback information. FSTC staff said they recognize the importance of being able to deliver this information to do integrated audits.

FSTC and PG&E Co-branding (Evaluation Objective #4)

Interviewees identified that the primary question about co-branding is: Are PG&E and the FSTC interchangeable for customers—to what extent do customers recognize the FSTC as PG&E? We will explore this further in market actor and customer interviews.

Because the FSTC is run by Fisher-Nickel, a third party administrator, it has more complex co-branding issues than the other California food services centers that are utility owned and operated. In addition, there are some legacy co-branding issues from the 2 year sabbatical (2002-2003) when the FSTC was a third party program. It was reported the FSTC had to establish autonomy from PG&E during that time. All interviewees were unanimous that it is PG&E's FSTC and that Fisher-Nickel is PG&E's partner in running the FSTC.

"*The FSTC is our partner*." —PG&E staff

"*PG&E made us partners again. We have been making an effort to get co-branding back, but there is a legacy period of separation*."—FSTC staff

Interviewees discussed the need to balance who Fisher Nickel is as a company and what the PG&E FSTC is. Fisher-Nickel is an independent company that does some other business outside of running the FSTC, although this is their primary focus.

The main co-branding issue raised by interviewees is the FSTC website, www.fishnick.com. This a legacy issue from when the FSTC was a third-party program and they developed the website www.fishnick.com during this time. Recently, PG&E food services rebate applications were only on fishnick.com. It was reported that it is a positive development that rebate applications are now on www.pge.com/fstc as well. There are reported advantages of the fishnick website--mainly that it limits PG&E's liability and changes and updates are able to be made quicker.

Some PG&E staff feel that the FSTC has more branding of Fisher-Nickel than PG&E. These interviewees do not feel this is correct given that PG&E funds the FSTC.

"*If we're doing the funding, then the branding needs to be with PG&E. PG&E needs to get the credit it deserves*." —PG&E staff

In addition, some interviewees feel that opinion and non-technical FSTC publications should have the look and feel of PG&E. Emerging Technologies has a review process established for marketing materials. It was reported FSTC needs the same review process to make sure that is in agreement with PG&E's brand.

The FSTC is increasingly asked to contribute to media articles. It was discussed that ideally PG&E would review all articles with FSTC contributions before they go out. PG&E has a news department that could conduct the review prior to publication. This review could ensure that articles do not have editorial comments that would not agree with PG&E's position. This has not been done to-date. The reported problem is that the media operates on tight deadlines and the PG&E review process is not able to accommodate the tight turn around.

FSTC staff provided the PA team with several examples of their marketing and outreach materials and discussed how they included co-branding with PG&E. PG&E's logo was on all documents reviewed. The FSTC staff expressed a desire to do more co-branding with PG&E. Despite this shared desire for more co-branding, the interviewees suggest there are communication issues regarding co-branding. Several PG&E staff are dissatisfied with current co-branding. While FSTC staff seem ready and willing to address co-branding issues, FSTC indicates they are in need of additional guidance and direction on how to best do this for PG&E. For example, it was suggested by a PG&E senior manager that PG&E's role and logo should be on every page of www.fishnick.com and visually compatible with PG&E's website.

In terms of co-branding, it was also discussed that the FSTC should be more closely aligned with the CEE target market segments such as mass markets and the hospitality programs.

FSTC and PG&E advocacy (Evaluation Objective #5)

All interviewees expressed that it is important that the FSTC be an objective, non-biased source of information. They report this objectivity is extremely important to customers in making decisions.

"*Customers see the PG&E FSTC as a non-biased strictly technical expert resource. They really appreciate this neutrality and it is great for us to be affiliated with this reputation*." - PG&E staff

The majority of interviewees believe that the FSTC is objective. They state that PG&E's sponsorship as a dual-fuel utility, promoting neither gas or electric, enhances the industry's view of the FSTC as objective.

"*PG&E is a dual fuel utility which is huge to the industry. The industry doesn't like the selling of gas or electric. PG&E being fuel neutral is huge."—FSTC staff*

There was some questioning of the FSTC's objectivity relating to codes and standards. PG&E provides long-term advocacy and support of the Codes and Standards Document. Regarding codes and standards, one interviewee discussed that the FSTC business model does not lend itself to support development of new codes and standards. This is because the FSTC is too dependent on the food service industry for their existence. Therefore, they are not totally independent of the food services industry for their recommendations. For example, the FSTC writes equipment test standards, but does not support performance standards.

Some interviewees identify that the main point of advocacy is that PG&E does not want to be in a conflict. Because of the FSTC's reputation in the food services industry they are sometimes asked to take a position in policy debates. For example, the Bay Area was considering a ventilation standard. The California Restaurant Association was pushing the FSTC to become an advisor, which would result in them playing an advocacy role in an air/health issue.

Some PG&E Staff feel it is appropriate for the FSTC to play a role in policy discussions in the food services industry, but the FSTC must only discuss the policy side that PG&E wants expressed and supported.

FSTC staff are not aware of PG&E's advocacy rules and were surprised to see this topic on the staff interview guide. This indicates additional contractual guidelines on advocacy are needed for the FSTC.

Program Metrics (Evaluation Objective #7)

The FSTC has been meeting the metric numbers laid out in their contract. The previous program manager developed these metrics. The PA team reviewed the metrics and determined that the metrics are related more to program "outputs" (e.g., number of trainings delivered) than "outcomes (e.g., results of trainings).

Some PG&E staff discussed the need for better metrics with emphasis on PG&E's needs and priorities. An example given are metrics that track the number of measures transferred to the market segments. The primary reported issue with the established program metrics is whether the FSTC is or should be more than an education program. The question across the board about program metrics is:

"*How can PG&E measure the energy savings resulting from FSTC activities*?"

Interviewees report the FSTC's activities have the market primed. Some interviewees believe the market is ready for PG&E food services customers to realize 10% energy savings. They want PG&E to be able to capture and receive credit for these impending energy savings.

The FSTC staff are particularly in favor of developing metrics to capture energy savings so that PG&E will recognize the FSTC's value.

"*We believe we're having an impact and we want to have that documented*."—FSTC staff

PG&E is capturing energy savings now for rebated food services equipment. However, there is no follow-up now to site surveys or training to see what customers implement on their own as a result of these FSTC activities. The primary question for follow-up to these activities reported by interviewees is "*What impacts is it having on the decision-making process of the customer*?" Other interviewed California food services centers are also currently not capturing energy savings beyond the food services equipment rebates.

Another identified issue with measuring the energy savings is that there is currently not a baseload case for food services. The FSTC will need to establish a baseload case in order to quantify energy savings according to several interviewees.

Incorporating energy savings as a program metric also raises the question of who the FSTC should target to best capture energy savings. While it is important to equitably serve PG&E customers, should the FSTC target chains more to multiply the effects of FSTC activities and give them greater touch.

An additional question to consider beyond California savings is how to account for energy savings the FSTC is generating outside PG&E's territory. The FSTC provides extensive support of national programs such as ENERGY STAR, and PG&E has encouraged FSTC to be involved in these national programs. The benefits of these activities likely trickle back to PG&E, but to what extent?

Interviewees identified the following issues they would like to see incorporated into the FSTC's metrics:

1. How the FSTC influences customers' consideration of energy efficiency
2. Use of the FSTC website
3. The effectiveness of education and outreach such as actions taken as a result of a FSTC activity
4. Customer satisfaction with the FSTC
5. Internal training of account services staff

Budget Allocation (Evaluation Objective #8)

Almost all of FSTC's funding is from PG&E. They receive some supplemental funding from PIER projects through California Energy Commission and the Emerging Technologies Collaborative, which is also public goods money. Fisher-Nickel contracts directly with ICF Consulting to cover its costs involved with ENERGY STAR.

PG&E staff discussed that the FSTC is definitely "*resource constrained*." Three options were identified to address FSTC's resource constraints. The first is to shift priorities within the existing budget. The second is to increase the size of the contract with PG&E to meet the additional needs. The third is for Fisher-Nickel to find additional funding from other sources.

PG&E's contract with the FSTC covers soft and hard costs and pays for the lease. The approximate budget breakdown for PG&E funding for the FSTC is:

- Equipment testing procedures/equipment assessments: 10%
- Manufacturer product testing service: 30%
- Code and Standards and industry support (ASTM/ASHRAE): 10%
- Information dissemination (Website/Seminars): 25%
- Customer support (Site Surveys/Design Support): 5%
- Operation and maintenance: 15%
- Energy efficiency program support: 5%

Whether or not this current allocation is still valid, given PG&E's objectives for the FSTC is a question. PG&E staff discussed that PG&E's needs have changed in the past few years and the FSTC needs to have the ability to change their focus to meet PG&E's needs.

Both FSTC and PG&E interviewees indicated that the part of the budget they think is under-funded is customer educational outreach including both training seminars and customer support (site surveys, technical assistance, etc.). Several interviewees, but not all, would like to see more FSTC resources devoted to more customer technical assistance. It was also voiced that it is these activities that will result in measurable energy savings for PG&E. In addition, as discussed earlier, almost all interviewees would like the FSTC to do more internal outreach to PG&E account services staff and CEE program staff. The aim of more outreach would be to increase staff's use of the FSTC to serve customers.

Some PG&E interviewees would like to see the percent of the budget for equipment and product testing, currently 40% combined, decreased. This was reported as especially the case for technologies with small loads. These interviewees believe that the standards development has "*reached a plateau.*" It was suggested the FSTC scale back funding in the area of equipment testing or find an alternative funding source for those activities. Currently, manufacturers do not pay for the majority of testing. FSTC reports that 10% of their testing now is paid for by manufacturers.

However, as discussed earlier, some PG&E staff would like to see the FSTC's role in promoting emerging technologies in the food services industry expanded. It is probable that equipment and product testing is needed to promote these emerging technologies.

An additional identified need for resources is marketing. Currently, the FSTC does not have an advertising budget. When they want to do advertising, they have to ask for funds from mass market or target markets. This was characterized as "*begging for funds.*"

Conclusion

Overall, the staff interviews indicate that the FSTC is operating well and having a significant impact on the food services industry. At the same time, the interviews identified several potential opportunities to align the FSTC's operations more with PG&E's goal and objectives for their CEE programs as enumerated in the key findings at the beginning of this report. The PA team will explore these issues further in the other study data collection activities to make recommendations to PG&E about the most effective areas for program enhancements. We briefly summarize below identified issues we will explore further in the market actor interviews and customer surveys.

The staff interviews identified the following items to explore further in the market actor interviews:

- How does the FSTC's support of national programs benefit PG&E's territory (i.e., benefits attribution).
- Use of FSTC website and receptivity to website registration.
- How the FSTC has influenced manufacturers' equipment production and other business practices.
- How the FSTC's information dissemination has impacted the energy efficiency of food services equipment and processes.
- How the FSTC can more effectively reach PG&E customers.
- Industry needs for additional equipment testing standards or the extent to which they have reached a plateau.

The staff interviews identified the following items to explore further in the customer surveys:

- Awareness of the FSTC (and how customers became aware of the FSTC).

- Use of FSTC website and receptivity to website registration.
- Reasons for participation in FSTC activities (training seminars, on-site surveys or design consultation) and barriers to increased participation.
- How the different FSTC activities have impacted customers' food services operations.
- Technical assistance needs related to food services.
- Customer interest in more technical assistance and a turn-key approach to their food services facilities.

C.2 MARKET ACTORS

Subject **PG&E FOOD SERVICES TECHNOLOGY CENTER PROCESS EVALUATION SUMMARY MEMO: MARKET ACTOR INTERVIEWS**

To Bill Pietrucha and Tsosie Reyhner

From Lark Lee, Tom Rosenberg and Carol Sabo

Date October 10, 2007

The PA team conducted in-depth interviews in September 2007 with 30 market actors who work with PG&E's Food Services Technology Center (FSTC). Interviewed market actors represent:

- 5 corporate decision-makers for chain restaurants.
- 5 industry stakeholders that represent energy efficiency organizations and industry associations.
- 20 food services supply chain market actors that included 15 equipment manufacturers and 5 local or regional manufacturers' representatives.

A list of who was interviewed may be found at the end of this memorandum. Interviews ranged from 30 minutes to 1.5 hours, depending on the interviewees' involvement with the FSTC and engagement with issues about the industry's energy use and needs. Market actor interviews focused on background information including company decision-making processes and six of the eight evaluation objectives listed below.

First we present key findings from the market actor interviews. Then we discuss more detailed results around the following topic areas:

- Background Information
- Information dissemination and resulting energy savings (Evaluation Objective #1)
- Industry needs and impacts (Evaluation Objective #2)
- Educational outreach (Evaluation Objective #3)
- FSTC and PG&E co-branding (Evaluation Objective #4)
- FSTC Program benefits (Evaluation Objective #6)
- Budget allocation (Evaluation Objective #8).

We have not reported comments by individual to protect interviewees' confidentiality.

Summary of Key Findings

In general, the market actor interviews across the board—industry, national chain accounts and the manufacturers/manufacturer representatives—are very positive in their comments about the FSTC. Selected comments across market actors on the FSTC included:

"We couldn't ask for a better team with more knowledge or to have a better relationship with them." —Manufacturer

"Very proactive staff that gets out to shows and speaks where there is an important audience to be heard."—Manufacturer

"*The FSTC has been a real asset. They are by far the most knowledgeable group in the industry. It is a real pleasure working with them*. ."—National Chain

"*The FSTC is a good group, they are a legend in the industry*."—National Chain

"*No other group has the knowledge of the food service industry."*—Industry

"*The FSTC has the most name recognition and credibility of anyone in the industry. From an industry perspective, they are head and shoulders above anyone else*." —Industry

Highlights of other key findings are noted by the topic areas of the detailed findings.

Background

- The manufacturer interviewees ranged from large conglomerate manufacturers with products in nearly every food service equipment category to specialty manufacturers in particular niches.
- The vast majority of the manufacturers' representatives focus on Western US and Canada, with only one focused solely on California and specifically Northern California.
- Many of the manufacturer interviewees specifically target chains, rather than other segments of the market.
- Several national chain interviewees discussed that having internal staff at the corporate level committed to pushing efficiency forward is key. And in this role, the FSTC has been essential by providing valuable information and support to key staff.
- National chains specify equipment at the national level. This is particularly important for consistency of recipes.
- For several of the interviewed chains, franchisees do not have to use the corporate equipment specs. But they are encouraged to.
- National chains report that their California franchisees tend to be much more aware of energy savings than other franchisees.

Information Dissemination (Evaluation Objective #1)

- The market actor interviews indicate that the FSTC is the leading provider of information on food services equipment and processes to the industry. FSTC information is viewed as objective.
- Overall market actor interviews indicate the most important information the FSTC is providing the industry is equipment testing information. The largest direct benefit of this 3rd party testing information from the FSTC is the ability to compare food services equipment on performance.
- Market actor interviews indicate the following primary venues for FSTC's information dissemination: the FSTC website, publications, personal communication, and mailings.
- All market actors report they access the FSTC website for information, but discussed that the website could be better organized. Interviews indicate that manufacturers are the primary user of the FSTC website. Market actors were open to having to complete a free registration to use the website.
- Personal communication is the most important venue of information dissemination for national chains, who often report talking to FSTC staff on a biweekly basis.
- Interviewees reported that the FSTC's contribution to Food Equipment Report's content has elevated the material considerably.

Industry needs and impacts (Evaluation Objective #2)

- The FSTC has raised efficiency in the food services industry. Interviewees believe the industry's awareness and receptivity to energy efficiency is higher in California then in other parts of the US.
- Several industry interviewees discussed while they believe in the FSTC's impacts, they are difficult to quantify. They said in large part this is because there activities "behind the scenes" such as working with manufacturers.
- All market actors discussed that having a platform – a common language – on which to share and compare information has helped move the market toward efficiency.
- Most manufacturer respondents use the ASTM test methods as the standard to which they build their products.
- Virtually all the manufacturer respondents said that their product lines have changed and become more efficient over the past 5 years. For some this was due in large part to FSTC testing and the development of ENERGY STAR standards. FSTC impacts on manufacturing products are reported as limited for some technologies.
- National chains believe they, working with the FSTC, are pushing manufacturers toward more efficient practices. Three of the five interviewed national chains said they tell manufacturers they have to get their equipment tested by the FSTC before they will consider it.

- In general, market actors report a “greening” of the food services industry. While the greatest gains in efficiency has been in kitchen equipment, more attention is starting to be paid to better restaurant design and a more efficient envelope.
- PG&E rebates are reported as having the most effect on franchisees and independent restaurants who are often hesitant to try new technologies and for whom initial cost is a significant barrier. In order to affect national chain corporate practices, rebates would need to be considered before equipment design and specifications are established.
- While all of the market actors recognize how well the FSTC is serving industry needs, they did make suggestions to better serve the industry. These include to: expand evaluated technologies, California rebated equipment, ENERGY STAR categories and ASHRAE standards; provide more technical assistance to the industry; take more of a holistic approach to food services facilities; and promote better codes and standards.
- All market actors felt the FSTC needed to do more outreach to the industry, and specifically to food services facilities.
- National chains identified their biggest technology need as hot water. Other identified needs include sealing system and building shell issues, mechanical systems and the ability to accurately and effectively energy model the kitchen—reported as 60% of restaurants’ energy consumption.

Educational Outreach (Evaluation Objective #3)

- The FSTC is looked upon as one of the leading educators in the food services industry.
- Interviewees have generally attended at least one FSTC educational seminar.
- Manufacturers and national chains did report changes in their business practices resulting from FSTC educational outreach activities as well as working closely with the FSTC. The customer surveys will quantify these results for customers.
- Suggested topics to cover in seminars include: certifying equipment, food services rebates, holistic seminar topics – focusing on whole restaurant design and how that impacts ventilation and energy efficiency, topics targeted to specific segments of the industry, and finally a mobile seminar facility to coordinate with the permitting process for new restaurants and/or the food safety seminars that are required.

FSTC and PG&E Co-branding (Evaluation Objective #4)

- All of the market actors interviewed were very familiar with the FSTC and concur that it has national recognition.
- All of the manufacturer interviewees know that PG&E is a sponsor of the FSTC, but many did not think it was the sole sponsor.
- The industry and national chain account interviews indicate some confusion about the branding of the FSTC. Several of these interviewees referred to the FSTC staff

as "Fisher-Nickel" in interviews. This concurred with manufacturer reports that individual staff have more recognition than the FSTC brand.

- National chains discussed that they were in fact confused about what services the FSTC provides to PG&E customers versus the industry nationally.
- Manufacturers do not feel there is strong customer awareness of the FSTC, although they think it is higher among national chains.

Program Benefits (Evaluation Objective #6)

- A prominent theme across all of the market actor interviews is that the FSTC is resulting in national benefits to the food services industry.
- While market actors discussed that California is the leader in food services energy efficiency at least in some part as a result of the FSTC, interviewees discussed several national benefits of the FSTC.
- National benefits resulting from FSTC efforts include: ASHRAE codes for food services, ENERGY STAR labeled food services equipment, support of the national CEE Commercial Kitchen Initiative, support of the Electric Foodservices Council, Technical assistance for the National Association of Food Equipment Manufacturers (NAFEM), food services equipment rebates, and LEED certification.

Budget Allocation (Evaluation Objective #8)

- Overall, the market actor interviews support a rationale for cost-sharing because of the program benefits accruing nationally as well as to PG&E's customers.
- ENERGY STAR reports that the FSTC is paid for much of their ENERGY STAR-related activities through a contract with ICF Consulting. A similar arrangement could be sought for other national efforts.
- The primary identified need for cost-sharing in the program design and delivery staff interviews (reported in an earlier interim memo) was for equipment testing. Interviews with market actors do indicate receptivity to cost-sharing of the FSTC equipment testing.
  - The industry organizations interviewed said they believe their members see the value of the FSTC and would be open to cost-sharing for equipment testing.
  - Manufacturers also indicated a willingness to cost-share.
  - There also may be opportunities for cost-sharing with national chains, especially for the Chicago ventilation lab.

Detailed Findings

Background

Manufacturers

The manufacturer interviewees ranged from large conglomerate manufacturers with products in nearly every food service equipment category to specialty manufacturers in particular niches. Many of the interviewees specifically target chains, rather than other segments of the market. All manufacturers sell nationally and some have extensive international presence. The manufacturers' representatives interviewed ranged from those that represent multiple lines of equipment to those that specialize in just one. No one below the wholesaler channel level was interviewed. The vast majority of manufacturers' representatives focus on Western US and Canada, with only one focused solely on CA and specifically Northern California.

The amount of time the respondents have worked with the FSTC varied widely. Some have worked in various capacities with the FSTC since its inception or from the early 1990s, whereas others began working with the FSTC in the last 2–7 years. The vast majority of the interviewees said they chose to work with the FSTC because of their reputation and ability to provide independent third party testing and validation. Sometimes this was directly at the request of a large client (such as a large grocery store chain). Other times it was to confirm design and performance claims. Other reasons interviewees gave for choosing to work with the FSTC include that respondents felt the FSTC staff was very knowledgeable about their particular niche, their technical advice was always useful and the FSTC sees the industry trends and know where the market is going 5 years hence. Some respondents feel that if they don't work with the FSTC, their competitiveness would be significantly handicapped.

National Chains

All of the five national chains interviewed have corporate design staff that play an essential role in guiding energy efficiency within their companies. The interviewed national chains vary in the extent to which they use in-house architects and food equipment specialists versus external contractors, although all of the chains use a mix of internal and external staff. For example, some chains have large internal teams that do all of the design and specification on everything in the building. They only contract out the actual construction documents to external contractors to manage at the local level. A fast food chain, on the opposite end of the spectrum, has no internal architects. Two full-service chains were in the middle of the spectrum with small internal teams. However, with one full-service chain's recent buy-out, it was reported that it may have no corporate staff overseeing energy specifications going forward. Those with smaller internal staff resources said they have come to rely on FSTC's expertise to supplement their staff.

National chain interviewees asserted that in order to make national chains pay attention to energy efficiency, a strong, internal proponent of energy efficiency is needed. Several interviewees discussed that internal staff at the corporate level committed to pushing efficiency forward is key. And in this role, the FSTC has been essential. The FSTC data and resources help national chain corporate staff get higher efficiency and better equipment, according to interviewees. Three of the five interviewees said they face an internal struggle of initial cost versus the long-term cost of the equipment.

"*Energy efficiency over the initial cost has been a constant internal fight."* –National chain

Four of the five interviewed restaurants do equipment specification at the national level in order to take advantage of economies of scale in purchasing. A fast food chain was the only interviewee that differed from this practice. This fast food chain instead works with manufacturers to develop equipment. The fast food chain's Corporate management has several approved pieces of equipment that franchisees can then pick among to specify. It was reported there is resistance to dropping less efficient pieces from the qualifying list.

Another major issue for the chain restaurant operations are corporate restaurants versus franchisees. In general, franchisees do not have to use the corporate equipment specs, just the recipe specs. But they are encouraged to. There is also an advantage for franchisees to use corporate equipment specs since they can benefit from bulk purchasing discounts. But the final say is normally up to the individual franchisee.

Corporate staff report their role in working with the franchisees is to "*help set the franchisees up to succeed*." This involves looking at energy efficiency equipment performance, comfort, repair and maintenance, etc. so they have the best product they can. While there are some franchisees who think they know best and try to buck the system, corporate staff report most of them follow their design.

When asked about Northern California franchisees in PG&E's territory, corporate staff discussed how franchisees differ a lot in how they approach energy efficiency or if they work with the FSTC. Some are very strong and conscientious and take advantage of the FSTC as a resource. Others are not. In general all of the interviewed corporate staff said they had at least one strong franchisee (in most cases more) in PG&E's territory that take advantage of the FSTC. They believe the majority of PG&E franchisees are familiar with the FSTC and know about ASTM test methods. Corporate staff reported that California franchisees tend to be much more aware of energy savings than other franchisees.

"*California franchisees are actually looking at the research and are tuned in to energy*." —National Chain

All of the interviewed chains report they work with the FSTC staff on a continual basis, discussed more under the Information Dissemination section.

Information Dissemination (Evaluation Objective #1)

The market actor interviews indicate that the FSTC is the leading provider of information on food services equipment and processes. Secondly, this information is viewed as objective and fair.

"The best single resource out there. . . FSTC is THE player."—Manufacturer

The FSTC is one of the most popular specific sources of information on energy efficiency equipment and design across all market actors. Interviewees mentioned the following other sources for energy information: ASME, ASHRAE, ARI, ENERGY STAR, LEED, CEE and more generally, the internet, trade publications, competitor information, etc.

Overall market actor interviews indicate the most important information the FSTC is providing the industry is equipment testing information.

"*I am not exaggerating, there would be a huge void in the industry without the Food Services Technology Center's equipment testing information*." —Industry

Industry and national chain market actors reported extensive use of the FSTC equipment testing results. The FSTC equipment testing plays a critical role for both industry and national chains in providing objective, third party verification.

"*It is important to have that 3rd party verification of testing*."—Industry

National chains discussed the largest direct benefit of the information from FSTC equipment is the ability to compare food services equipment on performance. They can then use this comparative information to purchase the best equipment. According to interviewees, this was not possible before the FSTC's work in equipment testing and performance standards.

"*The FSTC's equipment testing has been beneficial to the whole industry. It allows us to rack 'em and stack 'em for comparison purposes. No one else is doing this in the industry*."
—National Chain

Several industry and national chain market actors discussed that in food services, manufacturer testing procedures are newer and historically have not been stringent. Therefore, there is more of a need for third party verification than in other industries with more established practices.

"*The information from manufacturers is not good so what the FSTC does is invaluable*."
—National Chain

Nearly all of the manufacturer interviewees also view the FSTC's primary role as an "*independent, third party testing organization*" for the industry. Manufacturers report they use the FSTC to improve and/or validate design and efficiency claims. Some mentioned that they use the FSTC to fulfill Research and Development capabilities that they would not otherwise have access to as a smaller company.

The FSTC programs and materials used by respondents vary considerably. Some used selected pieces—such as the outdoor air calculator and equipment testing reports. Others used all of the tools, website and information sources produced by the FSTC. With very few exceptions, all market actors found the materials and resources useful to very useful.

Market actor interviews indicate the following primary venues for FSTC's information dissemination, discussed below, are:

- The FSTC website
- Publications
- Personal communication
- Mailings

Educational outreach, also recognized as a primary means of information dissemination, is discussed in the next section.

The FSTC Website

All market actors report they access the FSTC website for information. Several industry stakeholders said the FSTC website is the only place for the food services industry to go to get the wealth of knowledge.

"*A big piece of the puzzle is their website. It is an invaluable tool*."—Industry

Several manufacturer interviewees report daily use of the case studies, equipment testing and web-based tools by them and their sales force. They also mentioned that they refer clients to the website for the information it provides, validating their equipment performance claims.

Website visits varied widely among manufacturers. A majority of manufacturer interviewees looked at the website regularly (weekly or monthly), with the remainder viewing it on a quarterly basis. Manufacturers view the website for a variety of reasons. Some manufacturers use it to build new marketing materials around the comparisons and case studies on ROI/operating costs the FSTC have done, and others constantly look for the latest information in the industry or how they compare with competitors in a particular product category. Some manufacturers refer clients to the website, especially as a sales tool when posted results uphold solid performance.

While most manufacturers said that they find what they are looking for, a couple say the website could be better organized. Some requested that FSTC improve the links it has in its pages to other relevant organizations like ENERGY STAR or LEED and to facilitate connecting directly to key pages (e.g. the updated list of ENERGY STAR approved appliances). A few recommended that the keywords embedded in the pages be re-examined to optimize and accelerate the search function.

National chain accounts also discussed that the website could be better organized. This was less pressing to them because they talk regularly with FSTC staff as discussed under personal communication. They report often discussing with FSTC staff the information they need and the FSTC staff will then refer them to what studies they need on the website. One suggestion was that the FSTC website be organized more like the Consumer Report website. This interviewee discussed that the FSTC is in fact the "consumer reports" for kitchen equipment and materials.

"*We need the FSTC's 3rd party research and information on the good, bad and the ugly, but it's not real easy to find that information on the website*." —National Chain

Industry interviewees said they often use their energy calculators and refer their members to the website.

"*It is very helpful for operators."* —Industry

While all market actors said they would fill out a registration form to use the website, two caveats did come up: (1) they do not want to have to remember yet another password, and; (2) there needs to be an explanation of why the page popped up - that the website is still free and the one-time registration is merely to assist PG&E and the FSTC to improve the service they provide. Some interviewees suggested that the website include "push" technologies like RSS and blog feeds.

Personal Communication

Personal communication is the most important venue of information dissemination for national chains. All of the interviewed corporate decision-makers for national chains said they talk with FSTC staff on a regular basis. All national chain interviewees said the FSTC is very responsive to their calls. In general, national chains report they talk to FSTC staff at least every two weeks.

"*We are really tied into the FSTC. They work with us to get us what we need."*—National Chain

While some of the interviewed manufacturers reported that they only attend occasional seminars or use the FSTC for testing new models, others reported much closer relationships and personal communication with the FSTC. These included having the FSTC hold trainings on-site for them and being in constant contact with on-going collaborative projects in various segments.

Industry interviewees also said they have frequent personal communication with FSTC staff, but mainly in working on projects or in committees together.

Virtually all market actors said their use of the FSTC would stay the same or increase over the next 12 months. Companies that are holding steady in their direct use of the FSTC have on-going projects or scheduled testing and evaluation by the FSTC for design verification or ENERGY STAR approval. Those that are increasing their use, have new products they want tested or are finally moving forward on industry initiatives (such as commercial kitchen ventilation and filter performance) with the FSTC.

Publications

Several interviewees discussed the FSTC's contribution to the Food Equipment Reports (FER). It was reported that FER is geared toward equipment purchasers who need to know more about equipment to help them select and buy. They said FSTC's contribution to FER's content has elevated the material considerably.

"*They've helped elevate FER's content and this really helps cast a broad net o f affecting equipment specs and energy consumption*."

It was also discussed that the FSTC contributes to NAFEM and other trade publications. Two industry interviewees feel the FSTC has not been doing enough in trade publications and the media and they would like to see this increased.

Mailings

Manufacturers and national chains report receiving mailings from the FSTC both via e-mail and regular mail. When asked about their preferred method for receiving information from or about the FSTC, the majority of the interviewees said they prefer email. A few said that they like the current mix of direct and electronic mail and requested that it continue.

Industry needs and impacts (Evaluation Objective #2)

In general, interviewees believe the FSTC has raised efficiency in the food services industry. They believe the industry's awareness and receptivity to energy efficiency is higher in California then in other parts of the US.

"*There seems to be a greater awareness, understanding and appreciation of efficiency in CA than elsewhere. I don't know if FSTC is the main catalyst of this, but I think they have played a major role*." –Industry

Several industry interviewees discussed while they believe in the FSTC's impacts, they are difficult to quantify. They said in large part this is because there is so much they do "behind the scenes." Examples of this kind of work given were: equipment testing, working with manufacturers, contributing to publications and providing education.

All market actors discussed the growing attention to energy use in the food services sectors. Industry stakeholders discussed that the Commercial Building Energy Consumption Survey shows that restaurants are the most energy intensive commercial sector for their square footage. More organizations are now paying attention to the food services sector.

"*We thought there were a lot of savings opportunities and food services was an area largely untapped*." —Industry

Several industry interviewees expressed that the FSTC has been the main driver of efficiency in the food services sector, which other organizations such as the Consortium for Energy Efficiency (CEE) and the Electric Food Services Council have been able to build on to further the impacts. Specific program impacts are discussed below for manufacturers and customers.

All market actors discussed that having a platform—a common language—on which to share and compare information has helped move the market toward efficiency.

"*The PG&E Center has been the main driver of moving food services from a cottage industry to where we are today. They are the premiere organization for codes and standards. They have greatly moved food services efficiency forward*"—Industry

"Side by side comparison [from FSTC] is critical in a hidebound industry with glacially slow changes. When I started, utility costs were 2% of sales and no one cared. Now they do." —Manufacturer

Industry interviewees report there has been a tremendous change in the food services industry—"*a greening of the industry*." Interviewed industry stakeholders report they are now flooded with requests to help customers.

"*There has been tremendous change. We are flooded with opportunities and we can't handle all the opportunities and requests now."*—Industry

Manufacturer Impacts

Most manufacturer respondents use the ASTM as the standard to which they build their products. Several recognized that it was FSTC's efforts that established ASTM test standards for food service equipment. Virtually all manufacturer respondents said that ENERGY STAR was an important marketing tool and they used the FSTC testing and ASTM standards to receive ENERGY STAR approval. Those that have products yet to be covered by ENERGY STAR expressed their desire to see ENERGY STAR include additional product categories.

The interviews identified some areas where the FSTC has had less impact. Some manufacturers said that the FSTC was helpful to the industry as a whole, but not them specifically because their niche was either beyond the current capabilities and knowledge base of the FSTC staff or simply due to the lack of industry-wide benchmarks (e.g. ventilation and filter performance and energy efficiency testing and standards).

Virtually all the manufacturer respondents said that their product lines have changed and become more efficient over the past 5 years. For some this was an evolutionary change as they are constantly improving products. For others this was due in large part to the FSTC testing and the development of ENERGY STAR standards that changed the competitive landscape in specific product categories.

"The FSTC has had a tremendous impact. They are on the forefront – a 'key catalyst'."
—Manufacturer

For the very few whose product lines were not impacted over the past 5 years, either this is the year of change or they feel that the FSTC needs to go after a specific, popular energy hog (e.g. "grab n' go" units).

Manufacturers report their marketing is changing with the times too. Some have rolled out new lines touting their efficiency and performance up front, while others have focused on promoting their line of ENERGY STAR approved products with supporting ENERGY STAR materials. For a few, LEED and other new standards are more important because they deal with the restaurant design holistically. For a couple, the marketing has not changed due to sub segment peculiarities (e.g., ice machines). In these cases, they said it is not just the efficiency that is in question, but the quality, safety, and the longevity of the food produced that have greater influence in sales.

National chains report that they, coupled with FSTC, are moving manufacturers to more efficient practices. Three of the five interviewed national chains said they tell manufacturers they have to get their equipment tested by the FSTC before they will consider it. These national chains discussed that they feel this pressure was necessary to get some manufacturers to participate in testing. National chains discussed that many manufacturers are afraid to be put under scrutiny. These three national chains are sending a consistent message to manufacturers that energy efficiency is important to them.

"*We tell them they have to let the FSTC test it and it must be more energy efficient*."
—National Chain

At the same time, two of the interviewed national chains recognize that their companies are not sending a consistent message to the industry about efficiency. While they personally believe in energy efficiency, their corporate culture does not.

Customer Impacts

Manufacturers report that interest in "green" construction (new and retrofits) seems to be increasing, particularly among chains. They believe food services is beginning to recognize the importance of not just the efficiency of kitchen equipment but how better restaurant design and a more efficient envelope can reduce operating costs. Although chains may not achieve

LEED status in any one particular store, they are consciously taking measures to improve kitchen and overall efficiency and applying lessons learned to each consecutive store.

The national chain interviews for the most part confirm these manufacturer reports. All of the national chains report that their internal attention to energy has really increased in the lat five years or so. They contribute this to rising energy prices and an increasing awareness of social responsibility as well as efforts of organizations such as the FSTC. Two of the interviewees said that being as energy efficient as possible is their corporate philosophy now.

Manufacturers report the ease with which energy efficient equipment is specified or sold varies depending on the customer. For some customers, it is a very easy sell because of their niche or as part of an overall society-wide awareness that they tap into. For others, it is more difficult due to change coming hard in the industry or to the organizational and reward structure of companies (purchasing managers vs. facility managers and operations specialists) that run counter to efficiency goals. Finally, others suggested that the culprits are the structure of the food service market with buying groups' "cheaper by the dozen" mentality, and the complex puzzle of combining equipment performance and efficiency with skilled labor, training and restaurant design for outfitting a kitchen.

All of the chains report that as a result of working with the FSTC, they have more efficient cooking equipment. All of the interviewed chains report that they have worked with the FSTC to either develop or specify more efficient equipment across all cooking equipment categories.

"*We are a big company and it is hard to focus. That's why we need a 3rd party where we have a high confidence in their data. The FSTC has provided that. Our head architect pores over the FSTC reports and uses them when he specs equipment*." —National Chain

Three of the five national chains said they are beginning to look at the building shell, but it's still not at the forefront of their thinking. A full-service, mult-brand chain is the only national chain that reports they do high efficient HVAC and lighting, but they still need improvement in this area. They report they mainly work with their HVAC and lighting manufacturers—the FSTC to-date has not been a major source of information on building shell for them. A limited service fast food chain is working with the FSTC now on a store that has a make-up air to integrate the shell with the equipment. They will 'test' how it goes with this case and if they will do it again.

A food to-order chain is a member of the US Green Business Council and is working with the FSTC now on being the first-ever LEED-certified restaurant. This food to-order chain discussed that this is very difficult for restaurants. While others have gotten LEED certification, it has really been of their building, not of their restaurant. LEED does not have a restaurant specific certification and they fall under retail, therefore previous certification ignored the kitchen. They have been working very closely with the FSTC to get LEED certification of an entire restaurant. They will then duplicate that prototype for all of their new stores. They do not feel they could manage getting LEED certification for their restaurants without working so closely with the FSTC. They expect to construct 100-120 new stores in the next year that they would like to certify with a LEED certified freestanding prototype. FSTC's support will make this possible for them.

Most manufacturers believe the PG&E food services rebate addresses the primary barrier—price sensitively—for energy efficient equipment. National chains discussed that for corporate stores the PG&E rebates have little to no impact. This is because they make national specifications and it would not be cost-effective for them to try and tailor their equipment specifications based on rebates at a regional level. In addition, they discussed that the most important thing is consistency in their equipment because it is set up for consistency in their recipes. They said, however, rebates could have an impact by influencing their national specifications at the design stage.

Some manufacturers and national chains discussed that the paperwork for the rebates is too onerous and therefore is limiting the impact of the rebates as well.

National chains interviewees said the rebates do have a great deal of impact on franchisees. They said franchisees are often hesitant to try a new technology and the initial cost is a large barrier to them. The rebate is often what is needed to get franchisees to go with the more efficient equipment.

"*Franchisees get comfortable with a technology and it's hard to convince them to try a new one even though it's much more efficient. The $4,500 savings in energy just isn't getting through to them, it's hard to get them to make the right business decision. Utility incentives really help convince them to try the new technology*."--National Chain

Industry Needs

All of the market actors assert the FSTC is serving industry needs very well. Interviewees suggested the following activities for the FSTC to better meet industry needs:

- Expand technologies looked at (e.g., filter performance testing, 'grab-n-go' units)
- Increase California rebates to various equipment (ventilation systems, new energy efficient broiler)
- Expand ENERGY STAR categories for cooking equipment,
- Work more closely with ASHRAE to develop and promulgate more standards for more CK equipment.
- Increase technical assistance. One suggestion was to set up a helpline that consultants, designers and even operators can call for specific concerns, or questions on energy efficiency and commercial kitchens.
- Take a more holistic approach—expand beyond efficiency to look at other impacts such as water savings and public health, sanitation and maintenance concerns in the
- lobby to tighten existing standards to have sufficient teeth to make them worthwhile (e.g., California Energy Commission refrigeration standards) or to prevent the sale of sub-standard equipment (e.g., stoves).

All of the market actors generally feel FSTC should increase their outreach to the industry, and most specifically food service facilities. Suggestions include:

- Increase marketing of California rebates.

- Collaborate more with water utilities to reduce water heating and water consumption costs, especially with water availability issues looming statewide.
- Create more marketing pieces. One suggestion was to put together generic 1 page case studies as advertisements in trade magazines that highlight a particular niche (QSR, casual dining, white tablecloth) in order to bring real numbers to parts of the market not currently considering the benefits of energy efficiency.
- Create continuing college education credit for consultants and designers to get them better educated on the issues.
- Increase FSTC participation in national and regional conferences and national chain meetings
- Increase current marketing efforts such as bill stuffers, direct mail, email, advertisements in industry magazines, or a mix of all of them.
- Educate the dealers' sales force and create a simple ranking system that covers all equipment so that the end user on the sales floor begins to recognize/internalize the operating costs/ROI benefits of energy efficiency.
- Develop strategic partnerships with manufacturers' marketing departments to leverage expertise and marketing dollars.
- Expand the technical staff to permit more speaking engagements.
- Develop a scorecard and award system for dealers that rewards both sales and education level (seminars attended) of energy efficiency equipment.
- Simplify the explanation of lifecycle costs and heavily promoting that message to end-users.

Most manufacturers feel that while the FSTC is changing the industry positively, in reality the operator still is largely unaware of the benefits of efficient equipment and additional critical information, such as regular maintenance are key to ensuring the longevity and optimal performance of efficient equipment. They report the lack of that critical information can quickly negate any efficiency gains made.

To improve awareness in the target market some manufacturers felt that the message is on target, but additional channels that lower the cost of implementation should be used to expand its reach (e.g., the "free product" distribution like low-flow faucets, showerheads, CFLs). Others felt that highlighting the operating costs and life-cycle analysis would attract more attention, expand outreach to operators, consultants and designers at local and regional conferences and through dealers associations.

National chains identified their biggest technology need as hot water. Without hot water, restaurants have to shut down. Therefore, why they are interested in getting efficient hot water, reliability is paramount. All of the national chains said they are watching FSTC's efforts in this area closely and two of them are working with the FSTC on a hot water study.

"*Hot water scares the hell out of all of us. What we need is something that is fail-safe and energy efficient*." —National chain

National chains also identified that they would like to have more help with FSTC on material efficiency. In general, they report that the FSTC has helped them a great deal with equipment, but not sealing system and building shell issues. National chains also discussed that they could use more assistance with mechanical systems.

One national chain and one industry interviewee said they think the industry's biggest need is the ability to accurately and effectively energy model the kitchen. These interviewees discussed HVAC-proprietary models and DOE models that are about the shell, but not about the kitchen processes. It is reported that in the food services industry, the shell is 40%, the kitchen is 60% of energy consumption.

Educational Outreach (Evaluation Objective #3)

All the market actors concur that the FSTC is looked upon as one of the leading educators in the food services industry. Industry interviewees report that their members are always interested in paying to have FSTC come and deliver education to their customers.

"*Their activity in education is ideal. There are not enough hours in the day to do all the education that is needed. Energy and green are topics the industry can't get enough of right now.*" —Industry

The main complaint of industry stakeholders is that the FSTC's education is more active in CA, than through out the nation.

"*There education is incredibly active, but it would be great to make it more active nationwide.*—Industry

Interviewees discussed that the FSTC staff speak at a variety of places targeting a variety of groups such as manufacturers, operators, inspectors, etc. For example, the North American Association of Food Services Equipment Manufacturers (NAFEM) has approximately 600 member companies that are somehow involved in food services equipment and supplies. NAFEM's main event is a biannual trade show, which attracts over 20,000 people from around the world. The focus is on equipment and supplies though they do have some education and conference workshops. FSTC staff are delivering 3 of the conference's workshops.

Most manufacturer interviewees have attended at least one seminar or educational outreach event hosted by FSTC or a conference where FSTC staff are a presenter. All of the national chains said they or a member of their staff have attended at least one educational outreach event of the FSTC.

Most of the manufacturers that attended FSTC seminars did so when "on the road" at NAFEM or other industry conferences. Very few manufacturers have attended on-site in San Ramon. This is a function of location. Only a third of the interviewed manufacturers and manufacturers' representatives are locally based.

In general, the FSTC seminars are considered better than those put on by other organizations, and most respondents are satisfied with the information they received.

"Found them to be very informative, very concise and to the point, with just the facts and no opinion." —Manufacturer

Customer changes resulting from FSTC's educational outreach will be explored in quantitative customer surveys. Manufacturers reported the following changes in interviews resulting from the seminars or trainings they attended: spurred conversations internally among their colleagues; modified their product offerings to improve performance; rolled out a new line of equipment; to increase sales; to encourage customers to attend certain seminars; and educated people in the industry that still needed to hear the information.

Suggested topics to cover more in seminars are an educational workshop on certifying equipment and food services rebates. Others wanted to see more holistic seminar topics – focusing on whole restaurant design and how that impacts ventilation and energy efficiency, and how energy efficiency impacts design. Others wanted outreach to specific segments that would help them sell more equipment.

Another suggestion was a mobile seminar facility. This would include information or curriculum that combines with the permitting process for new restaurants and/or the food safety seminars that are required.

Manufacturers were generally unaware of the extent to which their customers used the FSTC site survey or design review services. Three manufacturers were aware that their customers had utilized the services and made some changes. However, none could say with certainty that the recommendations actually changed the final specifications. The interviewed national accounts all had specific instances when they worked with the FSTC in San Ramon or other PG&E stores and in these instances the technical assistance provided did increase the efficiency of the stores. The customer surveys will explore in-depth what customer changes resulted from these FSTC services.

FSTC and PG&E Co-branding (Evaluation Objective #4)

All of the market actors interviewed were very familiar with the FSTC.

"*The FSTC has national recognition*."—Industry

All of the manufacturer interviewees know that PG&E is a sponsor of the FSTC. Although some of these interviewees mentioned that other utilities or organizations also sponsor the FSTC. Some of them also feel that PG&E's sponsorship is known both locally and nationally. Other manufacturers report that while individual staff at the FSTC have great individual name recognition, few customers know that they belong specifically to the FSTC or PG&E.

The industry and national chain account interviews indicate some confusion about the branding of the FSTC. Several of these interviewees referred to the FSTC staff as "Fisher-Nickel" in interviews.

There does appear to be a lack of consistent co-branding to market actors. The FSTC staff bios are on the NAFEM website for the October 2007 show since they will be delivering trainings as discussed earlier. Only one of the three staff bios even referred to PG&E's funding of the FSTC and it was somewhat buried in the staff bio.

National chains discussed that they were in fact confused about what services the FSTC provides to PG&E customers versus the industry. For example, one national chain interviewee said that because the FSTC are PG&E-funded, there is a perception that only organizations in California can use it, but he thinks that is not true.

Manufacturers do not feel there is strong customer awareness of the FSTC, although they think it is higher among national chains. All market actors are in favor of more FSTC marketing to customers, which was an identified industry need discussed above.

Program Benefits (Evaluation Objective #6)

As discussed under Evaluation Objective #2, Program impacts, market actor interviews indicate the FSTC is affecting both customers' and manufacturers' practices, resulting in more efficient equipment. The primary focus of Evaluation Objective #6 is to assess the degree to which the benefit/value provided by the FSTC is accruing to PG&E's customers. Interviews provide strong evidence that these more efficient practices are benefiting not only PG&E customers, but customers through out the US.

A prominent theme across all of the market actor interviews is that the FSTC is resulting in national benefits to the food services industry.

"*The FSTC is providing a unique value that is being recognized across the country.*" —Industry

While market actors discussed that they do think California is the leader in food services energy efficiency at least in some part as a result of the FSTC, interviewees discussed several national benefits of the FSTC. These include:

1. *ASHRAE codes for food services*. Several market actors discussed that there would be no ASHRAE codes without the FSTC. One industry market actor estimated that 80 percent of the technical resources to develop the specifications for food services are provided by FSTC.

2. *ENERGY STAR food services equipment*. Several market actors also said that ENERGY STAR for food services equipment would not exist without FSTC's efforts. Manufacturers identified ENERGY STAR as an extremely valuable national sales tool for them. In addition, FSTC developed the ENERGY STAR best practices tools (on the ENERGY STAR website) for quick service restaurants and full-service restaurants.

3. *Support of the national CEE Commercial Kitchen Initiative*. In 2004, the Consortium for Energy Efficiency (CEE) expanded their Commercial Refrigeration Initiative to the Commercial Kitchen Initiative, a suite of cooking and sanitary equipment offerings to combine electric, gas and water savings. The FSTC has provided considerable research and advice to support this effort. PG&E is a member of CEE.

4. *Support of the Electric Foodservices Council*. The Council provides a collaborative opportunity for its member electric utilities throughout the US to work with the chain restaurants on efficiency. To support this work, they do modified ASTM testing. They report the FSTC laid the necessary foundation for doing this testing.

> "*We wouldn't be able to do the testing without the criteria as a basis to use. The FSTC has developed the ASTM test methods we use.*"

5. *Technical assistance for NAFEM*. The FSTC is part of the NAFEM technical liaison committee. This group is solely responsible for communicating technology updates on equipment to NAFEM members. They meet every 6 months. The FSTC provides an independent 3rd party perspective to the committee. FSTC also contributes to NAFEM's magazine. They will have an article in their winter magazine about sustainability. NAFEM also works with the FSTC through special projects such as a life cycle cost calculator they just developed. The FSTC energy calculators are the basis for this and they refer customers to the FSTC website for these cost calculators.

6. *Food services equipment rebates*. All market actors recognized that California is taking the leadership role in food services rebates. Other utilities through out the nation are beginning to role out food services equipment rebates following California's example. The FSTC developed the California rebates. The California rebates are for all of the California investor-owned utilities.

7. *LEED certification*. FSTC is sitting on a UGBC LEED subcommittee that is looking at certification to make sure that they understand how food services is a different entity. In addition, the FSTC is actively helping a food to-order chain become the first ever LEED certified "restaurant." This will pave the way for others.

Budget Allocation (Evaluation Objective #8)

Closely related to the national benefits of the FSTC discussed above is the issue of cost-sharing. Overall, the market actor interviews support a rationale for cost-sharing because of the program benefits accruing nationally as well as to PG&E's customers. ENERGY STAR reports that the FSTC is paid for much of their ENERGY STAR-related activities through a contract with ICF Consulting. A similar arrangement could be sought for other national efforts.

The primary identified need for cost-sharing in the staff interviews was for equipment testing (reported in earlier interim memo). Interviews with market actors do indicate receptivity to cost-sharing of the FSTC equipment testing. The industry organizations interviewed said they believe their members see the value of the FSTC and would be open to cost-sharing for equipment testing. One market actor said a water agency specifically asked them if the FSTC needed more funds.

Manufacturers also indicated a willingness to cost-share. Most of the manufacturers use the FSTC for third party verification and evaluation testing (either San Ramon or the CKV lab in Chicago). A few manufacturers where internal testing is too costly use the FSTC as an R&D lab as well. All of these functions were very important to the interviewees, even for those that have considerable in-house capabilities. Testing was very important for most respondents. For a few, product development is more evolutionary and marketing takes a bigger role.

For those manufacturers that use the FSTC for ENERGY STAR approval or other design and performance verification testing, there seems to be willingness to cost-share, if they are not already doing so. For others, they like the current set-up where they can be part of a no-fee comparison test since it helps them in their marketing efforts and builds the overall information base within the industry.

Seven of the 20 interviewed manufacturers use the FSTC as their single food service center resource. Some also use other centers – Duke and Southern California Gas were the two other centers most frequently mentioned. A couple of interviewees complained of (fuel) bias and/or incompetence at other centers. Most interviewees feel the FSTC is the nation's (and industry's) only fuel-neutral, scientifically rigorous research and testing center. A few, depending on their particular niche, said they use specialized technical research centers (e.g. CKV lab in Chicago or the American Refrigeration Institute for refrigeration and ice-machines).

As discussed above, three of the interviewed national chains said that they require manufacturers to get FSTC tests before they will consider their equipment. This again indicates a rationale for cost-sharing since it has significant marketing value for manufacturers.

There also may be opportunities for cost-sharing with national chains. The national chains also do their own equipment testing. Corporate chains have their own labs and often also have R&D restaurants where they change out their equipment often. National chains discussed doing several equipment tests in San Ramon locations where the FSTC assisted them. They also discussed that they approach the FSTC to do equipment testing for them when their labs do not have the appropriate equipment. The Chicago ventilation lab was cited as particularly helpful in these cases. While it would not be appropriate to seek cost-sharing for equipment testing in PG&E territory restaurants as this directly benefits PG&E customers, it may be a possibility for testing outside of PG&E's territory or specifically for the Chicago ventilation lab, which has more specialized and sophisticated capabilities than national chains currently have, according to interviewees.

Interviewed Organizations

Industry

Consortium for Energy Efficiency (CEE), California Energy Commission, EPA ENERGY STAR, Electric Food Services Council, National Association of Food Equipment Manufacturers (NAFEM)

National Chains

A full-service chain, a full-service, multi-brand chain , a leading fast food chain, a food to-order chain, a limited service fast food chain

Manufacturers and manufacturer reps (highlighted in yellow)

AccuTemp Products, Inc.
Alto-Shaam, Inc.
Captive-Aire Systems, Inc.
Cleveland Range, Inc.
Greenheck Fan Corporation
Halton Company
Henny Penny Corporation
Hobart - Traulsen
Hobart Corporation
Hoshizaki America Inc.
Market Forge Industries, Inc.

Melink Corporation
Montague Company
Pitco Frialator, Inc
TurboChef Technologies, Inc.
Ultrafryer Systems, Inc.
Unified Brands Inc.
Western Pacific Distributors, Inc.
CulinAire Systems
Hoshizaki America Inc.
Eagle/Frizzell and Associates
Manufacturer's Agents Incorporated