

Step Up and Power Down

Evaluation of Commercial and Residential Initiatives

Final Report

August 31, 2018



Prepared by

research > into > action^{inc}

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Report Sections

Step Up and Power Down Section 1: Cross-Cutting Evaluation

Step Up and Power Down Section 2: Commercial Initiative Evaluation

Step Up and Power Down Section 3: Residential Initiative Evaluation

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1. Introduction and Overview of Initiatives

1.1. Introduction

This is the first section in a three-section report describing the evaluation results of two community based social marketing (CBSM) pilot initiatives at Pacific Gas and Electric Company (PG&E): Step Up and Power Down – Commercial (SUPD-C), and Step Up and Power Down – Residential (SUPD-R). In this section, Research Into Action, who provided a variety of evaluation services for both initiatives,¹ summarizes the initiatives and their associated evaluation activities. We also present a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) for each initiative, and overarching conclusions and recommendations.

The intent of this section is to look across the two initiatives for insights and guidance for future marketing and behavior change efforts at PG&E, whether they use similar or different approaches than those used for SUPD. This section also may be useful to other implementers planning similar CBSM efforts.

1.2. SUPD-Commercial

1.2.1. Initiative Overview

PG&E modeled SUPD-C after Envision Charlotte, a Duke Energy community engagement pilot designed to improve operational efficiency in office buildings in downtown Charlotte, North Carolina. PG&E saw the opportunity to launch a similar CBSM campaign that would allow PG&E to work collaboratively with cities and businesses, with a focus on using behavioral methods to reduce energy waste.

While SUPD-C was patterned after Envision Charlotte, SUPD-C evolved to a much larger scale, incorporating a larger geographic area, more partners, a more diverse mix of targeted businesses, and more offerings. Further, PG&E leadership designed the campaign to address the utility's larger goals to increase awareness of and participation in its existing energy efficiency portfolio.

PG&E's SUPD-C marketing initiative intended to raise energy-use awareness and motivate behavior change among business owners, employees, and facility managers in San Francisco and San José. The SUPD-C initiative targeted large commercial organizations as well as small and medium businesses (SMBs). SUPD-C's goals were to:

- › Increase awareness of the PG&E's commercial efficiency programs
- › Drive businesses to increase participation in PG&E's commercial energy efficiency (EE) program portfolio
- › Achieve operational, behavioral, and equipment changes that reduce energy use

¹ Research Into Action acted as embedded evaluators for SUPD-C over the course of the entire initiative (from 2014-2016). PG&E hired Research Into Action in 2016 to help assess SUPD-R, after it had already been in operation for over a year.

To achieve these goals, SUPD-C offered a variety of support and resources to the large commercial organizations and the SMBs.

- › **Outreach and engagement:** PG&E's Business Energy Solutions (BES) account representatives led outreach to the large commercial organizations while the Cities of San Francisco and San José led outreach to SMBs through their existing Energy Watch partnerships. In addition to these two groups, PG&E, Empower Efficiency, and CLEAResult Engagement Managers followed up with the businesses to provide ongoing support throughout the initiative. In-company activations that used experiential marketing were designed to engage individuals at participating large organizations.
- › **Planning support:** Large commercial organizations could participate in an Energy Practices Inventory that involved a walk-through of the facility and interviews with building occupants. At the close, participants received tailored recommendations for how to reduce energy consumption through changes in policy and employee behavior. SMB participants received Business Energy Reports, eyeball audits, and action checklists with energy-saving activities they could pledge to perform.
- › **Participant resources:** Energy Check was an online tool that allowed participants to access information about their businesses' energy use and expenses and compare that information to their own usage over time and to similar buildings. Building operators and engineers from large commercial organizations could also participate in an enhanced operations and maintenance training and lunch seminars. Staff from large and medium businesses could attend REV's sustainability circles to learn about PG&E resources, and develop a sustainability action plan to reduce energy and water usage as well as waste. Large organizations could also implement an employee engagement campaign that used behavioral interventions to drive energy savings.
- › **Recognition:** Participating businesses could earn public recognition for their energy-saving efforts, which included badges, social media posts, and for some, an invitation to participate in the Power in Numbers marketing blitz highlighting participant achievements.

1.2.2. Initiative Timeline

Beginning in early to mid-2014, PG&E handpicked contractors to design, deliver, and manage the campaign's activities. PG&E had existing relationships with some of these contractors, and early team members identified others as industry leaders in behavior-based program design and implementation. The original team included Empower Efficiency, Human Dimensions Research, Intelligent Efficiency, Research Into Action, PEI (now CLEAResult), and Pulse Energy (now EnerNOC).

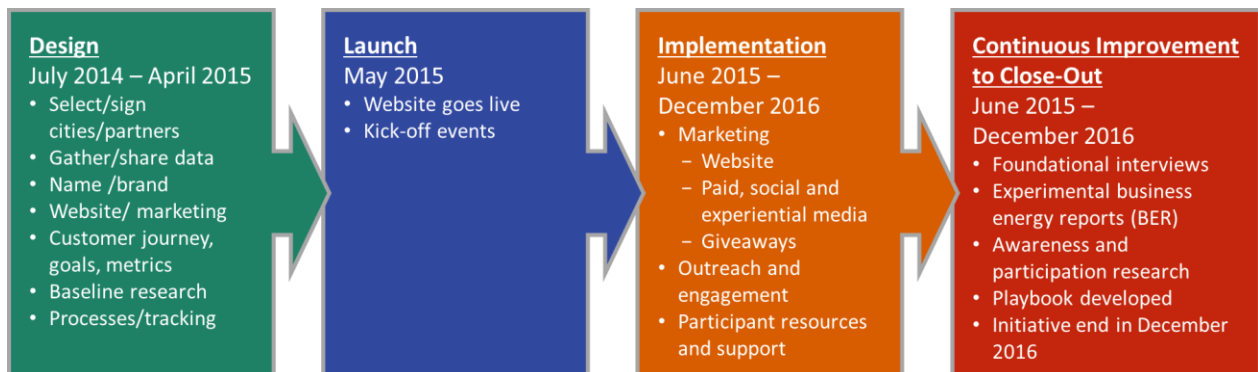
Early in the initiative, PG&E and CLEAResult conducted extensive market characterization research to identify the cities where the campaign would focus and, within them, the geographies and commercial market segments with the highest potential for energy savings. The SUPD-C team selected the downtown cores of San Francisco and San José, and targeted the office, hotel, retail, and food service segments. SUPD-C used a variety of marketing, outreach, and engagement activities, as well as offering a menu of participant resources and support for pursuing energy savings in their businesses.

Since the launch of SUPD-C in mid-2015, the initiative expanded the geographic boundaries to all of San Francisco, and targeted a larger group of commercial sectors in both cities. Throughout the initiative,

PG&E supported research and evaluation for continuous improvement (see Chapter 2 for more detail). These activities informed the initiative and helped the team adjust their activities and coordination along the way.

SUPD-C officially ended in San Francisco and San José at the end 2016 and at the time of this report PG&E had indefinitely postponed planning activities for pursuing similar efforts in the future. Figure 1-1 presents an overview of the timeline of initiative activities.

Figure 1-1: Timeline and Activity Overview of SUPD-C



1.3. SUPD-Residential

1.3.1. Initiative Overview

PG&E’s SUPD-R marketing initiative combined community-based social marketing (CBSM) techniques and behavioral economics principles to increase residential customer² awareness and commitment toward energy efficiency, and to take, over time, an increasing number of energy saving actions. In undertaking SUPD-R, PG&E ventured into new ground for marketing and fostering energy efficiency – one that focused on building community involvement and leveraging community resources and champions. SUPD-R’s objectives were to:

- › Increase customer awareness of energy efficient actions and PG&E’s energy efficiency programs
- › Increase energy efficiency actions among customers in each city
- › Increase customer participation in PG&E’s residential program portfolio

After a three-month iterative process, that involved Empower Efficiency, PG&E staff, and other stakeholders, Redwood City and San Carlos, near each other on the San Francisco Peninsula, and Woodland, near Sacramento, in the Central Valley, were selected, as targeted cities.

Empower Efficiency staff sought to achieve SUPD-R’s goals by building a reputation for the initiative as a trusted source for information about energy efficiency in the targeted cities. To that end, the initiative

² SUPD-R defines a customer as a household that contains one or more people.

partnered with staff and delegates from the targeted cities, representatives of community organizations, and volunteer community members to act as relatable and personal trusted messengers. Working with these partners, the initiative conducted a great deal of outreach at community events. In doing so, SUPD-R sought to reach community members with multiple touches, building community members' recognition of, and familiarity with, the initiative.

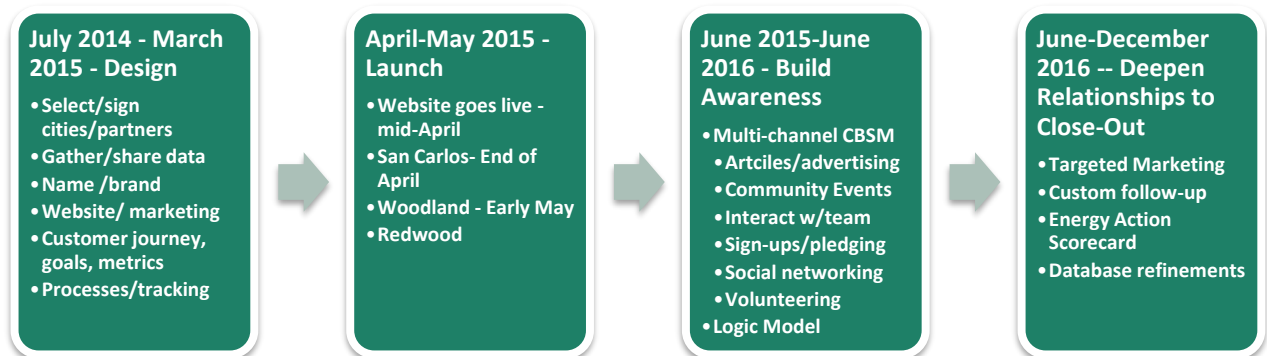
In their interactions at events and in other venues, the initiative encouraged community members to provide their contact information and, drawing on the behavioral science concept of commitment, to make a pledge to take action to save energy. Initially, these pledges were open-ended, but later in the initiative, SUPD-R developed an Energy Action Scorecard that listed actions and encouraged participants to note both those they were already taking and those they pledged to take. In addition to promoting behavioral actions to save energy, SUPD-R encouraged participants to participate in PG&E energy efficiency programs including the Home Energy Checkup online audit, the Plug Load and Appliance rebate program, Energy Upgrade California, and, in Woodland, the AC Quality Care program.

To further increase the initiative's visibility, SUPD-R operated storefront offices in each of the targeted cities. Staff in these offices were available to provide personalized support to community members interested in taking steps to save energy. The local offices also provided a venue for SUPD-R to host workshops on a variety of energy efficiency topics.

1.3.2. Initiative Timeline

PG&E contracted with Empower Efficiency (Empower), a firm experienced energy use behavior change, to design and implement SUPD-R. Design began in mid-2014 and SUPD-R was launched in mid-2015. After launch, the first year focused on building awareness and then, in mid-2016, SUPD-R transitioned into deepening relationships with customers to encourage greater engagement and action. Active outreach for SUPD-R ran through October 2016, with the initiative sending final communications to participants by mid-December 2016. In each phase, various activities took place, as Figure 1-2 shows.

Figure 1-2: Timeline and Activity Overview of SUPD-R



2. Market Research and Evaluation Activities

2.1. SUPD-Commercial

To assess the commercial side of SUPD, we conducted the following research and evaluation activities:

- › In-depth interviews with initiative stakeholders,
- › In-depth interviews with representatives of participating large commercial organizations,
- › A web-survey with representatives of SMBs, and
- › A pre-post analysis of secondary data of participation in PG&E's energy efficiency programs.

We explain each of these in more detail below.

2.1.1. Interviews with Initiative Stakeholders

We conducted in-depth interviews with key SUPD-C stakeholders twice during the initiative. The first round was in Fall 2015 and involved interviews with 24 key SUPD-C stakeholders to document and assess the initiative's activities and processes. The overall goals of these interviews were to:

- › Capture insights about SUPD's design and implementation, including its successes, challenges, and lessons learned,
- › Refine the logic model and identify continuous improvement research needs, and
- › Draft preliminary key performance indicators (KPIs).

Eleven interviews were in person and 13 were over the phone. Interviews lasted between 30 minutes and two hours depending on respondents' availability and breadth of knowledge. Findings from those interviews are presented in the *SUPD-C Interim Process Report*.

We conducted the second round of stakeholder interviews over the phone in February and March 2017. We interviewed 13 SUPD-C stakeholders representing five organizations and they lasted between 45 minutes and two hours. We asked stakeholders to reflect on the changes to the initiative that occurred in early 2016 and their relative success.

2.1.2. Interviews with Large Commercial Participants

We conducted qualitative, in-depth interviews by telephone in December 2016 and January 2017 with 19 of the most active commercial participants.³ This research captured the large commercial participants' experiences, insights, and lessons learned. While these participants do not represent the full range of large commercial SUPD-C participants, they allowed us to deeply explore all aspects of the

³ PG&E program staff selected 24 "most active" large commercial participants based on their experience working with them.

initiative and to better understand the mind-set of organizations that are most likely to take part in future SUPD-C efforts. Each interview lasted between 30 and 60 minutes.

Specifically, we conducted interviews with 19 of these most active commercial participants to:

- › Assess SUPD-C awareness and knowledge
- › Explore the effectiveness of SUPD-C outreach and sign-up
- › Assess the level of and barriers to engagement
- › Identify participation outcomes and benefits

2.1.3. Survey of SMB Customers

Over the course of the initiative, we conducted three surveys of SMB representatives. The first round was a baseline effort and included representatives of SMBs that did and did not become participants. We conducted the first survey wave in 2015 and had 184 completed surveys.

The second and third round of surveys sought to establish changes in attitudes, awareness and participation in PG&E energy efficiency programs and SUPD-C among participants and nonparticipants. We conducted the second survey between April and May 2016 and had 181 completed surveys for a response rate of 5%. Findings from these surveys are presented in *SUPD-C Web Survey Results*.

The third and final survey wave saw 371 online surveys completed in January-February 2017. The overall response rate was 11%, and participants had a slightly higher response (13%) than non-participants (11%). Please note that the survey results revealed that only about one-half of respondents on SUPD-C's participant list identified themselves as a participating SMB. Thus, the number of participant respondents was reduced from the 85 to 45 respondents.

2.1.4. Pre-Post Analysis

The pre-post analysis sought to understand how SUPD-C influenced participation in PG&E's energy efficiency programs. We examined three aspects of EE program participation during the SUPD-C initiative period and in the years prior: overall program uptake, both in terms of applications received and unique participants; uptake of specific programs and technologies; and characteristics of participants.

PG&E provided the research team with participant data for commercial premises in SUPD-C territory that completed a project through one or more of PG&E's energy efficiency programs between January 2010 and March 2017. These data included records of 23,275 applications from 5,917 distinct participants in San Francisco and 20,248 applications from 1,304 participants in San José. After removing applications that corresponded with streetlighting upgrades, San José had 5,892 applications from 1,272 participants included in the analysis and San Francisco had 23,268 applications from 5,915 participants in the final dataset.

2.2. SUPD-Residential

To assess the residential component of the SUPD initiative, we conducted the following research and evaluation activities:

- › Review of key initiative documents
- › Interviews with campaign stakeholders
- › Survey of pledged participants
- › Pre-post participation analysis.

We explain each of these in more detail below.

2.2.1. Review of Key Initiative Documents

To inform the description and history of the program, help design data collection instruments, and analyze other relevant data, we reviewed the initiative website and individual materials, as well as these four major reports authored by Empower Efficiency:

- › “Residential Initiative: Step Up and Power Down Program Marketing Plan Outline” (March 20, 2015)
- › “Step Up and Power Down – Residential Community Marketing Initiative, Initiative Processes and Documentation” (September 14, 2015)
- › “Step Up and Power Down Residential Initiative – 2016 Goals and Metrics” (March 3, 2016)
- › “Step Up and Power Down – Residential 2016 Report” (December 22, 2016)

In addition, we referred back to results from a mid-term survey of 2,145 households in the three cities that Research Into Action conducted in mid-2016 (+/-2% margin of error at 95% confidence).

2.2.2. Interviews with Campaign Stakeholders

We conducted in-depth interviews with 14 stakeholders involved in the delivery of the SUPD-R initiative. These included six staff members of Empower Efficiency (Empower), the initiative’s primary implementer, five PG&E staff, and three city staff. City staff represented the three cities in which the SUPD-R initiative was launched: San Carols, Redwood City, and Woodland. We conducted the interviews in November and December 2016.

2.2.3. Survey of Pledged Participants

While SUPD-R considered all customers who provided the initiative with contact information to be participants,⁴ our survey targeted those who had taken the additional step of making a pledge and, we anticipated, were thus likely to be more familiar with the initiative. SUPD-R records indicated that 695 households in the three target cities had made a pledge to SUPD-R to complete at least one energy saving action and had a valid email address.⁵ We invited all of these households to complete the survey.

Ultimately, 126 households responded to the survey invitation and met our initial screening criteria, that they lived in one of the targeted cities, were involved in managing their home’s energy use, and were PG&E customers (an 18% response rate). However, 13% of those participants (n=17) were not aware of SUPD-R, even after reading a brief description of the initiative, leaving us with 109 qualified respondents; a sample sufficient to achieve 8.6% precision with 95% confidence.

2.2.4. Pre-Post Participation Analysis

In an attempt to assess SUPD-R’s effect on participation in PG&E energy efficiency programs, we compared PG&E program participation in the three SUPD-R cities with three comparison cities before and at the end of the initiative. From program participation data that PG&E provided on 13 cities located in the Sacramento Valley (5 cities) and the San Francisco Peninsula (8 cities), we selected one city to serve as a comparison for each targeted city. In selecting comparison cities, we chose cities in the same region as the targeted cities that were similar in size, yet far enough away to reduce the potential for outreach efforts conducted in the targeted city to spill over into the comparison city. Table 2-1 below shows the relative number of housing units and distance between each city and their comparison city.

Table 2-1: Target and Comparison Cities

Category	City	Occupied Housing Units	Distance (in miles)
Target City	Redwood City	29,049	23.3
Comparison City	Daly City	32,539	
Target City	San Carlos	11,526	23.7
Comparison City	Pacifica	14,101	
Target City	Woodland	19,547	38.1
Comparison City	Yuba	21,859	

⁴ SUPD-R estimates about 3,450 households participated over the course of the initiative.

⁵ We contacted one email address per household that had pledged. We also removed any emails that had asked to be opted out of our previous research effort, the SUPD-R Mid-Initiative Survey.

3. SWOT Analysis

These analyses examine the following aspects of each initiative, in turn, beginning with SUPD-C. They describe:

- › What was learned/worked well (key strengths) and what needed improvement (key weaknesses) of each initiative, in terms of management, outreach, marketing, services, tracking, and evaluability.
- › The opportunities, as well as the sticking points or unknowns (threats), for successfully implementing similarly purposed marketing initiatives.

3.1. SUPD-C SWOT Analysis

3.1.1. Key Strengths of SUPD-C

- › **The initiative provided resources that had not previously been available through PG&E to help customers save energy through focused behavior change strategies.** The two most valuable resources required participant engagement and were experienced based:
 - Employee engagement campaigns: Both initiative stakeholders and participants described these campaigns as valuable. Large commercial participants reported the campaigns called attention to behavior and energy use within their organizations and demonstrated that saving energy is important to the organization. Stakeholders suggested that the campaigns' flexibility was important to their success, noting that they could be adapted to an organization's culture and energy using behaviors. Engagement campaigns were less strongly targeted to small and medium businesses, and fewer used them. However, those that used the instructions for campaigns that SUPD provided were most likely to report, among all the resources SUPD offered, that they had been useful.
 - REV sustainability circles: The REV sustainability circles were the most often used resource among large commercial participants and the resource that large commercial participants most frequently cited as most valuable. Large commercial participants valued the specific, new energy efficiency opportunities they gained through the circles, as well as the tools and networking opportunities the circles provided. Some stakeholders suggested that, because participants generated their own plans, the circles generated more participant engagement and buy-in than more PG&E-directed activities, like audits.
- › **SUPD-C provided a greater level of support for energy efficiency actions than most customers had previously experienced.** Both large commercial participants and small and medium businesses benefitted from this support.
 - Partnerships with Energy Watch programs allowed SUPD-C to conduct a greater level of personal outreach to SMBs. Stakeholders agreed this in-person outreach was the initiative's most effective recruitment method for SMBs; they added that personal follow-up visits increased the likelihood that businesses would take action. In addition, approximately two-thirds of aware SMBs reported, in both 2016 and 2017 surveys, that they learned about the

initiative directly from either PG&E, or city or Energy Watch representatives. These sources were two of the top three sources cited. SMBs also most frequently said city staff assisted them in reducing energy waste in their businesses; three-fourths of initiative participants said they received assistance and a majority of those rated it as helpful.

- In-person outreach and support were the most effective strategy to engage the large businesses that actively participated in SUPD-C. Participants most often credited their PG&E Business Energy Solutions (BES) representatives as the “trusted messengers” for the initiatives. Stakeholders reported that BES representatives provided insights about customer motivations, the likelihood of participation, and the best people to contact within the organization. SUPD-C also assigned a dedicated engagement manager to support large organizations in implementing the employee engagement campaigns, and stakeholders reported that this level of support was important to campaign success.

3.1.2. Key Weaknesses of SUPD-C

- › **SUPD-C’s large and diverse set of stakeholders was challenging to manage, and slowed down the initiative’s planning and start-up.** Notably, toward the end of 2015, new management for the team reduced its size and clarified the roles and responsibilities for its members. These steps toward a “lean” pilot operation improved SUPD-C’s operations.
 - At least sixteen stakeholder organizations contributed to decisions about the initiative design and implementation. Internally in 2015, the lack of a clear division of labor or “swim lanes” slowed decision-making, led to overlapping data tracking systems, and complicated hand-offs.
- › **The breadth of SUPD-C’s coverage made it hard for it to deliver on the promise of CBSM.** This ambitious initiative targeted businesses and institutions in two large cities, served many business/institutional types, offered a wide range of services, and encouraged a diverse set of behavior changes. In contrast, the history of CBSM shows that the most successful efforts are targeted to a homogenous and well-defined target audience, and a single or a small group of well-defined, measurable behaviors.
 - SUPD-C aimed to influence businesses that ranged from small, locally-owned boutiques to multinational manufacturing companies. It’s wide menu of potential energy-related behavior change options, and the many resources, including training, available to them, were often more than many businesses could take advantage of. For example, even the most active large organizations participated in a fraction of the opportunities available to them and SUPD-C discontinued the use of badges and the Energy Check tool because so few SMBs utilized them. Both large organizations and SMBs said they lacked the time to use more resources.
- › **The SUPD-C personalized outreach, while well-received and appreciated, was resource intensive and would be hard to scale-up cost-effectively.**
 - The large commercial organizations enjoyed personalized support and dedicated engagement managers to guide their participation in SUPD. Those organizations choosing to implement engagement campaigns also had a campaign manager to assist with selection, launching, and implementation. For SMBs, personal visits were most effective in recruiting

businesses and ensuring sustained participation, but multiple personal visits required a large contingency of outreach staff, including some bilingual staff members.

3.1.3. Opportunities for SUPD-C

- › **The receptiveness of large organizations to the employee engagement campaigns suggests an opportunity to help such businesses cultivate an internal culture of energy efficiency through internal resource conservation managers.**
 - Several utilities in North American, including Puget Sound Energy, Efficiency Nova Scotia, BC Hydro, and IESO, sponsor internal resource conservation managers (RCMs) within large organizations. These programs offer proven track records of significant and measured energy savings and non-energy benefits such as increased employee awareness and involvement with managing energy use. These programs typically begin by supporting an RCM for a specified period of time while the RCM works within the company to find and execute behavioral and O&M savings opportunities, often working with internal green teams to implement projects. Evaluation of savings is carefully built into the RCM strategies. RCMs may also be instrumental in spearheading adoption of high efficiency equipment. Over time, the RCMs become self-supporting, both through the energy savings achieved and through greater organizational support as they build internal acceptance and the value of their work is recognized.
- › **Opportunities to explore effective behavior change strategies also can be found through more controlled approaches, such as randomized control trials or other experimental approaches that compare treatment and control groups.** For instance, employee engagement campaigns could be pursued on a more limited basis with interested customers who are willing to participate as experimental partners with PG&E. For instance, two similar buildings within an organization could serve as treatment and control, or even two floors. PG&E could provide help with metering and measurement. These experimental approaches could reveal which behaviors, interventions, and target audiences are most effective.

3.1.4. Threats to SUPD-C

- › **PG&E is limited to spending ratepayer dollars on energy-saving activities, but the interests of participating businesses are broader than energy.**
 - Large organizations reported that SUPD-C can help them realize their organizational missions to reduce their environmental impact and be “green” companies, yet some felt unnecessarily restricted by only being allowed to focus on energy. In the same vein, large organizations valued the REV sustainability circles because they addressed environmental considerations beyond energy including water and waste reduction. This feedback about wanting to pursue environmental interests broader than energy efficiency is consistent with the experience of RCM programs explored in the opportunities section above.

3.2. SUPD-R SWOT Analysis

3.2.1. Key Strengths of SUPD-R

- **SUPD-R used new strategies to communicate and engage residential customers about taking energy efficient actions.** SUPD-R used a community-based outreach approach to develop ongoing relationships with participants and to establish the initiative as a resource for energy efficiency information. Its key strategies were to use trusted messengers – including volunteer community members, local community-based organizations, and the participating city governments – and to reach potential participants on multiple occasions. Survey findings support the importance of a strategy based on multiple touches: respondents who heard about SUPD-R more often were more likely to report greater engagement with the initiative and to take part in its key offerings.
 - Outreach at community events was one of SUPD-R’s primary outreach approaches, and one stakeholder described as most successful. Community event outreach allowed the initiative to leverage trusted messengers, by coordinating with the participating cities, and reach participants with multiple touches as the participants encountered the initiative at multiple events. Survey respondents most often cited local events, workshops, or information booths as a source that had provided information about SUPD-R. Further suggesting the importance of the in-person outreach these events allowed, those who considered themselves most engaged with SUPD-R were most likely to have heard about the initiative from a SUPD or PG&E representative.
- › **The initiative also offered new types of ongoing support to customers interested in saving energy.**
- SUPD-R operated storefront offices in the participating cities where the initiative held workshops and provided hands-on support to help participants take steps to save energy. Workshop topics ranged from setting up an online account with PG&E and completing an online Home Energy Checkup to whole home energy upgrades. Outside of formal workshops, initiative staff provided similar types of information and support to community members who came to the SUPD office. Stakeholders reported that having a physical location helped to build awareness of SUPD-R and helped the initiative become an information resource. While fewer SUPD-R participants reported attending a presentation or workshop or receiving personal support from a SUPD-R representative than completing other initiative activities, these were the activities that participants most often rated as very helpful.

3.2.2. Key Weakness of SUPD-R

- › **SUPD-R needed to better target energy saving behaviors, to improve methods to track those behaviors, and to offer more viable opportunities to residential customers through PG&E’s energy efficiency programs.**
- Instead of focusing on very specific, and clearly defined, behaviors, SUPD-R encouraged residents of the targeted cities to undertake a broadly defined set of energy saving actions in their homes. In their initial pledges, participants described behaviors in an open-ended

- way; later in the initiative they selected from a range of behaviors, some of which were compound, on the Energy Action Scorecard. This approach differs from the recommended CBSM approach that targets highly specified, “non-divisible” behaviors for which barriers can be well defined, anticipated, and mitigated through CBSM activities.
- It was difficult for SUPD-R to track the participants it recruited through its community-based outreach efforts. Initiative staff described a labor-intensive data entry process to capture participant information gathered at community events, and reported challenges in matching that information to PG&E’s customer data and other databases to incorporate information necessary for effective follow-up.
 - SUPD-R encouraged customers to pursue PG&E efficiency programs that offered little opportunity for them to progress incrementally toward larger upgrades, as the initiative’s ideal customer journey envisioned. While the initiative could encourage all participants to complete the online Home Energy Checkup, stakeholders noted that few of the community members with whom the initiative interacted through its outreach activities were in the market for an appliance and thus good candidates for appliance rebates. Participating in the Home Upgrade program represented a significantly larger commitment of resources than completing the Home Energy Checkup.
- › **SUPD-R’s hybrid of a marketing campaign and a more traditional energy efficiency program made it difficult to define participation and foster an identity among participants that they were part of an ongoing, community-wide effort.**
- While the initiative set objectives around the number of participants it recruited, some stakeholders reported the definition of “participant” was unclear. This lack of clarity likely stems from having an initiative that blended elements of a marketing campaign, where target audiences typically do not self-identify as participants, with elements of a more traditional efficiency program, where participants more formally register and are expected to take certain actions that are tracked as part of program processes.
 - Survey findings also indicate that many households the initiative included as participants, including those who had submitted pledges, did not define themselves as participants in this community effort. This is likely due to a variety of factors, including the limited time for building a broader based initiative, and having “low-level” or mixed participation signals. It may also reflect that, unless a participant sought advice or attended a workshop, all of their interaction with the initiative after their initial sign-up was one-way communication from the initiative to the participant. While this is typical of many marketing campaigns, a dedicated and interactive platform where participants could access personalized advice, track their progress, and share information with sponsors and other participants may have been more likely to engage customers and give participants the sense that they were part of an ongoing, community effort.
- › **It was not possible to track SUPD-R’s progress toward its goal of becoming a trusted resource in the community for energy efficiency information and support.**
- The initiative worked to become a resource through a gradual process of building recognition and trust in the participating cities. Indicators of the extent to which the

- initiative was succeeding in establishing itself as a trusted resource for the wider community were not tracked as part of SUPD-R.
- By the end of the initiative, approximately 1.3% of the households in the participating cities were more actively involved with SUPD-R, and the approach was successful with these households. However, while SUPD-R motivated these participants to take more energy efficiency actions and participate in PG&E programs more than they had previously, this level of program participation was not enough to show up in a pre-post analysis of participation rates.
- › **There was a gap between PG&E’s expectations for marketing materials and the implementer’s approach to SUPD-R outreach, which caused challenges for the initiative.**
- The implementer brought a grassroots approach and community organizing expertise to SUPD-R, while PG&E expected the initiative to meet the more structured brand guidelines and standards that it requires of its other energy efficiency marketing efforts. This misalignment between the implementer’s approach and PG&E’s expectations led to frustration on both sides. Implementer staff described the process of receiving approval for outreach efforts as inefficient and slow, while PG&E staff reported a need to train implementer staff on their brand guidelines. A PG&E staff member noted that it is possible to create marketing materials that take a colloquial tone while maintaining a professional appearance, but that doing so required a level of specialized marketing expertise that the implementer did not have.
 - This disconnect between PG&E’s expectations and implementer’s approach contributed to staff turnover, which caused further challenges for the initiative. One implementer staff member suggested that PG&E’s requirements limited the ability of the community organizers on the implementer’s staff to work with the flexibility they were used to, contributing to staff turnover. This staff turnover increased the workload the initiative placed on both PG&E staff, who then had to train a new individual on the organization’s brand guidelines, and staff at the participating cities, who had to bring a new individual up to speed on the status of their relationships. Staff turnover also made it more difficult for the initiative to build relationships with individuals in the participating cities.

3.2.3. Opportunities for SUPD-R

- › **While energy savings can be captured through behavior change, efforts to change energy use behaviors would benefit from using smaller and more controlled approaches, such as randomized control trials with treatment and control groups, or a neighborhood by neighborhood approach, where the efforts are more concentrated, and the results can be better measured.** These efforts would require clearly defined target behaviors, interventions, and populations, as well as a tracking infrastructure. Over time, with success, these approaches could be offered to a wider community.
- To explore which behavioral interventions are best for which types of energy-saving behaviors and audiences, it would be possible to construct a treatment group of households where one or two behaviors are targeted, such as taking shorter showers and doing laundry with cold water, and pair each behavior with a clear behavior change intervention strategy

and a targeted audience. The treatment group would be matched with a control group of similar households. A combination of metering, surveys, and more qualitative methods could be used to measure savings, barriers, and benefits.

- Infrastructures in the form of online communities or mobile applications could be incorporated into controlled trials. These systems would allow participants to register and join as members of the network. Participants would then be able to track their progress, and access resources and tips via the network. They could also be enabled to communicate with others in the network who are working on the same behavior changes, to discuss observed benefits and tips for overcoming barriers.

3.2.4. Threats for SUPD-R

- › **SUPD-R requires a large, up-front investment in the targeted communities, which may be difficult to justify to regulators and internal PG&E stakeholders, given the relatively long timeframe required for the approach to deliver its full benefits.**
 - SUPD-R's approach requires a large investment of time and resources in the participating cities; the need to serve its entire territory equitably may make this type of sustained investment in specific communities infeasible for PG&E. The need to distribute resources more equitably was one of the reasons PG&E staff cited for ending SUPD-R sooner than the implementer expected. Given SUPD-R's approach, which was designed around the initiative gradually establishing itself as a resource to help community members save energy, ending the initiative after eighteen months of active implementation limited SUPD-R's ability to have a lasting influence in the targeted cities.
 - SUPD-R's approach requires the greatest investment early in the initiative, as it establishes itself as a trusted resource in the community, while delivering the greatest benefit over time as community members become more receptive to the initiative's messages and turn to the initiative for advice. This type of large upfront investment for an uncertain future gain poses risks for PG&E and may make it difficult to gain regulators' support. SUPD-R's lack of easily-measurable interim indicators of success exacerbated this challenge by limiting the initiative's ability to demonstrate progress toward its long-term objectives.

4. Conclusions and Recommendations

4.1. Overall Conclusions

While parallel in name, and in their choice of CBSM as their behavior change umbrella, SUPD-C and SUPD-R took very different approaches to engaging customers and fostering behavior change around energy use. Both initiatives required considerable investment and took considerable risks, and both resulted in significant insights about what it takes to affect and measure behavior changes related to energy use.

SUPD-C leveraged existing relationships that PG&E account managers had established with large customers and the credibility of city Energy Watch representatives with small and medium businesses. While maintaining these relationships through in-person contact was labor-intensive, it had the potential to show benefits more quickly than SUPD-R's grass roots strategy. By providing more concrete support through offerings like the employee engagement campaigns and REV Circles, SUPD-C also had greater opportunity than SUPD-R to track indicators of engagement with the initiative over the short- and medium-term. In addition, PG&E's existing efficiency commercial programs offered further opportunities for involving San Francisco and San Jose businesses.

SUPD-R, on the other hand, had to build its reputation as a trusted messenger from scratch, a time-consuming process. Its strategies to change behavior would have benefited from greater focus and follow-up, and PG&E's existing residential efficiency programs were limited. SUPD-R's experience does not allow us to conclude whether, over the long term, the benefits of the initiative would justify its initial costs. The initiative had a positive impact on the relatively small proportion of participants that actively engaged with it, motivating them to take additional energy saving actions, motivating them to participate in additional PG&E programs, and improving their overall impression of PG&E. However, given the initiative's relatively short implementation period and lack of interim objectives, its potential to reach a wider audience, and the amount of time necessary to do so, are not clear.

Conclusion 1a: Initiatives to change behavior are a viable strategy to pursue energy savings. SUPD raised the awareness of good energy habits among participating businesses in its two targeted cities and residents in its three targeted cities. It also achieved its public facing energy-savings goals. The specific offerings available to large commercial organizations produced demonstrable results, particularly the employee engagement campaigns that targeted singular behaviors such as powering down or unplugging equipment. SUPD-R suffered from a lack of specific and unique offerings for residential customers.

Conclusion 1b: The high level of support PG&E provided to participants in both initiatives was resource-intensive, but in each case strengthened PG&E's relationship with its customers and contributed to customers' willingness to participate in future PG&E programs. PG&E provided personalized support to large commercial organizations, facilitated in-person outreach to SMBs, and maintained storefronts that positioned PG&E as a trusted resource in the community. Both the SUPD-C

and SUPD-R models, however, are unlikely to be cost-effective if scaled to PG&E's wider service territory.

Recommendation 1: Do not abandon the strategy of targeting behavior to generate energy savings, but take a leaner, and more focused, measurable approach to future behavioral initiatives and offerings. As discussed, we suggest exploring the use of embedded resource conservation managers in large commercial organizations, since they have proven to be successful elsewhere. We also suggest using randomized control trials and other experimental approaches to explore the efficacy of behavior change interventions with a narrowed set of well-defined behaviors, a more targeted audience, and smaller geographic areas. These approaches would be applicable to both residential and non-residential sectors, or could be cross-sector as well. It would be possible to have these interventions be at a community level, but given the challenges in having comparable communities, it may make more sense to confine efforts to a specific neighborhood or type of business where treatment and control groups can be more easily established. CBSM principles and tactics could still be used, so that the barriers to and benefits of desired behavior changes are well researched and strong behavioral interventions are invoked.

Conclusion 2: Persistence of the newly-adopted energy saving behaviors is possible, but currently an open question. As with other market transformation efforts, it will require a long-term commitment to ensure that behavior changes persist.

Recommendation 2: Recognize that behavior change initiatives require a long-term strategy to turn newly acquired behaviors into habits that endure over time. If future efforts occur in a targeted area with a targeted audience, and aim to influence one or a few behaviors, resources can last a longer time. This would make it more possible to build in ongoing customer engagement and to make it more likely that energy-saving practices continue.

Conclusion 3: A right-sized team with the right skills, and adequate tracking mechanisms, are essential to implementing and evaluating behavior change initiatives, whether at community levels or in smaller venues. For example, early in the SUPD-C initiative, its many stakeholders did not have a clear, shared sense of the purpose of SUPD or what the added value of SUPD was compared to PG&E's existing programs. For SUPD-R, PG&E's expectation for outreach did not match those of the implementation teams. For both initiatives, strategies to evaluate energy savings and deal with attribution were not clear; in addition, data tracking mechanisms were duplicative in SUPD-C and inadequate in SUPD-R.

Recommendation 3: When assembling stakeholders for future behavior efforts, ensure that everyone's roles derive from their strengths, that everyone understand and agrees upon their roles, and that efforts are not overlapping. In addition, ensure that new initiatives do not duplicate offerings already available from PG&E.

Step up and Power Down

Section 2: Commercial Initiative Evaluation

Final Report

August 31, 2018

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**STEP UP AND
POWER DOWN**

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POWER DOWN**

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Final Report

Step Up and Power Down

Section 2: Commercial Initiative Evaluation

August 31, 2018

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Executive Summary

Initiative Description

Pacific Gas & Electric's (PG&E) Step Up Power and Down Commercial (SUPD-C) initiative used Community Based Social Marketing (CBSM) tactics to involve business owners, employees, and facility managers in San Francisco and San José in reducing energy waste.⁶ It operated from May 2015 through December 2016 and its three goals were to:

- › Increase awareness of the PG&E's commercial efficiency programs
- › Drive businesses to increase participation in PG&E's energy efficiency (EE) programs
- › Achieve operational, behavioral, and equipment changes that reduce energy use

Overall, the SUPD-C initiative tried out a new and innovative approach to meeting these goals: it fostered simple, collective actions across each city's business community.

Evaluation Goals and Methods

PG&E contracted with Research Into Action to summarize the history of the initiative, to assess SUPD-C's effectiveness, and to inform similar future efforts. We undertook the following evaluation tasks as part of our 2016 SUPD-C efforts:⁷

- › Review of program documents and materials
- › In-depth interviews (IDIs) with 13 campaign stakeholders involved in implementing SUPD-C.
- › IDIs with 19 of the "most active"⁸ SUPD-C large commercial participants
- › A third survey of small and medium-sized businesses (n = 371 SMBs) in SUPD-C target areas⁹
- › A pre-post comparison of business participation in PG&E's existing programs in the target areas

This executive summary examines SUPD-C's effectiveness against its three goals¹⁰ and presents conclusions and recommendations based upon our assessment.

⁶ We use the term "business" to encompass all commercial organizations, including businesses and institutions.

⁷ Although the focus of this report is on 2016 activities, we drew from our prior evaluation efforts for SUPD, including Research Into Action's *Step Up and Power Down – Commercial: An Interim Process Assessment (December 3, 2015)*, *Step Up and Power Down Randomized Control Trial for Small-Medium Businesses (February 11, 2016)*, and *Thoughts on Community Selection Criteria for SUPD II (October 14, 2016)*. We also used other evaluation memos and reports that we reference elsewhere in this report.

⁸ PG&E program staff selected 24 "most active" large commercial participants based on their experience working with them.

⁹ We conducted two prior SMB surveys – one as a baseline before the launch, and one at the end of 2016.

¹⁰ We use the term "effectiveness" to reflect an amalgam of the three SUPD-C objectives.

Conclusions and Recommendations

SUPD-C Made Significant Progress Toward its Goals

This section looks across multiple sources to assess how well the initiative met its three goals.

Goal 1: Increase Awareness of PG&E's Efficiency Programs

Qualitative and quantitative findings suggest SUPD-C positively influenced awareness of and interest in existing EE programs, with the clearest increase among SMB participants.¹¹ Qualitatively, most key stakeholders (9 of 13) thought SUPD-C raised awareness of PG&E's EE commercial programs. In addition, while 19 of the most active large participants tended to be alumnae of PG&E's programs, they reported SUPD-C fostered renewed interest in participating. In addition, SMB survey results showed that familiarity with EE programs increased significantly for both SUPD-C participants (85% to 98%) and non-participants (56% to 69%) in the targeted areas between 2016 and 2017. Finally, 2017 familiarity with programs was significantly higher for SMB participants than non-participants (98% to 69%), with one-half (53%) of participants attributing this increase to SUPD-C.

Goal 2: Increase Participation in PG&E's EE Programs

SUPD-C influenced participants to use PG&E energy efficiency programs. In the time between signing up for SUPD-C and our interviews, half of the large active participants (9) said they took part in a PG&E rebate program, and half of those (4) said SUPD-C directly influenced them to do so. Most SMB participants reported participating in PG&E energy efficiency programs (87%), and at a much higher level than non-participants (48%). About two-thirds (64%) of SMB participants that took part in an PG&E EE program said their participation resulted from learning about the program through SUPD-C. Additionally, analysis of PG&E program data showed that participation in PG&E programs during the SUPD-C initiative period increased, part of an upward trend that began in 2013.

Goal 3: Influence Operational, Behavioral and Equipment Changes

SUPD-C influenced interest and changes in employee behavior, equipment choices, and/or organizational policy among participants. Three-quarters of the 19 large active participants said they started turning off equipment when not in use due to participating in SUPD-C. Two-thirds of businesses that conducted an employee engagement campaign (9 of 14), said SUPD-C changed employee behaviors related to energy use, especially powering down equipment and turning off lights. Most of these participants also said the initiative influenced them to operate equipment more efficiently or upgrade equipment. Four of the 19 said they had codified energy saving actions in organizational policies. In addition, more than two-thirds (69%) of SMB participants reported that SUPD-C increased their interest in business energy efficiency practices. Finally, most stakeholders believe SUPD-C has left a legacy in both cities due to stronger working relationships and new ways of thinking about energy waste. Large active participants were optimistic about persistence, and some gave reasons why (i.e., they left up

¹¹ Participant is defined as a business that used SUPD-C resources and identified as a participant.

visual reminders or building operators had changed their approaches); still, many thought periodic reminders would help them stay on track.

SUPD-C Used CBSM Philosophy and Tactics, but Missed Some Strategic Steps

Even though SUPD-C did not proclaim itself as a CBSM initiative, it has all the earmarks of one. Fostering Sustainable Behavior¹² and many articles (see <http://www.cbsm.com/public/world.lasso>) suggest that CBSM offers an alternative and effective approach to more traditional marketing for sustainability initiatives. CBSM follows a set of design steps (briefly listed in the recommendation). It also provides many tactics, based on social science research (e.g., making commitments, nudges) that initiative designers and implementers can use to motivate behavioral change. While SUPD-C employed the philosophy and tactics of CBSM, it missed key strategic steps that would have fostered a more focused effort that could have accomplished more in the time frame available, and would have made SUPD-C more evaluable.

Recommendation: It would be good to return to the basic steps of CBSM in subsequent rounds, including barriers research, reducing options, starting small, and making sure results can be measured, including: (1) Selection of the “best” and targeted set of behaviors to promote; (2) Identification and prioritization of barriers and benefits to changing targeted behaviors based upon secondary and primary research; (3) development of intervention strategies that match the targeted behaviors; and (4) piloting the CBSM project on a small scale, preferably using an experimental design approach.

SUPD-C Employed Some Highly Successful – and Less Successful Approaches

We drew from all evaluation sources to chronicle the success of various SUPD-C components and approaches.

Most Successful SUPD-C Approaches

In 2016, SUPD-C achieved greater traction. Successful components of 2016 delivery are discussed below.

- › Employing strong, consistent leadership that streamlined the team and decision-making, clarified roles, and orchestrated the Playbook, which articulated, in one place, the goals, target audiences, success indicators, 2015 learnings, customer journeys, marketing tactics, and program offerings.
- › Using more targeted marketing to spur engagement and action at specific businesses or neighborhoods, rather than general marketing to raise public awareness of SUPD-C. While not wholly successful, this was a critical pivot to pull customers from awareness to participation.

¹² See *Fostering Sustainable Behavior: An Introduction to Community Based Social Marketing*, by Doug McKenzie-Mohr, 2011, for more detail.

- › Continuing to employ different marketing strategies for large businesses and SMBs.
 - For large businesses, this meant leveraging PG&E’s Business Energy Solutions (BES) representatives (account representatives), along with engagement specialists, to deliver tailored approaches based on large business interests – whether it was to push green efforts further, raise staff awareness about energy use by “reaching into the cubicle to affect behavior,” or access greater support from PG&E for free. Large customers clearly rely on their BES reps for suggestions and guidance.
 - For SMBs, this meant using the cities’ Energy Watch representatives to conduct outreach and to engage SMBs through no-cost energy assessments. These groups not only provided needed outreach and services, they were the connective tissue that made the cities visible partners.
- › Using person to person marketing, including visits and telephone calls, targeted to addressing business concerns and goals. While expensive, both large organizations and SMBs expect and respond to personal contact, and it is unlikely future similar efforts will succeed without at least some degree of personalized marketing and outreach.
- › Recognizing that customer journeys for businesses, both large and SMBs, are usually not linear. This means services need to be customer-driven, flexible, and contain a clear call-to-action at every touch point.
- › Providing “special” services that reward and involve large businesses, such as REV circles and engagement campaigns for the most active businesses. Large businesses that dove in and used these two offerings were highly satisfied, even though they noted these services required considerable time and resource commitments.
- › Having embedded process evaluators to conduct real-time research and assessments. If evaluators are at the table during the design phase, they can create an evaluation plan to ensure evaluability, suggest needed research, and provide interim feedback. Compared to SUPD-Residential, where the process evaluation was entirely retrospective, SUPD-C evaluation efforts established needed baselines, championed a business-centric focus, and provided key feedback and progress indicators to guide decision-making.

Recommendation: While each of these elements contributed to the success of SUPD-C, each should also be revisited for further refinements – particularly ways to demonstrate or test their benefits and reduce their time and resource requirements, either through greater streamlining or greater rewards to participants.

Less Successful and Unsuccessful SUPD-C Approaches

Areas that need attention, improvement, or to be abandoned, include:

- › Building a stronger bridge to convert sign-ups to active participation. While the number of sign-ups met initiative goals, some large customers, and almost one-half of SMBs that signed up did not identify as “participants” and did not become actively involved in SUPD-C.

- › Winnowing down the behaviors and services to a smaller set of offerings with strong value propositions tailored to participant goals and clear paths to success. Many aspects of SUPD-C sought to be “all things to all businesses,” were launched before they were ready for prime time, and didn’t have a clear logic (e.g., aligning marketing bursts with unfamiliar “cultural moments”).
- › Providing cost-effective support to reduce the time and other resources businesses need to participate. Both SMBs and large businesses reported they did not have enough in-house resources to pursue various SUPD-C options, even among the most active participants.
- › Having easier to implement tools with fewer options, including tools such as the Energy Practices Inventory (EPI) for large businesses and the Energy Savings Plan Checklist for SMBs. While each of these tools improved over time, they still did not focus businesses on a small number of high priority actions. A smaller menu of targeted actions would likely result in greater uptake and easier tracking.
- › Creating mechanisms to better track the effectiveness and outcomes of behavioral interventions, including occupant baselines and response, the changes made, the energy savings achieved, and the likely persistence of new behaviors over time. SUPD did not develop such a plan in its design phase because it did not intend to claim savings; however, such a plan will be needed if PG&E wishes to claim savings for future similar initiatives.
- › Conducting further research to better understand how to reward and recognize successful participation. While the Power in Numbers campaign was well-regarded, other aspects of recognition worked less well, like badges and social media.
- › Abandoning in-company activations. While the experiential marketing techniques designed to engage individuals at participating large organizations may have heightened awareness, they did not appear to drive employee engagement.
- › Abandoning operations and maintenance (O&M) training. These sessions were not well attended, were perceived as duplicating other PG&E offerings, and required too much time.

Recommendation: In a future planning process, each of these areas is important (except for the final two) and will need to be addressed and resolved **prior to launch**. Resolving certain issues, such as how to evaluate energy savings realized from the initiative will be almost impossible if mechanisms to achieve that goal are not factored into the design. Following the CBSM strategic steps will help insure better customer intelligence and a more focused approach to changing behavior and evaluation of impacts. It also suggests the use of experimental design that will allow, for instance, testing the effects of different interventions or having a control and treatment set of businesses.

While solving these issues is outside of the scope of this evaluation, another helpful strategy to inform solutions would be to research best practices of other CBSM initiatives, including those outside of the energy field. Many CBSM case studies are detailed on the Fostering Sustainable Behavior – Community Based Social Marketing Website (<http://www.cbsm.com>). In addition, the City of Bellevue, Washington’s Urban Smart initiative (<https://www.urbansmartbellevue.com>) is similar to SUPD-C and its sponsors and implementers may have valuable advice.

City Selection for Future Initiatives Would Benefit from Applying a Three “C’s” Framework

While selection criteria for SUPD-C cities went beyond assessing energy saving opportunities, subsequent city selections would benefit from using a “three C’s” framework that assesses a city’s: (1) **concern** about energy problems; (2) **conditions** for conservation opportunities; and (3) institutional **capacity** to support conservation activities.¹³

A “three C’s” framework allows for a richer and more efficient analysis of community partnering. By looking at concern and capacity, it addresses key questions about whether the partnership can be successful and if the initiative can withstand scrutiny about its intentions and fairness. Research Into Action already has worked with PG&E staff to help them adopt a three Cs framework to assess candidate communities for subsequent rounds of SUPD. This framework is addressed in a memo from Research Into Action and in two subsequent documents PG&E staff members prepared on selection criteria and selection methodology.¹⁴

Recommendation: Apply the three C’s framework in city selection and prioritize the key concern and capacity aspects of utility-city partnerships first, to give community-based partnerships the highest probability of success. While it is likely that many communities will offer conditions that provide good opportunities for energy efficiency, it is less likely that communities will be interested in and able to support partnerships like SUPD-C.

¹³ See Kathryn Jana, C. Payne, R. Knuckle, L. Lutzenhiser, What Organizations Did (and Didn’t) Do: Three Factors that Shaped Conservation Responses to California’s 2001 “Crisis”, American Council for an Energy-Efficient Economy (ACEEE) Summer Study Proceedings, Volume 8, 2002.

¹⁴ See October 14, 2016 memo from Research Into Action: “Thoughts on Community Selection Criteria for SUPD II” and subsequent PG&E memos on future city selection.

1. Introduction

1.1. SUPD-C Initiative Summary

Pacific Gas & Electric (PG&E) modeled its Step Up and Power Down Commercial (SUPD-C) after Envision Charlotte, a Duke Energy community engagement pilot designed to improve operational efficiency in office buildings in downtown Charlotte, North Carolina. PG&E saw the opportunity to launch a similar Community Based Social Marketing (CBSM) campaign that would allow PG&E to work collaboratively with cities and businesses, with a focus on using behavioral methods to reduce energy waste.

While SUPD-C was patterned after Envision Charlotte, it evolved to a much larger scale, incorporating a larger geographic area, more partners, a more diverse mix of targeted businesses, and more offerings. Further, PG&E leadership designed the initiative to address the utility's larger goals to increase awareness of and participation in its existing energy efficiency portfolio.

PG&E's SUPD-C marketing initiative intended to raise energy-use awareness and motivate behavior change among business owners, employees, and facility managers in San Francisco and San José. The SUPD-C initiative targeted large commercial organizations as well as small and medium businesses (SMBs). SUPD-C's goals were to:

- › Increase awareness of the PG&E's commercial efficiency programs
- › Drive businesses to increase participation in PG&E's commercial energy efficiency (EE) program portfolio
- › Achieve operational, behavioral, and equipment changes that reduce energy use

1.2. Initiative Timeline, Activities, and Outputs

The sections below describe the initiative timeline, activities, and key outputs of SUPD-C.

1.2.1. Initiative Timeline

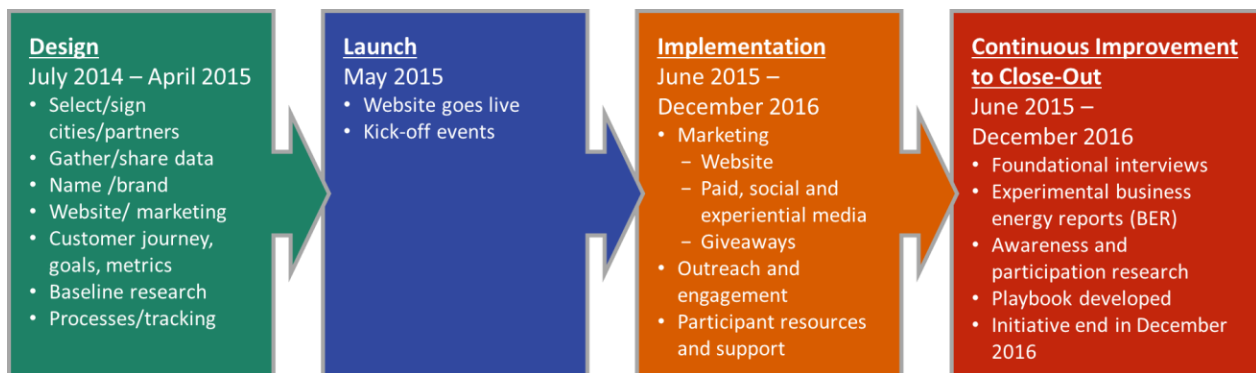
Beginning in early to mid-2014, PG&E handpicked contractors to design, deliver, and manage the initiative's activities. PG&E had existing relationships with some of these contractors, and early team members identified others as industry leaders in behavior-based program design and implementation. This original team included Empower Efficiency, Human Dimensions Research, Intelligent Efficiency, Research Into Action, PECE (now CLEAResult), and Pulse Energy (now EnerNOC).

Early in the initiative, PG&E and CLEAResult conducted extensive market characterization research to identify the cities where the initiative would focus and, within them, the geographies and commercial market segments with the highest potential for energy savings. The SUPD-C team selected the downtown cores of San Francisco and San José, and targeted the office, hotel, retail, and food service segments. SUPD-C used a variety of marketing, outreach, and engagement activities, as well as offering a menu of participant resources and support for pursuing energy savings in their businesses.

Since the launch of SUPD-C in mid-2015, the initiative expanded the geographic boundaries to all of San Francisco, and targeted a larger group of commercial sectors in both cities. Throughout the initiative, PG&E supported research and evaluation for continuous improvement (see **Error! Reference source not found.**). These activities informed the initiative and helped the team adjust their activities and coordination along the way.

SUPD-C officially ended in San Francisco and San José at the end 2016 and at the time of this report. PG&E has indefinitely postponed planning activities for pursuing similar efforts in the future.

Figure 1-1: Timeline and Activity Overview of SUPD-C



1.2.2. Initiative Activities

SUPD-C stakeholders were responsible for both customer-facing activities and internal processes. Internal processes included assigning roles and responsibilities to the diverse team members, establishing data tracking and measurement procedures, and developing the marketing, outreach, and engagement strategies in the targeted cities. We discuss these customer-facing elements below.

1.2.2.1. Marketing

While marketing strategies changed over time, SUPD-C used five primary methods to alert businesses of the initiative and attract their interest: its website, paid online and offline media (banner and bus ads), social media (Facebook and Twitter), experiential marketing (coffee trucks and in-company activations), and giveaways of SUPD-branded collateral. In-company activations were intended to drive awareness and engagement among employees of flagship companies, sparking excitement around the initiative and supporting behavioral calls to action. Branded collateral displayed at participating businesses, such as window clings, also served to market the initiative in the target areas. Finally, recognition of participating businesses’ accomplishments was featured in marketing materials, most prominently in the Power in Numbers marketing campaign.

1.2.2.2. Outreach and recruitment

As part of recruitment, and as a first step in participation, businesses were asked to make a general pledge to reduce energy use. PG&E’s Business Energy Solutions (BES) representatives (account

representatives) largely drove recruitment of the large commercial participants. The initiative assigned an engagement manager to each organization to create a tailored participation plan.

The Cities of San Francisco and San José led outreach to SMBs through their existing PG&E Energy Watch partnerships. Other members of the SUPD-C team also did outreach with SMBs. Outreach staff members visited SMBs in the initiative’s target areas to explain the initiative, encourage decision-makers to join, and leave behind branded collateral. They also followed up with SMBs to encourage participation and to track progress.

1.2.2.3. Participant resources and support

Due to their importance to the utility, and to their large potential for energy savings, SUPD-C targeted large businesses with its most personalized and in-depth array of services to engage and change occupant behaviors and building operation (Table 1-1). Engagement managers maintained contact with large commercial organizations throughout the initiative to provide ongoing support and encourage reporting. Large organizations that participated in employee engagement campaigns also had a dedicated facilitator to help implement and tailor the campaign.

Table 1-1: Resources Available to Large Commercial Participants

SUPD-C Resources Offered	Description
Working with engagement manager	Jointly identifying opportunities and creating savings plan
Energy practices inventory	Audit to assess the potential for policy and behavioral changes to reduce energy waste
Energy simulation or operations baseline analysis	Audit to assess the potential for technical changes to reduce energy waste
REV sustainability circle	A series of in-person, peer-learning sessions where participants work with “coaches” to create a customized Sustainability Action Plan that makes the business case for implementing both large and small-scale initiatives.
Enhanced operations and maintenance training	Provides knowledge and skills to help building operators and engineers make their facilities more energy efficient
Energy champion training	In-person trainings for energy champions to learn about available resources and how to build excitement among employees for SUPD-C activities
Employee engagement campaigns	Campaigns employing behavioral interventions to focus on specific end-uses

SUPD-C also provided support to SMBs, but at a lower level than for large businesses. The Energy Watch outreach teams at the Cities of San Francisco and San José visited the SMBs in person to periodically check-in on the status of resource use. Table 1-2 presents resources designed to educate SMBs, and to inspire, reinforce, and reward behavioral changes.

Table 1-2: Resources Available to SMBs

Resource	Description
Behavioral checklist	List of energy-saving behavioral actions from which SMBs could select
Business energy reports	A report providing facility-level comparative energy use feedback and targeted energy-saving advice
Eyeball audits	Audit to identify steps the SMB can take to begin reducing energy waste right away and have little to no cost
Energy Watch project	Projects to upgrade systems or equipment, managed by the Energy Watch
Non-Energy Watch audit	Audit to assess the potential for technical changes to reduce energy waste
Energy Check website	A web-based tool that allows SMBs to create an action plan, access tailored energy saving tips, compare energy usage year over year, and compare energy usage to similar buildings.

1.2.3. End-of-Initiative Output Metrics

Table 1-3 summarizes key output metrics for SUPD-C, which the initiative tracked and provided to us. As of January 2017, the initiative had exceeded both its pledge and savings goals. In other sections of this report, we explore the role and value of pledges in the initiative as well as several topics related to energy savings.

Table 1-3: Tracked Output Metrics for SUPD-C*

	San Francisco		San José		Total
	Goal	Achieved	Goal	Achieved	
SMB Pledges		747		383	1,130
Large Commercial Pledges		80		65	145
Total Pledges	600	827	400	448	1,275
“Savings” Progress	20 GWh	23.5 GWh	27.6 GWh	27.6 GWh	51.1
Media Impressions					176,423,786

* PG&E provided business participants with a community-wide savings goal and online ticker as a motivational tool to drive engagement. PG&E created the savings goal (45 GWh) based on historical savings in an 18-month period in the targeted SUPD geographic areas, plus a 15% adder. PG&E did not claim savings for SUPD.

2. Evaluation Methods and Report Organization

2.1. Evaluation Purpose and Methods

This evaluation focuses on 2016 SUPD-C activities, but draws on previous evaluation efforts beginning in 2014 when Research Into Action began working with the initiative.¹⁵ The purpose of this evaluation is to summarize the history of the initiative, assess SUPD-C’s effectiveness, and provide insights about its replicability and scalability. The 2016 evaluation activities included in-depth interviews of large customers and stakeholders, a survey of SMB customers, and an analysis of PG&E’s program data, each of which are described below. Please note that while calculating energy savings was not an objective of this evaluation, in this report we comment on the challenges and opportunities to measure savings in initiatives like SUPD-C.

2.1.1. Interviews with Large Commercial Participants

This research investigated the experience of the “most active”¹⁶ SUPD-C large commercial participants to capture their experience, insights, and lessons learned. While these participants do not represent the full range of large commercial SUPD-C participants, they allowed us to deeply explore all aspects of the initiative and to better understand the mind-set of organizations that are most likely to take part in future SUPD-C efforts.

We conducted interviews with 19 of these most active commercial participants to:

- › Assess SUPD-C awareness and knowledge
- › Explore the effectiveness of SUPD-C outreach and sign-up
- › Assess the level of and barriers to engagement
- › Identify participation outcomes and benefits

We conducted the qualitative, in-depth interviews by telephone in December 2016 and January 2017. Each interview lasted between 30 and 60 minutes. We transcribed all the interviews and analyzed them using NVivo, a software package that helps organize, analyze, and find insights in qualitative data.

2.1.2. Interviews with Initiative Stakeholders

We conducted in-depth interviews with 13 SUPD-C stakeholders representing five organizations. We asked stakeholders to reflect on the changes to the initiative that occurred in early 2016. We conducted

¹⁵ Specific references are noted, as applicable in the report.

¹⁶ PG&E program staff selected 24 “most active” large commercial participants based on their experience working with them.

these interviews in February and March 2017 and they lasted between 45 minutes and two hours. We transcribed the interviews and analyzed them using the NVivo software package.

2.1.3. Survey of SMB Customers

This survey effort represents the third online survey of commercial SMB PG&E customers regarding SUPD-C. Before this effort, we also conducted a pre-SUPD-C baseline survey as well as an interim survey to establish changes in attitudes, awareness and participation in PG&E energy efficiency programs and SUPD-C.

The following sections describe the detailed data collection procedures we used to ensure the research produced a representative sample, reliable data, and sound analyses. Our goal was to cost-effectively generate completed survey sample that reflect the population of SMBs in San Francisco and San José areas in which the SUPD pilot activities took place. We completed 371 online surveys in January-February 2017.

2.1.3.1. Sampling

The population of this survey is all the PG&E SMB customers that have an email address and at least one location in San Francisco or San José areas. We constructed the sample frame by first combining PG&E’s and SUPD’s lists, then we de-duplicated the list (because many SMBs have multiple locations) by available contact information (e.g., PERID, Account ID, email address, phone number, and business name) to develop a unique population list of SMB contacts with a valid email address. We identified the contacts that originated from the SUPD list as program participants and other contacts as non-participants. Table 2-1 summarizes the process of this sample frame construction.

Table 2-1: Sample frame construction

	San Francisco	San José	Total
Total SMB contacts	3,826	2,091	5,917
<i>PG&E Customer list</i>	<i>3,090</i>	<i>1,720</i>	<i>4,810</i>
<i>SUPD participant list</i>	<i>736</i>	<i>371</i>	<i>1,107</i>
Unique SMB contacts with valid email	2,583	1,085	3,668
<i>SUPD non-participants</i>	<i>2,139</i>	<i>750</i>	<i>2,890</i>
<i>SUPD participants</i>	<i>444</i>	<i>334</i>	<i>778</i>

2.1.3.2. Data Collection

Through the online survey program Qualtrics®, we distributed survey invitations to the contacts of the entire sample frame during the period of January-February 2017. For non-respondents, we contacted them up to three times as reminders. Additionally, after multiple invitations were sent, we provided a \$5-10 cash incentive redeemable upon the completion of the survey.

We completed 371 online surveys. The overall response rate was 11%, and participants had a slightly higher response (13%) than non-participants (11%). Table 2-2 summarizes the survey disposition.

Please note that the survey results revealed that only about one-half of respondents on SUPD-C’s participant list identified themselves as a participating SMB. Thus, the number of participant respondents was reduced from the 85 shown in this table to 45 respondents and those 40 were included in the nonparticipant analysis.

Table 2-2: Survey disposition summary

	San Francisco		San José		Total		
	Part	Non-part	Part	Non-part	Part	Non-part	Total
Finished survey	47	216	38	70	85	286	371
Started survey	9	37	8	9	17	46	63
Email bounced	71	134	50	58	121	192	313
Email sent but no action	313	1,718	233	600	546	2,318	2864
Opted out	4	28	5	10	9	38	47
Screened out	0	6	0	4	0	10	10
Grand Total	444	2,139	334	751	778	2,890	3,668
Response rate	13%	10%	13%	11%	13%	11%	11%

2.1.4. Pre-Post Analysis

PG&E provided the research team with participant data for commercial premises in SUPD-C territory that completed a project through one or more of PG&E’s energy efficiency programs between January 2010 and March 2017. These data included records of 23,275 applications from 5,917 distinct participants (SA_IDs) in San Francisco and 20,248 applications from 1,304 participants in San José.

After an initial review of the data, we identified that approximately two-thirds of the applications from San José listed the NAICS code 922600, which signifies street and highway lighting. These records corresponded to two customer IDs: The City of San José and Valley Transportation Authority, and most (all but 13) listed the technology installed as lighting. Interpreting these records as streetlighting upgrades, we eliminated any application with the NAICS code listed as 922600 and the technology listed as lighting from our analysis. In San José, this left us with 5,892 applications from 1,272 participants (unique service agreement identification numbers [SA_IDs]). We applied the same procedure to participation data for San Francisco, although a far smaller number of cases were affected. In San Francisco, 23,268 applications from 5,915 participants remained in our dataset.

Using the participation data PG&E provided, we examined uptake of PG&E programs in SUPD-C territory over time to identify any trends that might reflect the influence of the SUPD-C initiative.¹⁷ It is important to note that multiple factors external to SUPD-C, including other PG&E marketing efforts, and changes to PG&E program offerings, as well as local economic conditions, and weather, influence uptake of PG&E efficiency programs. When possible, we account for these factors in our interpretation of the findings from the participation analysis, but we do not seek to model uptake of PG&E efficiency programs independent of these factors. As a result, these participation data alone do not indicate SUPD-C influence on program participation; instead, some findings may support assessments of the initiative's influence from other data sources.

2.2. Organization of the Report

The remainder of this report is organized by data collection activity followed by conclusions and recommendations across data collection activities:

- › Stakeholder In-depth interviews (IDIs)
- › Large Commercial Participant IDIs
- › SMB Web Survey
- › Pre-Post Participation Analysis
- › Conclusions and Recommendations

¹⁷ PG&E also provided a list of applications flagged as having been submitted by SUPD-C participants. However, this list comprised all of the applications submitted within SUPD-C territory during the initiative period (April 2015 to December 2016), and thus did not allow for any comparisons between SUPD-C participants and non-participants beyond the time-based trend analysis.

3. Stakeholder In-Depth Interviews

According to stakeholders and other sources, SUPD-C faced four critical and interrelated challenges 2015:

- › An unclear identity
- › No unified strategic framework
- › Unwieldy collaboration and decision-making processes
- › Lack of a plan to measure energy savings

This chapter first captures key stakeholder perspectives about these challenges. It then assesses the efforts made in 2016, under new management and using the guidance of the *Step Up and Power Down 2016 Playbook – Final* (Playbook), to address them. In this chapter, we draw upon our 2016 interviews with 13 key stakeholders,¹⁸ as well as insights from Research Into Action’s *Step Up and Power Down – Commercial: An Interim Process Assessment*, and *SUPD CLEAResult Lessons Learned Summary* about data collection challenges.

3.1. SUPD Challenges in 2015

As described in the 2016 Interim Assessment, stakeholders agreed SUPD-C was a pioneering initiative with little precedent among energy efficiency marketing or programmatic efforts. During its planning and start-up phases, the initiative’s leaders and the SUPD-C team saw great merit in pursuing an innovative community-based marketing effort, had obtained PG&E internal buy-in to support it, had conducted a solid market analysis and baseline research, and had good resources and expertise available.

Despite these positives, SUPD-C lacked a clearly defined identity within the fabric of PG&E. While slotted as a marketing initiative, its scope, services, and expectations – i.e., to engage businesses as “participants” in an ongoing SUPD-C community, to offer services designed to directly influence energy saving behaviors, and to produce energy savings (even if not claimed) – went well beyond the goals of typical energy efficiency marketing efforts.

In addition, our research with its large group of diverse stakeholders¹⁹ at the end of 2015 showed they held differing and conflicting views about SUPD-C’s goals, how to reach those goals, and how to measure success. This reflected the fact that, until 2016 when the Playbook was developed, no single and organized framework captured the entire vision, scope, and activities for the initiative. Thus, instead

¹⁸ The interviews tailored questions to the areas of expertise for each stakeholder, so that the number of responses by question varied greatly: from 2 to 13. Thus, these data are highly qualitative. At the same time, they represent the key implementers of SUPD-C.

¹⁹ Our research in 2015 drew on data from interviews with 24 individuals from 11 of the 16 organizations involved in making decisions about and implementing SUPD-C in 2015.

of being able to apply a “test and learn” approach, stakeholders felt like they were “building the plane while flying it.”

Stakeholders also said the effectiveness and timeliness of 2015 efforts were significantly impaired due to team organization and processes. They noted that the initiative had:

- › A lack of clearly defined roles and responsibilities
- › Too many contributors and no final decision-maker
- › Mismatches between the skill sets of team members and the tasks to which they were assigned

While the SUPD-C team tracked many aspects of the initiative, and the presence of embedded process evaluators allowed for many processes and non-energy metrics of the initiative to be assessed, the uncertainties surrounding the initiative’s intent, design and team responsibilities meant that data definitions varied. In addition, stakeholders reported that both redundancies and gaps in data tracking existed.

Finally, energy savings measurement and verification efforts were not integrated into the program design. The lead implementer took steps to measure savings, and an outside evaluation contractor was hired to develop a measurement and verification approach, but these efforts were not coordinated as a broader part of the program design. While this was understandable given SUPD-C’s design as a non-resource initiative, it inhibited SUPD-C’s goal to analyze energy savings, and PG&E’s interest in researching the savings potential of the initiative.

Thus, despite early success in engaging businesses, and having many implementation elements in place, including a logic model with key performance indicators (KPIs), by fall of 2015, about nine months after planning began and six months after the launch, stakeholders reported significant barriers to success. They had not rallied around a cohesive plan of action; achieved a workable decision-making structure; developed a well-honed data tracking approach; or identified an agreed upon method to measure savings. At the same time, the PG&E project manager also left, contracts were ending with implementers and were being rebid, and the path forward was unclear. PG&E thus set about to put a new leader in place, develop a better strategic framework, and improve the operational approach.

3.2. Meeting the 2016 Vision for SUPD-C

In this section, we explore the viewpoints of stakeholders about how well SUPD-C met the vision and activities. The initiative’s Playbook served as a framework for these questions since it was intended as the single, centralized source of guidance for SUPD-C.

3.2.1. Overall Objectives and Approach

The Playbook describes SUPD-C’s overall objective is to “help businesses take simple actions to reduce energy waste for a more sustainable future and a better California,” and that its approach for 2016 was to “apply learnings, simplify and develop easy-to-implement semi-customizable strategies for participating businesses to be successful.”

Almost all stakeholders agreed that these statements of overall objective and approach capture the larger public-facing purpose of SUPD-C. Individual respondents suggested that it would be good to add that:

- › SUPD-C was a community-based effort;
- › PG&E’s internal objective was to “pilot a new and innovative approach to energy efficiency;” and
- › SMBs actions could usually be classed as “simple,” but actions for large businesses varied from simple to complex.

Stakeholders also gave examples of how the 2016 approach simplified the initiative while at the same time allowed for customization. For instance, they pointed to the refinements in the SMB checklist and the customization of engagement campaigns for large businesses.

3.2.2. Goals and Metrics

Overall, most stakeholders thought that the goals as described in the Playbook at least had been partially met. Stakeholder views of how well SUPD-C met its goals are summarized in Table 3-1. They noted their opinions largely based on anecdotal evidence.

Notably, while goals (1) and (3) mirror previous goal statements for SUPD-C, the focus goal 2 has been changed from achieving “energy savings through operational, behavioral, and equipment changes,” to supporting a “proof of concept” for behavioral and operational savings. Goals (4) and (5) were added in 2016.

Table 3-1: Stakeholder Assessment of SUPD-C Goals as Articulated in the Playbook

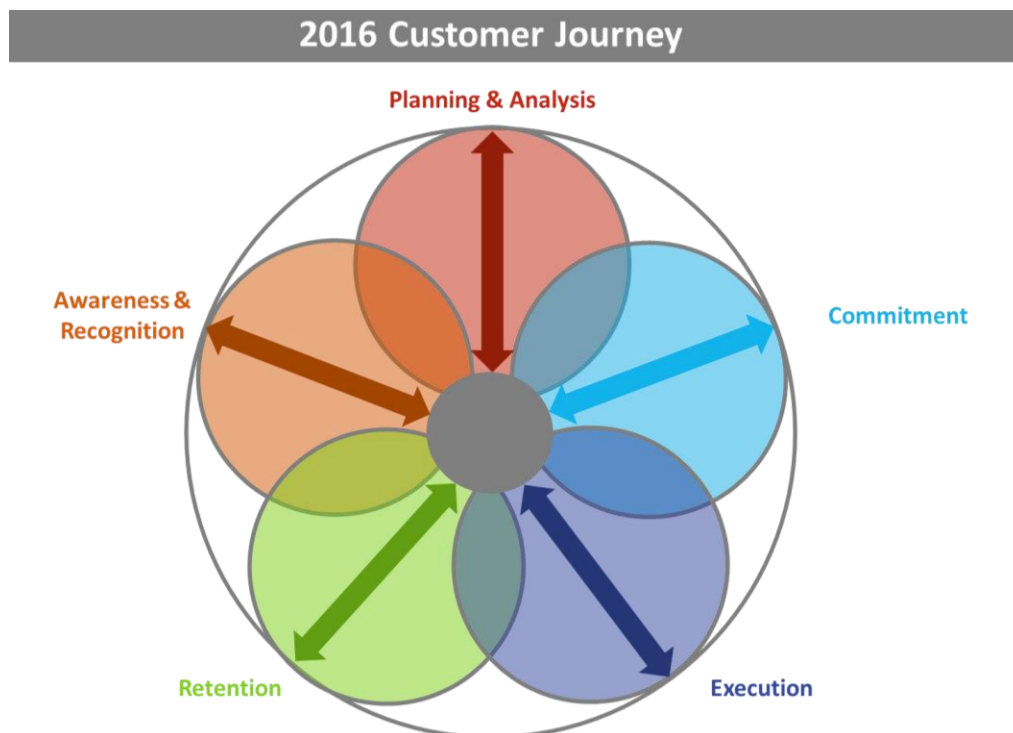
SUPD-C Goals	Did SUPD-C Meet This Goal?	Stakeholder Comments
1. Increased uptake in energy efficiency (EE) Programs?	Yes, likely	Most thought SUPD-C has influenced greater participation, but would have liked more evidence to support these perceptions.
2. Behavioral/operational savings support a proof of concept?	Partly	Most thought the initiative fostered behavioral/operation savings but felt they were probably small and not cost-effective.
3. Increased awareness of EE Programs?	Yes, likely	Large customers told some stakeholders that they knew “a lot more about PG&E now.”
4. Operational excellence with scalability in mind	Partly	Most felt the initiative had provided high quality services, but that approach was not easily scalable.
5. Meet/exceed public-facing kWh and participation goals	Yes	Most agreed SUPD-C had exceeded its public-facing goals, but some asked to what extent the savings could be attributed to the initiative.

3.2.3. Revision of the Customer Journey

The SUPD-C team significantly revised the customer journey from one that was a linear, step-by-step progression of involvement to one that shows the more idiosyncratic journeys of most participants (shown Figure 3-1). The stakeholders agreed the revised approach aligned with the semi-customizable strategy taken in 2016. One stakeholder added that this revision emphasized the “importance of meeting each customer where they are” rather than making businesses follow a predetermined path. One stakeholder who worked with large commercial participants noted she had never seen the journey as linear and had always focused on the participant’s “mission and goals and then paired them with the services and type of assessment.”

Several stakeholders said the revised customer journey intersected with more streamlined or tailored services. For instance, the checklist for SMBs was pared down from over 100 actions to seven actions targeted to individual business sectors and large businesses customize options to fit their situation.

Figure 3-1: Revised Customer Journey

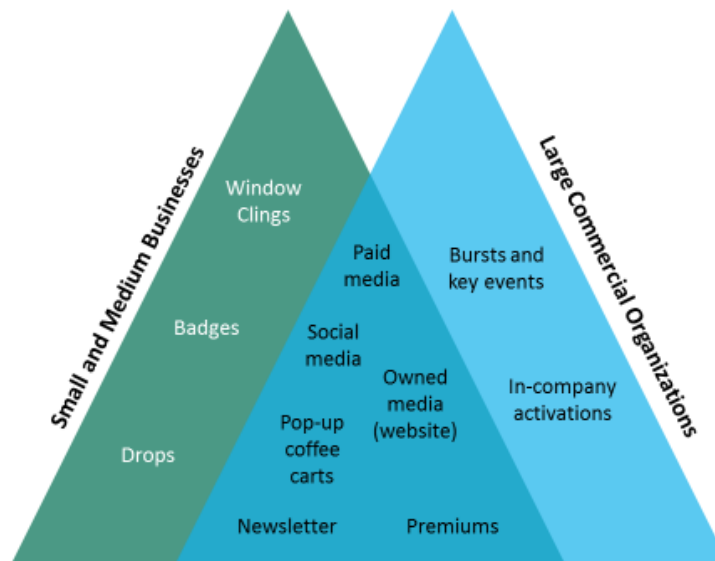


3.3. SUPD Marketing Strategies in 2016 (n=9)

Stakeholders agreed the 2016 initiative unified all marketing under one cohesive identity and shifted away from engaging the general public. They said concentrated “marketing bursts” that targeted key savings actions tied to cultural events, and the Power in Numbers campaign that showcased SUPD-C “champions,” engaged target audiences, but that public recognition and regular updates were not effective engagement tools. Overall, stakeholders thought the mix of marketing strategies did not produce community cohesion.

The SUPD-C team marketed the initiative through a variety of channels in 2015 and 2016 that ranged from traditional media to experiential marketing, and which differed somewhat between SMBs and large commercial organizations, as shown in Figure 3-2. Over time, some strategies were reconsidered and/or eliminated (see Sections 3.4.4 and 3.5 for more).

Figure 3-2: SUPD-C Marketing Channels and Strategies



Stakeholders discussed the extent to which the Playbooks’ five marketing strategies aligned and were important to initiative activities in 2016.

1. Focus marketing efforts on driving awareness and engagement of employees of participating companies in the campaign (shifting away from general public marketing).

Several stakeholders said the shift from raising general awareness to more targeted outreach was important to the initiative’s progress. Within large commercial organizations, marketing put greater focus on employees or building occupants, and for SMBs, marketing targeted small neighborhoods of businesses. Stakeholders said this approach created more traction than diffuse advertising.

2. Align with cultural moments throughout the year to create relevancy and urgency and to underscore the message of community participation.

The market bursts used a unified message across marketing channels during three events: Earth Day in April to jumpstart engagement; the summer months, to keep momentum going; and Energy Awareness Month or Halloween in October to reinforce engagement. The bursts intended to create a sense of urgency, and “cohesive moments where collective efforts emerge.” The first two bursts mostly targeted large commercial customers to encourage employee engagement campaigns. The last burst was targeted to SMBs.

On the positive side, two stakeholders said the bursts, at least in some cases, drove participation in employee engagement campaigns, especially when the campaigns occurred immediately after the

event. In addition, some stakeholders felt the third burst produced greater engagement among SMBs. Stakeholders also noted the bursts focused the efforts of the SUPD-C team around specific deadlines, and also allowed engagement managers to create a sense of urgency with some customers.

Overall, however, stakeholders said the market bursts did not produce wide uptake or appear to advance community cohesion around SUPD-C, and noted several challenges. First, Earth Day was the only widely recognized cultural event. Notably, burst number three worked well for universities but not because it dovetailed with the chosen cultural event but because universities were able to leverage the enthusiasm of students near the start of the fall semester to sign up for activities. This finding coincides with one stakeholder's suggestion that bursts work best if they are targeted to established local events that organizations already support.

Second, businesses had individual preferences, usually did not participate in all three bursts, and did not necessarily want to pursue the targeted campaign or action during the burst period. Thus, as one stakeholder put it, "the needs of customers ended up diluting the degree to which bursts were really cohesive."

Third, the timing of the first burst meant the new marketing team worked under a very compressed timeline and that some marketing materials and collateral were not available prior to the burst to help with recruitment.

3. Leverage earned and paid media as recognition tools for participants, highlighting customer success stories for both large commercial and SMBs

Five stakeholders described the Power in Numbers campaign – featuring SUPD-C energy champions in ads on bus shelters, public transit, and websites (see image) – as "well-received" and "an important milestone" in the initiative. They liked that it highlighted both SMB and corporate champions because SMBs rarely are recognized for their energy-saving efforts. They also said that posting the champion's success stories on the SUPD website let similar businesses see how they might save energy. Several stakeholders said they thought the campaign increased community awareness of SUPD-C. One stakeholder mentioned that outreach teams were not always aware of the paid media in the neighborhood and thus they were not able to use it help in their recruitment and engagement efforts.



Aside from the Power in Numbers campaign, several stakeholders said they were uncertain if paid media benefited SUPD-C.

4. Provide regular updates on campaign progress through earned media channels and drive momentum for the campaign.

Several stakeholders reported marketing efforts were not able to affect this strategy because regular updates usually arrived through newsletters and not through earned media channels. One of these stakeholders said the strategy did not "get off the ground" because SUPD-C did not produce "a lot of

newsworthy hooks” to share. However, another stakeholder noted that SUPD-C had a “large following on Facebook and Twitter,” valuable social media platforms that highlight the specific changes companies were making. The highlighted companies tended to repost and retweet, which further spread information to their followers.

5. Simplify and unify all campaign communication tools under one cohesive identity.

Five stakeholders said the new marketing team successfully created a unified identity, and redesigned the collateral to make it easier to use and more helpful for customers. A few stakeholders noted that the approval process was lengthy and sometimes delayed implementation, but that it was possible to shorten the timeline through a more streamlined process that involved fewer team members.

3.4. Strategies to Reach Large Commercial Participants

This section focuses on engaging, recruiting, and nurturing large commercial participants on their SUPD-C journey. Section 3.4.4 reviews stakeholder feedback on which offerings were most and least important in attracting participation and their success in implementation.

3.4.1. Recommended strategies for engaging large organizations

Most stakeholders gave mixed reviews of the success of Playbook’s large commercial organization engagement strategies. In general, they felt the strategies were only partially realized, or when strategies succeeded, stakeholders felt they were not scalable.

1. Create specific timeframes for cross-city efforts to drive urgency of participation and community across participating companies.

Stakeholders liked having the specific seasonal timeframes, but said coordination between the two cities was lacking. Four stakeholders suggested that competitions among similar businesses would be more effective at driving urgency than orchestrating cross-city efforts. These stakeholders said competition could be fun and motivating especially when it is between similar organizations. They noted how the Hotel Councils had helped engage hotels and had fostered a sense of competition, and suggested similar strategies could be used for other business types such as schools or universities.

2. Go deeper with fewer, higher-potential targets who will make the greatest impact, identifying the top 20 large flagship companies and hand-holding them through the process to ensure success.

Stakeholders agreed that this strategy, while good in theory, did not work out as intended. As it turned out, some of the most active participants were not identified as flagship companies.

Stakeholders identified the flagship companies based on energy consumption, “recognition in the city” and other metrics. However, various barriers arose. Some flagship companies simply did not participate. Others did not own their buildings. In addition, stakeholders said the outreach team did not have enough funding to maintain high-touch relationships or provide resources such as the in-company activations to so many flagship customers. Two stakeholders said they just tried to keep large customers engaged if they were flagship companies.

3. Assign a dedicated engagement campaign facilitator to hand hold flagship company participation in engagement campaigns, providing ongoing support, reminders and coaching along the way to maximize employee participation and reporting of results.

Seven stakeholders agreed that the role of a dedicated engagement manager to support the implementation of engagement campaigns was critical to their success, but that this role was resource-intensive and not feasible/affordable in future rounds of SUPD-C.

SUPD-C had one facilitator to help companies select, promote, execute, and measure energy savings from behavior change campaigns. One stakeholder estimated this facilitator cost between \$10,000 and \$15,000 per month. Several stakeholders envisioned the next iteration of these campaigns as more of a self-guided model with training and apps to support green teams in implementing the campaigns.

4. Approach these companies like a sales organization, conducting research on key business initiatives and aligning SUPD with company priorities to speed adoption of engagement campaigns.

The six stakeholders who answered this question agreed that doing “their homework” on large businesses before approaching them was beneficial, but the approach was inconsistently applied. For instance, sometimes they had an initial meeting to understand needs and preferences rather than being able to learn about companies beforehand.

Stakeholders said that it was highly beneficial to work PG&E’s BES representatives (reps); these reps have strong relationships and histories with large customers. Stakeholders said they gained solid insights about these organizations, including which ones were likely or unlikely to participate, and that the reps helped them “open doors.” However, some stakeholders reported challenges in working with BES staff.

5. Expand planning meetings beyond engineer and green team members to include multiple internal stakeholders.

The six stakeholders who addressed this strategy held mixed opinions about how well it worked. One stakeholder noted it was valuable to engage all energy champions in the organization, no matter where they were in the company and another said having a variety of stakeholders at the initial meeting made SUPD-C engagement more likely to happen.

Three stakeholders, however, said they did not see this strategy implemented often and weren’t sure it was critical to success. These stakeholders said it was more valuable to obtain buy-in and support from company leadership than it was to have representatives from multiple departments at early meetings. They said the person who makes the commitment needs to have decision-making authority or to be able to credibly represent SUPD to leaders; SMB outreach teams echoed this requirement. In addition, one stakeholder added that when leaders are present, it gives visibility to the importance of participating. As one stakeholder said:

We need to ensure the person who makes the commitment is someone that’s going to be involved and have skin in the game and has influence in the company’s participation.

3.4.2. Recruiting Large Commercial Participants

Initial enrollment of large customers was relatively easy but deeper engagement proved harder. Messages about behavior change and employee engagement attracted participants, but workload barriers prevented some from taking more action.

3.4.2.1. Barriers to participation

Of the seven stakeholders who discussed recruiting large commercial participants, two noted significant barriers. They said large customers were concerned about the time commitment and obligations that came with participation, such as attending training or conducting an employee engagement campaign. They emphasized that organizational staff were already busy with their day jobs. One stakeholder added that SUPD-C, as a demonstration project, could not offer evidence of the benefits it promised, such as energy savings or increases in employee engagement.

3.4.2.2. Messages that resonated

As one stakeholder put it, the most effective approach in recruiting large organizations was to “find out what they’re trying to achieve in their organization and find [the initiative offering] that best aligns with that.” For example, they might emphasize return on investment when talking with a Chief Financial Officer, employee engagement when speaking with green team members, and expected energy savings with talking with building engineers. Among these various messages, stakeholders thought that employee engagement and retention were often the most important motivations to participate. Stakeholders said that if senior management wasn’t at the meeting, it was important to help more junior staff to be prepared to talk with leadership.

3.4.2.3. Pledges

Overall, stakeholders said organizations viewed the pledge as a commitment to work with PG&E to explore ways to save energy. They pointed to the behavioral science behind the pledge, noting that it should make the management and employees feel more invested in the initiative, but most stakeholders sensed the pledge was mostly a symbolic commitment that did not lead to energy-saving actions by itself. One stakeholder described the pledge this way:

What the pledge became was a self-affirmation of identity almost: ‘I’m a person who cares about the environment and doing the right thing, therefore I will sign this pledge.’ And that’s different than ‘I’m a person that will take action and do these three things.’

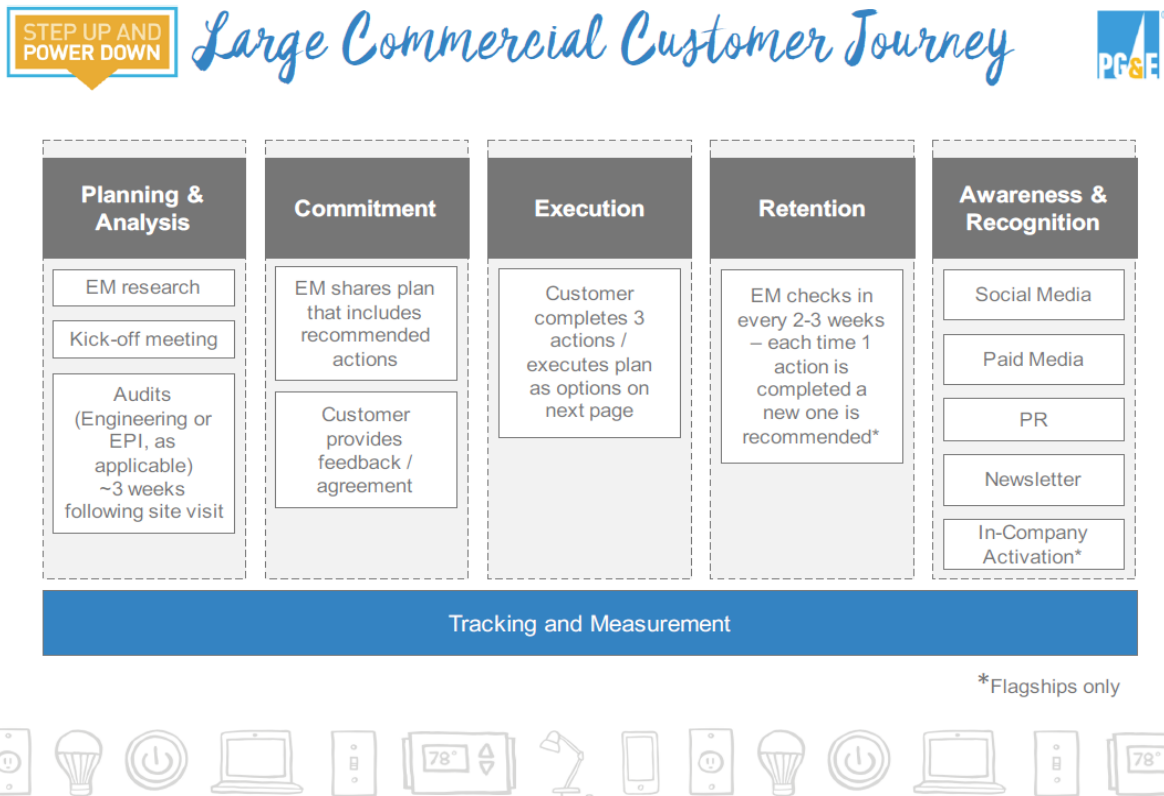
3.4.3. Journey

Eight of the interviewed stakeholders commented on the graphic for the large customer journey and seven discussed the individual customer journey.

3.4.3.1. Large customer journey

Stakeholders agreed the large customer journey is often less linear than the Playbook graphic suggests in Figure 3-3.

Figure 3-3: Large Customer Journey



While the figure presents a “standard journey,” stakeholders said engagement managers used customized approaches with large organizations. While they agreed it was important for some early planning and analysis, they emphasized the most effective first step was to discuss organizational needs and how SUPD fit into those needs, rather than review audit results. Two stakeholders said planning and analysis and commitment went hand in hand. As one stakeholder noted:

After they sign up, that planning and analysis meeting is really important. That’s when we’d go over all the offerings and take note of . . . the ones they were really interested in. From there we’d follow-up and start the planning with our internal teams.

3.4.3.2. Individual customer journey

While the initiative allowed individual company employees to sign up and make a pledge to SUPD-C, stakeholders thought the individual journey was not integrated very well into SUPD-C.

3.4.4. Offerings

SUPD-C offered large commercial participants a variety of activities and trainings they could participate in, some of which were similar to services already offered through PG&E. This section presents findings from 11 stakeholders who discussed the success of various SUPD-C offerings including: employee engagement campaigns, REV sustainability circles, energy practices inventory (EPI), energy champion training, engineering audits, in-company activations, and operations and maintenance (O&M) training.

Employee engagement campaigns and REV sustainability circles attracted participation and were successful. Budget constraints and a lack of follow-up prevented in-company activations from being more successful while the time commitment required to participate in the O&M training prevented many building engineers from attending. Stakeholders had mixed feedback on the EPIs and some wanted to transform energy champion training into green team development training.

3.4.4.1. Most successful offerings

Stakeholders reported that **engagement campaigns** attracted participation and engaged employees and other target audiences, such as students. Some mentioned the engagement campaigns increased awareness of and engagement with energy use through fun, action-oriented activities. The campaigns were flexible, could reach a wide swatch of building occupants, and could be tailored to each building's culture and equipment. As one stakeholder said:

The campaigns raised the profile of good energy habits and made it explicit to staff that these things are expected, encouraged, and exemplified from the top down.

One stakeholder recounted how a university participant told him that, prior to the campaigns, they had a hard time getting staff and students motivated to take sustainable actions and that the engagement campaign caused people to be more aware and willing to save energy.

Stakeholders said the engagement campaigns prompted interest and succeeded because they signaled, "this was not just another utility program." They also provided a dedicated SUPD-C staff member to help organizations through the process, ensure baseline data were collected, and to explain results and benefits.

Eight stakeholders complimented the **REV sustainability circles**, with three saying the circles were an important draw for large commercial customers. They said the circles enabled large businesses to "put pen to paper" to create a sustainability plan for their organization. One stakeholder thought customers involved in REV circles were more engaged and took more sustainability actions, including saving energy. This stakeholder believed REV circles generated the biggest portion of all SUPD-C savings. Another stakeholder said the active creation of their own sustainability plans, instead of receiving a list of actions from PG&E, made organizations more likely to implement the plans. This stakeholder added that the circles were one of the most scalable offerings of SUPD-C.

Three stakeholders thought the REV circles did not focus enough on energy efficiency through behavior change and retrofits. They said the circles helped customers and were of high quality, but not helpful to achieve PG&E's campaign objectives. They thought if the circles were to be offered in future rounds that they should focus more on energy savings.

3.4.4.2. Least successful offerings

Stakeholders agreed the two **in-company activations**, at PG&E and the 345 California Building, did not successfully drive employee engagement, largely because of a lack of follow-up with interested employees and gaps in time between the events and subsequent engagement campaigns. Stakeholders believe the activities -- which used experiential marketing, such as disc jockeys, a laser show, food trucks, and chalk artists – did heighten awareness of SUPD-C.

In addition, stakeholders agreed the **O & M training** available through SUPD-C was one of its least successful offerings because of the large time commitment (full day trainings once a month for multiple months, plus homework) required of building engineers. Moreover, one stakeholder observed this activity mostly attracted engineers who had previously attended PG&E trainings rather than reach new building engineers. Three stakeholders added that the O&M training duplicated training already available through PG&E.

3.4.4.3. Offerings with mixed feedback

Stakeholders gave mixed feedback about the **energy practices inventory** (EPIs). While three had positive comments – it increased awareness about lights left on, drapes left open – six saw problems with the tool (including those with positive comments).

Problems included:

- › The offering was too resource-intensive, requiring a full day to assess the site and a full-time person to handle them, and thus was not scalable.
- › EPIs overlapped with PG&E’s Business Energy Check-Up online tool, that produces many of the same recommendations, (such as switching out bulbs and changing thermostat settings), or with the data collected for an engineering audit (such as the wattage of light bulbs).
- › EPIs tended to be “put on a shelf” and thus resulted in few actions.
- › The EPIs were not always consistently applied, and some reports to customers were sub-par.

While stakeholders saw value in the **energy champion training**, they agreed it was too generic, not very actionable, and needed to evolve to be more impactful and engaging. A few saw the future of this offering being a green team development training or a “Green Team Roadmap” that would help businesses start a green team and keep it going.

3.4.4.4. Barriers to Participation

Two stakeholders described these barriers to large organization engagement with SUPD-C:

- › Without upper management support, staff members were much less likely to get involved.
- › With detailed tools and offerings – such as a concrete workbook for engagement campaigns – it was hard to move large organizations forward.
- › Offerings could be perceived as “overwhelming” because SUPD-C had many offerings available and all were available simultaneously.

- › Participating could seem too time-consuming on top of regular job commitments.

3.5. Strategies to Reach Small and Medium Businesses

The sections below review what stakeholders said about the Playbook’s strategies to involve SMBs, the SMB customer journey, and the offerings available to the SMBs. The number of stakeholders offering insights on these strategies ranged from three to six.

3.5.1. Key strategies to involve SMBs

Stakeholders agreed Playbook strategies were practical and described how they implemented them successfully. They said the cities played a key role in managing relationships with SMBs, that it made sense to discontinue the badge program and use of Energy Check. Stakeholders, though, disagreed about the importance of social media recognition.

1. Transition ownership of SMB relationships to the cities to allow for a consistent SMB point of contact throughout the campaign

Stakeholders agreed the cities should own the SMB relationships because cities know their SMBs, have resources to support SUPD and track SMB involvement, and legitimized the initiative.

2. Ensure that every touchpoint has a clear call to action, trackability, and next steps so that SMBs know exactly what is expected of them at each phase of the campaign

The stakeholders agreed this strategy was crucial – and that they followed it through tracking all SMB actions and preparing next steps for participants. One stakeholder added that easy, clear, actionable participation was essential for engaging this busy target audience.

3. Streamline participation options, offering fewer ways that SMBs can participate to better focus their limited time and resources in the right places

Stakeholders implemented this strategy, and pointed out that one result was refining the action checklist from 140 down to seven items. One stakeholder added that streamlining and narrowing offers was essential to making SUPD-C more scalable.

4. Dial up recognition, offering more exposure for participating SMBs via social media and the potential for additional visibility through advertising, case studies and earned media for those SMBs that have the highest levels of participation, innovation, or energy savings

Stakeholders had mixed feedback on the importance of customer recognition for SMBs. One said, “recognition was incredibly important” and thought more SMBs would have engaged with the initiative if more had been done. Two said they heard from businesses they wanted recognition but when it was offered – for instance, through the Power in Numbers campaign – many did not take advantage of it. Two stakeholders were skeptical of how well recognition worked for SMBs. One saw promise in bursts of social media recognition linked to specific campaigns, while the other felt many SMBs “are not influenced by. . .social media” and recognition sometimes was or actions so small it almost seemed silly.

5. Remove badge program and sustainability circles from the mix, as these were not particularly effective tactics for engaging this target

Three stakeholders agreed that it was a good strategic decision to eliminate the badges. One said it was “too complicated” and another said that “nobody cares about getting a badge on a website that nobody sees.” The last stakeholder reported that the badge program was a lot of effort for the CLEAResult team and that he doubted businesses who saw a business earn a badge on the website drove other businesses to participate in SUPD-C offerings.

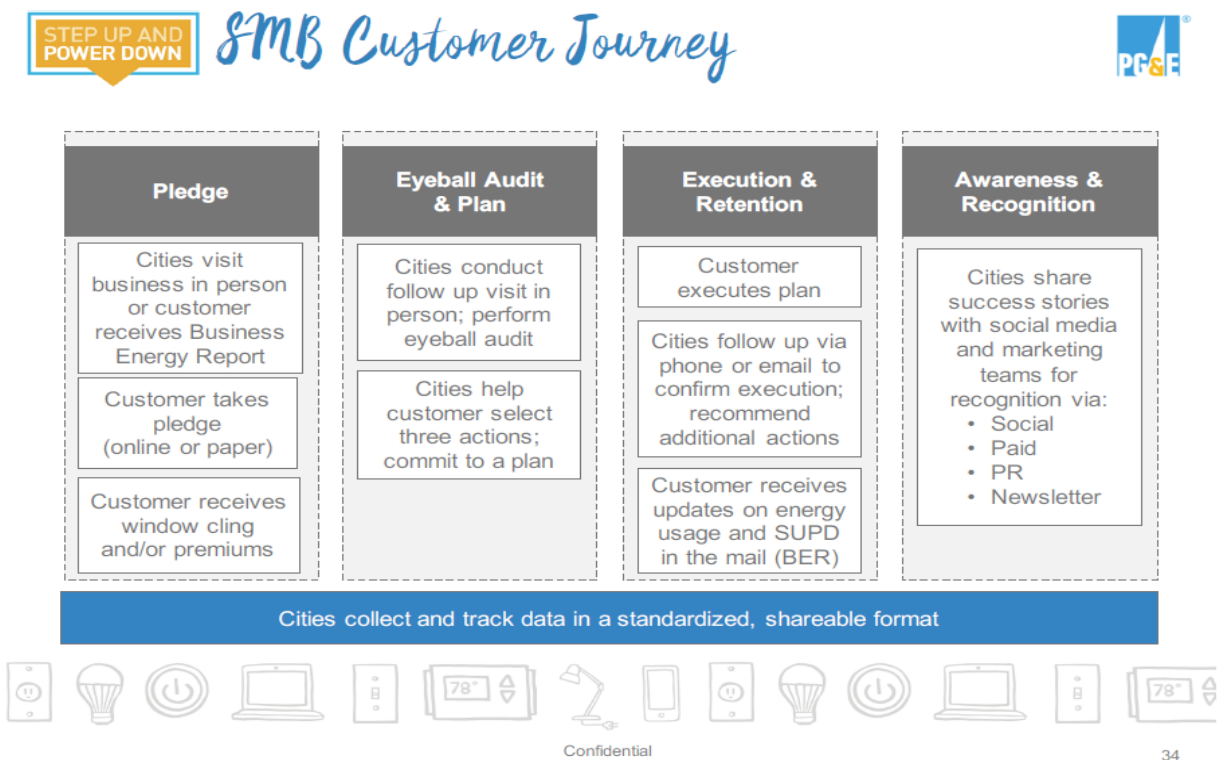
6. Continue to use Energy Check for tracking, but this will be updated and used by the cities on the back end

Stakeholders reported few SMB engaged with EnergyCheck to track their actions, and some SMBs could not even set up an account. SMBs used the revised energy checklist, with the cities updating Energy Check after visiting the SMBs in person to find out what actions they completed.

3.5.2. Customer Journey

While stakeholders found the customer journey (Figure 3-4) accurate overall, they noted content and order could vary. They emphasized in-person follow-ups were more effective than email or phone.

Figure 3-4: Small and Medium Business Customer Journey



3.5.3. Outreach and Offerings

Up to six stakeholders involved in outreach assessed how well elements in the journey engaged SMBs.

3.5.3.1. Pledging and recruitment activities

Overall, stakeholders agreed the pledge minimally influenced SMBs, in part due to the non-binding aspect of the pledge, and in part due to a substantial lag (often months) between pledging and follow-up. Stakeholders said the slow follow impeded participation significantly and that outreach staff would need to remind them of their pledge and re-educate them about SUPD-C. Stakeholders noted it was critical to get to the right contact to engage SMBs, and had observed mid-afternoon was a good time to stop by and find decision-makers there at a less busy time of day.

Stakeholders held varying views about the value of Business Energy Reports, some saying they had little impact in recruitment, while others saying they were a positive influence.²⁰ They also varied in their appreciation of window clings and premiums to engage SMBs. The majority said customers told them that they liked them, they helped build what felt like a community effort, or that it helped them remember to take actions, like turn off lights. One stakeholder, however, thought the clings weren't used, but that SMBs did like the power strip and cookie premiums.

3.5.3.2. Personal visits, eyeball audits, and action plan

Stakeholders agreed the door-to-door, personal, one-on-one visits, while costly, were the most effective method to recruit SMBs, allowing them to generate rapport and engage with SMB decision-makers in a meaningful way. Some added that SMBs often do not respond to telephone calls or emails. They added further personal follow-ups increased the likelihood that businesses would take action, as did auditors or others who could speak with them in their native language.

In addition, stakeholders said messaging about community and that other businesses were taking action drove SMBs to sign up. As one stated,

They felt part of a collective, part of a community, and that gave them a tremendous sense of pride. When coming into this initially we anticipated that energy and cost savings would be primary motivators, but it was that sense of community that really got people engaged.

Two stakeholders commented on the eyeball audits, with one saying they were useful and should be kept for future iterations of SUPD, and the second agreeing, with the caveat that they were much more useful if done with the SMBs decision-maker.

During the visit, outreach staff and SMBs were to commit to a plan of taking three actions among three categories of actions: behavior changes, participation in an Energy Watch project, and completing an on-line Business Energy Check-Up. Two stakeholders reflected briefly on these three categories. Overall, the

²⁰ It was likely difficult for stakeholders to gauge the influence of Business Energy Reports since they were not actively involved with using them in outreach. In addition, SUPD-C conducted an experiment where some SMBs received Business Energy Reports with special messaging (treatment) and some did not (control). The research suggested twice as many SMBs signed up for SUPD-C in the treatment group as in the control group. However, it also showed that a personal visit was ten times more likely to result in a sign-up than SMBs that did not receive a personal visit.

stakeholders said it was good to have choices, and that the behavior changes and Energy Watch project participation categories were the most useful. On the other hand, they said that while they mentioned Business Energy Check-Up, it was not central offering and that they tended to avoid electronic actions for SMBs.

Action plans/checklists (including help with selecting actions)

While the revised, shorter, and targeted checklist, as shown in Figure 3-5, generated greater rapport with businesses, stakeholders agreed it did not lead to substantial results.

Figure 3-5: An example of an SMB Checklist

The image shows a screenshot of a web-based checklist titled "Our Energy Savings Plan". The title is in blue. Below the title, there is a short paragraph: "Here are a few actions to get you started! Select at least three items to start saving and share with all staff by posting your checklist in a visible place." The checklist consists of several items, each with a checkbox: "Turn off equipment when not in use", "Turn off all non-essential lighting during the day", "Plug electrical devices into power strips and turn off devices at night or when idle", "Decrease heating and air conditioning in back office and unused spaces", "Perform housekeeping tasks during business hours", "Set thermostats to 78°F for cooling and 68°F for heating", "Create and implement your own energy procedures checklist", and "Other:". Below the checklist, there is a grey box with a checkbox and the text: "Yes, I'm interested in rebates for a retrofit project! A Silicon Valley Energy Watch team member will follow-up separately." Underneath this box are two sets of lines for "Energy Advisor" and "Business Contact", and two sets of lines for "Energy Advisor Contact Information" and "Date". At the bottom of the form, there is a small logo for "SAN JOSE STEP UP AND POWER DOWN" and a URL: "Visit SanJose.StepUpandPowerDown.com for more tips on how to save energy." Below the URL are social media icons for Facebook and Twitter with handles: "f /StepUpAndPowerDown" and "t @StepUpPowerDown".

Some had concerns that SMBs checked the things they were already doing to save energy. Others thought the discussion about the checklist needed to coincide with the discussions about audit results or business needs, and often occurred too late or at the wrong time in the process to be very influential.

The promise of recognition

Both stakeholders agreed that the promise of recognition did not motivate SMBs to take energy-saving actions. The businesses with a strong social media presence reportedly appreciated the social media recognition, but the second stakeholder said that there were a fair number of small businesses that don't use computers frequently and would not even see the social media recognition.

3.6. Legacy of SUPD

Stakeholders believe SUPD-C leaves a legacy in both cities due to the strong relationships formed between SUPD-C team members, PG&E, the cities, and the businesses, and in the new thinking and behaviors, and operational changes that participants adopted.

Eleven stakeholders discussed the legacy of SUPD-C. Five talked about SUPD-C creating relationships with businesses and the cities that had "quality," "strength," and "depth," and that these "strong bonds" would persist in the communities. Stakeholders expected these relationships to lead to future engagement with PG&E and active participation in PG&E's energy efficiency portfolio. Seven thought

behavioral and operational changes became “ingrained in the businesses’ DNA.” As another stakeholder said, “We’ve created a memory in their minds that won’t be fading anytime soon.”

Several stakeholders thought that a legacy could live on in how the cities spend their reward money and hoped the money would be used to further energy efficiency in the communities, and if they communicate that the money came from PG&E. Stakeholders sensed that the businesses would continue to reach out to the Energy Watches and complete more energy efficiency projects. One stakeholder from a City explained SUPD-C’s legacy this way:

We have been able to build strong relationships with the communities that persist. We have those businesses calling our department for other resources as a result and they’ve participated in other programs with our department as well, and they have a stronger relationship with PG&E as a result.

4. Large Commercial Participant In-Depth Interviews

4.1. Chapter Overview

This chapter presents findings from interviews with 19 of the most active large organizational participants. We first present respondent characteristics and then explore their perceptions about their journey through SUPD-C, from their motivations to participate, to the steps they took, to their views of how well the process and outcomes worked for them.

4.2. Respondent Characteristics

Respondents represented large organizations in downtown San Francisco (10) or San José (9) from a range of organizational and building types. We spoke with representatives from six technology firms, four companies housed in office buildings, three hotels, three universities, a sports stadium, a convention center, and a museum.

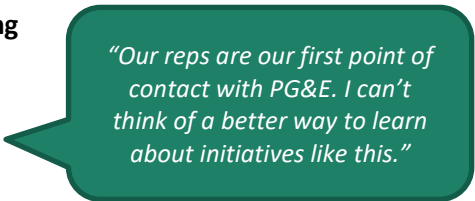
Many organizations in this most active group had established relationships with PG&E account representatives (reps). In addition, many organizations had taken advantage of PG&E rebates in the past, understood the value of energy efficiency, and had a dedicated person responsible for addressing energy efficiency in their buildings.

The people we spoke with at these organizations were primarily building engineers, facilities managers, and operations managers (12 of 19). Three respondents were sustainability leads at their organizations, and the remaining four had various positions including Chief Financial Officer, assistant to the director, and compliance and safety or environmental services managers.²¹

4.3. Key Insights and Findings

4.3.1. Outreach and Sign-Up

SUPD-C successfully enrolled large commercial participants using trusted contacts and established networks. All but one participant said this recruitment approach was an effective way to learn about and become interested in SUPD-C.



“Our reps are our first point of contact with PG&E. I can’t think of a better way to learn about initiatives like this.”

As shown in Table 4-1, PG&E account reps were the most common trusted source for enrolling large participants in SUPD-C (11 of 19). Four participants

²¹ One of the participants was also involved in outreach to SUPD-C small and medium businesses and sometimes answered questions from their perspective of an SUPD-C implementer, rather than a participant. In those cases, we excluded their response and note it.

mentioned they worked closely with their reps and were interested in any free PG&E resources and support they recommended.

Other trusted sources included green business networks of which three participants were members, including “Verge” (a green business conference), the San Francisco Sustainability Hotel Council, and the Business Council for Climate Change. Three others learned from co-workers or the building’s property manager. Two participants learned about SUPD-C from somewhat less familiar contacts who were part of the SUPD-C outreach and implementation team.

Respondents had little advice for improving outreach; however, one participant suggested that PG&E should send an email to introduce the initiative prior to a telephone call.

Table 4-1: Method by which Participants Learned of SUPD-C (n=19)

Method	Number of Participants (n=19)
PG&E account representative	11
Green business networks	3
Other person at organization/Property Manager	3
SUPD-C Implementation Team (CLEAResult or a REV representative)	2

Many respondents (12) reported their management initially had some concerns about the level of organizational commitment, costs, or employee buy-in needed to participate in SUPD-C (Table 4-2). While seven of the nineteen respondents voiced no concerns about signing up with SUPD-C, four said their management was uncertain about what the SUPD-C pledge obligated them to do. In three of these cases, respondents had to reassure management that the pledge had no legally binding consequences. Four respondents also said their management questioned whether the energy savings would outweigh the costs of employee time or how savings would be measured. This was particularly true for the employee engagement campaigns: the burden on employees versus the resulting energy savings figured highly into decisions about which campaigns to conduct, if any.

In addition, some respondents were uncertain about their ability to cultivate sufficient “buy-in” from building occupants to ensure they would actively participate in SUPD-C’s activities (3). One of those three noted that it took three meetings to explain SUPD-C before the necessary support could be developed. Finally, one participant said the “power down” part of the name alarmed him because he thought he would be required to power down his facility for part of the day, which to him “suggested at the outset the program wouldn’t be a good fit.”

Table 4-2: Participants’ Initial Concerns about SUPD-C (n=19) *

Initial Concerns	Number of Participants (n=19)
None	7
Signing pledge	4
Cost benefit concerns/how to measure impact of behavior changes	4
Buy-in of building occupants or staff	3
Workload or time commitment required	2
"Power down" part of name	1
PG&E not recognizing some EE efforts	1

* Multiple responses allowed

4.3.2. Motivations to Participate

Learning new ways to save energy, access PG&E support, and engage employees were the key drivers for participation.

Almost all participants said their organizations joined SUPD-C to reduce their energy costs or learn new ways to be more energy efficient at their property (Table 4-3).

“This program allowed us to reach into the cubicle to affect occupant behavior.”

At the same time, over half of participants (10) saw SUPD-C as an opportunity to raise staff awareness about how behavior impacts energy use, which some saw as an untapped source of energy savings. Two other participants specifically mentioned the ability to get training for some of their employees as a reason they participated.

Respondents mentioned other motivators less frequently. Several viewed SUPD-C as a conduit to further support from PG&E (5), such as learning about available rebates (3) and getting an audit performed (1).

Other organizations joined SUPD-C because they wanted to be greener, to enhance their brand image, or to send a message to employees or other businesses that their company cares about resource conservation.

Two participants valued the option to create a roadmap outlining actions they could take over time to save energy at their facility. And two others were motivated to join because similar companies had recommended it.

In addition, five participants mentioned, without prompting, that the absence of an upfront fee motivated them (and removed a barrier to their participation).

Table 4-3: Participant Motivations to Participate with SUPD-C (n=18)*

Motivation	Number of Participants (n=18)
Reduce energy expenditures (10)/improve energy efficiency (7)	17
Raise staff awareness and change their behavior	10
Receive PG&E support	5
Be greener or help environment	4
Reflects well on corporate image	3
To get training for employees	2
Ability to create an action plan	2
Similar companies recommended or were participating	2

* Multiple responses allowed. The participant involved in implementation is excluded from this table because they answered that their motivation was the “end of campaign financial award” for assisting with outreach.

All respondents understood SUPD-C goals and, in addition, said the goals aligned with their internal organizational goals – especially to save energy, operate more sustainably and engage employees.

Table 4-4 shows how respondents characterized SUPD-C goals.

Table 4-4: Views of SUPD-C Goals (n=18)*

SUPD-C Goal	Number of Participants (n=18)
Save energy in businesses	13
Provide opportunities to change the way businesses are operated	6
Change behavior of occupants or staff	6
Help businesses be more sustainable	4
Achieve greenhouse gas reduction, trash diversion, or water savings	3
Connect organizations with PG&E resources	3

* Multiple responses allowed. The participant involved in implementation who stated that SUPD-C’s goal is customer engagement is excluded from this table.

All but one participant mentioned how PG&E and their organizations have a mutual goal to save energy.²² Many participants noted their organizational alignment with SUPD-C because they want to run their buildings more efficiently and find opportunities to save energy in building operations. Some also wanted to make greater use of PG&E resources to help

“It’s really trying to change the occupant culture and raise awareness of small actions they can take to contribute to a greener planet.”

²² The participant involved in implementation said they thought SUPD-C’s goal was “customer engagement,” which we interpreted as a reflection of their role in implementation rather than their role as a participant.

them pursue greater energy efficiency. Others reported they have broader organizational goals, that, as one person put it, “align very well [with SUPD-C goals] because we are conscious about being as green as we possibly can be and conserving resources and money.”

One-third of respondents (6 of 19) mentioned SUPD-C’s goal to save energy through changing behavior. Five of those six said changing such behaviors matched their goals of raising employee awareness about their energy use.

Notably, six of the fourteen companies that mentioned SUPD-C’s behavior change goal also conducted employee-engagement campaigns; however, of the five companies that chose *not* to conduct employee engagement campaigns, none mentioned behavior change as an SUPD-C goal.

Participants emphasized the importance of making the business case, and highlighting participant success stories, in attracting future large commercial organizations to participate in SUPD-C.

Respondents said SUPD-C should use a business case approach to present the financial and other benefits of the initiative to large organizations. They recommended sharing success stories about how past participants achieved energy savings in their buildings and how SUPD-C helps organizations make “investments in yourselves and in your infrastructure.” They also recommended highlighting that SUPD-C provides valuable resources and support tailored to business needs, especially achieving greater operational efficiency.

One participant suggested including SUPD-C behavioral emphasis in making the business case, adding this advice: “Help clarify for those companies that have done more and that have more efficient buildings – even if LEED certified – **that there are still opportunities for you to do more.**”


Behavior change is the key lever to using less energy if there is additional efficiency you want to gain.”

Finally, because of the high profile of some past participants, one respondent suggested using endorsements from past participants to attract other large (but also smaller) organizations.

4.3.3. Resources Used

Participants’ time, availability, and situational needs

influenced which resources they used. SUPD-C offered organizations a variety of resources, but no participant could take advantage of everything offered. Many participants, though, used three or more resources (14), and a majority participated in the REV sustainability circles, used their engagement managers, conducted an employee engagement campaign, and had an EPI (Figure 4-1). Participants decided which resources to use based on available staff (12) or on how well the initiative’s offerings fit their organizational needs and situation (7).²³



“We focused on what we thought was important, but we don’t have the available staff to leverage all that’s out there, at least not right away.”

A lack of staff time and availability was a particularly notable barrier (5) to participating in the O&M training targeted to building operators and engineers. Participants reported workloads prevented staff

²³ One participant we spoke with was not involved in deciding which resources to use and is not included in the 19 reported here. Additionally, one participant is included in both groups because she responded, “We used as much as we could that would apply to our situation and available resources.”

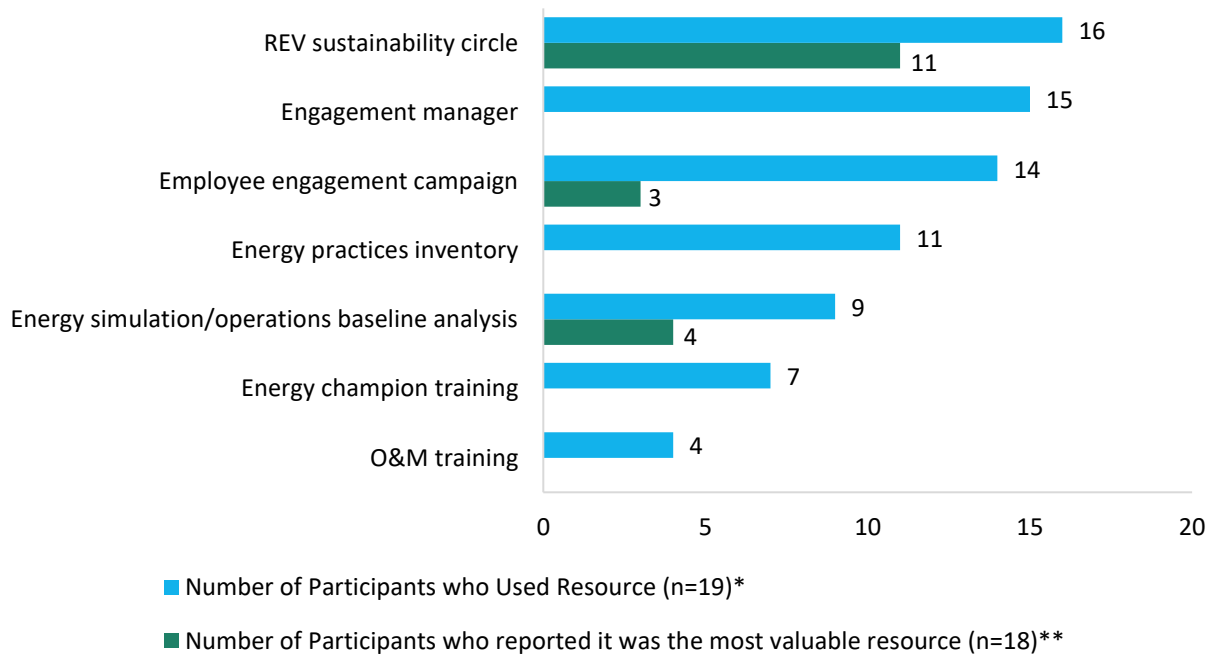
members from being able to attend trainings off-site. Work responsibilities also prevented one organization from participating in the REV sustainability circles and another from accompanying an auditor during the energy practices inventory.

Participants highly valued REV’s sustainability circles because they gave them useful ideas and tools to save energy, expert advice, and networking opportunities. REV sustainability circles were the most-often used resource (16 of 19) and the most valuable to participants (Figure 4-1). Participants valued REV sustainability circles because they learned specific and new ways to become more energy efficient at their properties (6 of 16). As one participant said, *“The instructors and speakers give you advice and ideas on how to incorporate cost-saving measures and when rebates may be available.”*

Participants also valued the REV tools, such as the energy calculators and tracking tools (5); learning from expert speakers (5); and developing a sustainability action plan (4). Finally, participants valued the opportunity to get *“to work with some other local businesses - it was nice to have that networking opportunity and learn what’s working there and what’s working here and have a sounding board.”*

“[REV is] everything I haven’t thought of already.”

Figure 4-1: Resources Used and the Single Most Valuable Resource



* Multiple responses allowed.

** When asked what the most valuable resource was, one person responded, “all of it.” This person participated in REV sustainability circles, received an energy practices inventory, conducted an employee-engagement campaign, worked with an engagement manager, and participated in energy champion training.

The four participants who named the energy audit as their most valued SUPD-C resource said it was because the audit identified energy saving opportunities. Two participants reported not having had a previous audit and were glad to receive one. One participant said the audit provided third-party validation to approach upper management to get approval for energy efficiency projects.

“The audit was able to demonstrate not just from us internally, but from a reliable source that by doing such and such we could save this amount of money and electricity as a benefit.”

Many participants (12) found all resources helpful. Among the seven who named “least helpful resources,” four chose the employee engagement campaigns, one chose the EPI, one chose their participation in a REV circle, and one said the energy report software (Table 4-5). Of those who did not value the employee engagement campaigns, three encountered barriers to conducting a campaign and said their employees lost interest in the campaign they tried. The one participant who did not value the EPI said its “ballpark estimates” of energy reductions were not very helpful. The participant who chose the REV circle as least helpful said that budgetary issues at her organization prevented them from implementing many of the ideas. Finally, one participant could not input the right information in the initiative’s “energy report software” because their energy bills are tied to another organization’s bills.

Table 4-5: Least Helpful Resources (n=19)

Resource	Number of participants (n=19)
All resources helpful (none)	12
Employee-engagement campaigns	4
Energy practices inventory	1
REV sustainability circles	1
Energy report software	1

4.3.4. Employee-Engagement Campaigns

Three-quarters of respondents (14 of 19) conducted an employee engagement campaign, and three conducted more than one campaign. There were four campaigns from which participants could choose. In the Adopt a Light campaign, participants decorated light switches and checked them to make sure they were not on unnecessarily. Sweet Good Night participants were rewarded with candy for turning equipment off at night. With the Energy Vampire Slayer and Power Down Unplucked campaigns, someone who did not power down their equipment at night would return in the morning to vampire fangs or a rubber chicken on the equipment, which served as a feedback mechanism. As shown in Table 4-6, they most frequently used the Adopt a Light campaign (7), followed by Sweet Good Night (5), Energy Vampire Slayer (4), and Power Down Unplucked (4).

Table 4-6: Employee Engagement Campaigns Conducted (n=14)

Campaign	Number of Participants (n=14)
Adopt a Light	7
Sweet Goodnight	5
Energy Vampire Slayer	4
Power Down Unplucked	3

The campaigns provided an opportunity for employers to educate staff and raise energy-use awareness. Participants described the campaigns as an effective way to “start a conversation” with employees around behavior and energy use. They said the campaigns send a message to employees that their employers care about energy savings because they have allocated the time and resources to conduct the campaign. Almost half of the participants cited increased employee engagement as a benefit of the initiative. (see Section 4.3.8 for more on benefits).

Campaigns can “start a conversation.”

Competition, regular promotion, and visibility of behavioral cues encouraged participation. Participants using the campaigns said friendly competition created a team atmosphere and helped to spur the involvement of employees. They also found regular communication encouraged sustained participation throughout the campaign. Some participants leveraged their green team networks to reach employees in multiple departments and others said emails from their organization’s leadership encouraged employee participation.

...behavioral cues for the campaign included rubber chickens and nests for the Unplucked campaign. . .

The visibility of behavioral cues was also linked to greater participation. Many of the behavioral cues were collateral provided by the SUPD-C team and included flyers, large posters, rubber chickens and nests for the Unplucked campaign, leader boards, and other materials. Two-thirds of participants who conducted a campaign (9 of 14) commented on the helpfulness of the support and resources the SUPD-C team provided. They appreciated the collateral to help them market the campaign (7) and the assistance with drafting communications (4). They said the “pre-made” emails that only required minimal tweaking to conform to the company culture were helpful and one participant said more pre-made emails would help her to engage others in her company.

Participants liked campaigns that intruded less on employee time, that rewarded instead of punished, and that provided a sense of ownership. Each employee engagement campaign had advantages and disadvantages as summarized in Table 4-7,²⁴ suggesting no “perfect” campaign exists that will satisfy and motivate everyone. However, in more than one organization, participants found ways to modify the campaigns to better fit their needs.

²⁴ Participants did not state unique advantages or disadvantages related to the Energy Vampire Slayer campaign.

Table 4-7: Advantages and Disadvantages of Employee Engagement Campaigns

	Advantages	Disadvantages
Sweet Goodnight	<ul style="list-style-type: none"> • Rewarding. • Not intrusive on employee time. 	<ul style="list-style-type: none"> • Dislike of candy rewards. • Some people think they know when to turn their equipment/do not want to be told what to do.
Power Down Unplucked	<ul style="list-style-type: none"> • Visibility and audibility of chicken. 	<ul style="list-style-type: none"> • Punishing. • Chicken not appealing.
Adopt a Light	<ul style="list-style-type: none"> • Pride and ownership of taking care of your own area. • Many light switches remained decorated. • "Fun" and "cute." 	<ul style="list-style-type: none"> • More employee time to decorate and repeatedly check on light switch.

Some participants said they selected their engagement campaign to minimize staff time. They thought Sweet Good Night intruded less on employee time than the other campaigns, since it took only a few seconds to shut off equipment when it was no longer in use (2). Other participants commented that Adopt a Light’s requirement to check on a light switch throughout the day appeared to be too time consuming (2).

Some participants chose the Sweet Good Night campaign because it rewarded employees for good behavior, instead of punishing them for bad behavior, as Power Down Unplucked does (2). However, two participants who conducted Power Down Unplucked said they counteracted the punishment aspect by using a point system that rewarded employees for taking selfies with the rubber chicken.

...Employees felt “pride” and ownership in “taking care of your own little area.”

Participants also suggested that employees may be more attracted to campaigns that increase their autonomy rather than constrain their behavior. One participant observed resistance to Sweet Good Night from some employees because they “did not want to be told what to do” with their equipment. With Adopt a Light, on the other hand, two participants thought employees felt “pride” and ownership in “taking care of your own little area.” In some cases, participants noted that employees even left their switches decorated after the campaign ended; this, in turn, provided ongoing and persistent visual cues to turn off lights when not needed (see Section 4.3.7 for more on persistence of changes).

Barriers to conducting engagement campaigns included technological barriers, split incentives, and organizational schedules. For four participants, technological barriers to conducting engagement campaigns surfaced. Two facilities had fully-automated lighting which meant employees had no light switches to adopt. In two other organizations, some employees needed remote access to their computers which prevented them from shutting them off at the end of the day.

Other barriers to implementing campaigns included the belief that the energy savings resulting from a campaign would not equal the resources required to conduct it or that changes in human behavior were unlikely to have much impact on their energy use. One participant said they already had a robust system that encouraged employees to power down their equipment when not in use, which their EPI corroborated.

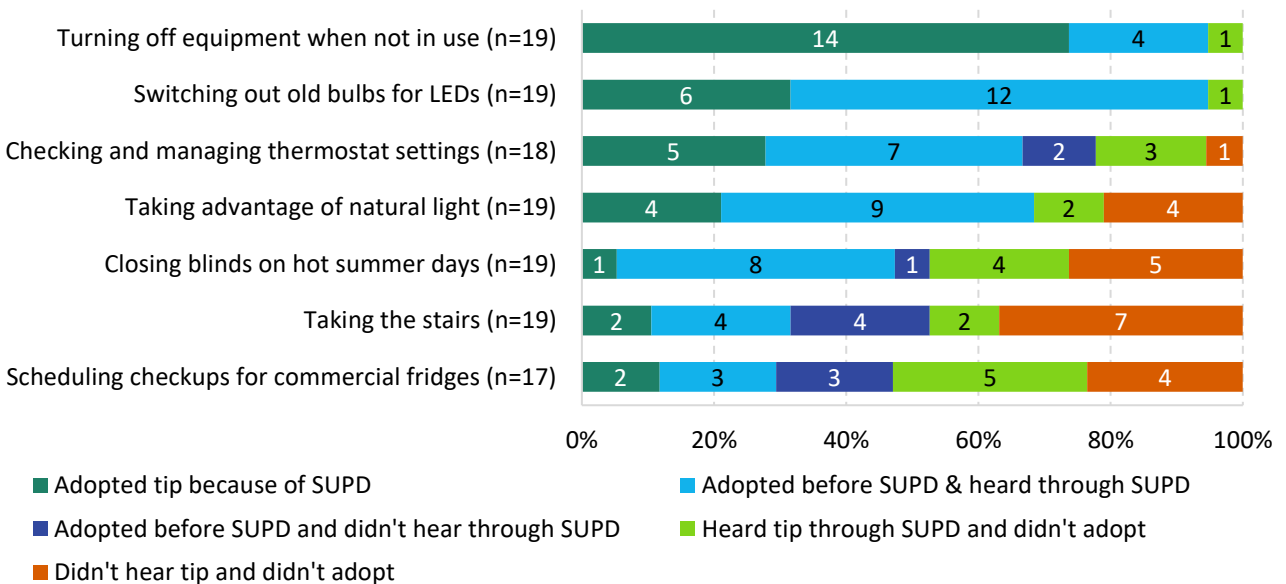
Other participants reported they rented space in a building and paid a flat energy fee per square foot to their landlords (2). These participants said they would not be able to measure the energy savings resulting from an employee engagement campaign nor reap the financial benefits from the energy saved. Finally, in some cases organizational schedules made it challenging to conduct employee engagement campaigns. At one university, staff and students on campus were occupied with exams and were soon departing for winter break, leaving little opportunity to participate in a campaign.

4.3.5. Energy saving Tips

SUPD-C activated a largely untapped source of energy savings -- turning off equipment when not in use. Many participants were aware of some of the energy saving tips promoted through SUPD-C prior to SUPD-C involvement and many had already taken steps toward achieving those. However, as Figure 4-2 shows, three-quarters of participants (14 of 19) started turning off equipment when not in use because of SUPD-C participation. In addition, one-fifth to one-third of participants said they adopted one of the following energy saving tips due to SUPD-C: switching out old bulbs for LEDs (6 of 19); managing thermostat settings (5 of 18); and taking advantage of natural light (4 of 19).

Figure 4-2 also shows that some organizations did not recall hearing about some of the SUPD-C tips, and thus did not adopt them, including taking the stairs and closing blinds on hot summer days

Figure 4-2: Energy saving Tips Participants Heard from SUPD-C and Adopted



Building characteristics made some tips difficult or impossible to adopt. For instance, three participants did not have blinds in their buildings; three did not have commercial refrigerators; and two said their building design prevented use of natural light and a third said their building is nearly 100 years old and it cannot be retrofitted to increase natural lighting. Representatives from hotels said their housekeeping policies affect energy saving behaviors. One has a policy for staff to open drapes when cleaning rooms while another hotel prohibited staff from adjusting guests' drape settings.

4.3.6. Participation Outcomes

Participants reported participating in SUPD-C resulted in changes to employee behavior, equipment operation, and organizational policies. About half of all participants (9 of 19), or two-thirds of those who conducted an employee engagement campaign (9 of 14), said that employees have changed their day to day behavior. Examples include powering down equipment or lights when not in use (7), using high efficiency heated floor mats in office cubes instead of altering the thermostat (1), and an engineer who stated that his greater awareness of energy use will change his day to day behavior in his job.

Two-thirds of those who conducted an employee engagement campaign (9 of 14), said that employees have changed their day to day behavior.

Most participants also said SUPD-C influence them to upgrade energy-using equipment or change the way they operate equipment. Fourteen participants mentioned specific plans for energy-efficient upgrades, with the most common being lighting upgrades (9). Others reported changes in the way they operate their HVAC equipment including shutting off air handlers to empty rooms, replacing a cooling tower, instating HVAC scheduling around peak demand, and adjusting the temperature in server rooms (6). Three participants mentioned changes related to motors, either installing more efficient motors or adding drives to their pumps.

Four other participants reported they have codified energy saving actions by altering organizational policies. For example, one participant instituted organization-wide thermostat set points in all buildings at his campus. Set points varied before but now cooling is set at 76 degrees and heating at 70 degrees. Another participant planned to institute a policy to ban all fluorescents from their campus and yet another planned to create a policy requiring the purchase of natural soaps, natural cleaning products, and products in eco-friendly containers.

4.3.7. Persistence of Changes

Participants are confident mechanical changes will persist, but are less sure about the persistence of behavior changes. Participants who replaced mechanical equipment, changed thermostat set points, or installed occupancy sensors strongly believe those energy saving actions will persist (7). While less confident employee behavioral changes will persist, they remained very optimistic that they will. These participants were optimistic because they have kept up visual reminders (4), such as the campaign posters or decorated light switches, or because an energy champion continues to remind employees (3).

"I'm encouraging them and complimenting them. I want to keep them engaged. I don't want this to be a blip on the timeline, we really are looking to change culture going

In addition, five participants said that their energy saving actions learned through SUPD-C will persist because the building engineer is now more educated and aware of sources of energy savings.

Though many were optimistic about the persistence of energy saving changes, they said periodic reminders and check-ins would help to guarantee they persist (8). Others talked about needing gentle

nudges and reminders, even if just phone calls or emails, so that they do not get distracted by their other required duties. A representative quote includes the following:

“Follow-up is always good. If they reach out six months down the road, and keep it fresh on my mind, I can keep it fresh on the green team’s mind and of course it trickles down.”

Four participants explicitly mentioned PG&E rebates as something that would help them to continue energy saving actions in the future. As one participant said, “If our account manager reaches out to us to let us know what rebates PG&E is offering, my company will hop on that.”

4.3.8. SUPD-C Benefits

Benefits of SUPD-C participation included enhanced employee engagement and energy-use awareness, learning new ways to save energy, understanding how much energy is saved from certain actions, public recognition, and business networking. Almost all participants reported *more than one* benefit from participating with SUPD-C (16 of 19; 84%). One-half of participants said they benefitted from learning new ideas to save energy in their buildings (Table 4-8).

Table 4-8: Benefits Experienced by SUPD-C Participants (n=19)*

Benefit	Number of Participants
Learned new ideas to save energy	10
Enhanced employee/occupant awareness and engagement in energy savings	8
Knowing specific amounts of energy saved from different actions	5
Energy savings	3
Enhanced engineer awareness of energy saving opportunities	3
Public recognition for energy efficiency actions	3
Networking with other businesses or vendors	3

* Multiple responses allowed

Participants also reported that SUPD-C helped them engage their employees and improved employee awareness of energy use (8). One organization initiated a green team thanks to SUPD-C, which increased employee engagement at their building even more. Another participant stated:

“I think awareness of power usage was really big. Also, just reminding everyone that we’re a team and we’re all going to save power to be better to the environment and our pocketbook.”

Other participants benefitted from achieving energy savings (3) or learning specific amounts of energy or money saved from different retrofits (5). Participants said that REV sustainability circles and energy audits helped them understand the actual kWh savings or monetary benefits of changing out specific equipment. Another said her organization benefitted from creating an action plan. Two participants said

it was helpful when SUPD-C team members made presentations to their management to ensure that decision-makers understood the impacts of various retrofits.

Another credited SUPD-C with advancing energy efficiency at his organization saying,

“If it wasn’t for REV [sustainability circles] and those speakers, we wouldn’t have known about those opportunities and if it wasn’t for the program [overall], we wouldn’t be nearly as far along as we are.”

“They helped us calculate savings and put numbers on paper to create a roadmap of where we are now and where we can be in the future.”

Three participants appreciated the public recognition that came with SUPD-C participation. Two of these mentioned the photo shoot that was part of the energy champions training and two mentioned recognition from their city mayor at a luncheon. With regards to the photo shoot, one reported “that was a fun aspect of the program” and the other said “it’s nice to be recognized” and that she tries to do the same with her employees by acknowledging their efforts to change their behavior. Other participants said SUPD-C benefits included the increasing the building engineer’s understanding of energy saving opportunities and the chance to network with other businesses.

4.3.9. Use of PG&E Efficiency Programs

SUPD-C participation has spurred use of PG&E energy efficiency programs and participants are highly interested in participating more in these programs. In the time between SUPD-C participation and the interview, half of the participants (9) said they used PG&E rebate programs. Half of those (4) said that their participation in those programs was directly related to SUPD-C guidance. They reported they took advantage of lighting incentives (7), a demand response program (1), a rebate for an air compressor tank (1), and one said they became involved with a “strategic energy partnership.”

All but one participant said they planned to take advantage of PG&E rebates after our interview. Nine respondents said they would be interested in any available rebate for which they qualified. Other participants had specific plans to upgrade lighting or add lighting controls (6). Other rebates participants expected to use included a smart plug load rebate, the Savings by Design program, incentives for HVAC upgrades, demand response programs, and rebates for adding drives to pumps.

4.3.10. Satisfaction with SUPD-C

These most active participants were overwhelmingly satisfied with the SUPD-C team’s support and performance.

Participants had numerous positive comments about their interactions with SUPD-C team members. Many said their SUPD-C contacts were easily accessible, readily available, and had advice to answer any question the participants had (10). Others said the SUPD-C team provided “coaching” and “encouragement” while another said they were “persistent in a good way.” Respondents particularly appreciated the tailoring of

SUPD-C team members were “persistent in a good way.”

communication and materials for the employee engagement campaigns. One participant praised the SUPD-C team this way:

“It was a real team collaborative effort. We spent a lot of time meeting and exchanging communication with the SUPD-C team. They were great, their enthusiasm was great and their dedication was superior.”

Only one participant expressed some dissatisfaction with the support received from the SUPD-C team – the participant who was involved in implementing SUPD-C. They said they conducted an employee engagement campaign prior to the team being in place, and did not receive the same level of support that others received with their engagement campaigns.

Most participants gave high satisfaction ratings for their SUPD-C participation, although some hoped for more employee engagement or more energy savings. Two-thirds of participants (13 of 19) said they were completely satisfied; the remaining six rated their satisfaction a bit lower (as a “7” or “8” out of 10). Two of the six had hoped for greater engagement in the campaigns, two said energy savings from behavior changes was minimal, and two did not give a reason for their lower rating.

All respondents said they would participate again in an initiative like SUPD-C, but some added that workload constraints would factor into their decision. Without hesitating, 12 participants said they would participate again. The remaining seven said they would either need to have additional help to run employee-engagement campaigns or their workload would have to be sufficiently manageable to allow them to attend educational sessions like the REV sustainability circles or accompany auditors.

5. SMB Web Survey

5.1. Chapter Overview

This chapter discusses the results of a survey conducted with all PG&E small and medium businesses (SMB) in PG&E territory for which PG&E had an email address through either 1) their customer database or 2) gathered through SUPD-C efforts.

This survey effort represents the third online survey of commercial SMB PG&E customers regarding SUPD-C. Prior to this effort, we conducted a pre-SUPD-C baseline survey as well as an interim survey to establish changes in attitudes, awareness, and participation in PG&E energy efficiency programs and SUPD-C.

The objectives of the third iteration of the SUPD-C survey were to evaluate:

- › Energy efficiency knowledge, behavior, attitudes, and barriers;
- › Trends in awareness of and participation in PG&E programs;
- › Trends in attitudes towards PG&E;
- › Trends in awareness, participation, and interest in SUPD-C; and
- › Influence of SUPD-C on PG&E program awareness and participation, and business energy savings behaviors.

To meet these objectives, we compared trends between customers that self-reported as SUPD-C nonparticipants and participants.²⁵ This allowed us to establish changes over time and look at differences between these two groups using statistical methods such as chi-square tests.²⁶

5.2. SMB Characteristics

To ensure comparability across data collection efforts, we compared basic characteristics about respondents' organizations. We found that respondents were comparable in terms of company characteristics across all three surveys. Most respondents were business owners, executives, or managers and were involved in their business's energy use decisions. Table 5-1 compares the respondents' business characteristics across all three survey efforts.

²⁵ Please note that one-half of SMBs on the participant list did not self-report as participants.

²⁶ It should be noted that some of the observed changes over time among the SUPD-C nonparticipant group could be due in part to members of this group becoming SUPD-C participants. However, we did not track individual respondents over time. So, the exact extent of the overlap in respondents is unknown although estimated to be minimal.

Table 5-1: SMB Characteristics

Most Respondents...	2015 (n = 184)	2016 (n = 181)	2017 (n = 374)
Are business owners, executives, or managers	71%	70%	80%
Are involved in their business's energy use decisions	88%	82%	89%
Have one location	84%	82%	82%
Work in the retail, office, or food service sectors	45%	40%	43%
Average number of employees (in downtown location)	30	19	22

5.3. Key Findings

Overall, we found:

- › Compared to non-participating businesses, SUPD-C participating organizations tended to: be more generally engaged and knowledgeable about energy efficiency, participate in more energy efficiency programs, and be more familiar with and favorable towards PG&E's energy efficiency programs and services. Given that SUPD-C was implemented for about 18 months, it is expected that the primary participants be the most engaged in energy efficiency.
- › While SUPD-C participants were already more aware of and knowledgeable about PG&E EE programs than nonparticipants, many participants reported that SUPD-C encouraged them to participate in additional PG&E EE programs.
- › Many SUPD-C participants took advantage of SUPD-C resources and changed their behaviors in an effort to reduce their business energy.

The sections below describe these and other survey findings in greater detail, organized by the primary research objectives.

5.3.1. Energy Efficiency Knowledge, Behavior, and Attitudes, and Barriers

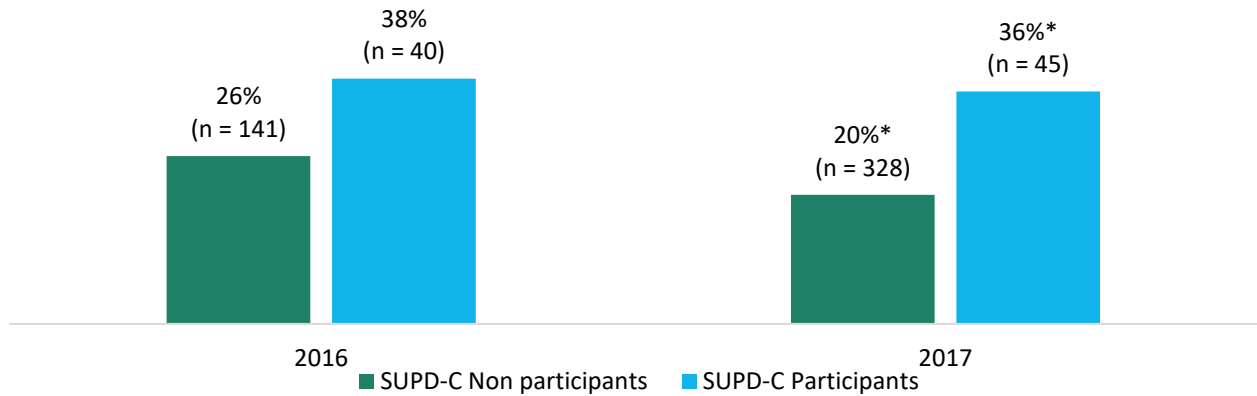
In general, SUPD-C participants are more engaged than nonparticipants in energy reduction behaviors, and sustainability is important to them and their business. Compared to SUPD-C nonparticipants, SUPD-C participants are significantly more like to: feel knowledgeable about business energy savings behaviors, take steps on their own to reduce energy use in their business, and to report sustainability as a priority for their organization.

5.3.1.1. Energy Efficiency Knowledge

Reported knowledge about how to reduce business energy use was slightly higher among SUPD-C participants compared to nonparticipants. In both surveys, a larger proportion of participants than nonparticipants reported they were very knowledgeable about ways to reduce business energy use (Figure 5-1). In 2017, the difference in proportions of participants reporting they were very knowledgeable about reducing energy use relative to nonparticipants increased to 16% and was statistically significant,

over a 12% difference in 2016 that was not statistically significant with a smaller sample of non-participants. While SUPD-C participants reported greater knowledge about energy reduction opportunities, we cannot infer whether SUPD-C caused an increase in knowledge. Participants may already have been interested and engaged in energy efficiency activities, felt more knowledgeable, and been more likely to participate in energy efficiency programs such as SUPD-C.

Figure 5-1: Percent of Respondents that Feel Very Knowledgeable About How to Reduce Business Energy Use

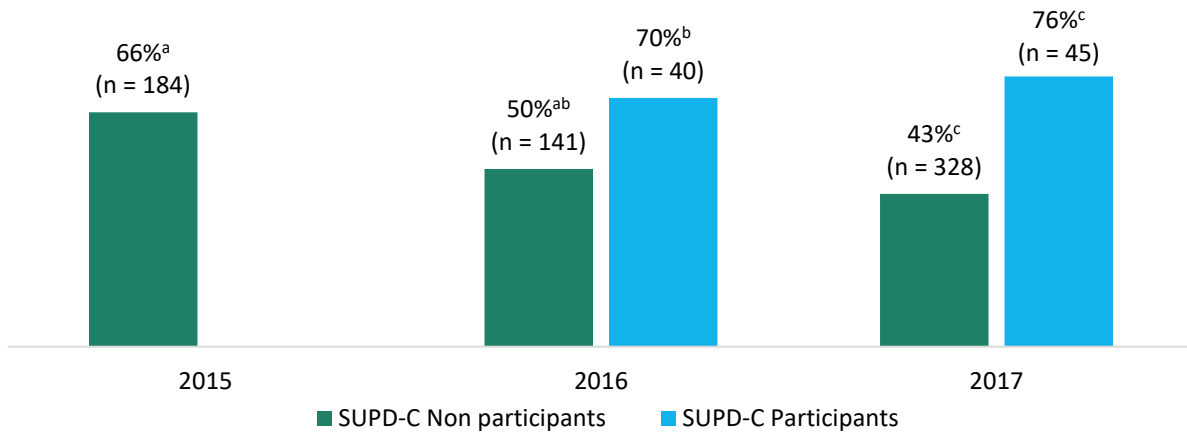


* Difference is statistically significant, ($\chi^2 < .05$)

5.3.1.2. Energy Efficiency Behaviors

SUPD-C participants were more likely than SUPD-C nonparticipants to take steps on their own to reduce energy use. This was true in both 2016 and 2017 (Figure 5-2).

Figure 5-2: Percent of Respondents that Have Taken Steps on Their Own to Reduce Energy Use in Their Business



^a Difference between 2015 and 2016 Nonparticipants is statistically significant, ($\chi^2 < .05$)

^b Difference between 2016 Participants and Nonparticipants is statistically significant, ($\chi^2 < .05$)

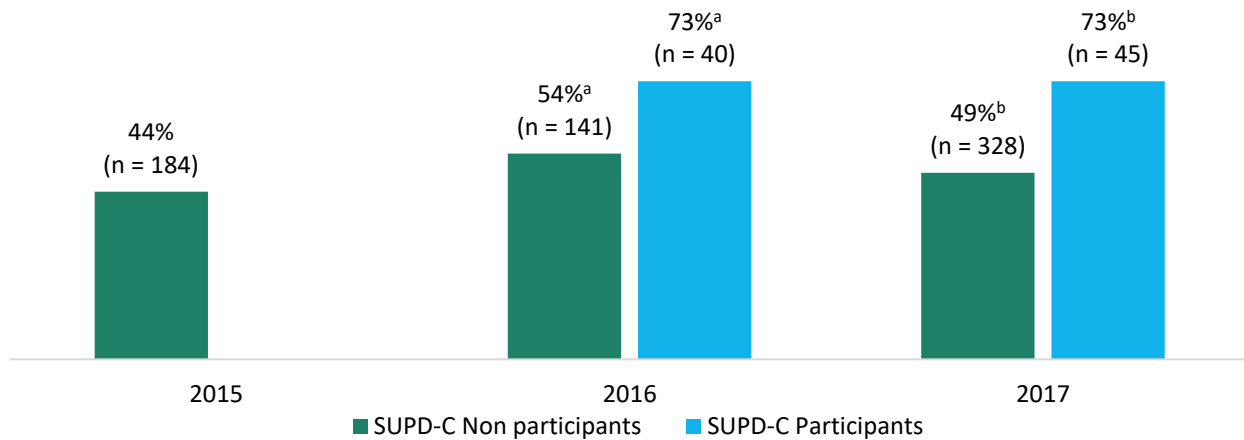
^c Difference between 2017 Participants and Nonparticipants is statistically significant, ($\chi^2 < .05$)

In 2017, both SUPD-C participant and nonparticipant respondents that had taken steps on their own to save energy most often cited reducing energy bills or costs (62%), and reducing their businesses' impact on the environment (23%) as reasons their business has taken steps on their own to save energy in the past two years. SUPD-C participants were more likely (17%) to report they "learned about steps their business can take to save energy as a reason their business took steps to save energy compared to SUPD-C nonparticipants (3%).

5.3.1.3. Energy Efficiency Attitudes

While a majority of 2017 respondents (60%, including both participants and nonparticipants) reported that working for a sustainable company was personally important to them, a smaller proportion (53%) of 2017 respondents reported that sustainability was very important to their business. SUPD-C participants were more likely than nonparticipants to report that their businesses place a high value on sustainability (Figure 5-3).

Figure 5-3: Percent of Respondents that Find Sustainability a Very Important Attribute of Their Business



^a Difference between 2016 Participants and Nonparticipants is statistically significant, ($\chi^2 < .05$)

^b Difference between 2017 Participants and Nonparticipants is statistically significant, ($\chi^2 < .05$)

The 2017 respondents that said sustainability was very important to their businesses (n = 192) cited social and environmental considerations to reduce energy waste. Half of all 2017 respondents (51%) reported that sustainability was a very important attribute of their business. Among respondents that reported that sustainability was very important, more than three-fourths of respondents reported sustainability was very important to their company because they wanted to preserve natural resources and ensure a better planet for the future (76%), more than four times the number that reported they wanted to save energy and/or money (17% - see Table 5-2).

Table 5-2: Reasons Very important to company (Open Ended Response – Multiple Responses Allowed)

Reason	Percent (n = 192)
Preserving natural resources and ensuring a better planet for the future	76%
Save energy and or money	17%
Cost effective/good for business	6%
Set an example	3%
Other	1%
No answer provided	10%

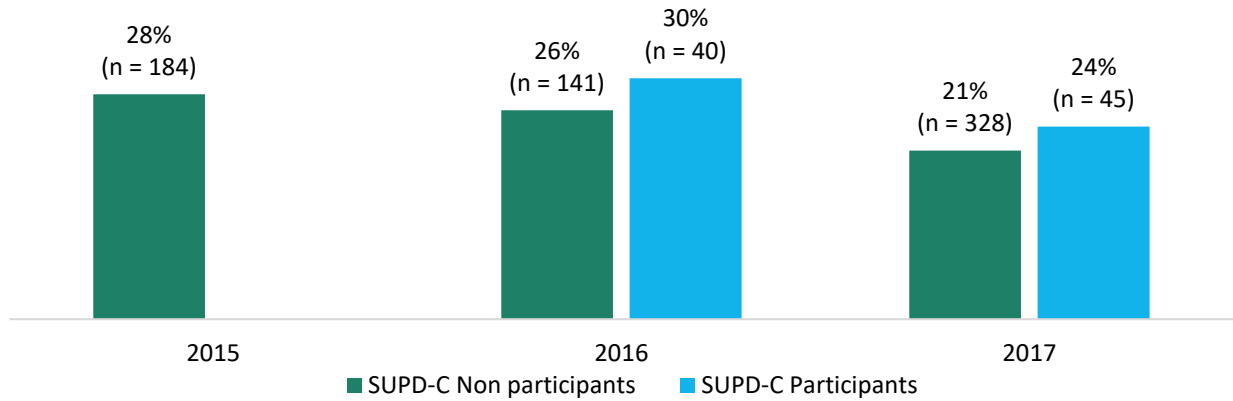
Respondents that reported sustainability was not important to their company most often reported that it was simply not a priority (37%), that their company did not have time to spend on it (20%), or their company already had low consumption, so focusing on energy efficiency was not necessary (20% - see Table 5-3).

Table 5-3: Reasons not important to company (Open Ended Response – Multiple Response Allowed)

Reason	Percent (n = 30)
Not a priority for company (or leadership)	37%
Lack of time	20%
Already low energy consumption	20%
Savings not worth the effort	7%
Don't know	3%
No answer provided	17%

Customer demand does not appear to drive respondents' commitment to sustainability. Considerably fewer respondents reported that they perceived sustainability was very important to their customers than reported it was personally important or important to their business. This finding was consistent year over year and across SUPD-C participants and nonparticipants (see Figure 5-4).

Figure 5-4: Percent of Respondents that Perceived Sustainability to be Very Important to their Customers*



* Differences were not significant.

5.3.1.4. Energy Efficiency Barriers

A lack time (20%) and low employee and customer engagement (20%) were the most often reported challenges to participating in SUPD-C. Additional responses are summarized in Table 5-4.

Table 5-4: Challenges to Participating in SUPD-C (Multiple Responses Allowed)

Challenge	Percent (n = 45)
Not enough time	20%
Low interest in energy savings among employees/customers	20%
Not enough support from SUPD	18%
Difficult to implement in the business	18%
EE activities resulted in little savings	13%
Not enough recognition	4%
None Selected	27%
Other	7%

Most SUPD-C nonparticipants were not aware of SUPD-C, which prevented them from participating. Among those that were aware of SUPD-C in 2017 (43), not owning their building (26%), lack of understanding (14%), and lack of time (12%) were the most often reported barriers preventing their participation (see Table 5-5).

Table 5-5: Barriers to Participation (Among SUPD-C Nonparticipants, Multiple Responses Allowed)

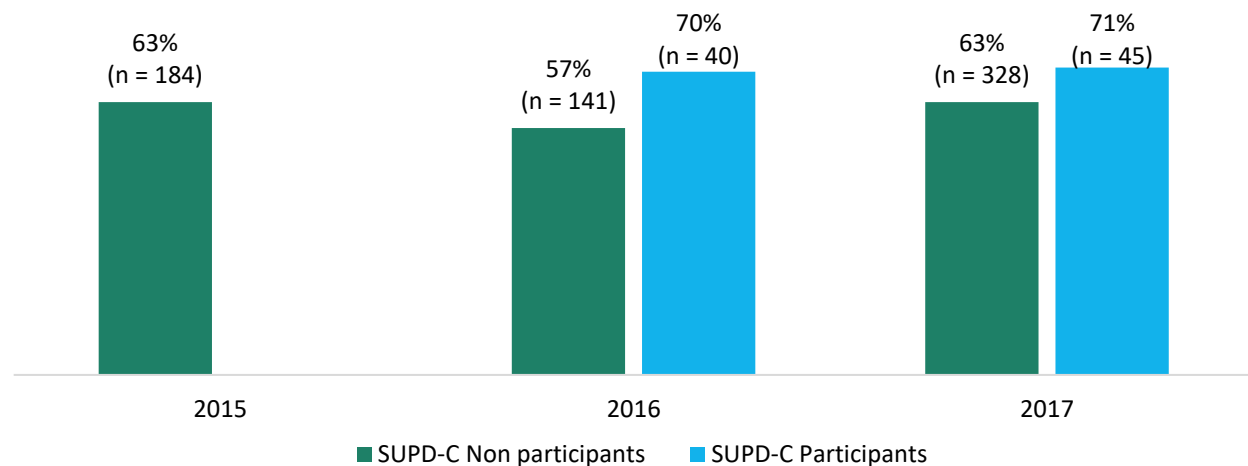
Barrier	2016 Nonparticipants (n = 141)	2017 Nonparticipants (n = 328)
	2016 Unaware Nonparticipants (n = 25)	2017 Unaware Nonparticipants (n = 43)
Unaware of SUPD-C	82%	87%
Lease business space	3% (16%)	3% (26%)
Lack of understanding	4% (20%)	2% (14%)
Lack of time to participate	3% (16%)	2% (12%)
Conflicts between SUPD and business priorities	1% (4%)	1% (7%)
Lack of funds	2% (12%)	<1% (2%)

5.3.2. Trends in PG&E Energy Efficiency Program Awareness and Participation

5.3.2.1. PG&E Energy Efficiency Program Awareness

Respondents were not significantly more likely to recall receiving information about energy efficiency or conservation programs from PG&E in 2017 than they were in 2016, but their reported awareness of those programs increased. The proportion of nonparticipants that recalled receiving information about PG&E EE programs stayed relatively constant from 2015 to 2017 (Figure 5-5). Although a slightly higher proportion of SUPD-C participants recalled receiving information from PG&E compared to nonparticipants, the difference was not significant.

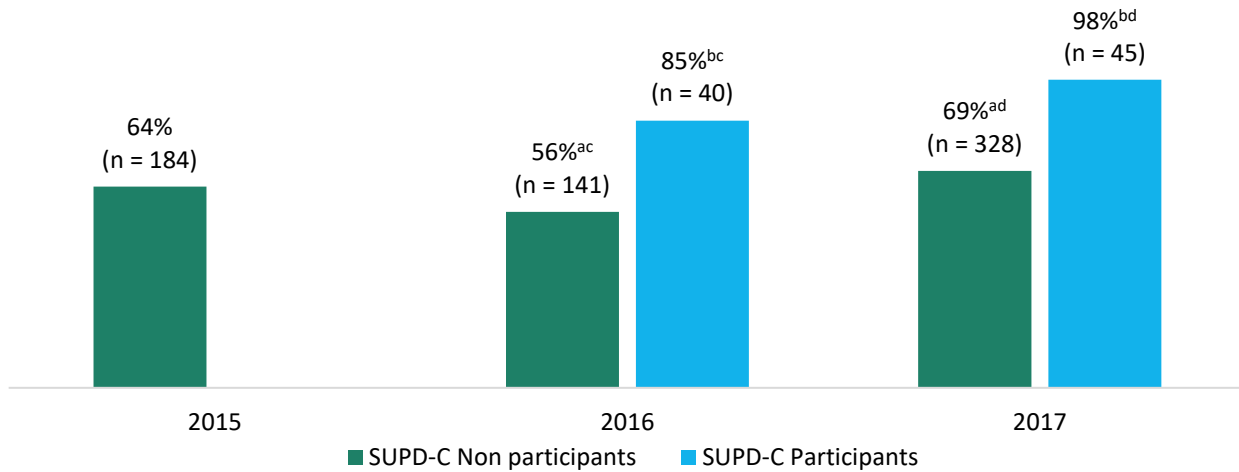
Figure 5-5: Percent of Respondents that Recall Receiving Information about PG&E Energy Efficiency Programs*



* Excluding SUPD-C.

While respondents' recollection of receiving information from PG&E about EE programs held steady, reported awareness of PG&E EE programs among both SUPD-C participants and nonparticipants increased in 2017, with SUPD-C participants more often aware than nonparticipants. A slight majority of SUPD-C nonparticipants reported some familiarity of PG&E EE programs across all three years, and awareness among SUPD-C nonparticipants significantly increased in 2017 (see Figure 5-6). Compared to SUPD-C nonparticipants, a greater proportion of SUPD-C participants reported familiarity with PG&E EE programs in both 2016 and 2017, and this proportion increased in 2017.

Figure 5-6: Percent of Respondents Somewhat or Very Familiar with PG&E EE Programs

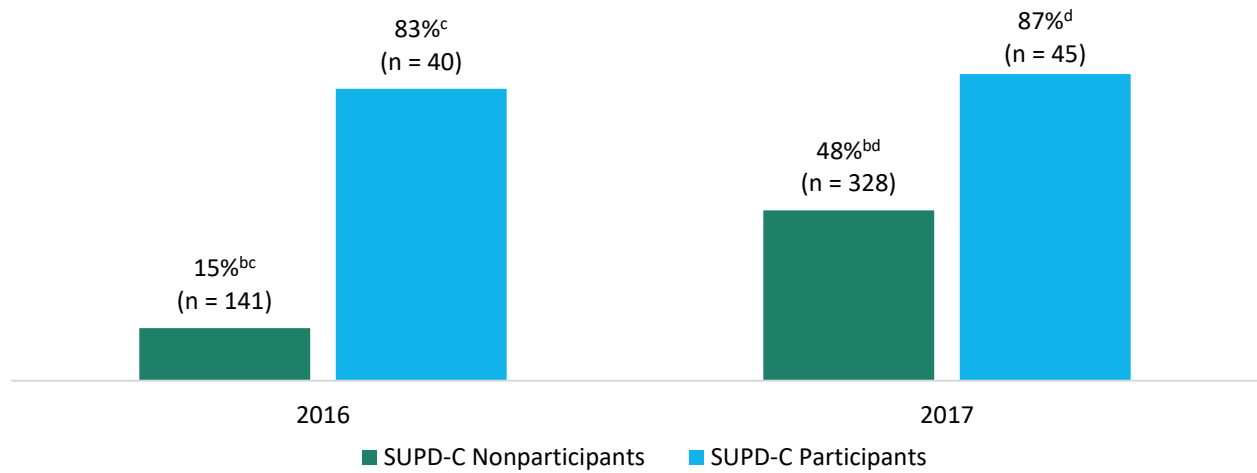


- ^a Difference between 2016 and 2017 SUPD-C nonparticipants is statistically significant, ($\chi^2 < .05$)
- ^b Difference between 2016 and 2017 SUPD-C participants is statistically significant, ($\chi^2 < .05$)
- ^c Difference between 2016 SUPD-C participants and nonparticipants is statistically significant, ($\chi^2 < .05$)
- ^d Difference between 2017 SUPD-C participants and nonparticipants is statistically significant, ($\chi^2 < .05$)

5.3.2.2. PG&E Energy Efficiency Program Participation

In both 2016 and 2017, SUPD-C participants were more likely to report participating in PG&E energy efficiency programs than non-participants, although the proportion of non-participants that reported participating increased significantly from 2016 to 2017. Survey data show participation in any PG&E EE program by SUPD-C nonparticipants fluctuated from 2016 to 2017, with a significant increase in participation in 2017. Participation in PG&E EE programs by SUPD-C participants was much higher compared to SUPD-C nonparticipants, but held relatively steady from 2016 to 2017 (Figure 5-7).

Figure 5-7: Percent of Respondents that Participated in One or More PG&E EE Program ^a



^a Excluding SUPD-C

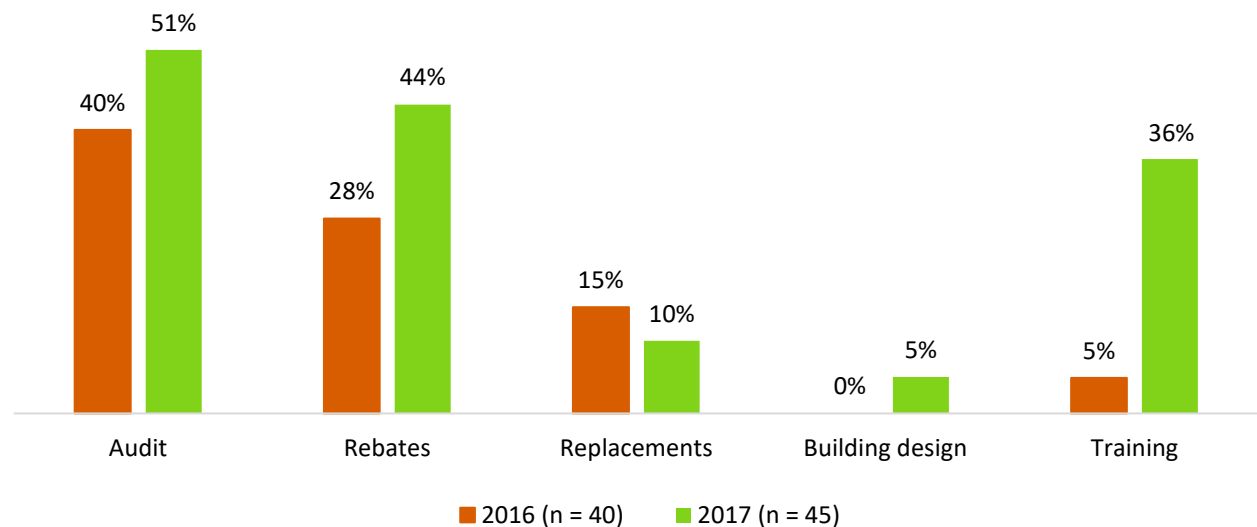
^b Difference between 2016 and 2017 SUPD-C nonparticipants is statistically significant, ($\chi^2 < .05$)

^c Difference between 2016 SUPD-C nonparticipants and participants is statistically significant, ($\chi^2 < .05$)

^d Difference between 2017 SUPD-C nonparticipants and participants is statistically significant, ($\chi^2 < .05$)

SUPD-C participation increased awareness of and participation in PG&E EE programs. In 2017, about two-thirds (64%) of SUPD-C participants that also participated in a PG&E EE program reported that their participation was a result of learning about the program through SUPD-C. While there were slight increases in participation of all programs (except replacements) among SUPD-participants from 2016 to 2017, SUPD-C participants reported a significant increase in participation in PG&E’s training programs (see Figure 5-8).

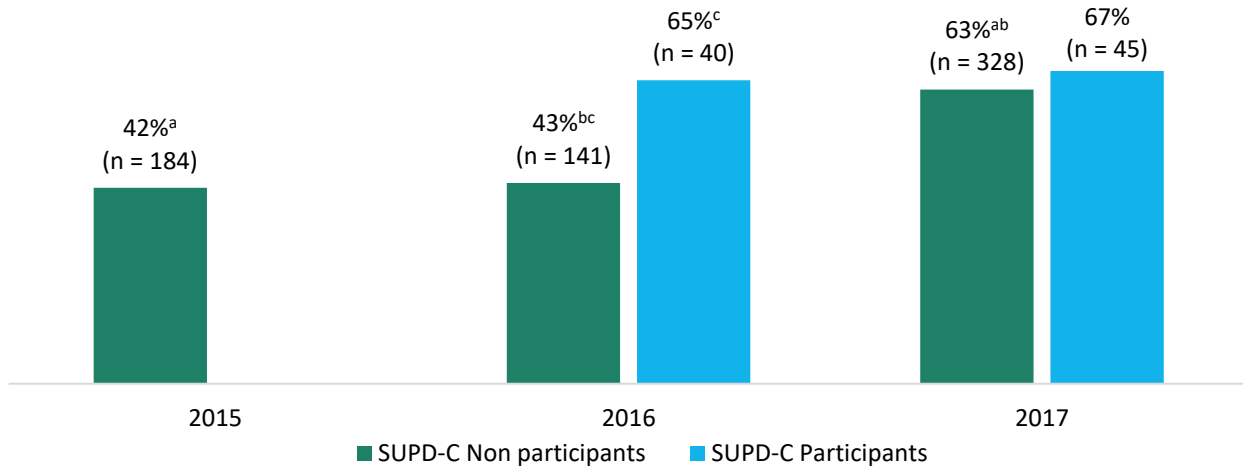
Figure 5-8: Percent of SUPD-C Participants that Participated in Each Type of PG&E EE Program



5.3.3. Trends in Attitudes Towards PG&E

SUPD-C participants rated their attitudes towards PG&E more positively than nonparticipants, but this gap narrowed between 2016 and 2017. SUPD-C participants were more likely to agree that PG&E is easy to do business with (Figure 5-9) and is trustworthy, and were more likely to report higher favorability towards PG&E compared to SUPD-C nonparticipants.²⁷ Favorable attitudes of SUPD-C nonparticipants also increased, although generally only slightly, in these metrics year over year.

Figure 5-9: Percent of Respondents that Agree "PG&E is Easy to Do Business With"

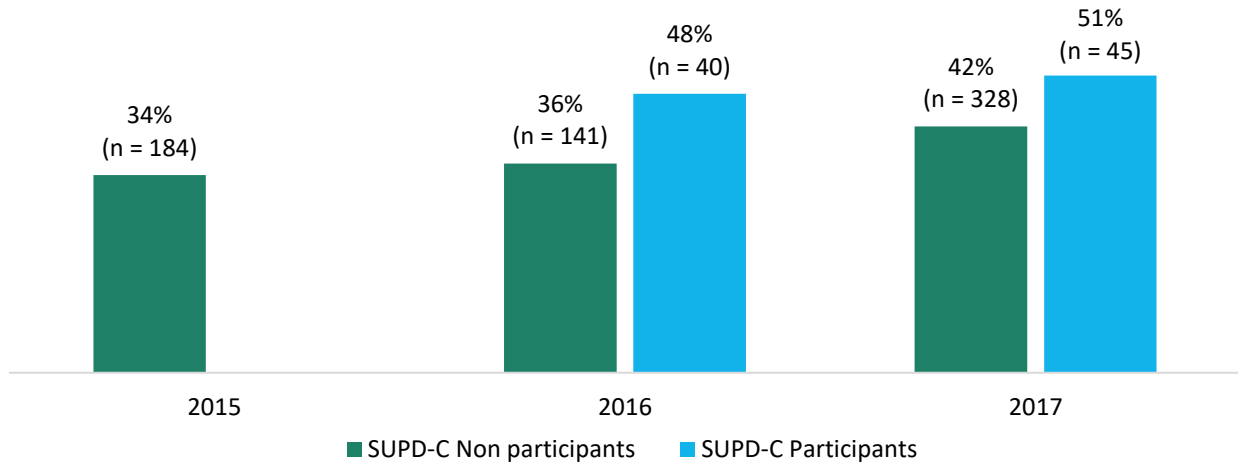


- ^a Difference between 2015 and 2017 SUPD-C nonparticipants is statistically significant, ($\chi^2 < .05$)
- ^b Difference between 2016 and 2017 SUPD-C nonparticipants is statistically significant, ($\chi^2 < .05$)
- ^c Difference between 2016 SUPD-C nonparticipants and participants is statistically significant, ($\chi^2 < .05$)

About one-third to one-half of respondents perceived PG&E as trustworthy. This finding is consistent across the three years, with some slight gains year over year. While SUPD-C participants more often reported that PG&E was trustworthy compared to SUPD-C nonparticipants, the difference was not significant (see Figure 5-10).

²⁷ These items, asking about the ease of doing business with PG&E, PG&E’s trustworthiness, and customers’ general favorableness toward PG&E, are common across PG&E market research efforts, and we included them in this evaluation survey to preserve the potential for comparisons to those other efforts.

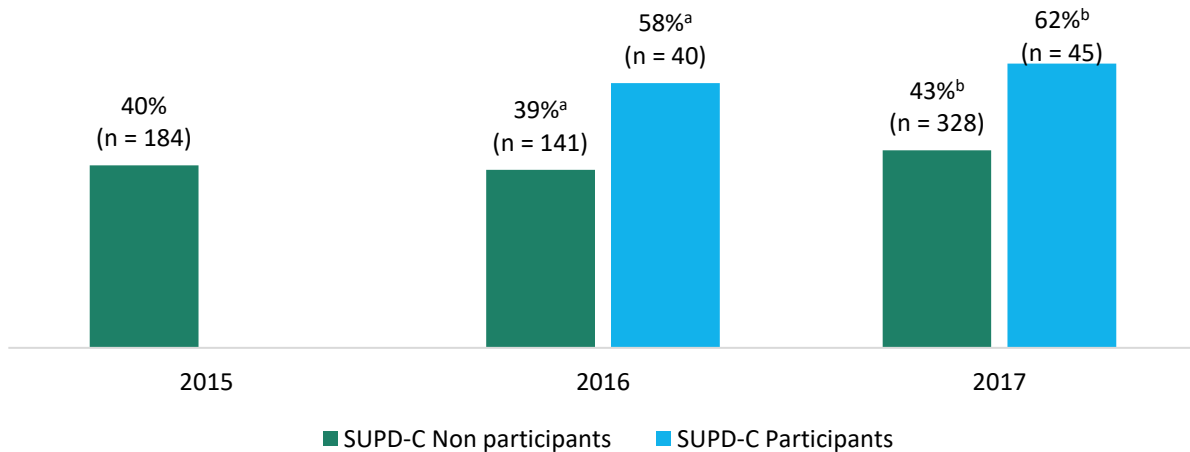
Figure 5-10: Percent of Respondents that Agree that "PG&E Is a Company I Can Trust" *



* Differences were not significant.

SUPD-C participants were significantly more likely report high favorability towards PG&E than SUPD-C nonparticipants. Favorability seems to have increased slightly from 2016 to 2017 for both SUPD-C participants and nonparticipants, although year-over-year differences are not significant (see Figure 5-11).

Figure 5-11: Percent of Respondents that Feel Favorable Towards PG&E



^a Difference between 2016 SUPD-C nonparticipants and participants is statistically significant, ($\chi^2 < .05$)

^b Difference between 2017 SUPD-C nonparticipants and participants is statistically significant, ($\chi^2 < .05$)

5.3.4. Influence of SUPD-C on PG&E Program Awareness and Participation, and Business Energy Savings Behaviors

One of the main objectives of SUPD-C was to increase awareness of and participation in PG&E’s Energy Efficiency programs. Based on survey responses, we evaluated how awareness and participation has changed over time among SUPD-C nonparticipants and SUPD-C participants. For further analysis of participation in PG&E EE programs see Chapter 6, Pre-Post Participation Analysis.

The proportions of participants that reported using each SUPD-C resource changed a great deal from 2016 to 2017. In 2017, more SUPD-C participants reported using each of the specific SUPD-C resources and a much higher percentage reported participating in PG&E EE programs that they learned about through SUPD-C (see Table 5-6).







Table 5-6: SUPD-C Resources Used

Resource	2016 (n = 40)	2017 (n = 45)
Assistance from City staff on reducing energy waste in your business*	20%	76%
Participated in a PG&E energy efficiency program learned about through Step Up and Power Down*	35%	64%
Step Up and Power Down website*	35%	51%
Action plan for reducing energy waste in your business	40%	40%
Step Up and Power Down-branded materials	28%	31%
Instructions for campaigns to encourage employees to reduce energy waste	25%	22%

* Difference is statistically significant, ($\chi^2 < .05$).

Respondents’ ratings of the ‘helpfulness’ of SUPD-C resources also varied greatly in 2016 and 2017. For the most part, the helpfulness of each resource increased. However, the only two resources that showed decreases in helpfulness ratings were the most commonly reported resources used in 2017: participating in PG&E EE Program and receiving assistance from city staff (Table 5-7).

Table 5-7: Helpfulness of Resources Used (among those that used the resource)

Action	2016	2017
Instructions for campaigns to encourage employees to reduce energy waste*	18% 	70%
Step Up and Power Down website	57% 	57%
Action plan for reducing energy waste in your business	50% 	56%
Assistance from City staff on reducing energy waste in your business	50% 	56%
Step Up and Power Down branded materials	27% 	36%
Participated in a PG&E energy efficiency program learned about through Step Up and Power Down*	64% 	31%

* Difference between 2016 and 2017 is statistically significant, ($\chi^2 < .05$).

Respondents rated few energy saving actions as both easy and effective (Table 5-8). The majority (62%) of participants reported that their company had reduced its energy use by changing behaviors. While the majority of these participants reported that this action was easy to do (79%) and that they plan to fully continue their new behavior (86%), less than half (43%) reported that the action was very effective at reducing energy usage. This story was common for most actions taken, with the exception of ‘creating policies to encourage customers to reduce use’ which saw the lowest amount of uptake and other ratings. Installing energy efficient equipment had the highest percent of participants (54%) agree that the action was effective, but a minority reported the action was easy (42%).

Table 5-8: Actions Taken and Ease, Effectiveness, Plans to Continue

Action	Took Action	Action Very Easy	Action Very Effective	Plan to fully continue
Reduced use by changing behaviors	62%	79%	43%	86%
Install EE equipment	53%	42%	54%	79%
Created policies to encourage employees to reduce use	42%	74%	26%	84%
Educated/trained employees on ways to reduce	42%	63%	32%	84%
Participated in other PG&E EE programs	13%	67%	33%	83%
Created policies to encourage customers to reduce use	9%	25%	0%	75%

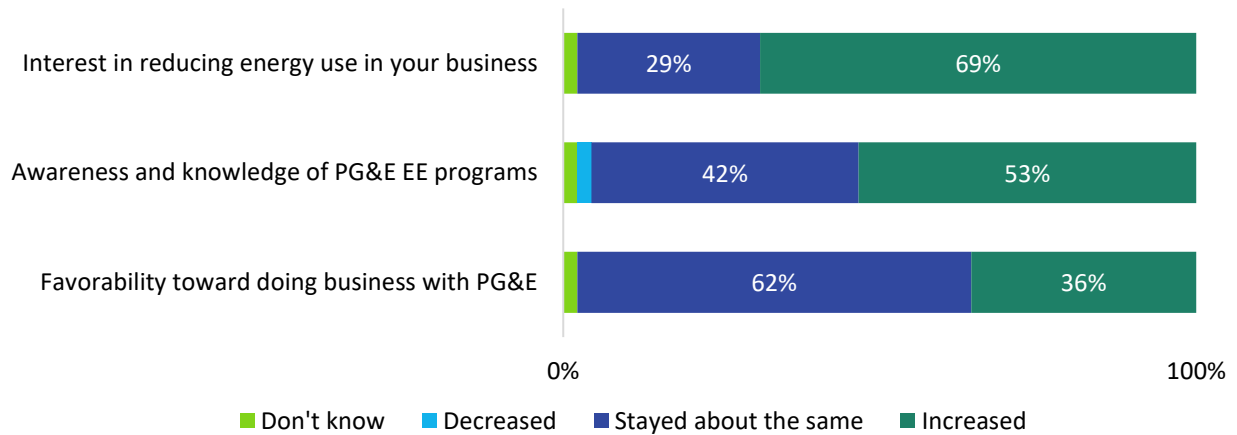
SUPD-C participants most often reported financial, social, and environmental motivations for participating in SUPD-C. The majority (62%) of SUPD-C participants reported that their motivation for participating was to reduce energy waste and costs (see Table 5-9). Other key motivations among 40% or more of SMBs included reducing environmental impacts and learning how to be sustainable (49%, 40%), and encouragement from PG&E and city staff (44%).

Table 5-9: Motivations to participate in SUPD-C (Multiple Responses Allowed)

Motivation	Percent (n = 45)
Reduce energy waste and costs	62%
Reduce business impact on environment	49%
Encouragement from PG&E/city	44%
Learn about ways to be sustainable	40%
Be a sustainability leader	36%
Differentiate from competitors	9%
Requests from employees, customer, stakeholders	2%
Other	4%

Two-thirds of participants (69%) reported that SUPD-C increased their interest in business energy efficiency practices. Additionally, more than one-half of SUPD-C participants reported that SUPD-C increased their awareness and knowledge of PG&E EE programs (Figure 5-12). About one-third of SUPD-C participants (26%) reported SUPD-C made them more favorable toward doing business with PG&E.

Figure 5-12: SUPD-C Participation Influence (n = 45)



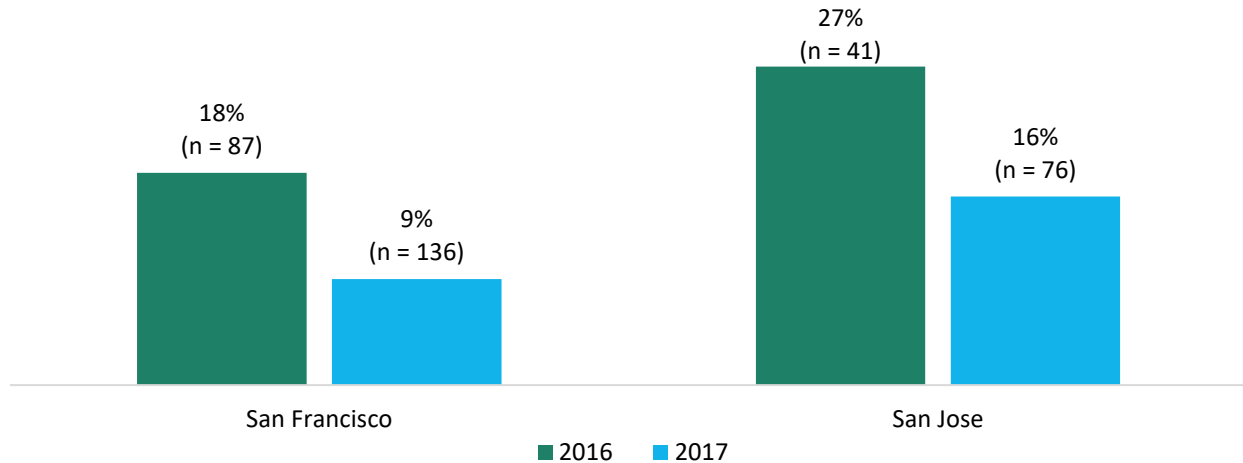
5.3.5. Trends in SUPD-C Initiative Awareness and Interest

5.3.5.1. SUPD-C Awareness

Awareness of SUPD-C remained higher in San José than San Francisco, but both cities experienced a significant decrease in awareness in 2017 compared to 2016. Overall awareness of SUPD-C across both cities decreased from 20% in 2016 to 11% in 2017.²⁸ While this represented a significant decrease in awareness, it should be noted that determining an accurate level of awareness depends upon many factors, including the level, method, and timing of SUPD-C marketing.

²⁸ The awareness levels for both years are based on the original sample frame: emails for customers that PG&E has on file. This sample frame is imperfect for representing the whole population of SMBs since many emails are missing for SMB customers. This lack of SMB emails likely makes this a conservative estimate of awareness.

Figure 5-13: Awareness of SUPD-C in Target Areas



Among those aware of SUPD-C, most respondents heard about SUPD-C through a PG&E representative, a PG&E email, or a City or Energy Watch representative. This was true for respondents aware of SUPD-C in both 2016 and 2017 (see Table 5-10).

Table 5-10: How Respondents Heard About SUPD-C (Multiple Responses Allowed)*

Source	2016 (n = 66)	2017 (n = 88)
A PG&E representative	32%	47%
An email from PG&E	33%	36%
A City or Energy Watch representative	32%	20%
Step Up and Power Down website	9%	15%
Bus sign or other outdoor sign	3%	9%
A mailed report that provided feedback on the business’s energy use**	24%	8%
At a local event, like a coffee cart or chalk art	5%	7%
Ad on a website	3%	5%
A coworker	5%	3%
Social media (for example, Facebook, Twitter)	2%	3%
A friend or family member	0%	2%
Other	6%	3%
Don't know	8%	1%

* No significant difference between 2016 and 2017 in any source, except mailed report (see note below).

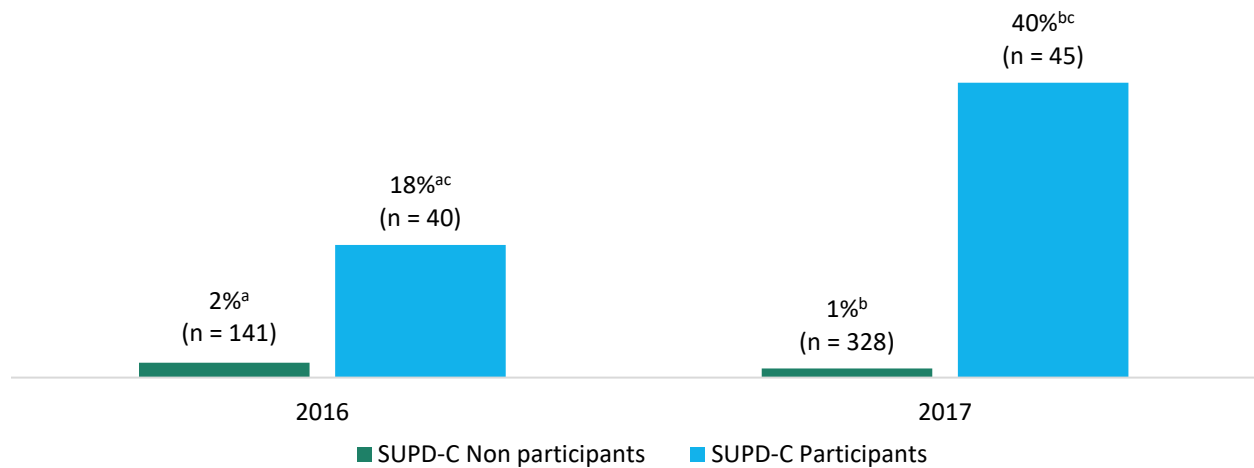
** Business energy reports were mailed as a part of a random experimental design that took place in 2016. Findings can be found in xx report.

5.3.5.2. SUPD-C Participation

Only one-half of SMB respondents on the “participant” list self-identified as participants. While the majority (71%) of SMBs that signed up and gave their email addresses to SUPD-C were aware of the initiative, only one-half (50%) reported their organization was participating in SUPD-C. Among PG&E’s list of non-participant SMBs with email addresses, the proportions were much lower: 11% were aware of SUPD and 1% reported they were participating.

Despite their participation, a minority of participants recalled receiving information from PG&E on SUPD-C in the past year, although this proportion significantly increased in 2017 compared to 2016 (Figure 5-14). Unsurprisingly, nonparticipants were much less likely to recall receiving information about SUPD-C than PG&E EE programs compared to SUPD-C participants. Fewer respondents recalled receiving information from PG&E about SUPD-C than remembered receiving information from PG&E on other efficiency programs or issues. Very few SUPD-C nonparticipations recalled receiving information about SUPD-C from PG&E in either 2016 or 2017.

Figure 5-14: Percent of Respondents that Recall Receiving Information about SUPD-C



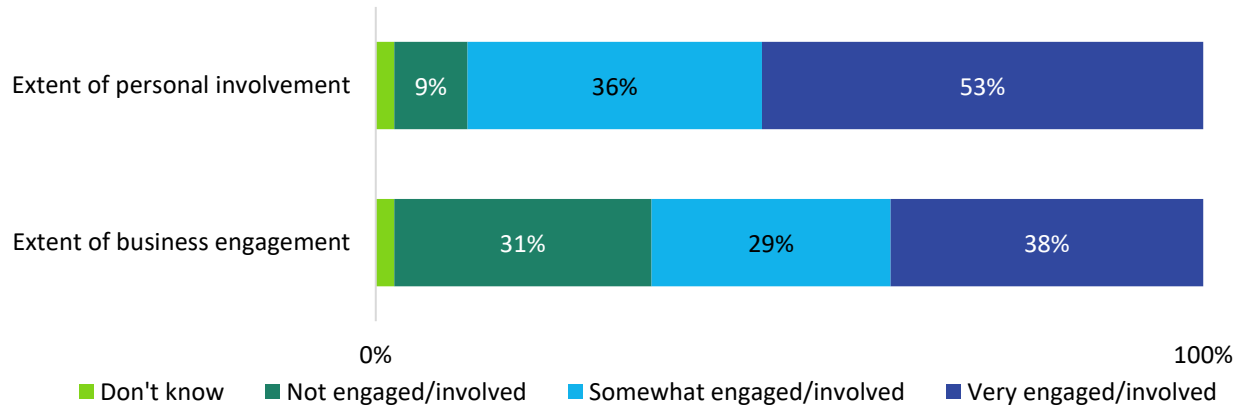
^a Difference between 2016 SUPD-C nonparticipants and participants is statistically significant, ($\chi^2 < .05$)

^b Difference between 2017 SUPD-C nonparticipants and participants is statistically significant, ($\chi^2 < .05$)

^c Difference between 2016 and 2017 SUPD-C participants is statistically significant, ($\chi^2 < .05$)

More respondents reported that they were personally very involved in SUPD-C than reported that their business was very engaged. A higher proportion of respondents reported that they were personally very involved (53%) in SUPD-C than the proportion that reported their business was very engaged (38% - see Figure 5-15).

Figure 5-15: Extent of Businesses' Engagement and Personal Involvement in SUPD-C (n = 45)*

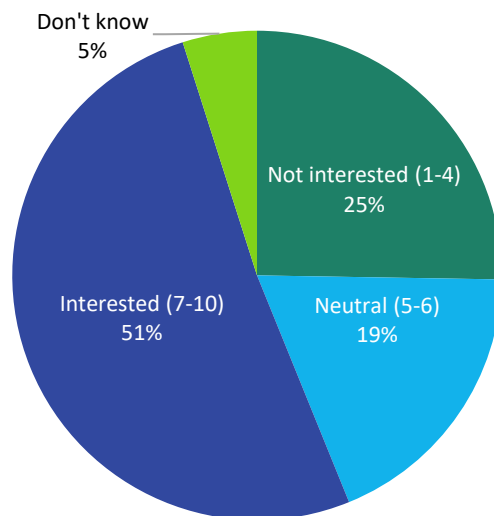


* Business engagement was rated on a scale from one - not at all engaged to ten – extremely engaged, while personal involvement was rated on a three-point scale: not at all involved, somewhat involved, very involved.

5.3.5.3. SUPD-C Interest

Despite a low level of awareness among the general SMB population, about half of SUPD-C nonparticipants were interested in participating. We asked those who reported being unaware of SUPD-C whether they would be interested in participating, after providing them with a brief description of SUPD-C. Of those that were unaware and did not participate about half (51%) were interested in participating (Figure 5-16).

Figure 5-16: Interest in Participation (n = 285)*



* Among SUPD-C Nonparticipants Previously Unaware of SUPD-C

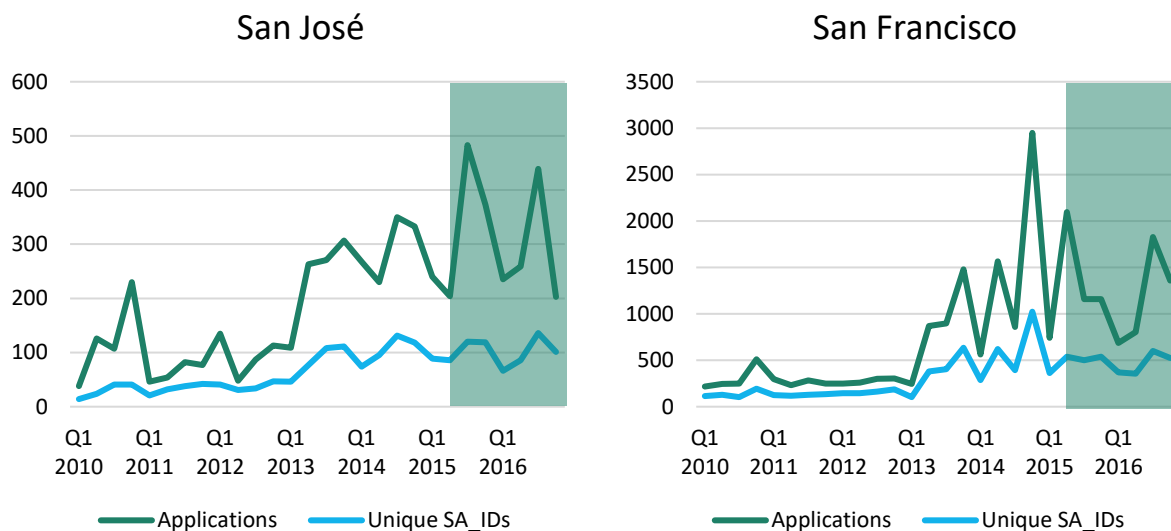
6. Pre-Post Participation Analysis

We examined three aspects of participation in PG&E energy efficiency programs during the SUPD-C initiative period and in the years prior: overall program uptake, both in terms of applications received and unique participants; uptake of specific programs and technologies; and characteristics of participants.

6.1. Overall Participation

Participation in PG&E programs during the SUPD-C initiative period continued an increasing trend that began in 2013. In both cities, participation increased notably in 2013, relative to the level it had maintained between 2010 and 2012 (Figure 6-1). While the number of unique SA_IDs participating in programs in both cities increased, during this period, the increase in the number of applications was steeper than the increase in the number of SA_IDs, suggesting that each SA_ID was submitting a larger number of applications. During the SUPD initiative period in 2015 and 2016, the number of SA_IDs participating in PG&E efficiency programs remained relatively steady with its 2014 levels, while the number of applications spiked twice in both cities, first in the spring and summer of 2015 and again in the summer of 2016.

Figure 6-1: Quarterly PG&E Energy Efficiency Program Participation, 2010-2016



Findings from the survey of small and medium businesses suggest that it may be difficult to identify the effects of SUPD-C in this type of aggregate participation data. Based on the proportions of respondents who reported they participated in PG&E efficiency programs, and who reported doing so because of SUPD-C, we would expect to see a lift of 10% in the number of SA_IDs participating in San José and 4% in San Francisco (see Table 6-1). It can be difficult to distinguish this type of relatively small effect from seasonal variation or changes in participation related to other factors.

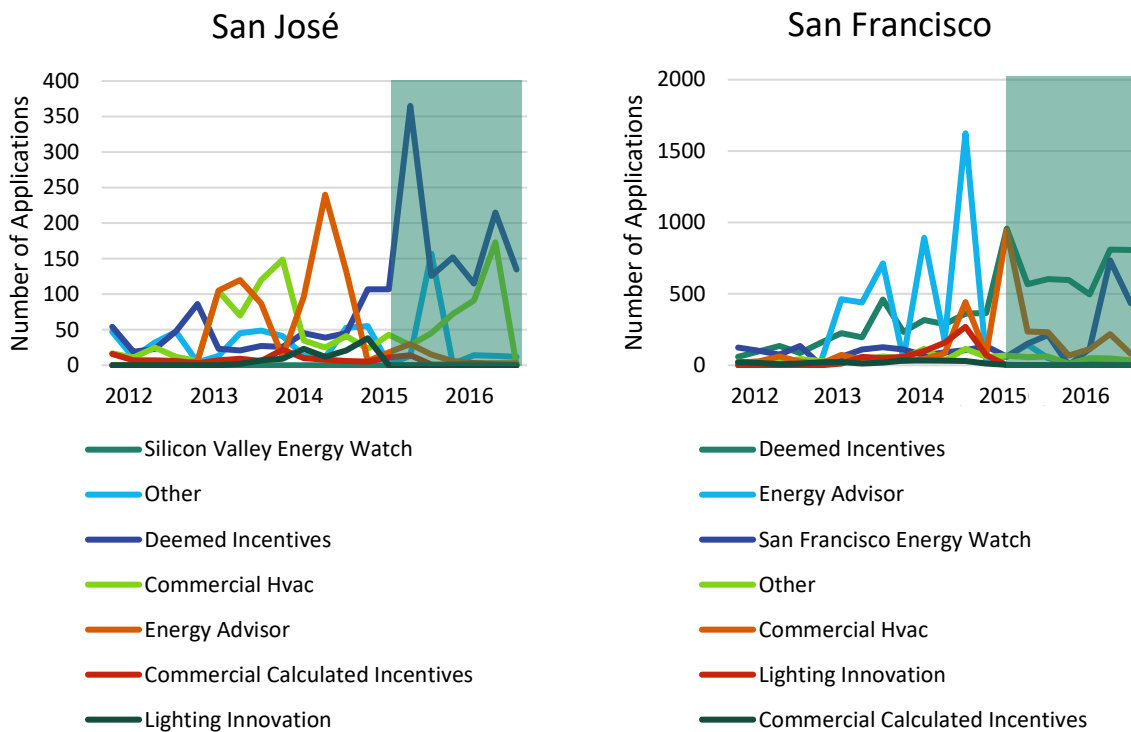
Table 6-1: SUPD-C Participation Estimates Relative to Overall PG&E Program Participation

Group	San José		San Francisco	
	Count	Percent of PG&E Program Participants	Count	Percent of PG&E Program Participants
Unique SA_IDs Participating in PG&E Programs	1,272	100%	5,915	100%
SUPD-C Participants	385	N/A	750	N/A
Estimate of SUPD-C Participants that Participated in Any PG&E Program	167	13%	326	6%
Estimate of SUPD-C Participants that Participated in Any PG&E Program Due to SUPD-C (or city)	123	10%	240	4%

6.2. Programs and Technologies

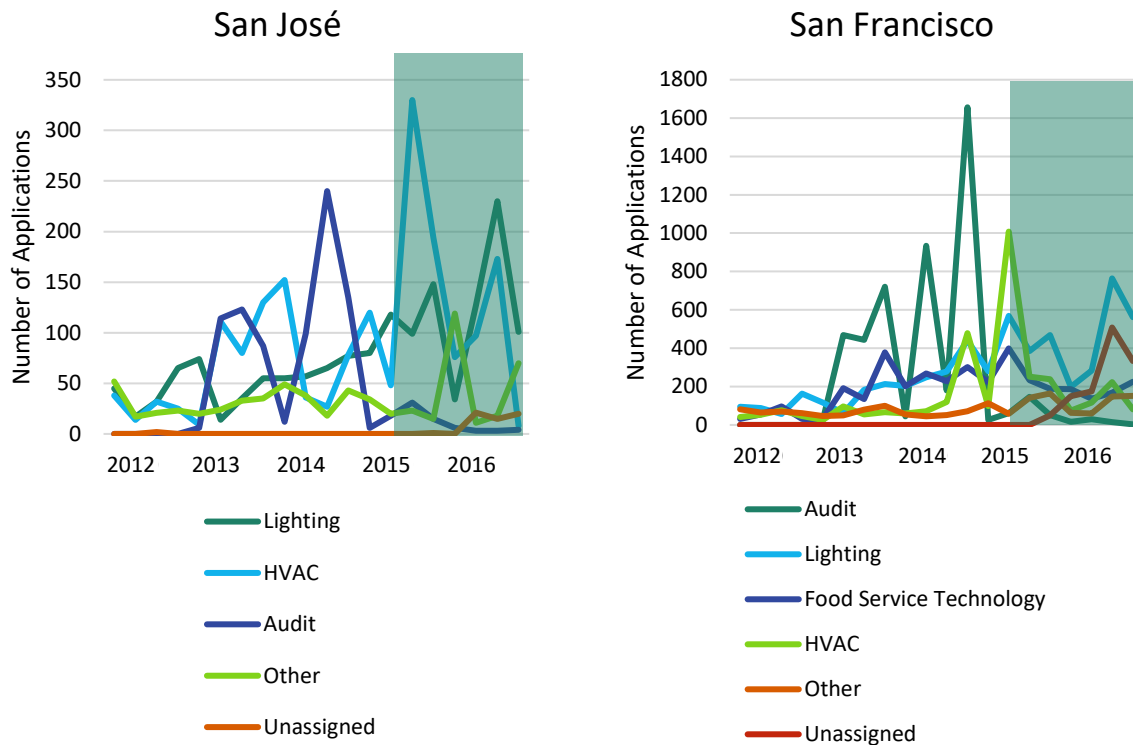
In both cities, there were notable increases in the number of deemed incentive applications during the SUPD initiative period (Figure 6-2). In San José, PG&E received 1,215 applications for deemed incentives between April 2015 and December 2016 (the initiative period), more than four times the 226 deemed incentive applications that PG&E received between April 2013 and December 2014. In San Francisco, the number of deemed incentive applications more than doubled over the same periods.

Figure 6-2: Quarterly Applications by Program 2012-2016



Installation of a variety of different technology types drove the increase in deemed incentive applications during the initiative period. Lighting was the most common technology installed historically and during the SUPD-C initiative period (Figure 6-3). However, no single technology experienced a spike in applications during the initiative period that parallels the spike in deemed incentives, suggesting that the increase in applications for deemed incentives reflects an increase in installation of multiple technology types.

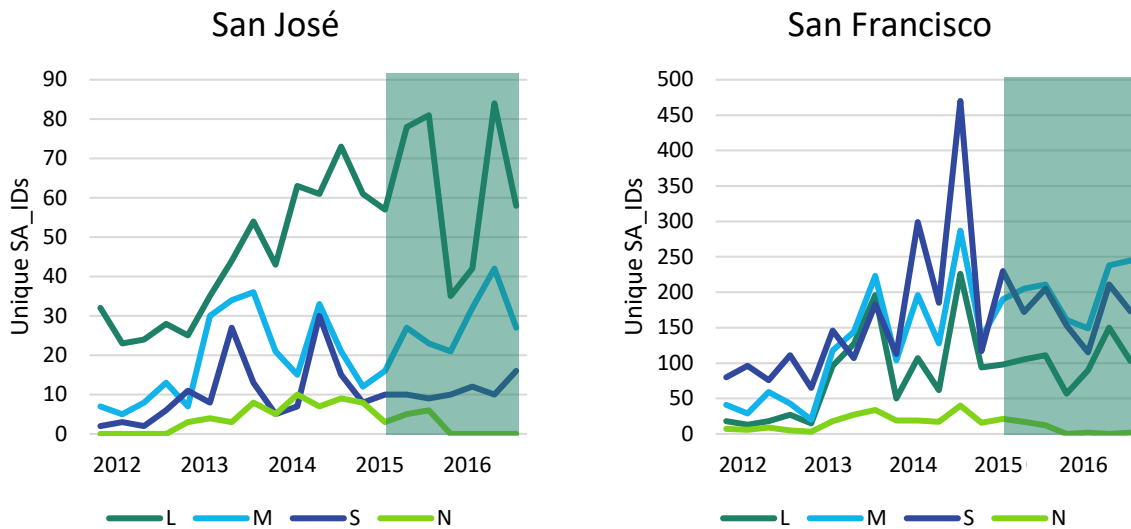
Figure 6-3: Quarterly Applications by Technology Type 2012-2016



6.3. Participant Characteristics

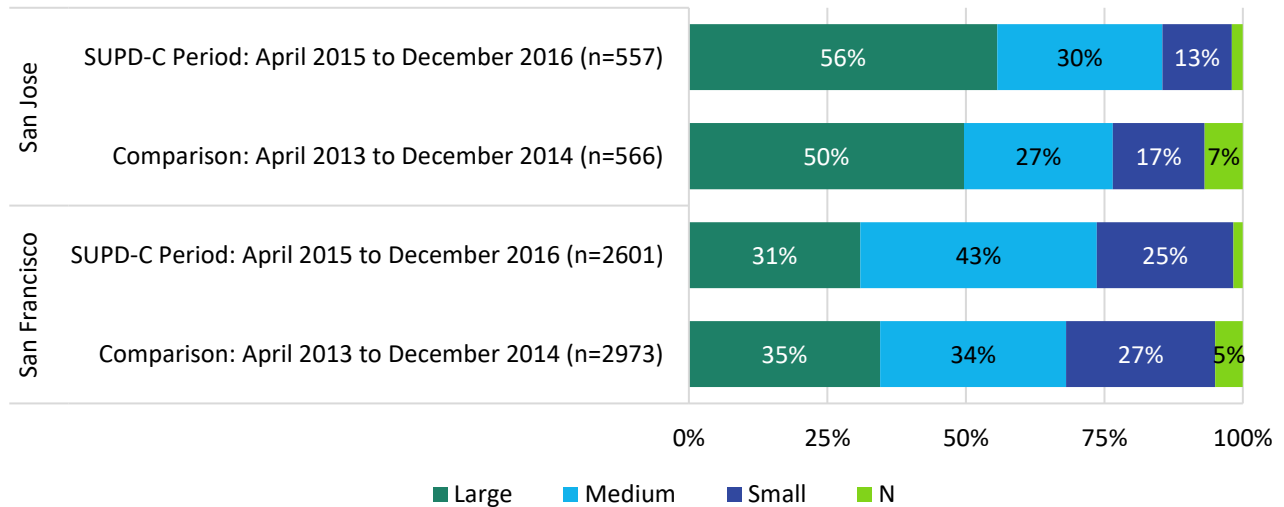
There is considerable variation between the two cities in the distribution of program participants by size. Large organizations consistently make up the largest group of participants in San José, while medium and small businesses often represented a larger number of unique SA_IDs participating in San Francisco than did large organizations (Figure 6-4).

Figure 6-4: Quarterly Unique Participants by Organization Size, 2012-2014



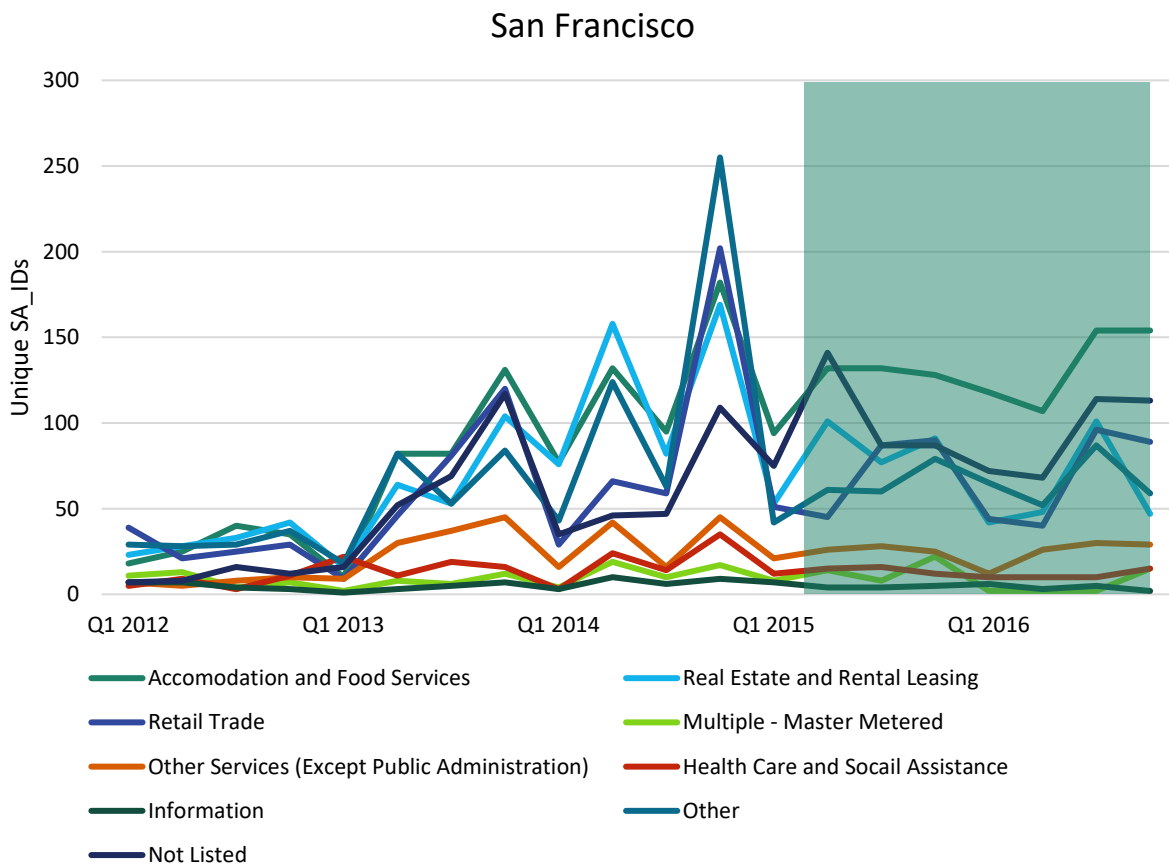
Medium-sized businesses increased as a proportion of participants during the SUDP-C initiative period in San Francisco, while the distribution of organization sizes participating in San José largely remained constant. In San Francisco, medium-sized businesses increased from 34% of participants during a comparable period prior to the SUDP-C initiative period to 43% during the initiative (Figure 6-5). The largest change in San José was an increase in the proportion of participants representing large organizations from 50% to 56%.

Figure 6-5: Organization Size as a Proportion of Participation



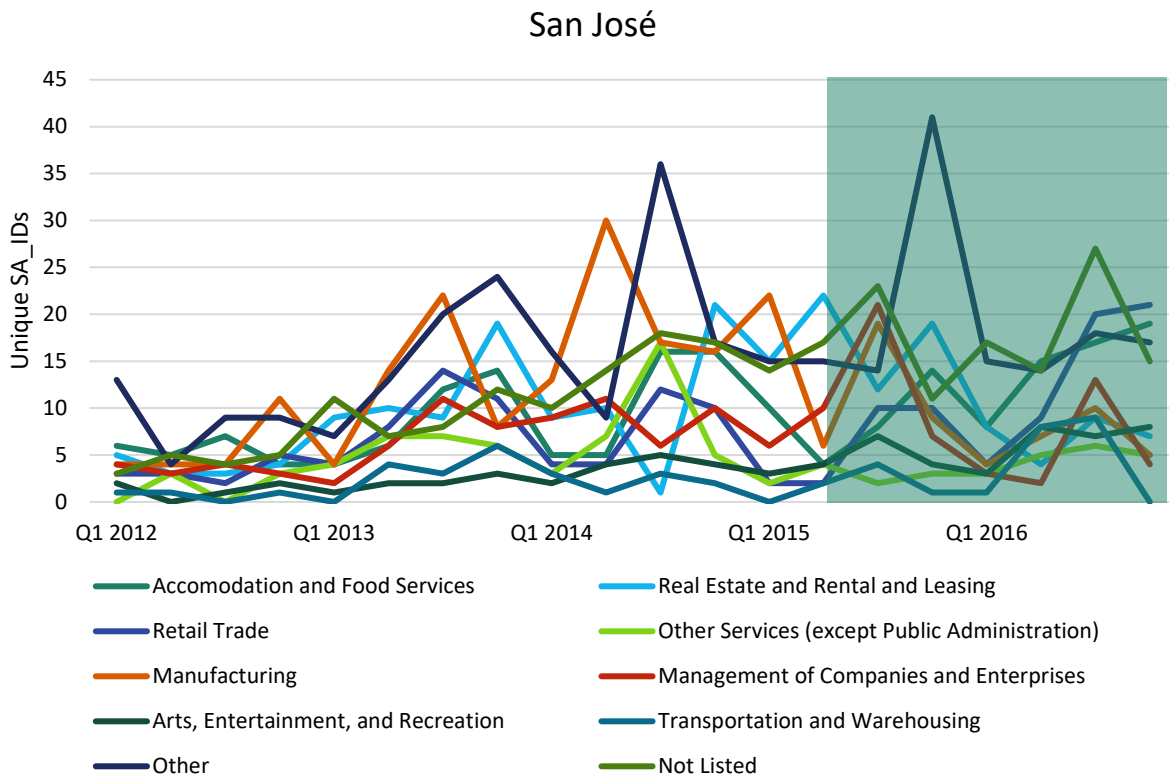
While they had long been one of the top groups participating in PG&E efficiency programs, accommodation and food services organizations became the dominant type in San Francisco during the SUPD-C initiative period. Participation in PG&E efficiency programs spiked among retail organizations, real estate and rental leasing organizations, and accommodation and food service operations between 2013 and the beginning of 2015 (Figure 6-6). During the SUPD-C initiative period, participation among the other organization types decreased to a greater extent than participation by accommodation and food service organizations.

Figure 6-6: Quarterly Unique San Francisco Participants by Organization Type 2012-2016



Unlike in San Francisco, no single organization type was dominant in PG&E efficiency program participation in San José, either before or during the SUPD-C initiative period. No single organization type accounted for more than 17% of the distinct SA_IDs that participated during the SUPD initiative period, or the equivalent period from April 2013 to December 2014 (Figure 6-7). In contrast, in San Francisco, accommodation and food service organizations made up 21% of participants during the April 2013 to December 2014 period, a figure that increased to 26% during the SUPD-C period.

Figure 6-7: Quarterly Unique San José Participants by Organization Type 2012-2016



7. Conclusions and Recommendations

7.1. Conclusions and Recommendations

7.1.1. SUPD-C Made Significant Progress Toward its Goals

This section looks across multiple sources to assess how well the initiative met its three goals.

7.1.1.1. Goal 1: Increase Awareness of PG&E's Efficiency Programs

Qualitative and quantitative findings suggest SUPD-C positively influenced awareness of and interest in existing EE programs, with the clearest increase among SMB participants.²⁹ Qualitatively, most key stakeholders (9 of 13) thought SUPD-C raised awareness of PG&E's EE commercial programs. In addition, while 19 of the most active large participants tended to be alumnae of PG&E's programs, they reported SUPD-C fostered renewed interest in participating. In addition, SMB survey results showed that familiarity with EE programs increased significantly for both SUPD-C participants (85% to 98%) and non-participants (56% to 69%) in the targeted areas between 2016 and 2017. Finally, 2017 familiarity with programs was significantly higher for SMB participants than non-participants (98% to 69%), with one-half (53%) of participants attributing this increase to SUPD-C.

7.1.1.2. Goal 2: Increase Participation in PG&E's EE Programs

SUPD-C influenced participants to use PG&E energy efficiency programs. In the time between signing up for SUPD-C and our interviews, half of the large active participants (9) said they took part in a PG&E rebate program, and half of those (4) said SUPD-C directly influenced them to do so. Most SMB participants reported participating in PG&E energy efficiency programs (87%), and at a much higher level than non-participants (48%). About two-thirds (64%) of SMB participants that took part in an PG&E EE program said their participation resulted from learning about the program through SUPD-C. Additionally, analysis of PG&E program data showed that participation in PG&E programs during the SUPD-C initiative period increased, part of an upward trend that began in 2013.

7.1.1.3. Goal 3: Influence Operational, Behavioral and Equipment Changes

SUPD-C influenced interest and changes in employee behavior, equipment choices, and/or organizational policy among participants. Three-quarters of the 19 large active participants said they started turning off equipment when not in use due to participating in SUPD-C. Two-thirds of businesses that conducted an employee engagement campaign (9 of 14), said SUPD-C changed employee behaviors related to energy use, especially powering down equipment and turning off lights. Most of these participants also said the initiative influenced them to operate equipment more efficiently or upgrade equipment. Four of the 19 said they had codified energy saving actions in organizational policies. In addition, more than two-thirds (69%) of SMB participants reported that SUPD-C increased their interest

²⁹ Participant is defined as a business that used SUPD-C resources and identified as a participant.

in business energy efficiency practices. Finally, most stakeholders believe SUPD-C has left a legacy in both cities due to stronger working relationships and new ways of thinking about energy waste. Large active participants were optimistic about persistence, and some gave reasons why (i.e., they left up visual reminders or building operators had changed their approaches); still, many thought periodic reminders would help them stay on track.

7.1.2. SUPD-C Used CBSM Philosophy and Tactics, but Missed Some Strategic Steps

Even though SUPD-C did not proclaim itself as a CBSM initiative, it has all the earmarks of one. Fostering Sustainable Behavior³⁰ and many articles (see <http://www.cbsm.com/public/world.lasso>) suggest that CBSM offers an alternative and effective approach to more traditional marketing for sustainability initiatives. CBSM follows a set of design steps (briefly listed in the recommendation). It also provides many tactics, based on social science research (e.g., making commitments, nudges) that initiative designers and implementers can use to motivate behavioral change. While SUPD-C employed the philosophy and tactics of CBSM, it missed key strategic steps that would have fostered a more focused effort that could have accomplished more in the time frame available, and would have made SUPD-C more evaluable.

Recommendation: It would be good to return to the basic steps of CBSM in subsequent rounds, including barriers research, reducing options, starting small, and making sure results can be measured, including: (1) Selection of the “best” and targeted set of behaviors to promote; (2) Identification and prioritization of barriers and benefits to changing targeted behaviors based upon secondary and primary research; (3) development of intervention strategies that match the targeted behaviors; and (4) piloting the CBSM project on a small scale, preferably using an experimental design approach.

7.1.3. SUPD-C Employed Some Highly Successful – and Less Successful Approaches

We drew from all evaluation sources to chronicle the success of various SUPD-C components and approaches.

7.1.3.1. Most Successful SUPD-C Approaches

In 2016, SUPD-C achieved greater traction. Successful components of 2016 delivery are discussed below.

- › Employing strong, consistent leadership that streamlined the team and decision-making, clarified roles, and orchestrated the Playbook, which articulated, in one place, the goals, target audiences, success indicators, 2015 learnings, customer journeys, marketing tactics, and program offerings.

³⁰ See *Fostering Sustainable Behavior: An Introduction to Community Based Social Marketing*, by Doug McKenzie-Mohr, 2011, for more detail.

- › Using more targeted marketing to spur engagement and action at specific businesses or neighborhoods, rather than general marketing to raise public awareness of SUPD-C. While not wholly successful, this was a critical pivot to pull customers from awareness to participation.
- › Continuing to employ different marketing strategies for large businesses and SMBs.
 - For large businesses, this meant leveraging PG&E's Business Energy Solutions (BES) representatives (account representatives), along with engagement specialists, to deliver tailored approaches based on large business interests – whether it was to push green efforts further, raise staff awareness about energy use by “reaching into the cubicle to affect behavior,” or access greater support from PG&E for free. Large customers clearly rely on their BES reps for suggestions and guidance.
 - For SMBs, this meant using the cities' Energy Watch representatives to conduct outreach and to engage SMBs through no-cost energy assessments. These groups not only provided needed outreach and services, they were the connective tissue that made the cities visible partners.
- › Using person to person marketing, including visits and telephone calls, targeted to addressing business concerns and goals. While expensive, both large organizations and SMBs expect and respond to personal contact, and it is unlikely future similar efforts will succeed without at least some degree of personalized marketing and outreach.
- › Recognizing that customer journeys for businesses, both large and SMBs, are usually not linear. This means services need to be customer-driven, flexible, and contain a clear call-to-action at every touch point.
- › Providing “special” services that reward and involve large businesses, such as REV circles and engagement campaigns for the most active businesses. Large businesses that dove in and used these two offerings were highly satisfied, even though they noted these services required considerable time and resource commitments.
- › Having embedded process evaluators to conduct real-time research and assessments. If evaluators are at the table during the design phase, they can create an evaluation plan to ensure evaluability, suggest needed research, and provide interim feedback. Compared to SUPD-Residential, where the process evaluation was entirely retrospective, SUPD-C evaluation efforts established needed baselines, championed a business-centric focus, and provided key feedback and progress indicators to guide decision-making.

Recommendation: While each of these elements contributed to the success of SUPD-C, each should also be revisited for further refinements – particularly ways to demonstrate or test their benefits and reduce their time and resource requirements, either through greater streamlining or greater rewards to participants.

7.1.3.2. Less Successful and Unsuccessful SUPD-C Approaches

Areas that need attention, improvement, or to be abandoned, include:

- › Building a stronger bridge to convert sign-ups to active participation. While the number of sign-ups met initiative goals, some large customers, and almost one-half of SMBs that signed up did not identify as “participants” and did not become actively involved in SUPD-C.
- › Winnowing down the behaviors and services to a smaller set of offerings with strong value propositions tailored to participant goals and clear paths to success. Many aspects of SUPD-C sought to be “all things to all businesses,” were launched before they were ready for prime time, and didn’t have a clear logic (e.g., aligning marketing bursts with unfamiliar “cultural moments”).
- › Providing cost-effective support to reduce the time and other resources businesses need to participate. Both SMBs and large businesses reported they did not have enough in-house resources to pursue various SUPD-C options, even among the most active participants.
- › Having easier to implement tools with fewer options, including tools such as the Energy Practices Inventory (EPI) for large businesses and the Energy Savings Plan Checklist for SMBs. While each of these tools improved over time, they still did not focus businesses on a small number of high priority actions. A smaller menu of targeted actions would likely result in greater uptake and easier tracking.
- › Creating mechanisms to better track the effectiveness and outcomes of behavioral interventions, including occupant baselines and response, the changes made, the energy savings achieved, and the likely persistence of new behaviors over time. SUPD did not develop such a plan in its design phase because it did not intend to claim savings; however, such a plan will be needed if PG&E wishes to claim savings for future similar initiatives.
- › Conducting further research to better understand how to reward and recognize successful participation. While the Power in Numbers campaign was well-regarded, other aspects of recognition worked less well, like badges and social media.
- › Abandoning in-company activations. While the experiential marketing techniques designed to engage individuals at participating large organizations may have heightened awareness, they did not appear to drive employee engagement.
- › Abandoning O&M training. These sessions were not well attended, were perceived as duplicating other PG&E offerings, and required too much time.

Recommendation: In a future planning process, each of these areas is important (except for the final two) and will need to be addressed and resolved **prior to launch**. Resolving certain issues, such as how to evaluate energy savings realized from the initiative will be almost impossible if mechanisms to achieve that goal are not factored into the design. Following the CBSM strategic steps will help insure better customer intelligence and a more focused approach to changing behavior and evaluation of impacts. It also suggests the use of experimental design that will allow, for instance, testing the effects of different interventions or having a control and treatment set of businesses.

While solving these issues is outside of the scope of this evaluation, another helpful strategy to inform solutions would be to research best practices of other CBSM initiatives, including those outside of the energy field. Many CBSM case studies are detailed on the Fostering Sustainable Behavior – Community Based Social Marketing Website (<http://www.cbsm.com>). In addition, the City of Bellevue, Washington’s Urban Smart initiative (<https://www.urbansmartbellevue.com>) is similar to SUPD-C and its sponsors and implementers may have valuable advice.

7.1.4. City Selection for Future Initiatives Would Benefit from Applying a Three “C’s” Framework

While selection criteria for SUPD-C cities went beyond assessing energy saving opportunities, subsequent city selections would benefit from using a “three C’s” framework that assesses a city’s: (1) **concern** about energy problems; (2) **conditions** for conservation opportunities; and (3) institutional **capacity** to support conservation activities.³¹

A “three C’s” framework allows for a richer and more efficient analysis of community partnering. By looking at concern and capacity, it addresses key questions about whether the partnership can be successful and if the initiative can withstand scrutiny about its intentions and fairness. Research into Action already has worked with PG&E staff to help them adopt a three Cs framework to assess candidate communities for subsequent rounds of SUPD. This framework is addressed in a memo from Research Into Action and in two subsequent documents PG&E staff members prepared on selection criteria and selection methodology.³²

Recommendation. Apply the three C’s framework in city selection and prioritize the key concern and capacity aspects of utility-city partnerships first, to give community-based partnerships the highest probability of success. While it is likely that many communities will offer conditions that provide good opportunities for energy efficiency, it is less likely that communities will be interested in and able to support partnerships like SUPD-C.

³¹ See Kathryn Jana, C. Payne, R. Knuckle, L. Lutzenhiser, What Organizations Did (and Didn't) Do: Three Factors that Shaped Conservation Responses to California's 2001 "Crisis", ACEEE Summer Study Proceedings, Volume 8, 2002.

³² See October 14, 2016 memo from Research Into Action: “Thoughts on Community Selection Criteria for SUPD II” and subsequent PG&E memos on future city selection.

Appendix A. Instruments

A.1. Stakeholder Interview Guide

A.1.1. Introduction Guidelines

Hello I'm _____. Thank you for talking with me today. As part of Research into Action's evaluation of Pacific Gas & Electric's (PG&E's) Step Up and Power Down Commercial (SUPD-C) initiative, we are talking with key people involved with the initiative. We mostly will focus initiative activities in 2016, since we last interviewed initiative stakeholders at the end of 2015. The goals of this research are to support a process evaluation of SUPD, document the initiative outcomes and lessons learned, and guide future SUPD efforts.

Our interview will last up to 60 minutes. Your participation is voluntary. If you have documents that would provide helpful information for us, please let me know and pass them along, if possible. I'll be taking notes as we talk. I would also like to audio record this interview, to ensure the accuracy of my note taking. [If asked whether the audio will be provided to the client: we do not identify any respondent in our reporting, and it is research best practices not to provide the audio or notes to {the client}, unless legally required to do so.] Is it ok that I record the interview? Do you have any questions before we get started?

To get started, we want to ask you a small handful of questions about your involvement with SUPD-C to understand the elements of the initiative that are most relevant to you. This will help us make sure the questions we ask are relevant to your experience. Please tell me if you have a lot, some, or little experience with each of these areas of SUPD?

> Initiative History, Goals, and Logic	High	Medium	Low
> Overall Marketing Strategy	High	Medium	Low
> Large Customer Journey and Activities	High	Medium	Low
> SMB Customer Journey and Activities	High	Medium	Low
> Individual Customer Journey	High	Medium	Low
> Data Management	High	Medium	Low

A.1.2. Roles and Responsibilities [ASK ALL]

That's helpful, thanks! Next, I'd like to ask you about your role in the SUPD-C initiative. [Even if respondent was interviewed before, confirm title, role, and length of involvement.]

- Q1. What is your job title within [employer]?
- Q2. How long have you been involved with SUPD-C?

- Q3. Please describe your role in SUPD-C and how it may have changed over time? [Clarify areas of emphasis: data management, large customer outreach/support, small-medium business (SMB) outreach/support, marketing, implementation, training, and web-based tools]³³
- Q4. Our previous work to document the history of SUPD-C ended in late 2015. We know several shifts occurred in 2016 and that the Grow Playbook framed the approach. I've sent you a file with PowerPoint slides that have key pages from SUPD Playbook. Do you have those pages handy? [Send again if needed.] I'm looking at Slide 1 - Campaign Advisors and partners listed on p. 7 of the Playbook. Partners. Is this an accurate list of the advisors/partners for the initiative? Who were the most important advisors/partners? How valuable were these organizations as partners/advisors to the success of the initiative? Why do you say that? Are there other types of advisors/partners that should be considered for future rounds of SUPD?
- Q5. Given your experience with the initiative, what organizations have been most involved in implementing SUPD in 2016, and what were their roles? (For instance, PG&E, CLEAResult, Empower Efficiency, Grow, REV, the Cities.) How effective was coordination among these organizations? Why do you say that?
- Q6. What are the key lessons you've learned about communication and coordination for efforts like SUPD-C?
- Q7. What suggestions do you have to make communication and coordination among key stakeholders more effective for future rounds of SUPD?

A.1.3. Initiative History, Goals, and Logic

- Q8. I didn't send you this slide, but the Playbook describes SUPD as an initiative that ". . .helps businesses take simple actions to reduce energy waste, for a more sustainable future and a better California." How well does this statement capture the large picture purpose of SUPD as you understand it? (Possible follow-up: Can you think of a better way to describe the purpose of SUPD?)
- Q9. Again, this is not on one of the slides I sent, but the Playbook describes the SUPD approach for 2016 this way: "The focus will be to apply learnings, simplify, and develop easy-to-implement semi-customizable strategies for participating businesses to be successful." How well does this statement capture your understanding of the focus of SUPD for 2016? From your perspective, does this represent a shift in the overall purpose of SUPD to "help businesses take simple actions?"
- Q10. What major changes occurred in the initiative in 2016 to support this focus on "developing easy-to-implement semi-customizable strategies"?
- Q11. What key events or milestones should be included in documenting SUPD's history in 2016? PROBE: Are there any written sources that have documented the history that you can recommend?

³³ The interviewer will tailor the interview to emphasize the respondent's areas of focus.

- Q12. Now I'd like to talk about how best to measure the success of SUPD. Please look at Slide 2, labeled Success Metrics. Were these metrics an effective way to assess SUPD's success in 2016? Are there any additions or adjustments you would make for future efforts?
- Q13. Overall, in your candid opinion, how well has the initiative met each of these goals? Can you tell me about any information you have that would help demonstrate how well these metrics have been met?
- Q14. What advice do you have for setting goals and measuring success for future rounds of SUPD?

A.1.4. Overall Marketing Strategy and Processes

- Q15. Slide 3 from the Playbook lists five marketing strategies for SUPD. Please take a look. Overall, how well do these strategies align with initiative activities during 2016?
- Q16. Which of these strategies turned out to be important to the initiative's progress?
- Q17. Were any of these strategies less useful or not implemented? If so, which ones and why?
- Q18. Can you briefly explain the concept of "marketing tent poles," more commonly referred to as "bursts"? How well did the strategy of "marketing tent poles" work? (See Slide 4.)
- Q19. What were the primary overall marketing activities and channels in 2016? How effective were these activities? [Probe: In-Company Activation; Paid Media; Social Media; Public Relations; Website; experimental marketing; giveaways] (perhaps qualify the question if the interviewee wasn't directly involved in the marketing activities, e.g., "to the best of your knowledge...")
- Q20. How effective were the processes used to develop and execute marketing activities and materials?
- Q21. What advice do you have for an effective overall marketing strategy with business customers in the next round of SUPD?

A.1.5. Customer Journeys

These next questions focus on customer journeys and outreach to customers.

- Q22. Ask All: P. 16 of the Playbook Slide 5 shows a revised approach to customer journeys based on learning from 2015 – shifting from a linear approach to a more non-linear, flexible approach. How well does this reflect the customer journey as you see it? How, if at all, did that change the way you deliver the initiative? Why do you say that?

A.1.5.1. Large Customer Journey, Outreach, and Actions

- Q23. Now let's talk about the Large Customer Segment. Slide 6 from the Playbook describes the key recommendations for large commercial customer engagement. How useful did these recommendations turn out to be? Why?
- Q24. How effectively did the initiative identify "Flagship Companies?" Why do you say that?

- Q25. Please look at the Large Commercial Customer Journey on Slide 7 from the Playbook. How well does this graphic capture the large customer journey in 2016? Why do you say that?
- Q26. What advice do you have to ensure the large customer journey is effective in future rounds?
[Probe: Are there any changes you would suggest?]
- Q27. What positions were targeted within those organizations?
- Q28. What methods have been most effective in reaching and attracting large customers to SUPD?
Why are those methods more effective than other methods?
- Q29. What factors interfered with, or prevented, large customers signing up?
- Q30. For future rounds, what steps would you take to ensure large customers join the initiative?
- Q31. What are the best strategies to engage large customers in taking action?
- [Probe: What messages and value propositions resonated most with them? How useful was taking a pledge for large customers?]
- › Please refer to Slide 8 from the Playbook to see the eight Potential Company Actions large customers could take. Which types of actions interested large customers the most? Why?
 - › Energy Champion Training
 - › Engagement Campaigns
 - › In-Company Activations
 - › Engineering Audits
 - › Energy Practices Inventory [aka Behavioral audit]
 - › Operations and Maintenance (O&M) Training
 - › Retrofits
 - › REV Circle
 - › Other [Tailored Actions]
- Q32. Which of the actions did large customers implement most successfully? Why?
- Q33. Which actions did not work well or were not implemented? Why do you say that?
- Q34. What factors interfered with or prevented large customers taking action?
- Q35. For future rounds, what steps would you advise for achieving deeper participation with large customers?

A.1.5.2. SMB Customer Journey, Outreach, and Actions

The next questions focus on small-medium businesses (SMBs)

- Q36. Slide 9, SMB Recommendations, describes the key strategies to involve SMBs. How useful did these recommendations turn out to be? Why?
- Q37. Please look at the SMB customer journey from the Playbook (Slide 10). How well does this graphic capture the SMB journey in 2016? Why do you say that?
- Q38. What advice do you have to ensure the SMB journey is effective in future rounds? [Probe: Are there any changes you would suggest?]
- Q39. What methods and messages have been most effective in reaching and attracting SMBs to SUPD? Why?
- Q40. How important were each of the following elements in attracting SMB participation?
- › Taking a pledge?
 - › Getting a personal visit?
 - › Receiving Business Energy Reports?
 - › Getting window clings and premiums?
- Q41. What factors interfered with or prevented SMBs signing up?
- Q42. For future rounds, what steps would you take to ensure SMBs join and participate in SUPD?
- Q43. How important were each of the following services or rewards in prompting SMBs to take energy saving action?
- › Eyeball audits?
 - › Action plans, including help with selecting actions?
 - › Personal follow-ups?
 - › The promise of recognition?
- Q44. Please look at Slide 11, SMB Engagement, Categories A, B, and C. How important was it to have each of the types of actions available to SMBs?
- › Category A: Behavior Changes?
 - › Category B: Energy Watch Project?
 - › Category C: Non-Energy Watch Audit?
- Q45. What factors interfered with or prevented SMBs taking action?
- Q46. For future rounds, what changes would you advise for achieving deeper participation with SMBs?

A.1.5.3. Individual Customer Journey

- Q47. How well did the individual customer strategy work?
- Q48. How important will it be to have an individual customer journey available in the next round of SUPD? Why do you say that?

A.1.6. Data Management

- Q49. Slides 12, 13, and 14 list the data and measures being tracked for large customers, SMBs, and individual customers. Do each of these pages accurately capture the key data that were regularly tracked for SUPD and how they were tracked? [Probe: Is there a document that summarizes all the data being tracked?]
- Q50. Was the tracking data useful to you? Which elements of the tracking data were most useful day-to-day?
- Q51. Was there any data that was not tracked that would have been useful to you?
- Q52. What has worked well about data tracking?
- Q53. What aspects of data tracking have been challenging?
- Q54. What advice do you have for data management for future rounds of SUPD?

A.1.7. Summary/Closing

Now I just have a few final questions before we wrap up our conversation.

- Q55. Thinking back on our talk here today, what aspects of SUPD have worked the best? [Probe if needed: team communication, marketing and outreach, data collection and tracking, etc.] Why do you say that?
- Q56. What are the key aspects of the initiative that you would change or improve? [Probe if needed: team communication, marketing and outreach, data collection and tracking, etc.] How could these aspects be improved?
- Q57. What do you think will be the legacy of SUPD in the two cities? To what degree do you think the initiative has changed business owners and employees thinking or actions about energy efficiency?
- Q58. What types of continued support, if any, do you think the cities need to supply to continue what SUPD began?
- Q59. When PG&E launches the next round of Step Up and Power Down in another city, it plans to make the initiative available to both residential and business customers. What advice to you have for making this integrated effort a success?

Q60. Finally, we want to be sure we captured your overall impressions of the Step Up and Power Down initiative overall. Is there anything else about SUPD that we have missed that you would like to discuss?

Thank you again for taking the time to speak with me. Would it be all right if we got back in touch with you if we have any clarification questions?

A.2. Large Commercial Participant Interview Guide

A.2.1. Introduction

Thank you for taking the time to speak with me today. As we discussed [via PHONE CALL/EMAIL], PG&E has asked my firm, Research Into Action, to interview representatives of key organizations participating in Step Up and Power Down because they want to learn from your experience. Your insights and advice about the initiative are especially valuable since PG&E plans to launch Step Up and Power Down in other California cities in 2017.

Your participation is voluntary. I'd like to audio record this interview, to ensure the accuracy of my note taking. [If asked whether the audio will be provided to the client: *we do not identify any respondent in our reporting, and it is research best practices not to provide the audio or notes to {the client}, unless legally required to do so.*] Is it ok that I record the interview?

Do you have any questions before we get started?

A.2.2. Background

- Q1. What is your role at your organization?
- Q2. What has been your role with SUPD?
- Q3. [If unclear] How did your involvement with SUPD fit within your larger role at your organization? (Prompt: To what extent did it add to your existing responsibilities?)

A.2.3. Outreach and Recruitment

First, I want you to think back to when your organization first got started with Step Up and Power Down.

- Q4. How did your organization learn about and become interested SUPD?
- Q5. Was that an effective way for your organization to learn about efforts like SUPD? Why or why not? What improvements would you suggest?
- Q6. What were the key factors that persuaded your organization to sign up for SUPD?
- Q7. What questions or concerns did you have when you first learned about SUPD?
- Q8. Did you encounter any roadblocks to signing up for SUPD? **If barriers:** How did your organization overcome the barriers? [Probe: leadership and employee buy-in]

A.2.4. Experience with the SUPD

Now I'd like to hear more about your specific experiences with SUPD.

- Q9. What do you think the Step Up and Power Down initiative is trying to accomplish?
- Q10. How well do the objectives you just described align with your organization's goals? Why do you say that?
- Q11. For each of the following resources that SUPD offers organizations, please quickly let me know if your organization used or didn't use that resource. Then, if you didn't use that resource, please tell me if you knew SUPD offered that resource. [Clarify items as needed]

In PG&E Records (Y/N)	SUPD Resources	Used? (Y/N)	[If No:] Aware? (Y/N)
	Worked with an Engagement Manager to identify opportunities and create a savings plan		
	Received an Energy Practices Inventory		
	Received an Energy Simulation or Operations/baseline analysis		
	Participated in a REV Sustainability Circle		
	Participated in Operations and Maintenance Training		
	Participated in Energy Champion Training		
	Used any of these Employee Engagement campaigns?		
	<i>Adopt A Light</i>		
	<i>Energy Vampire Slayer</i>		
	<i>Power Down: Unplucked!</i>		
	<i>Sweet Good night</i>		
	<i>A customized campaign that you adapted or designed</i>		

- Q12. How did your organization decide which SUPD resources to use?
- Q13. What prevented your organization from using... [Refer to Q11 Table and ask about the resources they were aware of but didn't pursue.]
- Q14. For the resources you weren't aware of like [refer to specific offerings from Q11], might another person in your organization know about or have used those resources? [If others named, try to obtain contact info]
- Q15. Of the SUPD resources you used, which proved to be most useful for your organization? Why do you say that? [Probe: most employees engaged, most energy saved, etc.]
- Q16. Which resources from SUPD proved to be least useful? Why do you say that?

A.2.5. Coordination and Communication

Now I'd like to hear more about how you communicated about and coordinated SUPD activities in your organization.

- Q17. What did your organization do to engage employees with SUPD during your involvement? *[Probe for details]*
- Q18. How well did these engagement efforts work and why?
- Q19. If you were to do it again, what suggestions do you have for improving employee engagement?
- Q20. What services, if any, did you receive from the SUPD team? How effective were those services?
- Q21. *[If worked with SUPD team:]* What would have made your coordination and communication with the SUPD team more effective?

A.2.6. Results of Participation

Now I'd like to hear more about how the campaign affected your organization.

- Q22. What did you learn about your organization's energy use from your participation in SUPD?
- Q23. SUPD provided various energy saving tips to organizations. I'd like to know if you recall hearing each of these tips through SUPD and if your organizations then took steps to adopt that tip. How about:

Tip:	Recall Hearing About It?	Adopted?
Taking advantage of natural light		
Switching out old bulbs for LEDs		
Scheduling checkups for commercial refrigerators		
Checking and managing thermostat settings		
Closing blinds on hot summer days		
Taking the stairs		
Turning off equipment when not in use		

- Q24. To what extent do you anticipate any of the changes you adopted will persist over time? *[Probe to address each changed described in Q23]* Why do you say that?
- Q25. Other than the energy saving tips we just talked about, does your organization now do anything differently in terms of using energy due to its participation in SUPD?
 1. *Probe if not mentioned:* Have you and others within your organization changed any day-to-day behaviors around energy use?

2. *Probe if not mentioned:* Has your organization changed the way you operate and maintain energy using equipment?
 3. *Probe if not mentioned:* Has your organization changed your policies about energy, including the way you purchase energy-using equipment?
- Q26. What types of services and support will help ensure that any of the energy related changes you've mentioned [*If needed:* including the actions you took in response to PG&E's tips and the other changes we just discussed] – will persist?
- Q27. Has your organization participated in any PG&E rebate or incentive programs since you became involved with SUPD? Which ones? How important was your experience with SUPD in your decision to participate in those programs?
- Q28. Do you have any specific plans to participate in [additional] PG&E rebate or incentive programs since being part of SUPD? Can you tell me about those plans?

A.2.7. Satisfaction and Advice for the Future

We're almost done. I just have a few high-level questions about your participation in SUPD.

- Q29. How would you describe the most important benefits – of any kind – that your organization experienced due to its participation in SUPD? [*Probe most successful, useful aspects of SUPD; Non-energy benefits*]
- Q30. Overall, how satisfied are you with your participation in the initiative? Would you participate again in a similar initiative? Would you recommend participating to other organizations like yours?
- Q31. How engaged was your organization in SUPD? Why do you say that?
- Q32. What could PG&E have done to make participation easier? More useful?
- Q33. Finally, PG&E plans to work on refining SUPD and may expand it to other cities. What advice do you have for PG&E about how to engage organizations like yours in this type of effort?
- Q34. Those are all the questions I have. Is there anything we haven't covered that you think is important for me to know about your experience with Step Up and Power Down?

Thank you so much for your time.

A.3. SMB Web Survey Instrument

A.3.1. Introduction

Thank you for agreeing to participate! First, we would like to ask you a few questions about your organization.

A.3.2. Screening and Firmographics

S1. Does your business/organization operate at a single location or at multiple locations in [SF][SJ]?

1. We have one location in [SF][SJ]
2. We have multiple locations in [SF][SJ]
3. We do not have any locations in [SF][SJ]
98. Don't know

[IF Participation Status = NON-PARTICIPANT AND (S1 = 3 or S1 = 98) SKIP TO END]

S2. Now please provide a bit more information about your business/organization and your position. What one category below best describes your business/organization?

1. Accommodation/hotel
2. Assembly
3. Construction and manufacturing
4. Education
5. Food service – restaurant
6. Food sales – grocery
7. Healthcare
8. Manufacturing
9. Non-Profit
10. Office/professional services
11. Retail
12. Tech and telecom
96. Other, please specify: [OPEN-ENDED RESPONSE]
98. Don't know

S3. How many employees do you have at your downtown [SF][SJ] location(s)?

[OPEN-ENDED RESPONSE]

S4. Which of the following categories best describes your position within your business/organization? Please select all that apply.

1. Building owner
2. Representative or employee of building owner
3. Facilities manager
4. Building operator (e.g., engineer)
5. Business owner
6. Senior executive within my business or organization
7. Manager/supervisor within my business or organization
8. Employee within my business or organization
9. Other, please describe: [OPEN-ENDED RESPONSE]
98. Don't know

S5. Are you involved in making decisions regarding how your business/organization uses energy, water, or other resources (for example, policy, purchasing, or facility decisions)?

- 1. Yes
- 2. No
- 98. Don't know

A.3.3. Awareness & Favorability [ASK ALL]

Now we would like to know about your views of PG&E and its services.

Q1. How favorable are your feelings toward PG&E?

- 1. Not at all favorable
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10. Extremely favorable
- 98. Don't know

Q2. How much do you agree or disagree with the following statements about PG&E?

[RANDOMIZE]

[LOGIC] Item	1 – Strongly Disagree	2	3	4	5	6	7	8	9	10 – Strongly Agree	98 – Don't Know
PG&E is a company I can trust											
PG&E is easy to do business with											

Q3. How familiar are you with energy efficiency or conservation programs from PG&E to help businesses and organizations save energy?

- 1. Not at all familiar
- 2. Not too familiar
- 3. Somewhat familiar
- 4. Very familiar
- 98. Don't know

Q4. Do you recall receiving information about energy efficiency or conservation programs from PG&E within the past year?

- 1. Yes
- 2. No

98. Don't know

Q5. [IF Q4 = YES] What information do you recall receiving about PG&E's energy efficiency or conservation programs within the past year?

1. [OPEN-ENDED RESPONSE]

Q6. Has your business/organization participated in any of the following types of PG&E programs to help you save energy in the past two years? Select all that apply.

[MULTIPLE RESPONSE, RANDOMIZE 1-5]

1. Having your business/organization evaluated to identify energy saving opportunities
2. Receiving free replacements for energy using equipment, like light bulbs
3. Receiving rebates to offset the price of replacing equipment, such as heating or cooling systems, with more efficient models
4. Assistance in designing new buildings or facilities for maximum energy efficiency
5. Training for operations staff on how to use energy more efficiently and/or reduce energy costs
98. Don't know

A.3.4. Current EE Behavior [ASK ALL]

Q7. Has your business/organization taken any of the following steps on its own to save energy in the past two years? Select all that apply.

[MULTIPLE RESPONSE, RANDOMIZE 1-4]

1. Created policies or procedures to encourage employees to reduce energy use
2. Created policies or procedures to encourage customers to reduce energy use
3. Educated or trained employees on ways to reduce energy use
4. Replaced energy-using equipment in your business with energy efficient equipment that uses less energy
5. Other, please specify: [OPEN-ENDED RESPONSE]
6. My business has not taken any steps to save energy in the past two years
98. Don't know

Q8. [IF Q7 = 1-5] What prompted you or your business to take its own steps to save energy in the past two years?

1. To reduce energy bills or costs
2. Requests from employees, stakeholders, or customers
3. To reduce your business's impact on the environment
4. You learned about steps your business can take to save energy
5. Other (please specify):
98. Don't know

Q9. How knowledgeable do you feel you are about steps you can take to reduce your business's energy use?

1. Not at all knowledgeable

- 2.
- 3.
4. Somewhat knowledgeable
- 5.
- 6.
7. Very knowledgeable
98. Don't know

A.3.5. Step Up and Power Down Awareness & Experience [ASK ALL]

Q10. [WILL SHOW STEP UP AND POWER DOWN LOGO] Step Up and Power Down is a collaboration between Pacific Gas and Electric Company (PG&E) and the City of [SF][SJ] that is helping local businesses take simple actions every day to reduce energy waste. Were you aware of Step Up and Power Down before taking this survey?

1. Yes
2. No
98. Don't know

[IF Q10= 2 OR Q10 = 98 SKIP TO Q32, IF Q10 = 1 CONTINUE TO Q11]

Q11. From which of the following sources did you hear about Step Up and Power Down? Select all that apply.

[MULTIPLE RESPONSE, RANDOMIZE 1-11]

1. Ad on a website
2. Bus sign or other outdoor sign
3. Social media (for example, Facebook, Twitter)
4. Step Up and Power Down website
5. A PG&E representative
6. A [SF][SJ] city representative or official
7. An Energy Watch representative
8. A friend or family member
9. A coworker
10. At a local event, like a coffee cart or chalk art
11. An email from PG&E
12. A mailed report that provided feedback on your business's energy use
96. Other, please specify: [OPEN-ENDED RESPONSE]
98. Don't know

Q12. Did your business sign up for Step Up and Power Down?

1. Yes
2. No
98. Don't know

[IF Q12 = 2 SKIP TO Q30 IF Q12 = 98 SKIP TO Q31, IF Q12 = 1 CONTINUE TO Q13]

A.3.5.1. Participants [IF Q12 = 1]

Q13. To what extent did your business engage with Step Up and Power Down?

1. Not at all engaged
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
10. Extremely engaged
98. Don't know

Q14. To what extent were you personally involved in your business's Step Up and Power Down participation?

1. Not at all involved
2. Somewhat involved
3. Very involved
98. Don't know

Q15. What motivated your business to participate in Step Up and Power Down? Please select all that apply.

[RANDOMIZE 1 -7]

1. Reduce energy waste and/or costs
2. Reduce your business's impact on the environment
3. Differentiate your business from competitors
4. Learn about ways for your business to be more sustainable
5. Be a leader in the community regarding sustainability
6. Requests from employees, stakeholders, or customers
7. Encouragement from PG&E or City representatives to join the initiative
8. Other (please specify):
98. Don't know

Step Up and Power Down Section 2: Commercial Initiative Evaluation

Q16. Which of the following Step Up and Power Down resources did your business use? Please select the response that best represents your experience with each resource listed below.

[MATRIX QUESTION, RANDOMIZE 1-6]

[LOGIC] Item	1. Have used this resource	2. Aware of but have not used this resource	3. Not aware of this resource	98. Don't know
1. [IF CITY = SF] Support from City of San Francisco, PG&E, SUPD, or SF Environmental Action staff on how to reduce energy waste in your business				
2. [IF CITY = SJ] ' Support from City of San José, PG&E, SUPD, or Ecology Action staff on how to reduce energy waste in your business				
3. Step Up and Power Down website				
4. Action plan for reducing energy waste in your business				
5. Participated in a PG&E or [SF][SJ] energy efficiency program you learned about through Step Up and Power Down, such as an appliance rebate or lighting retrofit program				
6. Step Up and Power Down-branded materials, such as power strips or stickers				
7. Instructions for engagement campaigns to encourage employees to reduce energy waste				

Q17. [SKIP IF RESPONDENT DOES NOT SELECT 1 FOR ANY ITEM IN Q16] For each of the Step Up and Power Down resources you used, please rate the extent to which it helped your business reduce energy waste.

1. [MATRIX QUESTION, RANDOMIZE 1-6]

[LOGIC] Item	1. Not at all helpful	2. Not too helpful	3. Somewhat helpful	4. Very helpful	98. Don't know
1. [Display if Q16.1 =1] Support from City of [SF][SJ], PG&E, SUPD, or [if city = SJ 'Ecology action'] [if city = SF 'SF Environmental Action'] staff on how to reduce energy waste in your business					
2. [Display if Q16.2 =1] Support from City of San José, PG&E, SUPD, or Ecology action staff on how to reduce energy waste in your business					
3. [Display if Q16.3 =1] Step Up and Power Down website					
4. [Display if Q16.4 =1] Action plan for reducing energy waste in your business					
5. [Display if Q16.5 =1] Participated in a PG&E or [SF][SJ] energy efficiency program you learned about through Step Up and Power Down, such as an appliance rebate or lighting retrofit program					
6. [Display if Q16.6 =1] Step Up and Power Down-branded materials, such as power strips or stickers					
7. [Display if Q16.7 =1] Instructions for engagement campaigns to encourage employees to reduce energy waste					

Q18. Which, if any, of the following energy-saving actions did your business take as a result of participating in Step Up and Power Down?

[RANDOMIZE 1 -7]

1. Created policies or procedures to encourage employees to reduce energy use
2. Created policies or procedures to encourage customers to reduce energy use
3. Educated or trained employees on ways to reduce energy use
4. Installed more energy efficient equipment for your business, such as light bulbs, appliance, insulation, or heating and air conditioning equipment
5. Reduced your use of energy through turning off lights and computers, turning down the heat or air conditioning, using equipment less, or other behaviors
6. Installed renewable electricity generation like solar panels
7. Participated in another PG&E energy efficiency program
96. Other, please specify: [OPEN-ENDED RESPONSE]
98. Don't know

Q19. How easy was it for your business to take the energy savings actions you just indicated?

[LOGIC] Item	1. Not at all easy	2. Not too easy	3. Somewhat Easy	4. Very easy	98. Don't know
1. Create policies or procedures to encourage <u>employees</u> to reduce energy use [IF Q18.1 IS SELECTED]					
2. Create policies or procedures to encourage <u>customers</u> to reduce energy use [IF Q18.2 IS SELECTED]					
3. Educate or train employees on ways to reduce energy use [IF Q18.3 IS SELECTED]					
4. Install more energy efficiency equipment in your business [IF Q18.4 IS SELECTED]					
5. Reduce your use of energy through turning off lights or other equipment, by using energy using equipment less often, or taking other actions to reduce use [IF Q18.5 IS SELECTED]					
6. Install renewable electricity generation like solar panels [IF Q18.6 IS SELECTED]					
7. Participated in another energy efficiency program offered by your utility [IF Q18.7 IS SELECTED]					

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Q20. For each action your business took, how effective was it at reducing your energy waste?

[LOGIC] Item	1. Not at all effective	2. Not too effective	3. Somewhat effective	4. Very effective	98. Don't know
1. Create policies or procedures to encourage <u>employees</u> to reduce energy use [IF Q18.1 IS SELECTED]					
2. Create policies or procedures to encourage <u>customers</u> to reduce energy use [IF Q18.2 IS SELECTED]					
3. Educate or train employees on ways to reduce energy use [IF Q18.3 IS SELECTED]					
4. Replace or upgrade energy-using equipment in your business with energy efficient equipment that uses less energy [IF Q18.4 IS SELECTED]					
5. Reduce your use of energy-using equipment such turning off lights, turning down the heat or air conditioning, or using equipment less often or at different hours of the day [IF Q18.5 IS SELECTED]					
6. Install renewable electricity generation like solar panels [IF Q18.6 IS SELECTED]					
7. Participated in another energy efficiency program offered by your utility [IF Q18.7 IS SELECTED]					

Q21. Does your business plan to fully, partially, or not continue taking these energy-saving actions in the future?

[LOGIC] Item	1. Not continue	2. Partially continue	3. Fully continue	98. Don't know
1. Creating and updating policies or procedures to encourage <u>employees</u> to reduce energy use [IF Q18.1 IS SELECTED]				
2. Creating and updating policies or procedures to encourage <u>customers</u> to reduce energy use [IF Q18.2 IS SELECTED]				
3. Educating or training employees on ways to reduce energy use [IF Q18.3 IS SELECTED]				

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[LOGIC] Item	1. Not continue	2. Partially continue	3. Fully continue	98. Don't know
4. Replacing or upgrading energy-using equipment in your business with energy efficient equipment that uses less energy [IF Q18.4 IS SELECTED]				
5. Reducing your use of energy-using equipment such turning off lights, turning down the heat or air conditioning, or using equipment less often or at different hours of the day [IF Q18.5 IS SELECTED]				
6. Participating in other energy efficiency programs offered by your utility [IF Q18.7 IS SELECTED]				

Q22. What would you say were the biggest challenges to participating in Step Up and Power Down? Please select all that apply.

[RANDOMIZE 1 -6]

1. Not enough support or information from Step Up and Power Down to take actions to reduce energy waste
2. Not enough time to implement energy saving activities or resources
3. Energy saving activities and/or resources did not save as much energy as expected
4. Low interest in energy savings activities and resources among employees and/or customers
5. Energy saving activities or resources were difficult to implement in the business
6. Not enough recognition of your business for the actions it took
7. Other (please specify):
98. Don't know

Q23. What would you say are the biggest benefits to participating in Step Up and Power Down? Please select all that apply.

[RANDOMIZE 1 -6]

1. Recognition for your business and/or employees
2. Differentiating your business from competitors
3. Saving your business money and/or energy
4. Changing or updating business practices or policies
5. Changing employees' or customers' behaviors and habits related to energy use
6. Reducing your business's impact on the environment
7. Other (please specify):
98. Don't know

Q24. If PG&E were to launch Step Up and Power Down in the future, how do you think they should improve it for businesses like yours? Please be as specific as you can be.

1. [OPEN-ENDED RESPONSE]
98. Don't know

Q25. Have you talked about your participation in Step Up and Power Down with any other businesspeople?

1. Yes. If so, how many? [OPEN END]
2. No
98. Don't know

Q26. Would you recommend Step Up and Power Down to owners or employees of other businesses?

1. Yes
2. No
3. Don't know

Q27. Have any of the following factors changed due to your business participating in Step Up and Power Down?

	Increased	Decreased	Stayed about the same	Don't Know
Your favorability toward doing business with PG&E				
Your awareness and knowledge of PG&E energy efficiency programs				
Your interest in reducing energy use in your business				

Q28. Have you done anything in your home to save energy as a result of your business's participation in SUPD?

1. Yes
2. No
3. Don't know

A.3.5.2. Aware Non-Participants [IF Q12 = 2]

Q29. Which of the following are reasons that your business did not participate in Step Up and Power Down? Select all that apply.

[MULTIPLE RESPONSE, RANDOMIZE 1-5]

1. Lack of understanding about what the initiative is
2. Lack of understanding about how the initiative can help your business reduce energy waste
3. Lack of time to participate in Step Up and Power Down
4. Lack of funds available to take steps to reduce energy waste in your business
5. Conflicts between participating in Step Up and Power Down and other priorities for your business
6. You lease your business space and do not feel that you can take steps to reduce energy waste
96. Other, please specify: [OPEN-ENDED RESPONSE]
98. Don't know

Q30. How interested would your business be in participating in a program like Step Up and Power Down in the future?

1. Not at all interested
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
10. Extremely interested
98. Don't know

A.3.6. Unaware Nonparticipants [Q10 = 2 OR 98]

Q31. How interested would your business be in participating in an initiative, sponsored by your city and PG&E, that helps local businesses take simple, everyday actions to reduce energy waste?

1. Not at all interested
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
10. Extremely interested
98. Don't know

A.3.7. Sustainability Attitudes [ASK ALL]

Finally, we would like to ask you some questions about sustainability in your business/organization.

[RANDOMIZE QUESTIONS Q24-Q26]

Q32. How important is it to you personally to work for a business/organization that emphasizes sustainability, such as using energy, water, and other resources efficiently?

1. Not at all important
2. Not too important
3. Somewhat important
4. Very important
98. Don't know

Q33. How important is it to your business/organization to emphasize and foster sustainable operations and practices?

1. Not at all important
2. Not too important
3. Somewhat important
4. Very important
98. Don't know

Q34. Why is it [ANSWER FROM Q34] for your business to emphasize and foster sustainable operations and practices?

1. [OPEN-ENDED RESPONSE]
98. Don't know

Q35. How important is it to your customers that your business/organization has sustainable operations and practices?

1. Not at all important
2. Not too important
3. Somewhat important
4. Very important
98. Don't know

Q36. Would you be interested taking part in a focus group about Step Up and Power Down in the next few months?

1. Yes
2. No
98. Don't know

[IF Q37 = Yes]

Q37. Please provide the best email and/or phone number to reach you so we can contact you about future research efforts.

Those are all the questions we have for you. Thank you again for your participation! Please click SUBMIT to record your answers.

Step up and Power Down

Section 3: Residential Initiative Evaluation

Final Report

August 31, 2018



Prepared by

research > into > action^{inc}

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Final Report

Step Up and Power Down

Section 3: Residential Initiative Evaluation

August 31, 2018

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Executive Summary

Initiative Description

Pacific Gas and Electric Company's (PG&E) Step Up and Power Down Residential initiative (SUPD-R), ran from mid-2015 through the fall of 2016. SUPD-R combined Community Based Social Marketing (CBSM) techniques and behavioral economics principles to meet three intertwined objectives:

- › Increase customer awareness of energy efficient actions and PG&E's energy efficiency programs
- › Increase energy efficiency actions among customers in each city
- › Increase customer participation in PG&E's residential program portfolio

In undertaking SUPD-R, PG&E intended to try out and learn from a new approach to marketing and fostering energy efficiency – one that focused on building community involvement and leveraging community resources and champions. PG&E contracted with Empower Efficiency (Empower) to implement SUPD-R in three California cities: Redwood City, San Carlos, and Woodland. The initiative relied upon multiple “touches” to involve the community, including events, interactions with the SUPD-R team via phone, email, or in-person, social media, and direct marketing.

Evaluation Goals and Methods

PG&E contracted with Research Into Action to assess SUPD-R and to inform needed improvements for similar future efforts. We undertook the following tasks as part of this evaluation:

- › A review of key initiative materials and reports, including key Empower reports and the mid-initiative survey we conducted in May 2016 with 2,145 households in the target areas (+/-2% margin of error at 95% confidence).
- › In-depth interviews with 14 campaign stakeholders, from PG&E, Empower, and the three cities.
- › A survey of the households that pledged to take at least one energy efficient action as part of SUPD-R, resulting in 109 (out of 577) eligible respondents (+/- 8.6% margin of error at 95% confidence).
- › A pre-post comparison of the rate of household participating in PG&E's residential programs in the three SUPD-R cities and three comparison cities.³⁴

The body and appendices of this report provide further insights about SUPD-R's processes, target audiences, and outcomes. This executive summary examines: (1) SUPD-R's effectiveness, in terms of its

³⁴ In selecting comparison cities, we sought to identify cities of similar size to the SUPD-R cities and in the same regions, although located far enough away from the SUPD-R cities that spillover of SUPD-R outreach efforts into the comparison cities would be minimal. We selected Daly City as a comparison for Redwood City, Pacifica as a comparison for San Carlos, and Yuba City as a comparison for Woodland. Section 1.4.4 provides additional detail about the selection of comparison cities.

ability to increase energy efficiency awareness, behaviors, and PG&E program participation,³⁵ in the targeted communities; and (2) overarching conclusions and recommendations that can inform and improve the design and implementation of similar community-based initiatives.

Effectiveness of SUPD-R in Engaging Households

First, it is important to establish what evidence we have about SUPD-R's reach within the communities and how well it engaged customers. Notably, we do not have community-wide baseline or exit data that would allow us to compare key community metrics, such as awareness, knowledge, and experience with efficiency actions and PG&E's programs. However, from the mid-term survey in May 2016 we know:

- › Customer satisfaction with PG&E is comparable to territory-wide satisfaction rates;
- › About one-quarter (24%) of households (14,000 of 59,000 households) were aware of SUPD-R;
- › 10% of all households had engaged with the campaign in some way;
- › Only 8% of households had previously participated in a PG&E rebate program;
- › Many respondents could make behavioral changes that would save energy; and
- › 22% of respondents requested more information about SUPD-R, which boosted sign-ups.

Taken together, the mid-point data suggest the initiative was off to a good start, in terms of awareness, interest, and opportunity. In 2016, the initiative's intent was to deepen relationships with residents.

Empower's end-of-initiative report (December 2016) defines "participants" as households that provided contact information and states it met its participation goals (about 6% or 3466 households). Responses to mid-term and pledged surveys, however, suggest many households on the participant list did not see themselves as participants and were engaged with the initiative at a low level.

Based upon the lists Empower provided for the pledged survey, 787 households made pledges to take action. If we use that number as a proxy for more active engagement, about 1.3% of all households were more actively engaged.³⁶ Survey data are clear that the SUPD-R approach succeeded with this small set of households: they reported SUPD-R increased their familiarity with PG&E programs and services (59%); influenced many of them to take part in at least one PG&E program (58%); and influenced them to change at least one heating and cooling behavior (81%), and at least one lighting or appliance behavior (92%). Demographically, survey results show this small set of households had significantly higher education and income levels than most area households and were more engaged with energy saving actions prior to the initiative.

While SUPD-R motivated these participants to take more energy efficient actions and participate in PG&E programs more than they had previously, this level of participation in programs was not enough to show up in our pre-post analysis of participation rates. This analysis showed the rates did not differ

³⁵ We use the term "effectiveness" to reflect an amalgam of the three SUPD-R objectives listed in Section 0.

³⁶ Please note, this is a generous number: 17% of respondents to the pledged survey were not aware of SUPD-R and, of those remaining, 50% did not recall making a pledge and were significantly less active than those who recalled pledging.

between SUPD-R and comparison cities and spiked and fell in synchrony with PG&E's territory-wide promotional efforts.

Finally, while the interviewed stakeholders differed somewhat in how they assessed SUPD-R's effectiveness by their affiliation, all agreed it did not reach the level of engagement it aspired to in its design stage and that its legacy would be limited. And all agreed that they learned from this experience – lessons which we capture in the next section.

Bottom Line: In undertaking SUPD-R, PG&E explored a new approach to delivering energy efficiency; its results reveal both the challenges and benefits of community-based efforts that employ behavior change interventions. SUPD-R initially attracted significant positive attention in the targeted communities. By its close, it had actively engaged a small (1.3%) and narrow set of households – a level that is notably short of the 10% level that Empower and other sources cite as the “tipping point” needed for CBSM efforts.³⁷ To achieve greater participation would have required PG&E's program offerings to customers to be more compelling, and the desired household behavior changes to be fewer and better defined. In addition, SUPD-R needed better measurement tools to track program participation and behavioral changes.

Conclusions and Recommendations

The following four conclusions and recommendations are high-level strategic considerations for PG&E to consider when undertaking community-based initiatives, and are based upon looking across the data and insights discussed in subsequent chapters.

SUPD-R would have benefited from greater adherence to the strategic design steps of CBSM

*Fostering Sustainable Behavior*³⁸ and many articles (see <http://www.cbsm.com/public/world.lasso>) describe and give evidence of how CBSM offers an alternative, and effective, approach to more traditional marketing for sustainability initiatives. CBSM follows a holistic and strategic set of design steps (see section 1.3.2 for a description of these steps); in addition, it provides many tactics, based on social science research (e.g., making commitments, nudges) that initiative designers and implementers can use to motivate behavioral change. While SUPD-R employed the philosophy and tactics of CBSM, it missed implementing core aspects of CBSM's strategic steps that would have allowed the effort to be more focused, accomplish more in the time frame available, and be more evaluable.

Recommendation: If future behavior change initiatives use CBSM, they should follow CBSM's design strategy more closely, including: (1) Selection of the “best” and targeted set of behaviors to promote; (2) Identification and prioritization of barriers and benefits to changing targeted behaviors based upon secondary and primary research; (3) development of intervention

³⁷ See *The Tipping Point*, by Malcolm Gladwell, and other sources for more information on minority movements orchestrating change.

³⁸ See *Fostering Sustainable Behavior: An Introduction to Community Based Social Marketing*, by Doug McKenzie-Mohr, 2011, for more detail.

strategies that match the targeted behaviors; and (4) piloting the CBSM project on a small scale (preferably using an experimental design approach).

The selection of effective city partners needed to expand beyond energy savings potential and to prioritize factors that emphasize successful partnerships.

While SUPD-R initially studied potential partner cities in terms of their opportunities to save energy (for instance, demographics and energy use), other factors emerged as critical “deal-breakers” to a successful partnership that took considerable time to investigate. These factors included:

- › The level of support at the city level, including among high-level elected officials
- › PG&E’s relationship with the city staff and its residents
- › Selecting and serving a diverse community

These added factors suggest that selection criteria need to go beyond energy saving opportunities. A “three C’s” framework offers a solution and considers the city’s: (1) **concern** about energy problems; (2) **conditions** for conservation opportunities; and (3) institutional **capacity** to support conservation activities.³⁹

A “three C’s” framework allows for a richer and more efficient analysis of community partnering. In particular, by looking at concern and capacity, it immediately addresses key questions about whether the partnership can be successful and if the initiative can withstand scrutiny about its intentions and fairness. Research into Action has already worked with PG&E staff to help them adopt a three Cs framework to assess candidate communities for subsequent rounds of SUPD. This framework is addressed in a memo from Research Into Action and two subsequent documents PG&E staff members prepared on selection criteria and selection methodology.⁴⁰

Recommendation. *Apply the three C’s framework in city selection and prioritize the key concern and capacity aspects of utility-city partnerships first, to give community-based partnerships the highest probability of success. While it is likely that many communities will offer conditions that with good opportunities for energy efficiency, it is less likely communities will be interested in and able to support partnerships like SUPD-R.*

³⁹ See Jana K., C. Payne, R. Knuckle, and L. Lutzenhiser. 2002. “What Organizations Did (and Didn’t) Do: Three Factors that Shaped Conservation Responses to California’s 2001 “Crisis.” In *Proceedings of the ACEEE 2002 Summer Study on Energy Efficiency in Industry*, 8:1–12. Washington, DC: ACEEE.

⁴⁰ Dethman, L. and A. Marshall. (October 14, 2016). *Thoughts on Community Selection Criteria for SUPD II* [Memorandum]. Portland, OR: Research Into Action.

Customer journeys for community-based initiatives are likely to be non-linear and varied, requiring targeted marketing and flexible and nuanced programs and services.

In planning, the SUPD-R team imagined a linear and simple customer journey with a clear start and end point, as illustrated in Figure ES-1. In addition, stakeholders noted that the assortment of PG&E programs was relatively limited and leapt from fairly small, targeted, and easy actions – e.g., self-administered audits and appliance rebates – to complex and expensive whole house retrofits.

Figure ES-1: Initial Empower Efficiency SUPD-R Customer Journey



Stakeholders concluded that the original view of the customer journey over-simplified the experience of most participants because:

- › Participants brought with them highly variable levels of energy efficiency knowledge and experience
- › Participants varied in their needs, interests, and ability to take action.

Thus, some participants might skip easier steps and jump to something more complex, like installing solar panels. Or, an emergency may require participants to replace a piece of equipment with little time to become fully informed. Or, while whole house retrofits may be desirable and possible for a small set of customers, many may need easier, lower cost options for retrofitting their homes.

Recommendation. After narrowing down the set of behaviors to promote (using CBSM strategies), rethink and re-map the customer journey(s) from the point of view of specific target audiences, each of which brings specific knowledge, experiences, needs, barriers, and benefits, and each of which is connected to behavior change and PG&E program offerings. Current PG&E personas can inform this effort. This exercise will result in fuller, less linear, and more flexible set of customer journeys.

The plan for SUPD-R did not include key elements to make it evaluable.

Several factors contributed to the inability to have as robust evaluation of SUPD-R as desired, as discussed in the next sections.

The logic model and inclusion of evaluators came too late in the SUPD-R initiative.

While the SUPD-R team developed a logic model, it was finalized fairly late (December 2015) and after the launch of the initiative. In addition to laying out the reasoning behind the initiative and how its activities link to outputs, and short and long-term outcomes, the process of developing logic models

allows designers to see gaps and for evaluators to review objectives and to create strong evaluation plans that can measure the link between activities and outcomes. The lateness of the logic model, and late inclusion of evaluators at mid-term in the program, affected the quality of the evaluation.

Conducting baseline research is essential in initiatives structured like SUPD-R.

The three objectives of SUPD-R, while broad, were quite clear: increase residential customer awareness of energy efficiency options and programs; increase uptake in efficiency actions; and increase uptake in PG&E's efficiency programs. However, because no baseline measures were collected in either the SUPD-R or the comparison cities – especially in terms of awareness and energy efficiency actions – measuring pre-post changes were not possible.

The mid-term survey appeared to be an afterthought; while it provided some good insights about SUPD-R's progress, it cannot be claimed to establish baseline measures. The participant survey, at the close of the initiative, retrospectively asked respondents about the influence of the initiative on respondent awareness and behavior. While this survey revealed some positive influences of the initiative on a small proportion of residents, these findings do not represent the populations of the three cities.

In addition, our pre-post analysis of program uptake did not find any statistically significant differences between the targeted cities and comparison cities. While the initiative may have influenced some customers in the targeted cities to take action, this influence was not detectable due to (1) a limited number of participants in most programs, and (2) PG&E's significant marketing efforts across its territory to encourage customers to take its self-administered home audits (Home Energy Check), its major broad program offering.

Defining SUPD-R participants and gauging their level of engagement is critical.

The initiative's definition of participants as anyone who provided contact information did not result in them self-identifying as participants during the mid-term survey. We also found that pledging often does not result in households seeing themselves as participants: one-half of pledged households did not recall they had made a pledge. When households do not self-identify as participants, their level of engagement with a community-based effort is low and unlikely to result in behavior changes and program uptake. In addition, the inability to easily distinguish between participants and non-participants make evaluation efforts more challenging and expensive.

SUPD-R needed better mechanisms to gather participant data and track behavior changes.

Tracking of behavior changes is tough for any behavioral program, especially one like SUPD-R that offered a wide range of behavior change options. Still, SUPD-R's design did not incorporate a clear way to get consistent feedback from customers, or to compare the target cities with comparison cities. Until the introduction of a more standardized set of behavior changes with the scorecard, participants could define their pledged changes in their own terms and in a wide variety of ways. In addition, residents who did change their behaviors did not have an easy way to record them and to see them acknowledged.

SUPD-R ultimately developed a sophisticated data system, designed to combine data from a range of sources to support reporting and targeted outreach to participants. However, gathering the inputs for

this data system proved problematic. It was labor intensive and often difficult to match participants to their records in PG&E's data systems based on the information the participants provided in their interactions with the initiative at community events. It was also often difficult to obtain information from other PG&E partners in a timely way.

Recommendations. Based upon the contributing factors above, future SUPD-R efforts would benefit from (1) early logic model development and involvement of evaluators; and (2) an evaluation plan that detailed how the initiative would be tracked against its objectives.

1. Introduction

1.1. SUPD-R Initiative Summary

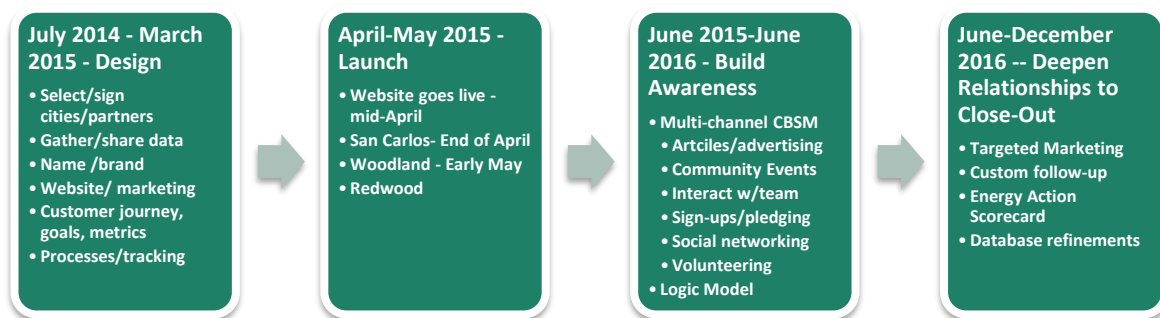
PG&E’s SUPD-R marketing initiative combined community-based social marketing (CBSM) techniques and behavioral economics principles to increase residential customer⁴¹ awareness and commitment toward energy efficiency, and to take, over time, an increasing number of energy saving actions. In undertaking SUPD-R, PG&E ventured into new ground for marketing and fostering energy efficiency – one that focused on building community involvement and leveraging community resources and champions. SUPD-R’s objectives were to:

- › Increase customer awareness of energy efficient actions and PG&E’s energy efficiency programs
- › Increase energy efficiency actions among customers in each city
- › Increase customer participation in PG&E’s residential program portfolio

1.2. Initiative Timeline and Activities

PG&E contracted with Empower Efficiency (Empower), a firm experienced energy use behavior change, to design and implement SUPD-R. Design began in mid-2014 and SUPD-R was launched in mid-2015. After launch, the first year focused on building awareness and then, in mid-2016, SUPD-R transitioned into deepening relationships with customers to encourage greater engagement and action. Active outreach for SUPD-R ran through October 2016, with the initiative sending final communications to participants by mid-December 2016. In each phase, various activities took place, as Figure 1-1 shows.

Figure 1-1: Timeline and Activity Overview of SUPD-R



⁴¹ SUPD-R defines a customer as a household that contains one or more people.

1.3. Key Design Steps

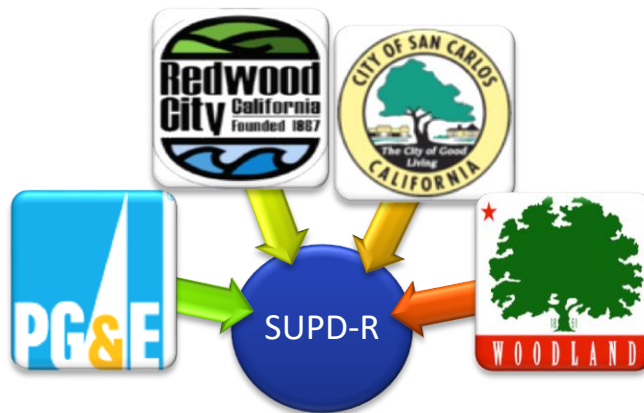
In the next sections, we comment on two critical design aspects of SUPD-R: city selection and implementing a CBSM initiative.

1.3.1. City Selection

Stakeholder interviews and Empower documents revealed that Empower initially took the lead on the selection, determining potential candidates through analyzing census data, energy savings potential, and PG&E data. PG&E then realized it was essential to have their local PG&E staff be involved – to give insights about working with the city governments and with city residents. This led to a tour of the top seeded communities, discussions with local staff, and a wider consideration of attributes, such as the capacity of the cities to partner, their past work relationships with PG&E, their level of socio-economic diversity, and perceptions of city selection by regulators and other audiences. Thus, the process of selecting cities, in the end, involved more complexity and more stakeholders than originally anticipated.

After a three-month iterative process, Redwood City and San Carlos, near each other on the San Francisco Peninsula, and Woodland, near Sacramento, in the Central Valley, were selected, as shown in Figure 1-2. Within each city, the initiative also partnered with community organizations and businesses, including contractors, to provide marketing and other services.

Figure 1-2: PG&E and its City Partners for SUPD-R



1.3.2. Implementing a CBSM Initiative

SUPD-R deserves credit for the time and effort put into its design, and for the CBSM tactics and behavioral intelligence it employed. However, the written documentation we reviewed, as well as the stakeholder interviews, paid limited attention to the strategic and integrated steps behind CBSM

design.⁴² These steps are aimed at focusing and improving CBSM efforts to make them more manageable and measurable, as discussed below:

- 1. Selection of the “best” set of behaviors to promote:** While CBSM efforts can focus on more than one behavior, some of the most successful CBSM efforts have been targeted to one (e.g., use your seat belt, stop your motor idling) or a few behaviors within a specific sector (e.g., residential space heating). CBSM guidance also emphasizes the importance of developing a list “non-divisible” and “end-state” behaviors within this sector – specific behaviors that cannot be divided into smaller ones and that directly produce the desired outcome – and then determining which behaviors are best to target based on examining their impact, probability, and penetration.
- 2. Identification and prioritization of barriers and benefits to change:** This step is largely one of customer research into both the behaviors and the communities where CBSM is to be implemented, with the goal of uncovering, and then leveraging, the barriers and benefits to the targeted behaviors. McKenzie-Mohr suggests a literature review;⁴³ observations of those engaged in the behaviors you wish to promote and those who are not; focus groups and/or a survey to better understand barriers and benefits. In addition to greater customer insights, survey research at this point would also have provided baseline information about behavioral adoption and program participation which could have been used as a baseline against which to measure progress.
- 3. Development of targeted intervention strategies:** This step is obviously tied to the previous ones. Empower’s Marketing Plan Outline (March 20, 2015) does a thorough job of describing many important marketing topics, including behavior change methods, customer journey, target audience, messaging, and goals and metrics. However, the plan generally does not specifically lay out how three key aspects of the behavior change strategy will work together: the target behavior, the intervention, and focal population.
- 4. Piloting on a small scale:** McKenzie-Mohr recommends an experimental design approach, with a treatment and control group, to pilot a CBSM strategy prior to broad implementation. Clearly these experiments would be a much smaller effort than SUPD-R, but such experiments would have also focused the offerings and activities within a city-wide implementation.

1.4. Evaluation Purpose and Methods

Pacific Gas and Electric Company (PG&E) contracted with Research Into Action to evaluate its Step Up and Power Down – Residential (SUPD-R) initiative. This evaluation is largely qualitative and retrospective. The overall goals of this evaluation are to:

- › Describe the initiative’s history and processes
- › Assess the initiative’s effectiveness and outcomes

⁴² See *Fostering Sustainable Behavior: An Introduction to Community Based Social Marketing*, by Doug McKenzie-Mohr, 2011, for more detail.

⁴³ The March 2015 marketing plan does cite secondary research used to craft the marketing strategy, but not primary research.

- › Provide lessons learned from the initiative
- › Discuss the initiative’s implications for scalability and replicability within PG&E’s territory.

We undertook the following steps to evaluate SUPD-R. Each of these steps contributed to meeting the overall evaluation goals listed above.

1.4.1. Review of Key Initiative Documents

As part of informing the description and history of the program, and to help design data collection instruments and to analyze other relevant data, we reviewed the initiative website and individual materials, as well as these four major reports authored by Empower Efficiency:

- › “Residential Initiative: Step Up and Power Down Program Marketing Plan Outline” (March 20, 2015)
- › “Step Up and Power Down – Residential Community Marketing Initiative, Initiative Processes and Documentation” (September 14, 2015)
- › “Step Up and Power Down Residential Initiative – 2016 Goals and Metrics (March 3, 2016)
- › “Step Up and Power Down – Residential 2016 Report” (December 22, 2016)

In addition, we referred back to results from a mid-term survey of 2,145 households in the three cities that Research Into Action conducted in mid-2016 (+/-2% margin of error at 95% confidence).

1.4.2. Interviews with Campaign Stakeholders

We conducted in-depth interviews with 14 stakeholders involved in the delivery of the SUPD-R initiative. These included six staff members of Empower Efficiency (Empower), the initiative’s primary implementer, five PG&E staff, and three city staff. City staff represented three cities in which the SUPD-R initiative was launched: San Carols, Redwood City, and Woodland. We conducted the interviews in November and December 2016.

1.4.3. Survey of Pledged Participants

SUPD-R defined “participants” as customers who represented households that wanted further communications from SUPD-R and thus provided the initiative with valid contact information.⁴⁴ As a recorded and visible sign of further engagements, participants also could make written pledges to SUPD-R to take at least one energy saving action. Initiative staff collected them during various types interactions with customers, from individual conversations to more public venues. Up until August 2016, the initiative used an open-ended pledge card where customers could fill in the energy saving actions they pledged to take. After that time, participants were asked to complete an Energy Action Scorecard that listed a set of recommended actions, asked them to check which actions they were already taking, and also asked them to check actions they pledged to adopt.

⁴⁴ SUPD-R estimates about 3,450 households participated over the course of the initiative.

Based upon discussions with PG&E staff and program implementers, we determined that those who had completed a pledge to SUPD-R would be good candidates for responding to a survey about the initiative and providing solid feedback. Thus, we invited all 695 households in the three target cities that had, according to initiative records, made a pledge to SUPD-R to complete at least one energy saving action as part of the initiative and that had a valid email address.⁴⁵

The first two rounds of invitations resulted in a lower than expected response rate. Thus, with the third invitation, we offered a \$5 Amazon gift card as an incentive to complete the survey. This more than doubled the survey response to the 126 households shown in Table 1-1. Survey questions screened respondents to ensure they met these criteria:

- › Lived in one of the three target cities,
- › Were involved in managing energy use in their home,
- › Received electricity or natural gas service from PG&E, and
- › Were aware of Step Up and Power Down.

While 126 customers on the pledge list began the survey, **13% (n=17) said they were not aware of SUPD-R even after reading a brief description of the initiative**, and were screened out. Thus, as also shown in Table 1-1, 109 customers remained eligible to complete the survey. A sample size of 109 for this population carries an +/- 8.6% margin of error at 95% confidence.

Table 1-1: Percent of Population that Responded to Survey

	Count	Percent (n = 695)
All respondents initiating the survey	126	18%
Eligible respondents completing the survey	109	16%

1.4.4. Pre-Post Participation Analysis

This analysis compares PG&E program participation in the three SUPD-R cities and three comparison cities before and at the end of the initiative. The database export we received from PG&E tracks participation in nine residential programs between September 2012 and November 2016 in these cities. To facilitate our analysis and clarify reporting, we grouped the data in these ways:

- › We aggregated dates into quarters, and have full data from Q4 2012 through Q3 2016.
- › PG&E provided data on program participation in 13 cities located in the Sacramento Valley (5 cities) and the San Francisco Peninsula (8 cities). Research Into Action selected three of these cities to use as comparison cities, based on size and geographic location. We chose cities in the same region that were similar in size, yet far enough away in distance so that there would be a

⁴⁵ We contacted one email address per household that had pledged. We also removed any emails that had asked to be opted out of our previous research effort, the SUPD-R Mid-Initiative Survey.

decreased chance of a spillover effect. Table 1-2 below shows the relative number of housing units and distance between each city and their comparison city.

Table 1-2: Target and Comparison Cities

Category	City	Occupied Housing Units	Distance (in miles)
Target City	Redwood City	29,049	23.3
Comparison City	Daly City	32,539	
Target City	San Carlos	11,526	23.7
Comparison City	Pacifica	14,101	
Target City	Woodland	19,547	38.1
Comparison City	Yuba	21,859	

We grouped individual programs under Umbrella Programs where possible (Plug Load and Appliances and Energy Upgrade California). Otherwise we just used the Individual Programs. Table 1-3 below shows these groupings.

Table 1-3: Program Groupings

Umbrella Programs	Individual Programs
Plug Load and Appliances (Plug Load)	Clothes Washer
	High Efficiency Refrigerator
	Pool Pump
	Refrigerator and Freezer Recycling
	Water Heater
Energy Upgrade California (EUC)	Home Upgrade (Advanced)
	Home Upgrade (Basic)
	AC Quality Care (AC/QC – Woodland Area only)
	Home Energy Checkup (HEC)

Finally, the data identify customers by a unique account identification number. Residential customers associated with a given account could participate more than once and in more than one program. Therefore, to capture not just the number of accounts that participated, but also the frequency of participation, in this report we use ‘participation events’ as the unit of analysis. When an account applied for a program on a given day, we counted that application as one participation event.

1.5. Organization of the Report

The organization of this report is as follows:

- › *Executive Summary*: Addresses the initiative’s effectiveness and lessons learned including implications for scalability and replicability.
- › *Chapter 1 – Introduction and Evaluation Overview*: Describes evaluation purposes, SUPD-R’s history and processes, and report organization; introduces the initiative; and describes the evaluation methods.
- › *Chapter 2 – Stakeholder Interview Findings*: Provides insights from interviews with 14 key SUPD-R stakeholders.
- › *Chapter 3 – Pledged Customer Survey*: Presents data and conclusions from a survey with 109 customers who filled out a pledge to take at least one energy saving action as part of SUPD-R.
- › *Chapter 4 – Pre-Post Participation Analysis*: Analyzes the effect of SUPD-R on participation in PG&E’s residential programs.

Appendices to this report include the stakeholder interview guide, the pledged customer survey instrument, the pledged survey frequencies (overall and by city), the mid-term survey instrument, and a memo summarizing the mid-term survey results.

2. Stakeholder Interviews

2.1. Chapter Overview

We conducted in-depth interviews with 14 stakeholders involved in the delivery of the SUPD-R initiative. This chapter first describes stakeholder views of SUPD-R’s customer journey and its activities. We then describe stakeholder insights about the initiative’s outcomes and benefits, as well as its challenges. Finally, we present the lessons and takeaways from the experiences stakeholders had with SUPD-R.

2.2. SUPD-R’s Customer Journey and Activities

This section describes the customer journey initiative staff initially envisioned for SUPD-R and how their views of that journey changed over time. We also review the concept of multiple touches and how that advanced the customer journey. Then, we review the myriad ways SUPD-R conducted outreach to engage participants, including partnering with trusted messengers, having a presence in the community, and soliciting pledges to commit residents to energy-saving actions. We end this section with a brief description of the way all of those involved with SUPD-R regularly communicated with each other.

2.2.1. Customer Journey

Stakeholders learned the customer journey for SUPD-R participants was likely to be non-linear and complex. Early in the initiative, the SUPD-R team diagrammed the ideal customer journey for SUPD-R: a linear progression in which participants first become informed about their energy use; engage in easier behaviors to save energy; pursue more complex energy savings behaviors; and ultimately participate in PG&E rebate programs, as illustrated in Figure 2-1 below:

Figure 2-1: Initial Empower Efficiency SUPD-R Customer Journey



Stakeholders reported this linear representation over-simplified the experience of most participants. Stakeholders cited two reasons a linear customer journey did not fit with most participants’ experience: participants came to the initiative with varying levels of energy efficiency knowledge and experience, and participants varied in their needs, interests, and ability to take action.

For instance, in terms moving from easier to more complex actions, stakeholders said some customers had taken larger or more complex actions but had not taken the more basic steps that the customer journey envisioned leading to those actions.

Stakeholders also noted that it is difficult to predict when a participant will come into the market for an appliance or piece of equipment that could qualify for a PG&E rebate. A participant who had not completed earlier steps in the customer journey may need to replace a piece of equipment that has failed, while one who had taken multiple steps may be unlikely to replace a working piece of equipment.

“Someone may . . . have solar on their roof because [its] sexy . . . and they got a tax credit, but they haven’t done much. . . [home] energy efficiency, or don’t know. . . about [PG&E] rebates.”

Stakeholders noted that some of the energy saving actions SUPD-R promoted as part of the customer journey were not applicable or not feasible for some participants. For example, stakeholders noted that renters were limited in the energy saving actions they could take relative to homeowners, and only pool owners can take advantage of variable speed pool pumps. Stakeholders also reported that some actions may not be feasible for some participants, ranging from those that cannot afford a home upgrade to large families for whom hanging laundry to dry would not be practical.

Stakeholders reported the PG&E programs and services the initiative promoted shifted over time. While promotion of the AC Quality Care program in Woodland and the home energy checkup and appliance rebates across the cities was constant, stakeholders stated SUPD-R initially focused on encouraging participation in PG&E’s Home Upgrade program. However, this focus decreased somewhat due to concerns about the cost effectiveness of the program. Another example of a program shift was the retirement of PG&E’s refrigerator recycling program.

2.2.2. Multiple Touches

Multiple touches are needed to build trust and move customers to take energy saving actions.

Stakeholders reported that multiple touches supported the customer journey in two key ways: first, it built the initiative’s credibility and recognition. As one stakeholder put it, “What is very important for these outreach efforts is to touch people multiple times...the next time they see you at an event, they recognize you.” Two additional stakeholders elaborated that most participants needed to be exposed to the initiative between three and five times before they engaged more deeply.

“It takes a lot of repetition, at least three times. . .to develop trust and credibility.”

The second way multiple touches advanced the customer journey stems from their potential to encourage energy saving actions. As one stakeholder described it: “PG&E ultimately wants to create long term relationships, a two-way conversation that keeps customers coming back to do multiple actions.” Another stakeholder elaborated that building ongoing relationships with participants allowed the initiative to encourage the participant to take actions that required steadily increasing levels of engagement, while also establishing SUPD-R as a resource when larger decisions about energy using equipment arose.

Finally, one stakeholder noted that ongoing contact with participants allowed the initiative to track actions participants had taken, which might not have otherwise been reported.

“They will come back and . . . do one thing. . .then. . .another. . .and they know we are here when they need. . .a new water heater.”

2.2.3. Key Outreach Activities

This section reviews the initiative’s trusted messengers and their presence in the local community through local storefronts and workshops, as well as email outreach and the use of pledges.

2.2.3.1. Partnerships with Cities and Community Organizations

Part of the SUPD-R model relied on the assumption that communications from trusted messengers would be more relatable and personal touch points than communications from PG&E for many community members. To increase the credibility and impact of SUPD-R’s message, stakeholders reported the initiative worked with individuals and organizations that had established trusted relationships with residents of the targeted cities.

The SUPD-R outreach team worked with three types of trusted messengers:

- › Volunteer community members
- › Representatives from community organizations
- › Staff and delegates from the targeted cities

Volunteering with SUPD-R allowed participants who had already taken advantage of many of the energy efficiency opportunities to continue their involvement with the initiative. And, as one PG&E staff member noted, their presence also signified that “SUPD-R had established itself in a positive way within the community.”

The SUPD-R team approach to community organizations was broad and their partners included Habitat for Humanity, homeowner associations, the Rotary Club, and Acterra, a Bay Area non-profit that seeks to address solutions to environmental problems. As one PG&E staff member described, “the local team tried to partner with anybody who would partner with them.”

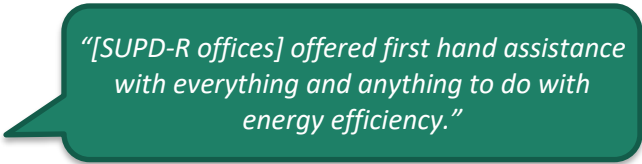
Stakeholders agreed the SUPD-City partnerships were mutually beneficial, since SUPD-R can help the cities achieve the energy efficiency component of their climate action goals and the cities can champion SUPD-R and be trusted messengers. One city staff member confirmed that SUPD-R helped them advance their sustainability goals, saying, “I was glad to have them and that the messaging was getting out, that we had that support. We’re so limited in our resources in terms of people...we have 1,000 initiatives we’re trying to push forward.”

2.2.3.2. Local Offices

Stakeholders said storefront offices in each targeted city were a key element for building initiative awareness and community relationships.

The physical location helped community members become familiar with

and learn about SUPD-R. One stakeholder mentioned the exposure generated from the storefront office, saying, “people were starting to understand what SUPD-R is, and they would say ‘I know you, you are down the street.’”



“[SUPD-R offices] offered first hand assistance with everything and anything to do with energy efficiency.”

Specifically, stakeholders reported using local offices to help community members navigate PG&E's website, find information about energy efficiency, and help customers find answers about their broader PG&E service to the extent they could. A city staff member also reported that residents had begun to stop "in at the office to talk to them and pick up information." Finally, stakeholders reported that coordination with PG&E's local offices had been helpful, as PG&E local staff could recommend important community events for SUPD-R staff to attend.

2.2.3.3. Community Events

Stakeholders reported that outreach at community events was one of the SUPD-R's most successful approaches, providing an avenue for partnering with the targeted cities, for generating sign-ups, and for achieving multiple touches. Empower staff reported promoting the initiative at an average of ten events per month. At these events, SUPD-R staff gathered insights about attendee interest and experience with energy efficiency and encouraged them to make a pledge appropriate to those interests. Staff then used the information from those pledges for targeted follow-up. Both PG&E and city staff reported they often saw notable increases in initiative sign-ups following these events.

In addition to generating sign-ups for the initiative, stakeholders suggested that SUPD-R's presence at events increased awareness of the initiative, even among residents who did not sign up. As a city staff member reported,

"They were at a lot of different kinds of local events where maybe they only connected with a few people, but others saw them and their table and their logo...and people came to recognize the coordinators."

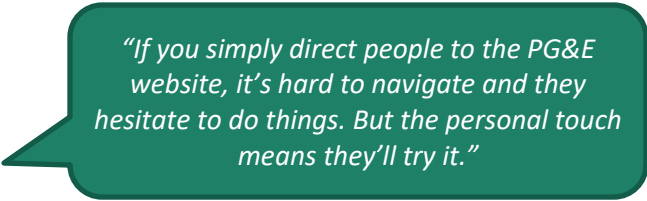
An Empower staff member also noted that while not all meeting attendees signed up at the events, some reengaged with them later.

Both SUPD-R and the targeted cities benefitted from coordinating their outreach at community events. SUPD-R staff said their outreach efforts were more successful when partnering with city staff because city staff were trusted messengers. In turn, city staff said they benefitted from the partnership because SUPD-R staff could provide a more direct and focused message about energy efficiency. As one city staff member stated, "When we are at events, this is just one of many aspects and things that we talk about, so them [SUPD-R] being out there with a specific message was effective." City staff also reported they did not have as much time as SUPD-R staff to interact one-on-one with residents at community events.

Stakeholders noted that SUPD-R's prize wheel, added to booth events in 2016, attracted attendees and enabled one-on-one engagement. One city staff member said the prize wheel "always attracts a crowd, and [SUPD-R staff] could talk to the parents as the kids are busy trying to win a prize." City staff said the local SUPD-R staff were an asset to the community-based program, with one saying they were "very dedicated . . . worked very hard, and [were] great in the community."

2.2.3.4. Workshops

Stakeholders thought local SUPD-R workshops deepened customer engagement and established the initiative as a resource for energy efficiency information and guidance.



"If you simply direct people to the PG&E website, it's hard to navigate and they hesitate to do things. But the personal touch means they'll try it."

They noted these events helped participants overcome challenges on their path to taking action. Topics discussed at the workshops ranged from setting up an online account with PG&E and completing an online Home Energy Checkup, to LED lighting, to available appliance and equipment rebates, to whole home upgrades. These workshops also served as a good “call to action” for an email blast or community outreach event.

2.2.3.5. Email Outreach

Stakeholders reported regular emails kept SUPD-R fresh in participants’ minds. One stakeholder reported that, late in its implementation, SUPD-R developed a series of “automatic” emails for participants that provided weekly tips on progressively more complex actions the participant could take to save energy. This stakeholder reported that the emails were meant to reinforce things, introduce new information, and above all, to keep SUPD-R front and center every week for six weeks.

Empower staff wanted to conduct broader email outreach than the initiative’s data system allowed. They speculated that uptake would have increased more quickly had they been able to send emails to all of the PG&E customers within the targeted cities. One stakeholder added that mass emails were likely to be most effective if the city, rather than PG&E, sent them.

2.2.3.6. Pledges

While the initial approach to pledging was personalized and public, SUPD-R’s open-ended approach made actions harder to target and track. Pledges are a community-based social marketing tool that were a key component of SUPD-R’s outreach approach. Research findings indicate that people who pledge to act are more likely to act, particularly if they make the commitment publicly. Initially, stakeholders asked participants to write their pledges to take energy saving actions on cards, which Empower staff would post at events and in local SUPD-R offices. These cards allowed participants to describe their intended actions in their own voice but made every pledge individual.

Later, the initiative developed the Energy Action Scorecard, which listed recommended energy saving actions and asked participants to indicate which they were already doing and which they pledged to adopt. This approach simplified the assortment of pledges, made targeted follow-up easier, and allowed for more precise tracking. (See more on this topic under “Lessons Learned.”)

2.2.4. Communication among PG&E, Empower, and City Staff

Communication between PG&E and Empower staff became easier once a regular schedule and a more targeted focus for meetings was established. Initially, a wide range of stakeholders were invited to every SUPD-R meeting. After realizing that frequent meetings with everyone were not needed, PG&E and Empower established two regular meetings. The first focused on checking-in and tracking progress with local organizers. The second regular meeting focused on the initiative’s marketing efforts and coordination with PG&E’s marketing department. An Empower staff member noted the targeted meetings made the initiative more economical.

One Empower staff member noted how PG&E’s program manager contributed to useful ongoing communications. This staff member said this relationship “helped us escalate issues and keep things moving as best we could. Having that highly dedicated, day-to-day contact was essential.”

Stakeholders reported that regular communication with the staff of the targeted cities kept all parties up to date with initiative activities. PG&E and Empower staff met with city staff to discuss opportunities to coordinate activities, identify upcoming opportunities for SUPD-R outreach, and pinpoint specific individuals or groups for the initiative reach out to.

2.3. Outcomes and Benefits of SUPD-R

Stakeholders reported that SUPD-R met its sign-up and participation goals. In addition to driving participation in PG&E programs and encouraging participants to take energy saving actions, stakeholders said SUPD raised participant awareness of energy efficiency and improved PG&E's relationships with the targeted communities. One Empower staff member noted that SUPD helped participants know what is available through PG&E's online marketplace and referred them to home upgrade contractors or contractors participating in the AC Quality Care program.

Empower and PG&E stakeholders agreed that SUPD helped develop a closer relationship between PG&E and the participating cities. A PG&E stakeholder noted that, when the City of San Carlos received an award for their sustainability efforts, they invited SUPD and PG&E to be part of a video highlighting those efforts and signaled SUPD was "an important element in their sustainability package."

"Over the two years . . .the cities' perspectives changed for the positive."

PG&E, as the local utility, was really trying to improve energy efficiency. Stakeholders also suggested that SUPD improved perceptions (and reduced skepticism) about PG&E among

"PG&E, as the local utility, was really trying to improve energy efficiency."

residents of participating cities. As one Empower staff member put it, "These customers thought of PG&E in a whole different way [after involvement in SUPD] than they did when they first came into the initiative." A PG&E staff member stated that SUPD was "not just a catch-phrase or a marketing tool. This is a very real effort PG&E is trying to do to help people reduce their energy use."

An Empower staff member stated that, while SUPD was designed to promote energy efficiency programs and behaviors, it was so effective in establishing a relationship between PG&E and the community members that future initiatives could adopt this type of relationship building as well. According to this stakeholder, "It's worth considering whether or not there are other ways to fund this campaign and use it to support customer relationships overall, including low income, including diversity in terms of language and demographics in each of these communities. I think there is a lot of potential there, and it will not come down to how many people bought a washing machine."

2.4. Challenges to SUPD-R

As a community-based effort using a test/adapt/learn approach and behavior science, SUPD-R represented a new outreach strategy for PG&E. Stakeholders reported they experienced a variety of challenges in developing and implementing this new approach. This section presents detailed interview findings on these challenges.

2.4.1. Clarity of Goals and Objectives

The purpose and approach of SUPD-R were not clear to key PG&E upper management, to regulators, to PG&E staff and to city stakeholders, resulting in a cascade of effects.

Regulators had concerns that the purpose of SUPD-R might be to improve PG&E's corporate image.

Interview findings show that a lack of clarity around SUPD-R's goals and objectives, as well as strategies, impacted the way PG&E's upper management viewed the initiative. PG&E staff also reported they had not anticipated regulator concerns, arising early in the initiative, regarding the initiative budget, community selection, and consultant selection. While PG&E staff did not know the root of regulator concerns, they wondered if regulators thought SUPD-R might be more focused on rebuilding PG&E's corporate image after the 2010 San Bruno incident, or perhaps on discouraging communities from opting into Community Choice Aggregators, than on its stated efficiency goals.

Once these concerns arose, PG&E staff increased their communication about SUPD-R with upper-level managers and with regulators. Stakeholder interviews suggest that these efforts to broaden communication and seek wider feedback about the initiative led to challenges in its day-to-day management. Stakeholders reported that frequent meetings that included all of the potentially relevant functions within PG&E were time consuming and slowed the initiative's progress.

Interview findings also suggest that a lack of clarity around the objectives of SUPD-R also may have resulted in skepticism among PG&E local staff in the targeted cities. Stakeholders reported it is important for local staff to have a clear understanding of initiatives like SUPD-R early on, including how those initiatives complement the existing programs they promote. Without this understanding, local staff may feel SUPD-R is encroaching on their role and may be wary of the initiative as a threat to their positions. This stakeholder said, ". . . this is anecdotal, but there might have been some feeling of SUPD being this external group that came in and is just doing what the existing energy efficiency folks have been doing their entire careers." A city staff member reported receiving a similar impression from their interaction with local PG&E staff, saying, "They thought it was a mandate that had come down from on high and were not convinced that it would do much, or that the people from the East Coast even understood the way things work here."⁴⁶

"[Local PG&E representatives] weren't sold on this program."

Some stakeholders, especially those less directly involved in the design and day-to-day implementation of the initiative, echoed the uncertainty over SUPD-R's goals, objectives, and activities. One PG&E stakeholder, for example, thought the initiative seemed to duplicate other PG&E efforts. Other stakeholder comments indicated local PG&E teams and some city staff did not understand what was distinct about SUPD-R. As one PG&E staff member asked: "What was SUPD going to do that was different from what PG&E was already doing? Cities had difficulty understanding that. The local [PG&E] teams, who are experts, had difficulty understanding that." Consistent with this lack of clarity, one city staff member perceived SUPD-R was limited to generating sign-ups for PG&E listservs.

⁴⁶ SUPD drew on Empower Efficiency's experience implementing community-based efforts to promote energy efficiency in Connecticut.

A PG&E staff member who worked closely with city government stated that “I think there need to be clear-cut goals to know if the program is successful, and [we need to] share those goals with our partners, the cities. Here is how we are helping you, we have reduced X kWh or kW usage in your community. That was a big lacking piece of the program.” A city staff member comment confirmed this point of view: “[The program] didn’t offer home energy assessments, did not provide any free upgrades, no prizes involved. There was nothing to draw someone in unless they were already interested in this kind of thing.”

“. . .There wasn’t buy-in from the executive staff of the city because the program didn’t offer anything.”

PG&E staff noted that it was particularly difficult to maintain clear connections between activities and goals as the initiative shifted its activities under its test/learn/adapt approach. According to one staff member, “Running the campaign with the mindset of test and learn as we go was not always in concert with having a clear line of sight of how these things we were testing would be measured, tracked, and linked to a distinct goal or action we were trying to drive.”

2.4.2. Approval of Marketing and Outreach

The lengthy PG&E, City, and Empower Efficiency coordination and approvals process for marketing materials reduced the initiative’s ability to respond nimbly to community opportunities and created tensions with participating cities. To ensure that SUPD-R followed its brand guidelines, PG&E required all initiative marketing materials go through a thorough internal review and approval process. PG&E also required that implementation staff inform PG&E staff before conducting outreach to community organizations to identify prior contacts with PG&E and avoid conflicting messaging from other PG&E departments.

According to one PG&E staff member, “When you are a large, regulated company, it complicates a nimble, community based social marketing campaign.” Stakeholders reported that the nature of these processes limited the initiative’s ability to react spontaneously, an aspect they felt was important for a community-based effort. One Empower staff member said, “Our ability to be spontaneous and really embed ourselves in more of a real-time fiber of the city was limited...There was always a pretty bureaucratic process in place. It didn’t kill all of the opportunities, but it certainly took the spontaneity element out of a lot of what we wanted to do.” PG&E staff members acknowledged these challenges.

“When you are a large, regulated company, it complicates a nimble, community based social marketing campaign.”

One PG&E staff member reported that the company’s approval process for SUPD-R marketing materials was consistent with the process it uses for other programs and initiatives. This staff member stated that the approval process may have taken longer for SUPD-R than for other efforts because Empower Efficiency did not have specialized expertise in designing marketing materials. As a result, some of the materials Empower produced did not meet PG&E’s brand standards. This staff member stated that it is possible to create marketing materials that take a casual and colloquial tone but nonetheless maintain a professional appearance, but doing so likely requires the expertise of a specialized marketing firm. This staff member suggested that future efforts may be able to reduce the turnaround time by engaging a marketing firm that could produce materials that meet PG&E’s requirements with less engagement from PG&E’s marketing staff.

Stakeholders described three specific challenges that arose from PG&E's requirement to have all marketing and outreach materials go through its approval process. First, they noted that the process was slow and labor-intensive. One Empower staff member noted that, in more than one case, they had not received PG&E approval for a flyer advertising an event until the day before the event was to take place. In addition to these delays, stakeholders stated that the required revisions were labor-intensive. According to another Empower staff member, "It probably would have been better if they had just written the materials. By the time we wrote them, and they redid them, it was not very cost effective."

Second, stakeholders stated that the extent of the review process made it difficult to use behavioral marketing strategies because messages would be changed during the review process in ways that did not account for the behavioral science findings on which the original messages had been based. According to one Empower staff member, the materials "automatically signaled what [the initiative] is about, who is behind it, and limited opportunities for creating a more social movement of people in the communities who would want to be involved. It didn't look like a community movement; it looked like a PG&E marketing campaign."

Finally, interview findings suggest that PG&E's approval process complicated relations between Empower and the participating cities. Respondents described cases in which the approval process led to changes to a message that Empower staff and city staff had agreed upon. According to one city staff member, "We would talk to [Empower] and say this is the kind of messaging, this is how it will work, and then they would talk to PG&E and say no, we're going to do it this way or that way or a different way."

Staff from one city were particularly adamant that SUPD-R had not taken their interests into account, and, as a result, that the initiative had not treated them as an equal partner. Specifically, this city had hoped to co-market SUPD-R with other sustainability initiatives, but found that PG&E's control over the initiative's messaging did not allow this. City staff expressed a great deal of frustration with the situation, saying, "Don't partner with local governments if you don't intend to be a partner, [it] felt like a bait and switch...If you're going to control all the messaging, let us know in advance so we can decide if we want to do a program like that."

Stakeholders reported that the challenges associated with PG&E's approval of marketing materials eased late in the initiative's implementation. Empower staff members noted that they had gained knowledge of, and experience with, PG&E's process. In addition, as SUPD-R matured, implementers were increasingly able to draw on existing marketing materials, for example, using flyers and collateral developed the first time an event was held for subsequent instances of the event. PG&E staff also reported that the approval process had eased as Empower staff gained experience with the approval process, but noted that, as Empower staff changed, new individuals had to gain this knowledge. According to PG&E staff, this staff turnover led to variability in the flow of marketing materials to review that was difficult to manage.

In addition to reviewing marketing materials, PG&E oversaw SUPD-R's outreach to community organizations in the participating cities. Explaining this review, one PG&E staff member stated that, as a large organization, PG&E's relationships with its customers can be complex. This staff member noted that PG&E's relationships with local governments in particular were important, but those relationships are also subject to limitations. For example, PG&E and its representatives cannot give any gifts to local elected officials. According to this staff member the need to ensure that Empower was sensitive to these complexities added to the oversight of the Initiative's activities.

Empower staff would inform PG&E staff of the organizations they sought to contact, and PG&E would provide any relevant details about PG&E's relationship with the organization including potential contacts. As with the review of marketing materials, stakeholders noted that this process slowed down their relationship building with the community organizations as they had to check-in with PG&E before establishing contact. According to one Empower staff member, "If you meet someone [associated with a community organization] on the street and they are interested in the campaign, or you meet someone [associated with an organization] at an event or a farmer's market, but you can't engage with them until you circle back with PG&E and get approval...you lose so much momentum."

2.4.3. Implementation Staff Turnover

Turnover among Empower SUPD-R staff led to challenges as new staff members had to rebuild relationships in the target cities and relearn brand guidelines and other aspects of the initiative.

One Empower staff member stated that one cause of turnover was that SUPD-R had a more structured approval process for outreach activities than many people hired as community organizers were used to. Consistent with this assessment, one PG&E staff member stated that "For a while [Empower] had personnel that were too casual for the fabric that we work in." In addition to local staff, PG&E staff reported that the marketing manager in charge of SUPD-R at Empower changed several times over the course of the initiative, which required them to provide a significant amount of training on PG&E brand standards and design guidance for Empower staff new to their role.

"The organizers felt like they couldn't do an organizing job."

Staff members from two of the targeted cities noted that Empower staff turnover made it difficult for SUPD-R to build relationships in the community. According to one city staff member, "We have this community base here, and people were getting familiar with the [initiative's] name and the people, and all of a sudden, there was someone. . .who didn't know where we were." The staff member from the second city described a similar experience, saying that it was disappointing to get accustomed to working with someone and then having them suddenly leave.

". . .all of a sudden, there was someone new who didn't know where we had been."

This turnover also increased the staff time the initiative required of the city because city staff had to provide background information to new local SUPD-R staff. Staff members from two cities noted that the local Empower staff members in place early in the program seemed more effective than the individuals who replaced them. A staff member from another city noted that SUPD-R had been understaffed in their city for a notable portion of the initiative, as Empower worked to fill the positions of local staff that had left.

2.4.4. Expectations of City Staff

Participation in SUPD-R required more effort of the participating cities than anticipated, particularly early in the initiative. One PG&E staff member stated that, "For cities that don't have a lot of staff and money, this took more of their time and effort than we let on initially, and that's a problem." Consistent with this assessment, staff from two cities expressed dissatisfaction with this level of effort, with one saying the initiative staff "could have done more of the leg work," and the other that "they expected us

to work and be their ground troops.” Stakeholders from both PG&E and the cities reported that SUPD-R reduced the level of effort it asked of city staff later in the initiative.

2.4.5. Defining Participation

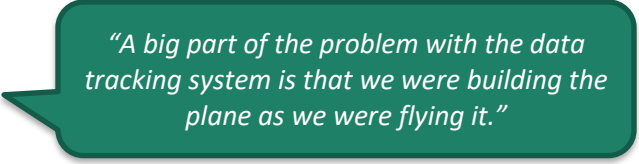
There were relatively few opportunities for SUPD-R to encourage participants to engage with PG&E programs that did not require a significant commitment of time and resources, making it difficult to assess the initiative’s success. One PG&E staff member noted that Empower had been successful using a similar approach in Connecticut to drive participants to a free energy audit. Without a similar, low-cost, entry-level offering to which SUPD-R could direct customers, this staff member stated that “all our success metrics were big fish to fry, a home upgrade or a rebate.” While initiative staff members reported the initiative could eventually lead to uptake of these larger measures, this would be a longer-term outcome. As a result, it was difficult for SUPD-R to define a meaningful metric to assess the initiative’s success in the short term.

PG&E stakeholders reported that, from their perspective, the definition of a SUPD-R participant, one of the key metrics the initiative reported, was not well defined. Their concerns reflected upon the level of engagement necessary to consider someone a participant. One PG&E staff member questioned, “We signed up so many people, but what does that mean? You’re sending emails? I pushed back and never got a clear-cut answer.” Another said they were not clear on what actions participants took and what energy savings were generated from that participation. A third PG&E staff member acknowledged that what the SUPD-R initiative considered a participant could encompass residents that had signed up for a newsletter, participated in a PG&E rebate program, taken some other energy saving action, or simply stated a commitment to taking action.

2.4.6. Data Tracking and Integration

Stakeholders were divided on the value of the initiative’s data management approach, with some arguing it was a valuable tool, and others questioning the necessity of a parallel system to PG&E’s. SUPD-R stakeholders wanted a data tracking system that would report on initiative outputs and outcomes; automate targeted outreach to participants based on their progress through the customer journey; and track connections between participants. To maintain the security of PG&E’s customer data systems, Empower developed a tracking system that would integrate PG&E data but operate independently from its internal customer data systems.

Stakeholders described a variety of challenges in creating and using the data system. An Empower staff member noted that the subcontractor hired to develop the system was delayed. Stakeholders also noted it took between four and six months after the system’s launch to ensure reports provided accurate counts of unique participants. Stakeholders attributed these challenges to the difficulty of developing a data system at the same time the broader initiative was being developed and rolled out.



“A big part of the problem with the data tracking system is that we were building the plane as we were flying it.”

Stakeholders also described challenges in integrating data from the multiple sources that the data system sought to reference. SUPD-R staff gathered contact information from participants that responded to its outreach efforts. Staff then sought to match that information to records in PG&E’s

customer database and integrate data on PG&E customers that Opower (PG&E’s online audit implementer) had collected. However, stakeholders noted that it was often difficult to match customer records with participant-provided information because emails, phone numbers or addresses may have changed or been input differently. Stakeholders also noted it was difficult coordinate data sharing so that Empower could have progress reports ready in a timely fashion.

Finally, stakeholders reported that entering participant information collected at community events into the data system was a labor-intensive process. Empower staff reported they typically spent a full day following an event entering contact information from that event. These stakeholders suggested that each local SUPD-R office needed an extra person just to focus on data entry and management.

“We can track social networks, who is influencing people and influencing actions. That is not being used to its full potential.”

By the end of the initiative, however, Empower staff said the data tracking system was working well: “We have a beautiful data system that tracks who is coming in, a lot of information about them.” Both Empower and PG&E staff also reported the initiative had not been fully able to mine the capabilities of the data tracking system. Similarly, a PG&E staff member said, “That might be something we could have explored in the third year, had there been a third year...really explore the customer targeting through emails with the understanding of what they have done.”

Empower staff suggested that PG&E could benefit from building upon the established SUPD-R data system for future initiatives. However, PG&E staff expressed uncertainty of the ongoing value of the SUPD-R data system with the initiative ending in the targeted cities. PG&E staff also questioned whether the differences in capabilities between the SUPD-R data system and PG&E’s existing systems were sufficient to justify the existence of a parallel system. According to one PG&E staff member, “There was enough similarity between [the SUPD-R data system and PG&E’s internal system] that I don’t think it warranted the additional IT work of setting up the additional system.” These stakeholders suggested that, for future efforts, a more efficient approach might be for PG&E to conduct targeted email outreach itself.

2.4.7. Length of Implementation

PG&E ended SUPD-R earlier than the implementer expected, before implementers anticipated it would reach peak performance, due to equity concerns and questions about effectiveness.

SUPD’s customer journey envisioned participants building a long-term relationship and developing trust with the initiative as they completed progressively more complex energy savings activities over time. Stakeholders suggested the initiative’s eighteen months of active implementation were not enough to build these types of relationships, with two stakeholders reporting it typically takes about three years for community-based initiatives like SUPD to achieve traction.

“It takes a long time to create these...one-on-one trusted relationships so you can ask them to do things and influence action.”

Stakeholders noted that increasing uptake of PG&E’s efficiency programs in particular took time because few of the people who interacted with SUPD at events or through other outreach efforts were likely to be in the market for a product or service eligible for a PG&E rebate. For example, one Empower staff

member said, “It is a needle in a haystack to find someone who needs a water heater rebate; those things are much more situational. People are unlikely to pursue a new water heater if they don’t need a new one.” Another Empower staff member reported that SUPD-R could influence these types of upgrades, but that it would take years to do so as people who had come into contact with the program came into the market for eligible products and turned to SUPD-R for information. According to this respondent, “It’s all part of the educational facet of SUPD to guide people to the information, but you can’t force them to take action until they feel the need to.”

A city staff member reported that the size and diversity of their community increased the time an initiative like SUPD-R needed to build relationships. This staff member reported their city’s diversity required SUPD-R to engage with

“I think they had developed some good ties with a small sector of the community, that first layer that was easy to connect with...”

a wide variety of venues and organizations. According to this city staff member, SUPD-R had successfully begun to build relationships with some of the most engaged community members, but “There is the other 56,000 people out there who they were still trying to either start to connect with or make better connections with.”

While PG&E staff recognized the need for SUPD-R to become established in the community, they gave two reasons to end the initiative prior to the three-year period the implementer sought. First, they noted concerns focusing the campaign’s resources on only three communities. According to one PG&E staff member, “I think there are perspectives that we have 250-odd cities in our territory, and we can’t allocate significant resources to any one city for any significant amount of time.” Second, PG&E staff reported that SUPD-R ran long enough for the organization to determine whether the approach was effective.

PG&E ended SUPD-R earlier than the implementer wanted due to issues of equity and effectiveness.

As one staff member stated, “they could have proven out a little more success from the initiative with more time. But the question had to be asked at some time, for the sake of what? Is the goal to engage and activate the community and keep it going, or is the goal to test an approach and see how it works?”

2.4.8. Creating a Legacy

Stakeholders anticipated that SUPD-R’s legacy would be limited. Stakeholders reported SUPD-R had just begun to gain recognition and acceptance when the initiative ended, and anticipated the relationships they had created would have allowed SUPD-R to drive participation at a faster pace if implementation had continued. According to one Empower staff member, “Another year would have seen that big acceleration in outcomes and allowed PG&E to realize more results in the outcome section of the logic model.” PG&E staff also recognized the progress SUPD-R had made in building relationships, with one saying, “After two years, they have become a known component within the community.”

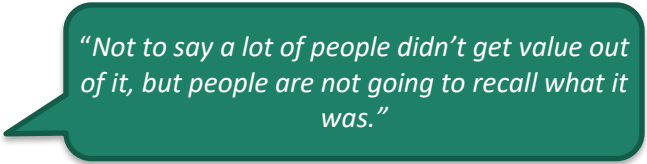
Some stakeholders thought cities and residents were disappointed that SUPD-R was ending. An Empower staff member stated that, “I think there are going to be some people that miss our newsletters and our faces because we built good relationships.” A city staff member supported this assessment, but noted that only a relatively small and dedicated group would be affected by the

initiative's withdrawal. Some stakeholders also expressed frustration at the abrupt nature of the initiative's end. For example, one city staff member said "I don't like leaving our community hanging. . . They got used to the name and the program, they've seen you enough, and now it's just gone." This city staff member also noted that the distinction between the services SUPD-R had provided, which were ending, and those provided by ongoing PG&E programs was not clear.

Stakeholders suggested that the participating cities might like to continue SUPD-R's efforts, for example using SUPD-R materials and branding, but would need resources and support to do so. PG&E staff described plans to provide some ongoing support and resources to the targeted cities. This support included making information available through PG&E's website and reaching out to city staff twice each year to identify ways that existing PG&E programs can support city efforts. In addition, PG&E maintains local offices in the targeted cities and stakeholders described plans to distribute SUPD-R customer journey collateral through those offices and inform customers about PG&E offerings and programs that can help them move along the customer journey.

Despite these efforts, the interviewed stakeholders reported that SUPD-R had not operated long enough to make a lasting impression on residents of the targeted cities.

As a staff member from one city said, "We have other PG&E-sponsored programs or state-sponsored programs that have come and gone in the past, and this will be another one of those logos that lingers on. And so [people will ask] 'what was that, and how is that different from this other program? I'm getting confused.' There are so many of these that come and go."



"Not to say a lot of people didn't get value out of it, but people are not going to recall what it was."

Stakeholders anticipated that some energy efficiency efforts would continue in one of the target cities, although these efforts would differ from SUPD-R. Two stakeholders reported that the city planned to work with the Community Home Energy Retrofit Project (CHERP), and planned to offer training to educate realtors about energy efficiency. A third stakeholder also noted that the city had hired a member of the SUPD-R outreach team to implement community-based conservation efforts as part of the water department.

2.5. Lessons Learned

Both PG&E and Empower staff reported that SUPD had provided them with experience with community-based outreach approaches that would be valuable for future efforts. As one Empower staff member said, "I think a big success is . . .18 months in the market, being able to look back and see how spending time in the community leads to better tactics and better results." Two PG&E staff members supported this assessment, noting that through SUPD-R, they had expanded beyond the fliers and website materials on which energy efficiency marketing had traditionally focused. According to one of these PG&E staff members, "Overall, [SUPD-R] was a success as far as being able to learn [and] engage the community...Marketing has learned a good deal from this as well. We're taking community based social marketing, which is a new area in the field, particularly at the corporate level for us, and incorporating it into our ongoing campaigns."

Another PG&E staff member reported that, in implementing the initiative, departments within PG&E that typically operate separately had established deeper relationships through collaboration. According

to this staff member, “I don’t think our department [energy efficiency] ever worked so closely with Solutions Marketing, local government relations staff and local account managers.”

This section describes relevant lessons for future community-based efforts related to selection of partner cities, target behaviors, management, and outreach.

2.5.1. Selection of Partner Cities Target Behaviors

Among the factors the initiative considered in selecting partner cities, the capacity of the city government to engage with SUPD-R proved to be key to the initiative’s success. Empower Efficiency selected cities to target through SUPD-R in consultation with PG&E. Empower began the city selection process by analyzing the demographics of cities in PG&E’s service territory, examining factors including population sizes, education levels, and average incomes. Empower also sought communities that had an active central business district and regularly hosted community events like farmers’ markets and public performances where SUPD could market. PG&E staff reported advocating for two additional criteria in the city selection process. First, PG&E encouraged Empower to consider city staff members’ capacity to engage with an initiative like SUPD-R, and PG&E staff reported reaching out to local PG&E representatives in the cities under consideration to determine a city’s capacity. A PG&E staff member noted that some cities “have a dedicated sustainability lead” while others have “been making staff cuts for years because of the recession, they have never quite gotten back, everyone wears five hats, and you would never even get an email response from them.”

The second factor PG&E advocated for in the city selection process was diversity in the cities included in the initiative. PG&E staff reported that Empower Efficiency sought cities with relatively high median incomes on the basis that residents of those cities would be better able to afford energy efficiency improvements. PG&E staff advocated to include a more diverse, Central Valley community, with the initiative ultimately selecting Woodland. To reach a wider customer base, the initiative also included Redwood City along with San Carlos, the city that most closely matched the demographic profile Empower Efficiency sought.

Ultimately, stakeholders reported that a city’s capacity to engage with the initiative was an important factor in the success for the SUPD-R initiative in that community. Multiple stakeholders reported future efforts would benefit from targeting cities that value environmental sustainability and where high-level elected officials are engaged in sustainability efforts. Executive-level champions on the city’s staff can make it easier to connect with local businesses, organizations and residents. Stakeholders noted that Woodland met these conditions. City staff members from the other targeted cities said sustainability efforts in their communities occur mostly at the county, not city, level because of the presence of the Bay Area Regional Energy Network (BayREN) and an active office of sustainability at the county level.

In addition to the capacity of the governments themselves to engage with the Initiative, PG&E’s efforts to rebuild trust with communities on the Peninsula following the 2010 San Bruno incident heightened PG&E’s sensitivity to the burden that participation in SUPD might place on elected officials. Thus, as one PG&E staff member reported, PG&E sought to limit the extent to which it relied on elected officials to deliver SUPD in these two cities. This stakeholder noted “the concern was that if we went to the local elected officials for every little program, every big program, everything, we expend that [relationship] capital.” Another PG&E staff member noted that Empower had initially been reluctant to partner with communities near San Bruno, but, because the Initiative drew on energy efficiency funding, PG&E

instructed them to ignore those types of political considerations and select cities that most closely met their criteria.

2.5.2. Selection of Target Behaviors

Future initiatives may be able to better target their recommended behaviors and the programs they promote to the specific needs of the cities and individuals they target. SUPD used a technique called the Behavioral Wedge Model to identify behavioral actions with the greatest energy-savings potential in the targeted communities based on Census data and secondary research. The initiative then targeted these behaviors through its outreach in each city.

Despite this systematic approach, stakeholders described challenges with the selected behaviors. For example, stakeholders noted that Woodland’s limited contractor base and fewer residents with high disposable incomes made it difficult to drive uptake in larger efficiency projects. In contrast, staff from another city suggested their city’s wealthier, higher-educated residents would have preferred information about larger and more complex ways to save energy. According to this respondent, “A lot of the community would rather have gotten into the details on. . .solar panels and... and . . .more complex issues. The easy actions are already being done.”

Stakeholders also reported that it was important for SUPD-R to understand each individual’s situation and make appropriate recommendations. According to one Empower staff member, “When talking to people, we needed to listen to the cues they gave us and ask them [questions to determine the most] appropriate thing to do.”


2.5.3. Leveraging Community Partners

Community organizations with highly engaged memberships were the most effective partners for SUPD. Stakeholders reported that the most effective partner organizations were those with a “strong, engaged membership.” Stakeholders also noted that outreach through faith-based organizations provided the initiative with an opportunity to reach audiences they might not encounter at other events. This type of outreach began late in SUPD-R implementation, however, and as a result, a city staff member said there was little time for the strategy to capitalize on its potential.

Stakeholders also suggested ways that coordination of community organization outreach with PG&E could be more effective. In order to avoid inundating PG&E with requests about organizations to contact, Empower staff reported limiting their requests to approximately 10 organizations in each bi-weekly call, saving any additional organizations they had identified for a subsequent call. One Empower staff member suggested that future efforts might facilitate this process by generating a master list of organizations in the target community that PG&E could review prior to the initiative’s launch.

2.5.4. Leveraging Events

Sustainability events at which attendees moved between vendors and information booths were the most effective outreach venues. A bulk waste collection event was also effective, as initiative staff were able to



Multiple stakeholders reported events such as Earth Day celebrations and those that support local water conservation efforts, were the most effective.

interact directly with each attendee as they dropped off their items. Stakeholders also reported that events in which attendees moved between multiple vendors and information booths, like farmers' markets, were productive outreach venues.

Events with more a specific, non-sustainability related focus, like concerts and food-festivals, were less well suited to SUPD-R outreach. Stakeholders reported that attendees at these events were focused on the event's purpose and not receptive to information about energy efficiency. For example, one stakeholder stated that "at food only events, like a food and beer festival, people are only interested in food and beer. They will not have time to think about energy efficiency." Stakeholders also noted seasonal variation; in one city, event attendance dropped during the summer vacation season.

Stakeholders also saw potential in less formal, initiative-hosted events in which residents could interact and share energy efficiency knowledge with others as a way to spread awareness about SUPD-R. At one of the initiative's less-structured, closing events, a stakeholder observed that "people can talk as experts and boast to newbies about what they've learned here...people felt this was part of their town and felt comfortable about hanging out and chatting about ideas."

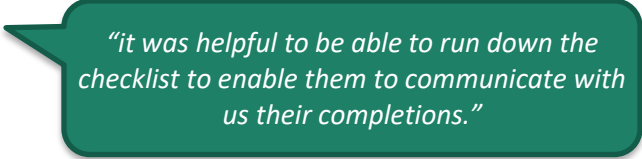
2.5.5. Pledging and Tracking Actions

Collecting pledges in a closed-ended format, and gathering information on actions participants had already taken, allowed the initiative to better track participant actions and target follow-up messages.

The format of SUPD-R's initial pledge cards, which gave participants an open-ended opportunity to specify the action they pledged to take, made it difficult to track actions taken and to follow-up with participant about promised actions. According to one stakeholder, "we had hundreds of pledge cards stacked up in our resource center with no way to follow-up with them in a formal way."

Stakeholders reported that the Energy Action Scorecard, which the initiative developed, addressed these challenges. The scorecard lists specific actions the initiative encouraged participants to take and asking participants to indicate actions they were already taking and the additional actions they pledged to take. One stakeholder reported that the scorecard "dramatically improved data collection and the ability to engage" with participants.

"It was helpful to be able to run down the checklist to enable them to communicate with us their completions." Energy Action Scorecards also allowed stakeholders to more effectively engage participants because the scorecards addressed multiple actions and gave participants credit for ones they were already taking. As one stakeholder said, "I think enabling people to brag about what they've done is one of the values of the scorecard – 'I did this; I'm going to do that.'"



"it was helpful to be able to run down the checklist to enable them to communicate with us their completions."

Stakeholders also noted that knowing the actions a participant had already taken allowed initiative staff to better tailor additional recommended behaviors and suggest specific PG&E program offerings relevant for the participant.

2.5.6. Tracking Progress on Outputs and Early Outcome Metrics

A variety of metrics are available to track the outputs and early outcomes of initiatives like SUPD-R. Stakeholders suggested a variety of metrics the initiative did not report that could help assess the success of SUPD-R, including figures related to the marketing campaign, such as the number of website visits, the number of emails opened, and visits or calls to local offices. An Empower staff member also suggested tracking the number of participants who had multiple contacts with the program, which may include attending workshops or visiting a table at community events as these participants are likely most interested in the initiative. PG&E staff also suggested tracking metrics that would capture any improvement the initiative generated in PG&E's relationship with the partner cities.

2.5.7. Initiative Management

Establishing an upper-level oversight structure that includes all relevant decision-makers at the outset could help to overcome some of the challenges that the initiative faced. While including upper-level managers was unexpected and added complexity to SUPD-R decision-making, stakeholders reported communication became easier over time as managers gained confidence in the initiative. They also said upper management support was necessary to achieve flexibility for a grassroots effort.



"[Management] protected and nurtured the project and occasionally cleared away obstacles that kept us from being able to be spontaneous and kept a lot of creativity out of things."

To facilitate this type of oversight, one stakeholder suggested that future initiatives should develop an approval structure, like a stakeholder group, advisory committee, or review committee that allows involvement from all relevant parts of the organization in an orderly way. Doing so, this respondent suggested, would resolve some of the challenges that slowed SUPD-R's implementation. According to this stakeholder, "We would be half way through, and all of a sudden spend hours addressing a question from a leader in a different department." This stakeholder suggested this oversight group should be involved from the beginning, providing input on program design, decision-making, and communication.

3. Pledged Customer Survey

3.1. Chapter Overview

This chapter discusses the results of a survey conducted with all households in the target cities who completed a SUPD-R pledge to take at least one energy saving action. The survey assessed this group's initiative awareness, knowledge, engagement, and feedback; identified their motivations, barriers, and benefits to participating; and explored the initiative's influence on energy efficiency awareness, actions, and PG&E program participation.

3.1.1. Chapter Structure, Terms, and Caveats

This chapters continues from here to discuss survey insights and findings in two major sections:

- › Sections 3.2 through 3.6.3 describe findings and insights from the **pledge list group** (n = 109) or all eligible respondents -- those who had a pledge on file with SUPD-R, whether they recalled the pledge or not.
- › Sections 3.7 through 3.9 analyze *significant differences* between (1) those who recalled pledging to SUPD-R (**Pledgers = 54 respondents**) and (2) those who pledged, but did not recall making the pledge (**Non-Pledgers = 55**).
- › Appendix A contains the survey instrument.
- › Appendix B contains complete frequencies for the survey results.

Throughout the report it is important to note that the survey data, while often showing significant differences between groups, and suggesting strong correlations between variables, in general do not allow us to definitively say the relationships are causal. For some key questions, when respondents indicated the level of influence SUPD-R had on their awareness, actions, and participation, we can infer a certain level of causality from these self-reports.

3.2. Pledged Group Characteristics

SUPD-R attracted older homeowners with college degrees to sign pledges, compared to the general target area population as shown in Table 3-1. The pledge list group was similar in age to other homeowners in the three cities, but had attained significantly higher educational levels (87% to 36% had four-year college degrees or more). Consistent with these levels, 30% of this group had yearly incomes over \$150,000 (among those who reported their incomes). Another 30% are retired. Finally, of those who gave their ethnic background, 17% of respondents were Asian, 14% were Hispanic, 60% were Caucasian and 9% were from mixed or other backgrounds.

Table 3-1: Respondent Snapshot

Characteristics	Pledge List (n = 109)*	Census**		
		Total	Home Owner	Renter
Home Ownership				
Owner	84%	69%	-	-
Renter	16%	31%	-	-
Educational Attainment				
No college degree	13%	68%	64%	76%
4-year college degree or more	87%	32%	36%	24%
Age				
18 – 34	10%	19%	10%	36%
35 – 64	64%	57%	61%	50%
65+	26%	23%	29%	14%

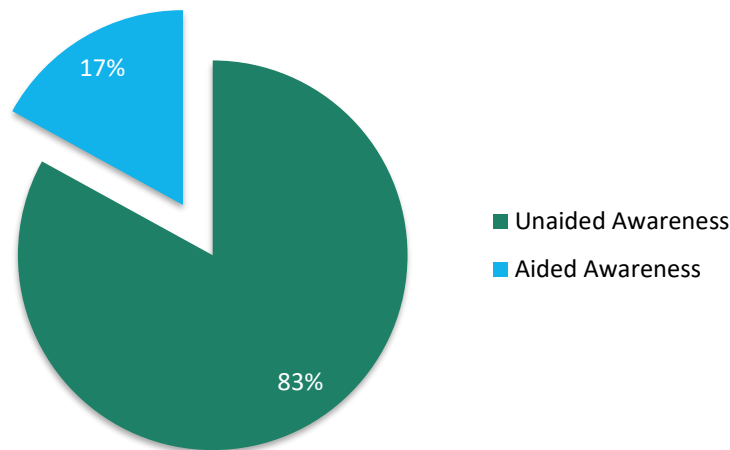
* n ranged from 100 – 109 when excluding respondents that preferred not to answer

** Source: U.S. Census Bureau, 2015 American Community Survey 5-Year Estimates.

3.3. Awareness and Understanding of SUPD-R

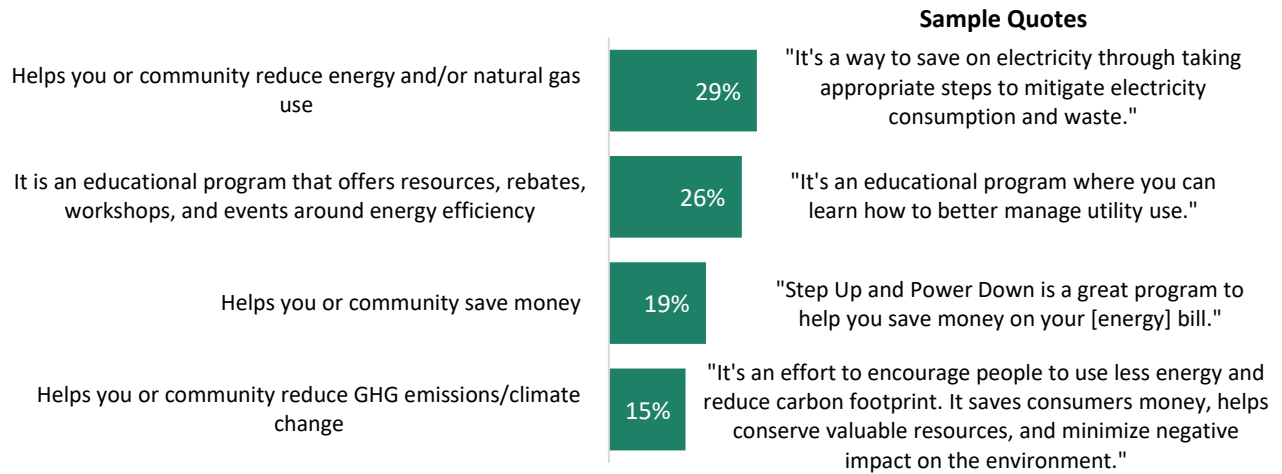
Most on the pledge list recalled SUPD-R unaided (83%), as shown in Figure 3-1.

Figure 3-1: Unaided and Aided Awareness in the Pledged List Group (n = 109)



SUPD-R’s core message to reduce energy waste and save money resonated with the pledge list group. Most respondents accurately described at least some facets of SUPD-R, although few described all its facets. Respondents most often said the initiative’s goal was to reduce energy use and save on utility bills. Some respondents referenced its educational and environmental elements (see Figure 3-2).

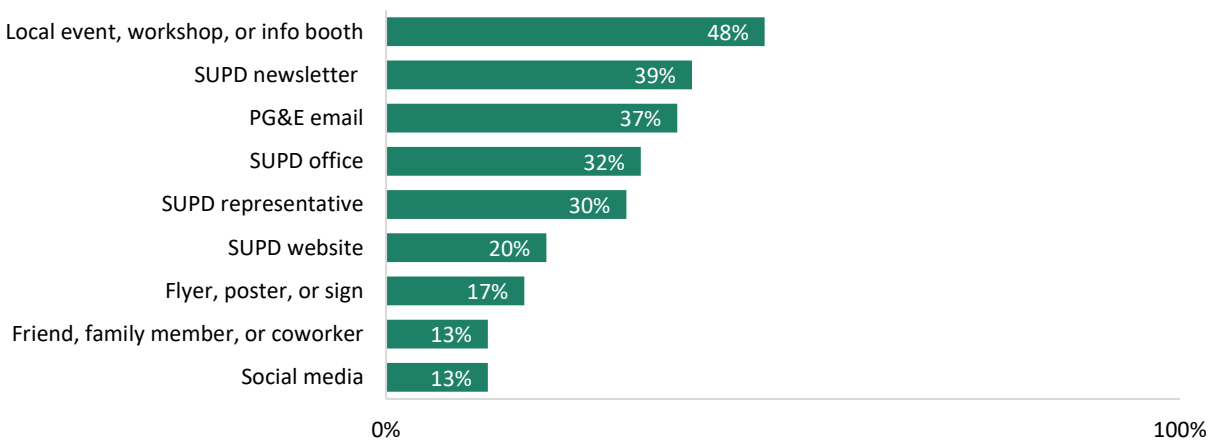
Figure 3-2: Top-4 Ways to Describe SUPD-R (n=109, open-ended, multiple response)



The pledge list group relied upon multiple channels – both personal and digital – to learn about SUPD-R, but personal channels were the most “sticky.” The most frequent source of information was a local event, workshop, or information booth, followed by two digital sources (Figure 3-3). However, those who rated themselves as highly engaged with the initiative were more likely to have heard about it from a SUPD-R or PG&E representative. In addition, those who heard from friends, family, or co-workers, or social media, also were more likely to have heard about SUPD-R “several” or “many” times.⁴⁷

⁴⁷ Difference is statistically significant, ($\chi^2 < .05$)

Figure 3-3: Top-10 Sources of Information (n=109, multiple response)



3.3.1. Level of Exposure and Engagement with SUPD-R

Respondents who heard about SUPD-R more often also reported they were more engaged with the initiative.⁴⁸ Just over half (54%) of respondents recalled hearing about SUPD-R “several” or “many” times. These respondents were more likely to report high and moderate levels of engagement with SUPD-R, and less likely to report low engagement, than respondents who reported hearing about SUPD-R “a few” times or less (see Table 3-2).

Table 3-2: Engagement with SUPD-R by Frequency of Exposure

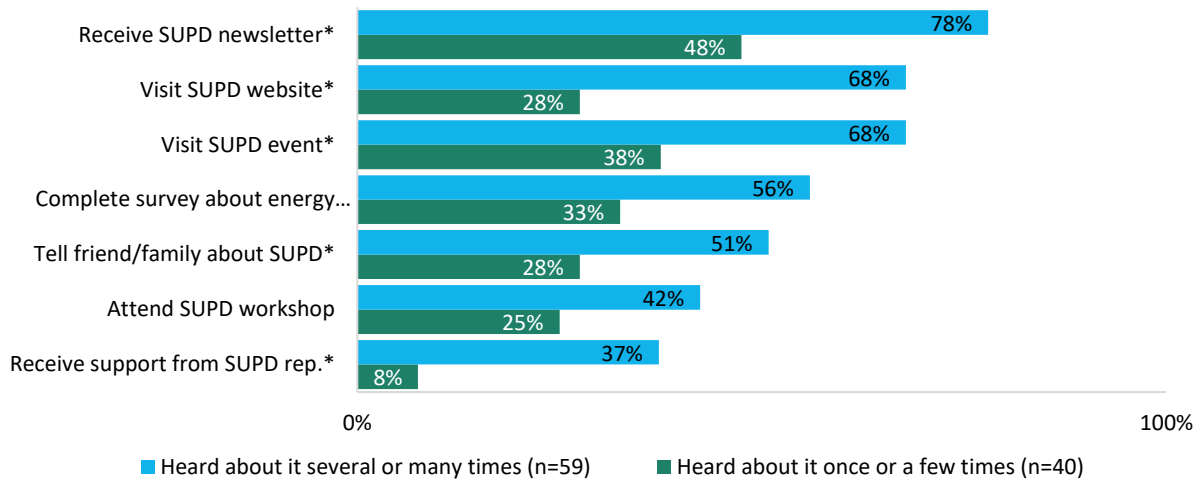
Level of Engagement with SUPD-R	Heard Several or Many Times (n=59)*	Heard A Few Times or Less (n=45)*
Low (rating of 1-3)	14%	33%
Moderate (rating of 4-7)	42%	31%
High (rating of 8-10)	44%	36%

* The Chi-square statistic is significant at the .05 level; excludes don’t know and no answer responses.

Respondents who had heard about SUPD-R several or many times also were more likely to take part in the initiative’s key offerings (Figure 3-4).

⁴⁸ It is important to note that the survey data, while suggesting a strong positive correlation between level of exposure and increased engagement and action, do not allow us to determine if these relationships are causal.

Figure 3-4: Initiative Activities Completed by Frequency of Hearing about SUPD-R

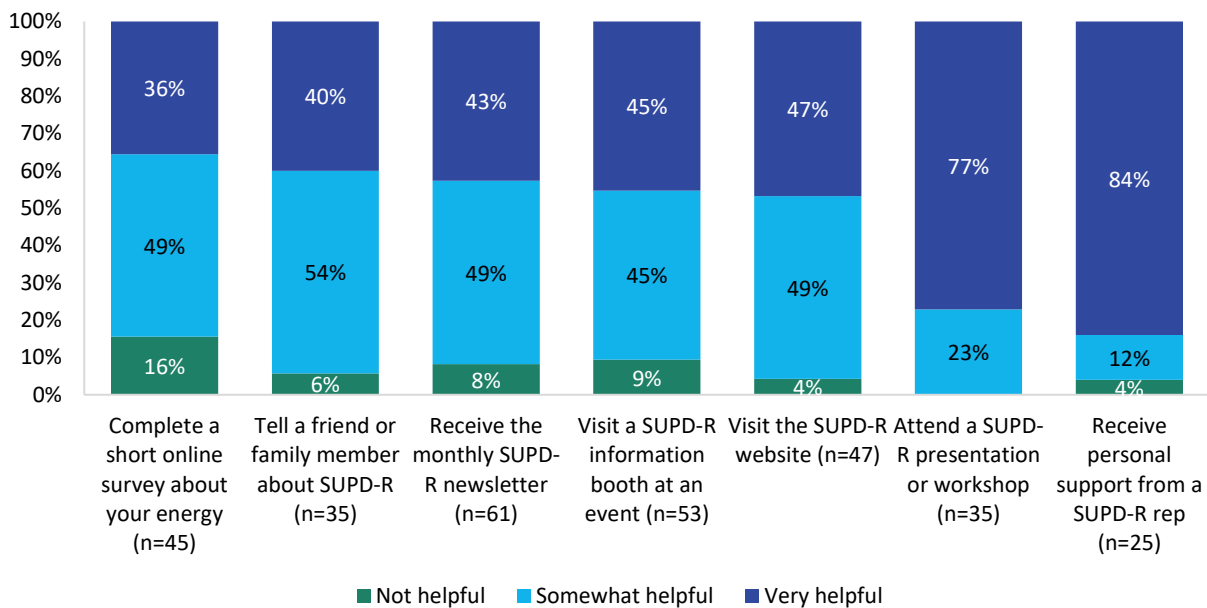


* The Chi-square statistic is significant at the .05 level; excludes don't know and no answer responses.

3.4. Helpfulness of SUPD-R Services

While most respondents rated SUPD-R services helpful, the most personalized support mechanisms proved to be the most helpful. As Figure 3-5 shows, these focused contacts, while smaller in number, outstripped other services in terms of helpfulness.

Figure 3-5: Helpfulness of Initiative Activities

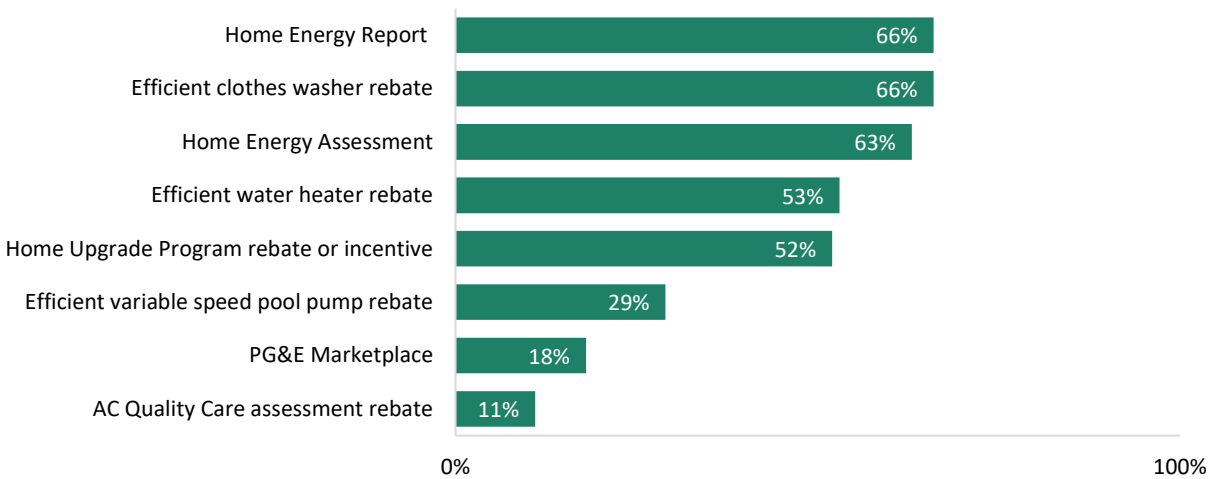


* Excludes don't know and no answer responses.

3.5. Familiarity With PG&E Energy Efficiency Programs

About one third of respondents (35%) considered themselves very familiar with PG&E’s energy efficiency programs. Almost all respondents (87%) were aware of at least one PG&E energy efficiency offering listed in the survey, with the Home Energy Report and the rebate for efficient clothes washers heading the list (Figure 3-6).

Figure 3-6: Awareness of Specific PG&E Rebates and Services (n=109)



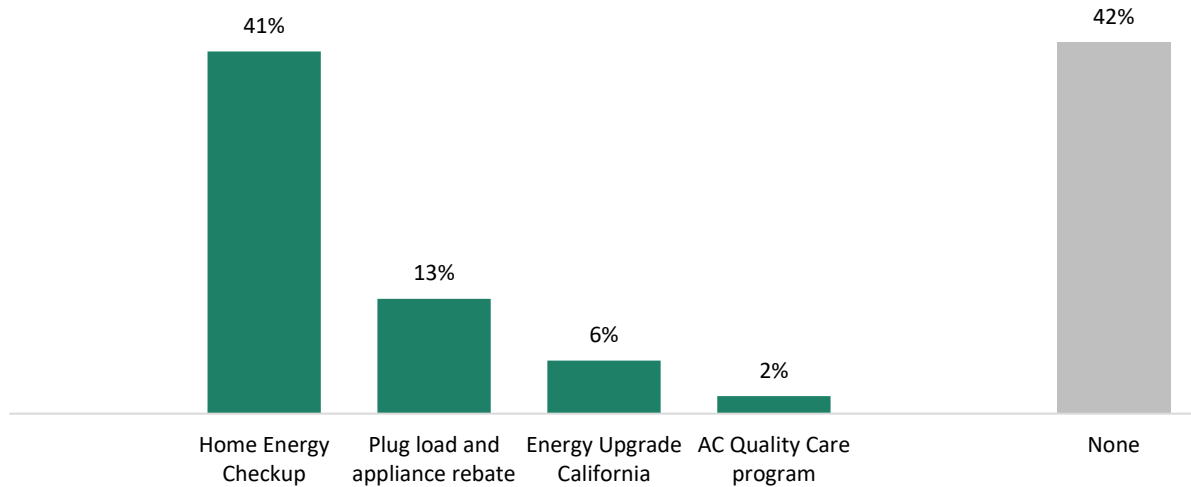
Many in the pledge list group credit SUPD-R with increasing their familiarity with PG&E programs and services. A majority (59% across all respondents) reported greater familiarity with PG&E’s energy efficiency rebates and programs in the past year. One-half (50%) of those who reported greater familiarity said SUPD-R strongly influenced their knowledge (ratings of 8 or higher on a 10-point scale, and another 24% said it had some influence (ratings of 6 and 7).⁴⁹

3.6. Influence on PG&E Program Participation and Energy Use Behaviors

A majority of respondents (58%) report they took part in at least one PG&E program “in response to” SUPD-R. As shown in Figure 3-7, the pledge list group most often took part in PG&E’s online audit – the Home Energy Checkup (41%). Another 13% participated in plug load and appliance rebate programs, 6% signed up for Energy Upgrade California, and 2% were in the AC/QC program (Woodland only).

⁴⁹ PG&E also did territory-wide marketing of its efficiency programs during much of the SUPD-R time period.

Figure 3-7: Percent of Respondents Participating in PG&E Programs in Response to SUPD-R (n = 109)



Even larger shares of respondents (81%) report they made at least one change in their heating and cooling behavior, or in their lighting and appliance activities (92%) in response to SUPD-R, as shown in Figure 3-8 and Figure 3-9. Heating and cooling behavioral adjustments included adjusting thermostats (68%), A/C settings (39%), and using storm windows and insulated curtains (22%). Lighting and appliance energy saving activities included using LED lights, washing clothes in cold water, and lowering water heater temperatures to 120 degrees.

Figure 3-8: Percent of Respondents Taking Heating/Cooling Behaviors in Response to SUPD-R (n=1-9)

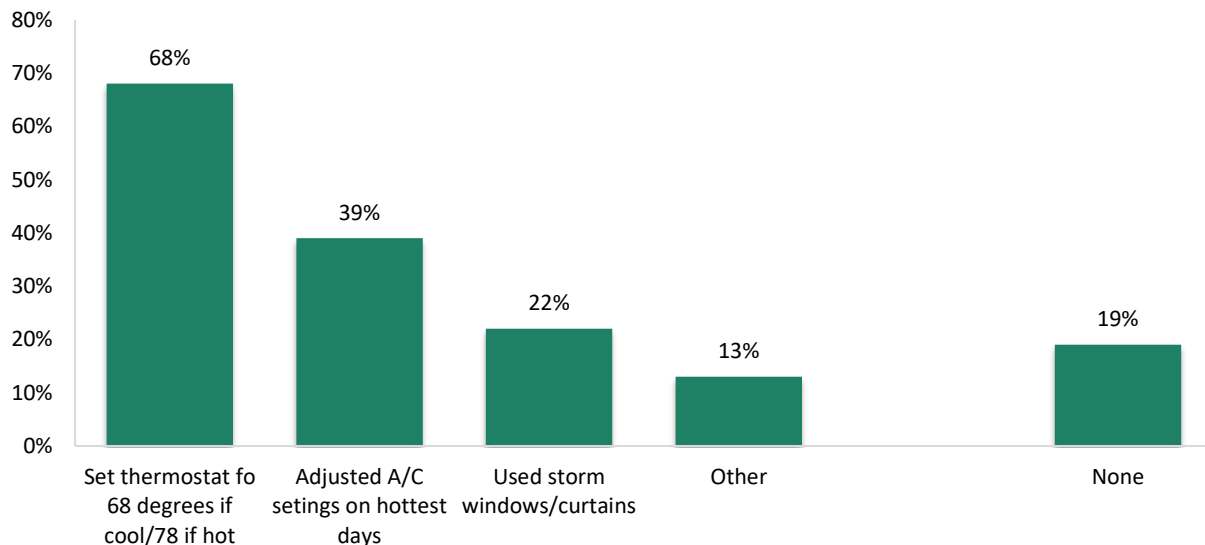
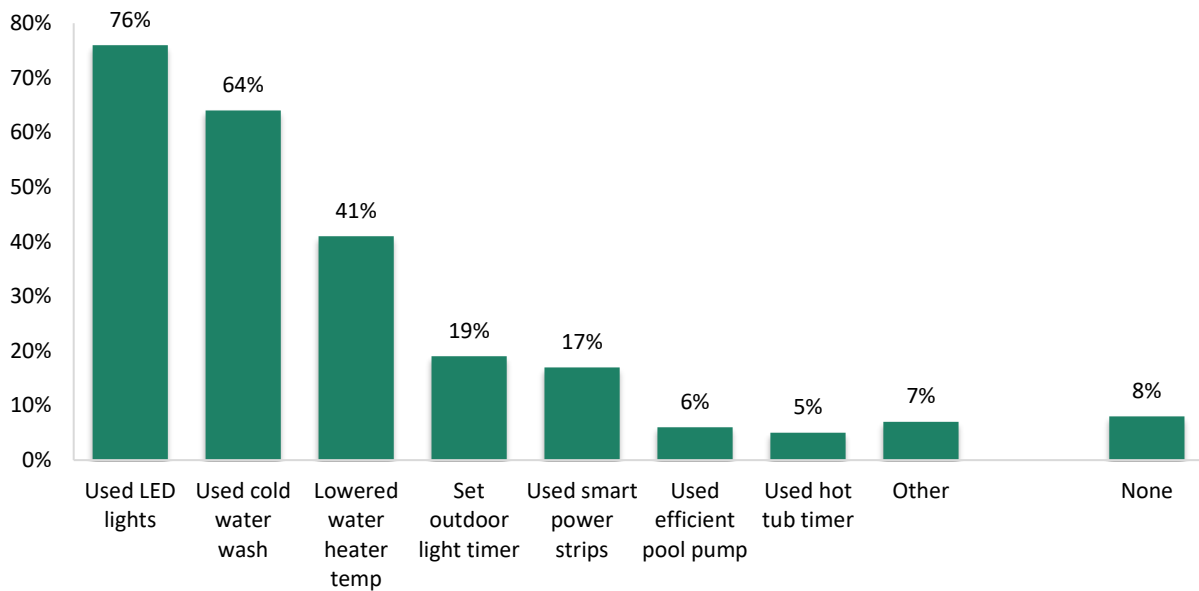
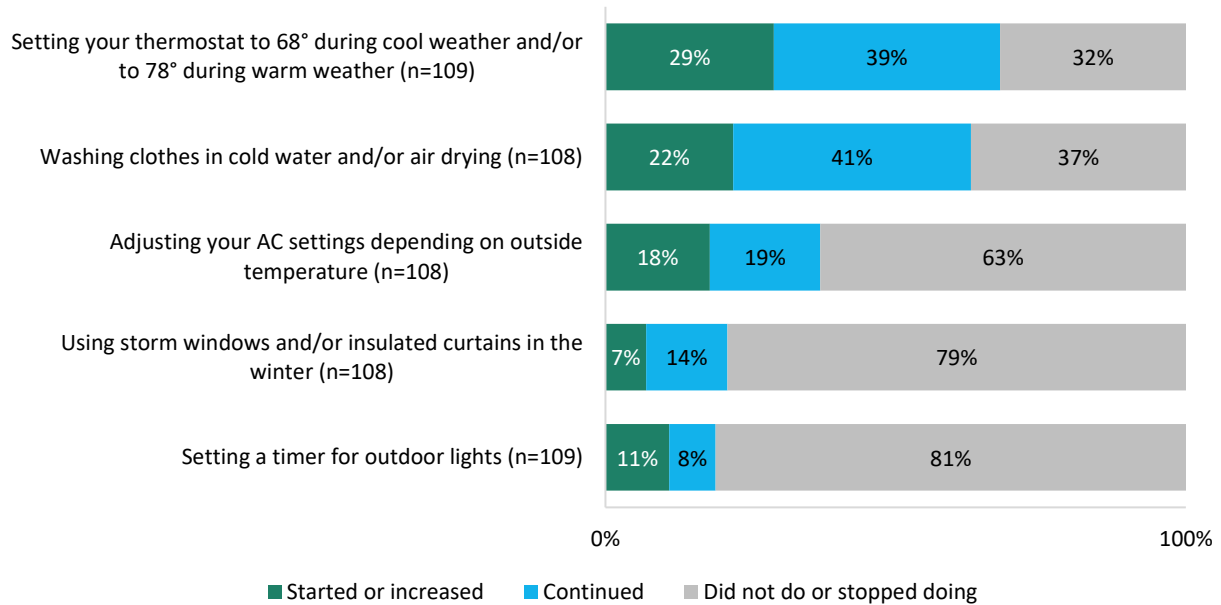


Figure 3-9: Percent of Respondents Taking Lighting/Appliance Behaviors in Response to SUPD-R (n=109)



A notable minority of respondents report they started taking or increased each of the following energy saving actions since learning about SUPD-R (Figure 3-10).

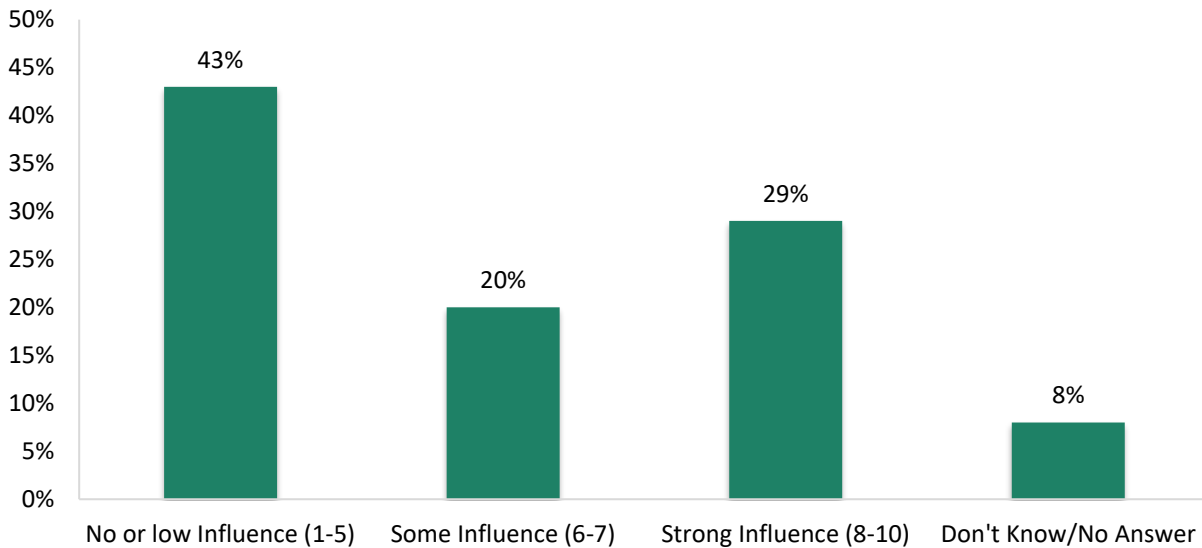
Figure 3-10: Energy Saving Actions Started/Increased, Continued, or Not Done Since Hearing about SUPD-R



* Excludes don't know

When asked to look back over all the energy related services they used and activities they did, just about one-half of respondents reported SUPD-R *influenced* their actions. Although many respondents said they had taken actions in response to SUPD-R, when asked to rate the initiative’s influence overall on the actions they took, they gave more limited credit to the initiative Figure 3-11.

Figure 3-11: Level of SUPD-R’s Influence Across All Activities and Services (n = 109)

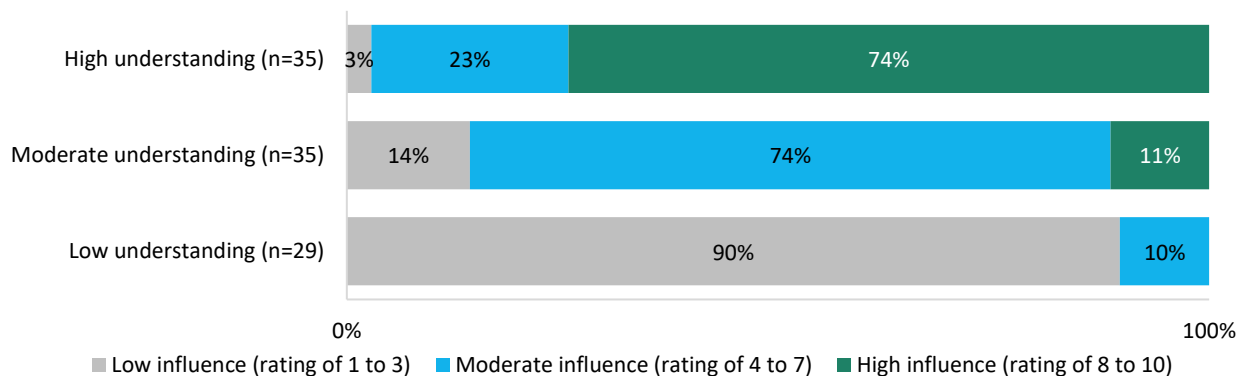


3.6.1. Effects of Increased Understanding of Efficiency Actions and Programs

Increased understanding of PG&E programs and services benefited both SUPD-R and PG&E.

Respondents (33%) who reported that SUPD-R greatly (rating 8 or above on a 10-point scale) increased their understanding of how to reduce energy waste were also significantly more likely to report the initiative highly influenced their energy saving actions (see Figure 3-12).

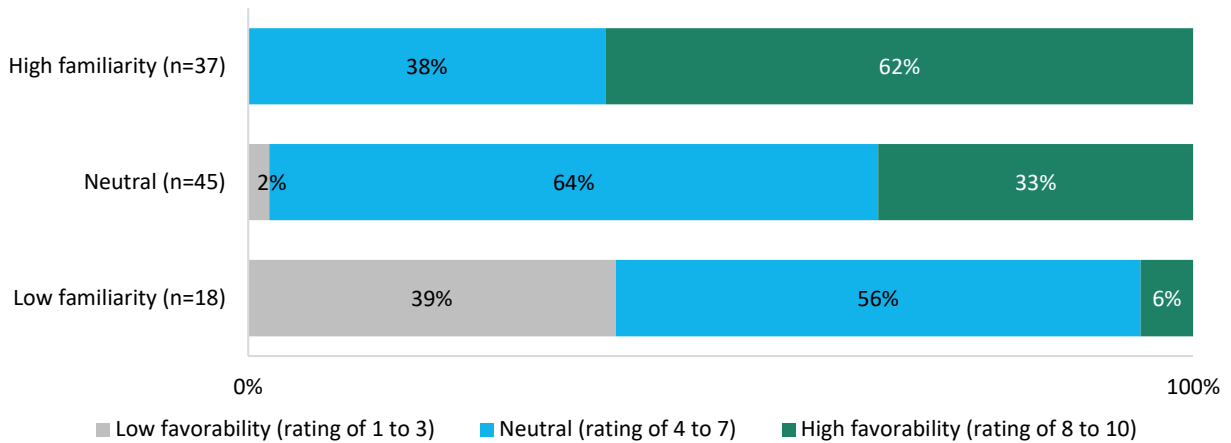
Figure 3-12: Increased Understanding and Influence on Energy Saving Actions (n = 109)



* All differences are significant; chi-square statistic is significant at the .05 level; excludes don't know and no response

Findings also suggest a strong correlation between customer familiarity with PG&E programs and favorable views toward PG&E. Overall, 37% of respondents rated their attitude towards as PG&E as highly favorable (8-10 on a 10-point scale). However, as shown in Figure 3-13, those who were very familiar with PG&E programs also gave the highest favorability ratings.

Figure 3-13: Familiarity with PG&E Energy Efficiency Programs by Favorability Towards PG&E*



* All differences are significant; chi-square statistic is significant at the .05 level; Excludes Don't know, not answered

3.6.2. Level of Exposure to SUPD-R and Energy Saving Activities Taken

Respondents who heard more often about SUPD-R were also more likely to participate in PG&E programs and to take other energy saving actions (Table 3-3 and Table 3-4).

Table 3-3: Proportion of Respondents Taking Promoted Actions by Frequency of Exposure to SUPD-R

Type of Action	Proportion of Respondents Taking At Least One Action	
	Heard About SUPD-R Several or Many Times (n=58)*	Heard About SUPD-R a Few Times or Less (n=42)*
PG&E Programs & Services** (of 5 options)	71%	43%
Heating & Cooling Activities** (of 4 options)	91%	74%
Lighting & Appliance Activities (of 8 options)	95%	95%
Any Activity (of 17 options)	100%	95%

* Excludes don't know and no answer responses.

** The Chi-square statistic is significant at the .05 level.

Table 3-4: Average Number of Actions Taken by Frequency of Exposure to SUPD-R

Type of Action	Average Number of Actions Taken	
	Heard About SUPD-R Several or Many Times (n=58)*	Heard About SUPD-R a Few Times or Less (n=42)*
PG&E Programs & Services (of 5 options)	0.9	0.6
Heating & Cooling Activities (of 4 options)	1.6	1.3
Lighting & Appliance Activities** (of 8 options)	2.7	2.3
Any Activity** (of 17 options)	5.1	4.2

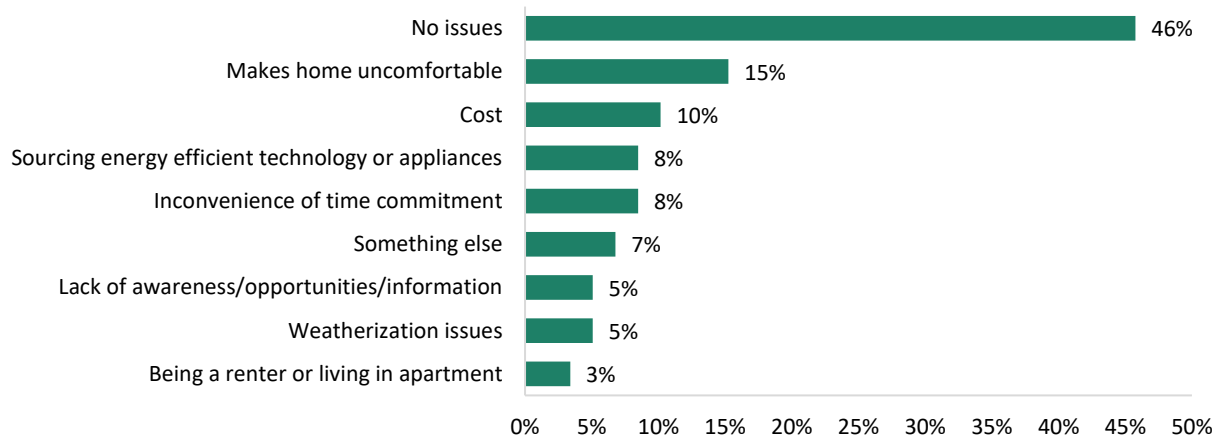
* Excludes don't know and no answer responses.

** Difference is statistically significant, (p < .05)

3.6.3. Barriers to Participation

Just over one-half of respondents (54%) reported barriers to taking energy saving actions that SUPD-R recommended. Fifteen percent said they were concerned about decreased comfort, such as being colder in winter or too hot in summer, 10% were worried about costs, and the remainder voiced a variety of convenience and lack of knowledge barriers Figure 3-14.

Figure 3-14: Barriers to Taking Energy Saving Actions SUPD-R Recommended

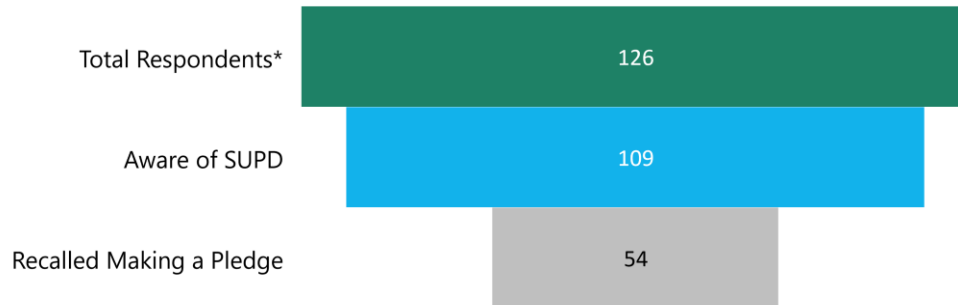


3.7. Comparison of “Pledgers” and “Non-Pledgers”

One-half of respondents recalled they had filled out a pledge to take one or more energy saving actions as part of their participation in SUPD-R. Throughout this chapter, we call those respondents “Pledgers.”

The remaining one-half of respondents did not recall their pledge, even though the initiative had recorded it. We call these participants “Non-Pledgers.”⁵⁰

Figure 3-15: Number of Respondents Aware of SUPD-R and Recall Pledging (Pledgers)



* Includes respondents who started the survey, but were screened out because they were unaware of the initiative

While Pledgers and Non-Pledgers are both aware of the initiative, their experiences with it differ markedly, with Pledgers tending to be significantly more engaged and active than Non-Pledgers. In this section, we highlight the significant and consistent differences in engagement between the two groups. However, please note the data we have does not allow us to determine the extent to which taking a pledge – or not – produced specific differences.⁵¹

Notably, among Pledgers, 74% said pledging was very (44%) or somewhat (30%) important to their decisions to take steps to reduce their energy waste.

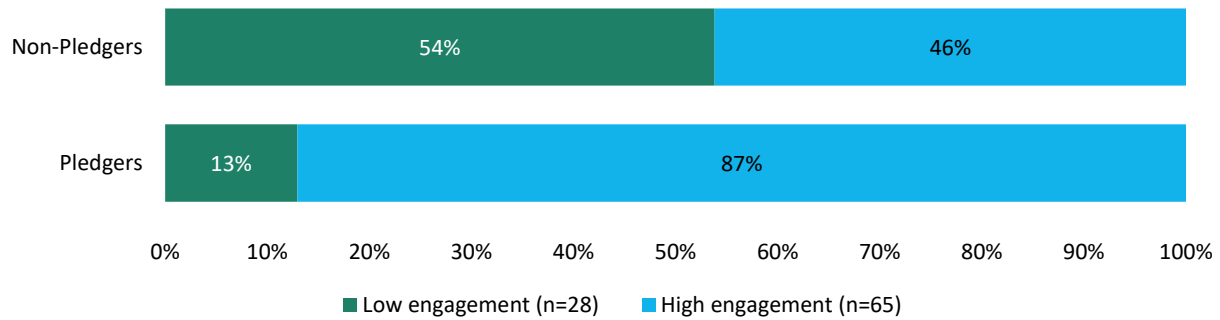
3.8. Level of Engagement – Non-Pledgers and Pledgers

Overall, Non-Pledgers engaged less than Pledgers with the SUPD-R initiative. More than two-thirds of Pledgers (69%) reported hearing about SUPD-R “several times” or “many times” in the past year, while only 34% of Non-Pledgers heard about the initiative that frequently. Consistent with their level of exposure, Pledgers were significantly more likely to rate themselves highly engaged with the initiative than Non-Pledgers -- 87% to 46% -- as shown in Figure 3-16.

⁵⁰ The most likely explanation for the discrepancy between initiative records and survey responses is that respondents simply did not recall signing a pledge or that someone in their household signed one. However, it is also possible that the lists we received had inaccuracies or that we misinterpreted the lists, despite careful vetting.

⁵¹ While the survey asked about the influence of SUPD-R on various actions, it did not ask individually about the effect of pledging on actions.

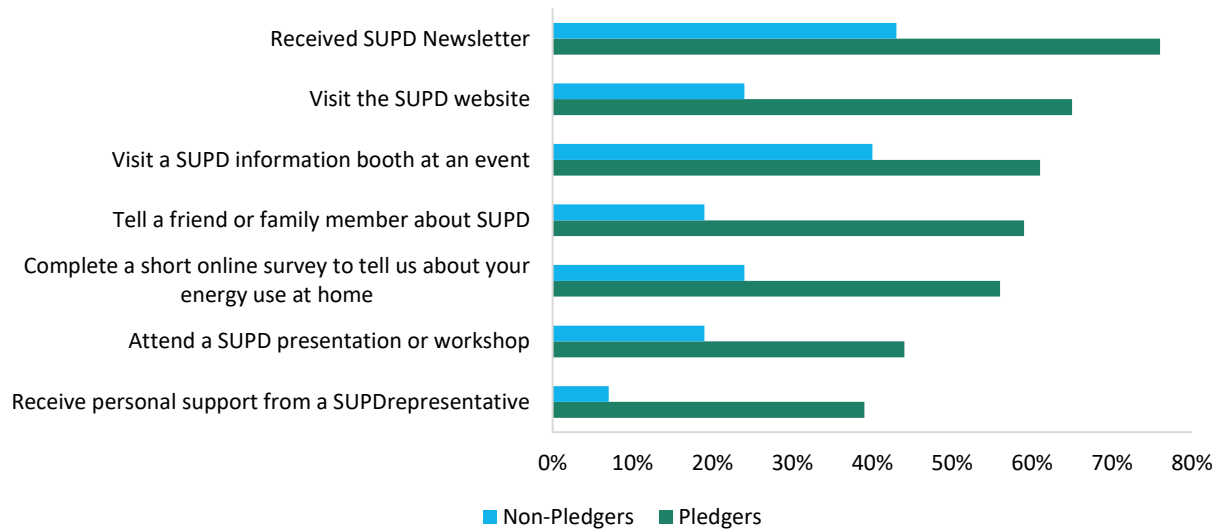
Figure 3-16: Level of Engagement with SUPD: Non-Pledgers and Pledgers



* The Chi-square statistic is significant at the .05 level

Reflecting their more frequent exposure and higher engagement with SUPD-R, Pledgers were more likely to take part in initiative activities, such as receiving a SUPD-R newsletter, visiting the SUPD-R website, or visiting a SUPD information booth, than Non-Pledgers (Figure 3-17).

Figure 3-17: Initiative Activities: Non-Pledgers and Pledgers* (n=109, multiple response)

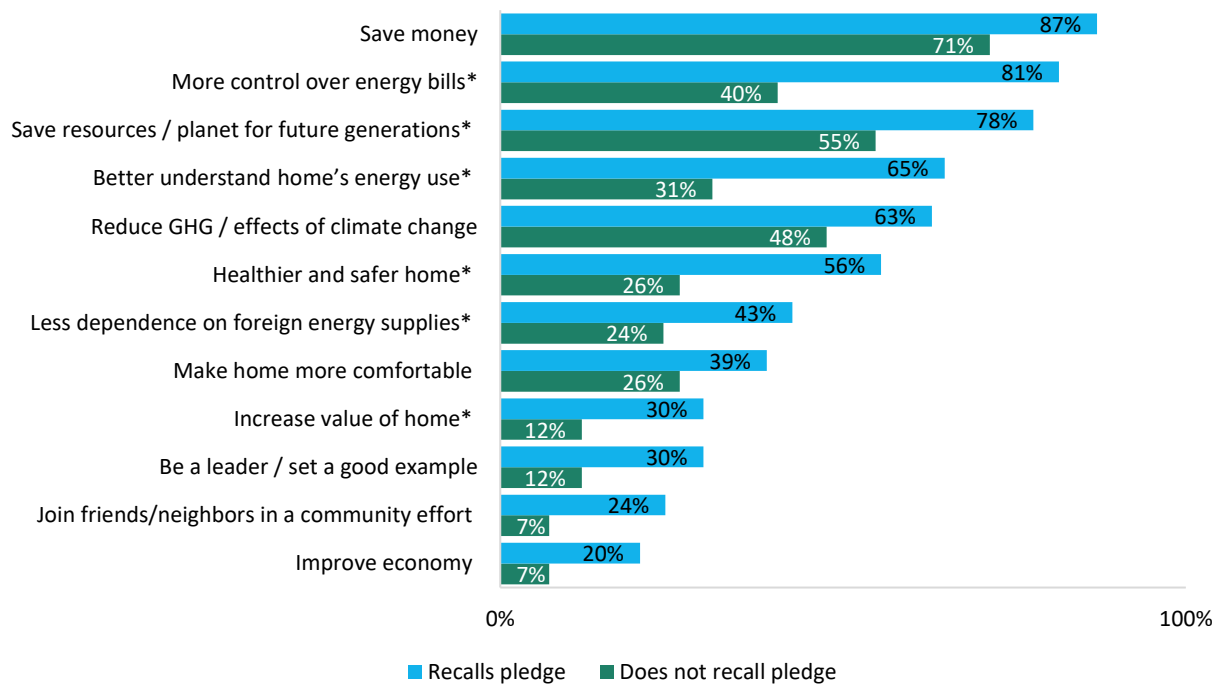


* All differences are significant; chi-square statistic is significant at the .05 level.

3.9. Motivations and Actions: Pledgers and Non-Pledgers

Pledgers typically cited more and a wider variety of key motivations to take energy saving actions than Non-Pledgers as shown in Figure 3-18. While saving money was the strongest motivator for both groups, over one-half of Pledgers said having more control over bills, saving resources and a better understanding of how they use energy, reducing the effects of climate change, and having a healthier home motivated them. Non-Pledgers had similar motivations, but at a significantly lower level.

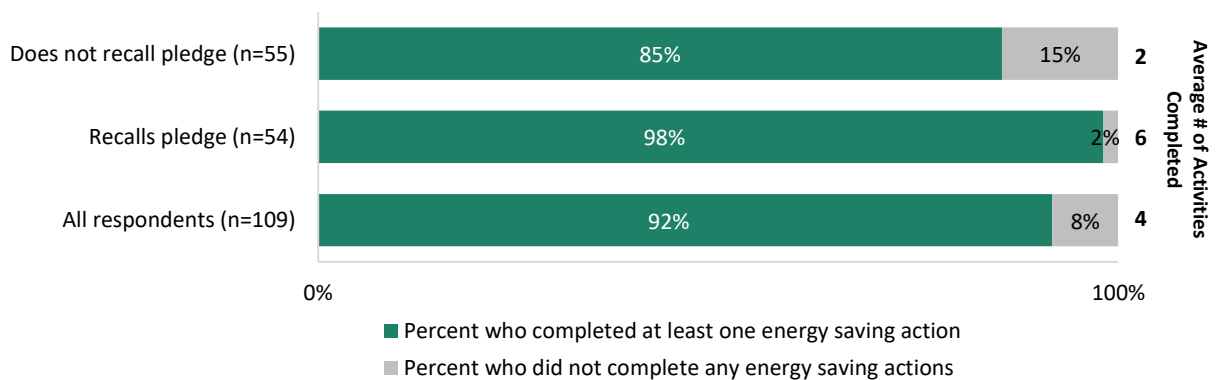
Figure 3-18: Motivations to Take Energy Saving Actions (n=109, multiple response)



* The Chi-square statistic is significant at the .05 level.

In addition to more engagement and contact with the initiative, Pledgers more often reported taking the energy-saving actions SUPD-R recommended. While most respondents took at least one energy saving action, 98% of pledgers did so compared to 85% of Non-Pledgers. On average, Pledgers were also more likely to complete a greater number energy-saving actions (mean = 6) compared to (mean = 2 - see Figure 3-19).⁵²

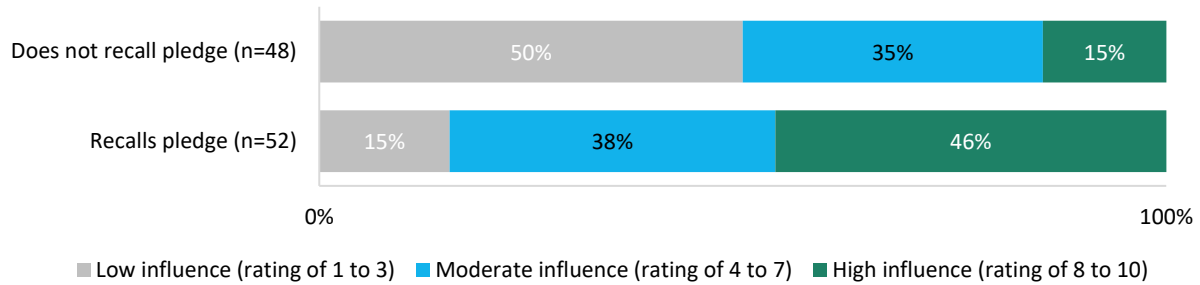
Figure 3-19: Respondents Taking At least One Energy Saving Action: Non-Pledgers and Pledgers



⁵² Difference is statistically significant, (p < .05)

Pledgers, compared to Non-Pledgers, were significantly more likely to report SUPD-R influenced them to take energy saving actions (Figure 3-20).

Figure 3-20: Influence of SUPD-R to Take Energy Saving Actions: Non-Pledgers and Pledgers



* All differences are significant; chi-square statistic is significant at the .05 level; excludes don't know and no response

Pledgers, compared to Non-Pledgers, were both more likely to report that they had begun/increased energy saving actions since SUPD-R began, **and** more likely to have already engaged in those activities prior to SUPD-R (Figure 3-21). Still, much potential remains for both groups to take more actions. The final figure compares Pledgers and Non-Pledgers for the top five most common energy saving actions taken in “response to” SUPD-R. The steps are similar for both groups but at significantly different levels.

Figure 3-21: Activities Began/Increased, Continued or Not Done/Stopped: Non-Pledgers and Pledgers

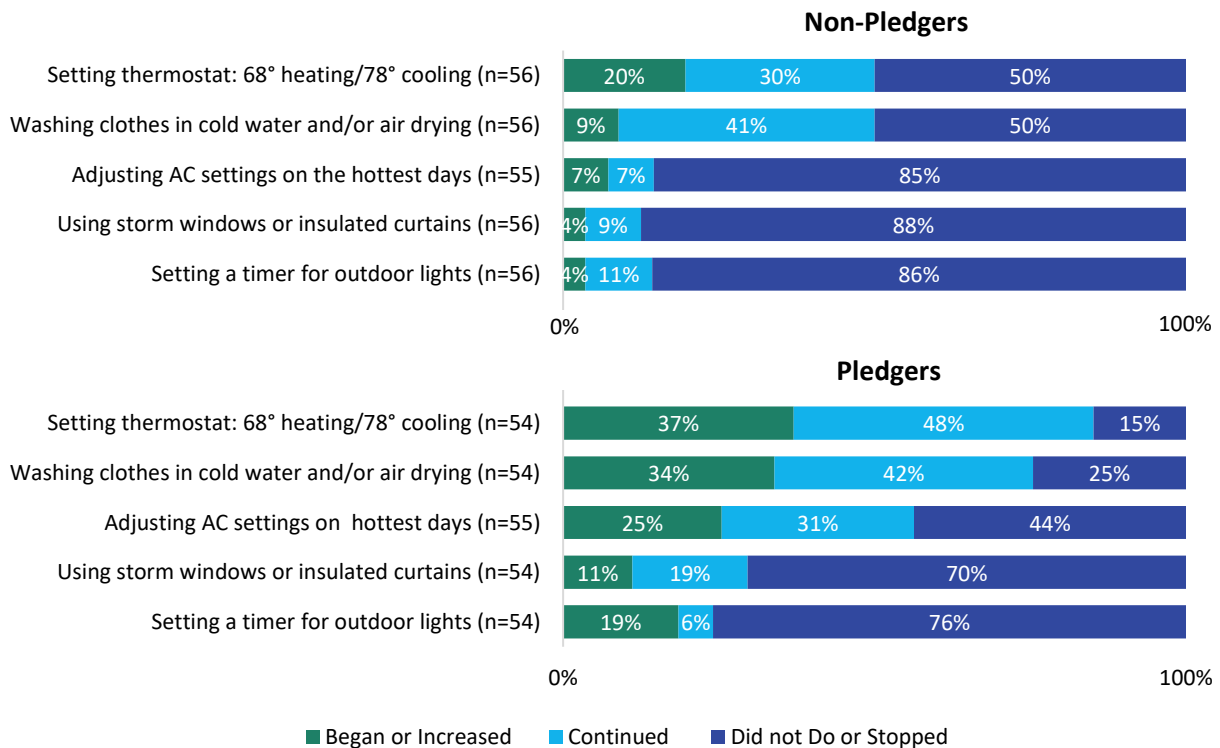
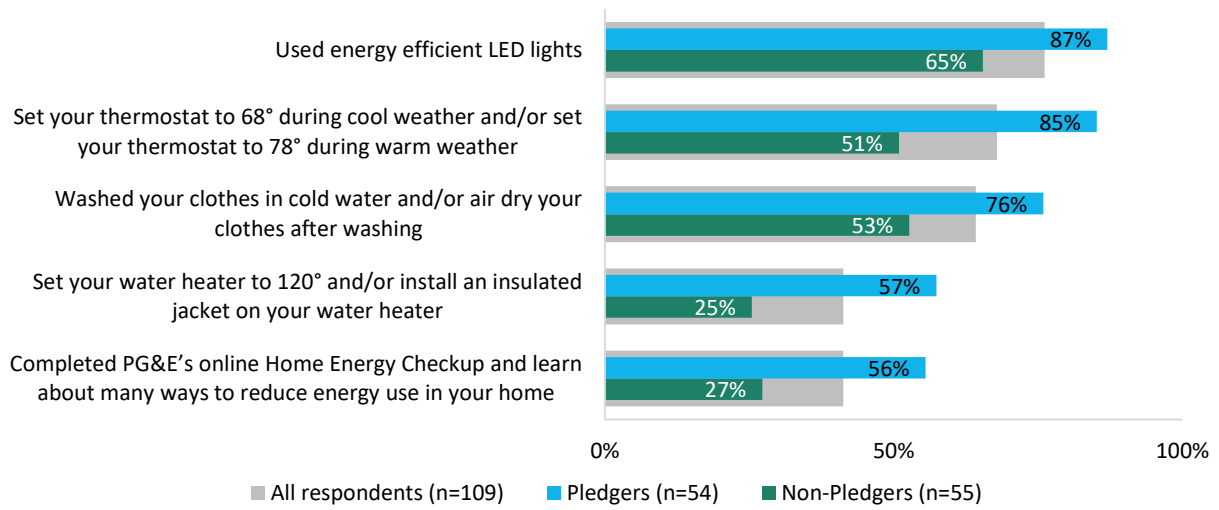


Figure 3-22: Top-5 Most Common Energy Saving Activities Completed: Pledgers and Non-Pledgers



* All differences are significant; chi-square statistic is significant at the .05 level.

4. Pre-Post Participation Analysis

4.1. Chapter Overview

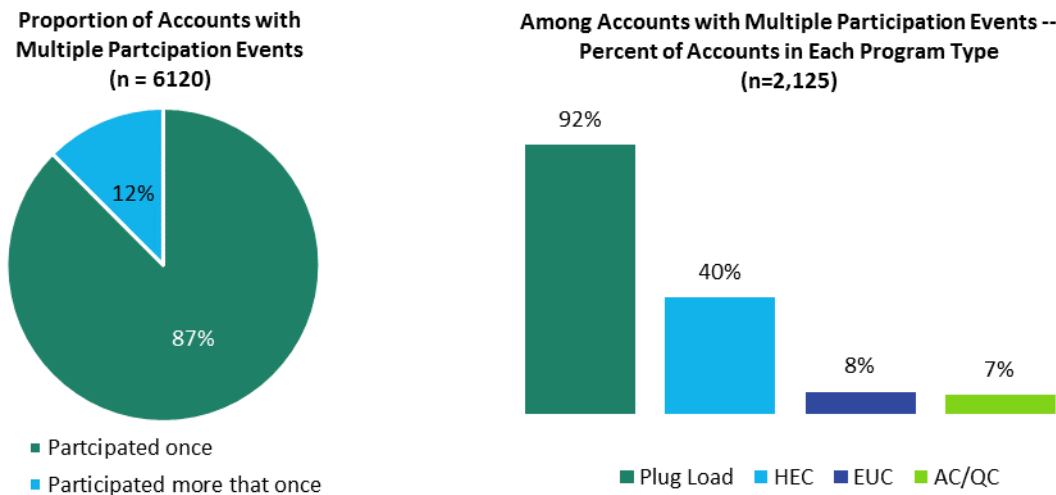
This analysis examines if participation in PG&E’s residential efficiency programs increased in the target communities during the SUPD-R initiative and, if an increase occurred, whether it can be linked to SUPD-R activities.

4.2. Key Findings

4.2.1. Program Participation Patterns and Trends

Over the course of about four years (September 2012 – November 2016), more than six thousand (6,120) residential customers in the targeted cities participated in one or more PG&E energy efficiency programs. This accounts for about 10% of the households in these target cities.⁵³ The comparison cities saw a similar level of participation (9% of households). The majority (87%) of target city accounts participated once across that time span. Those who took part more than once were more likely to participate in the Plug Load and Appliances programs than in other programs (Figure 4-1).⁵⁴ These trends were also similar in the comparison cities.

Figure 4-1: Accounts with Multiple Participation Events from October 2012 – September 2016

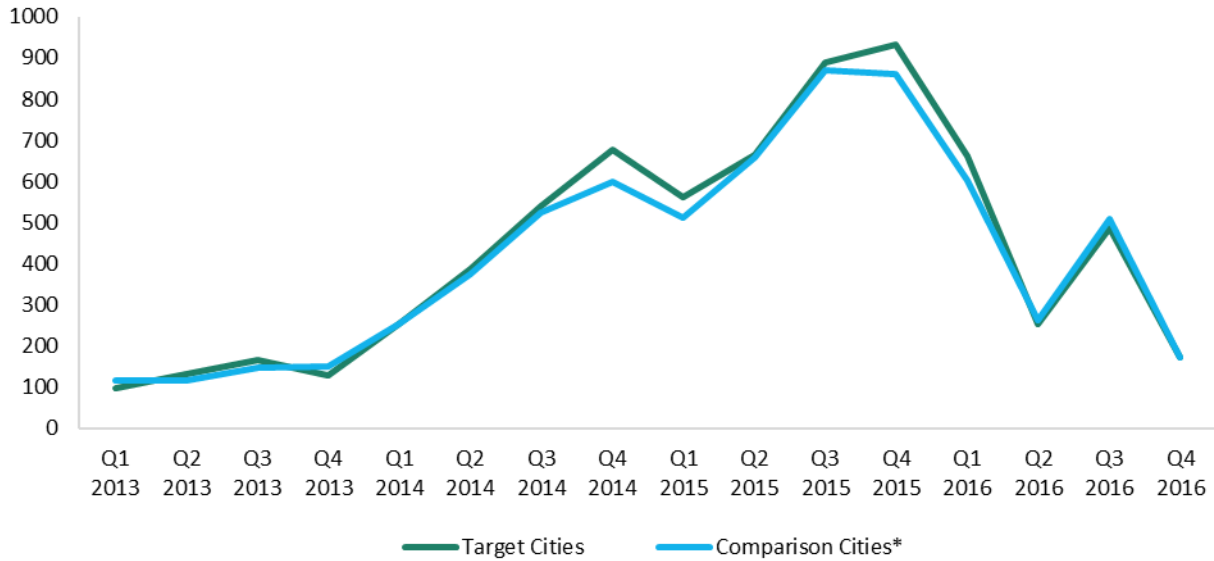


⁵³ Number of households based on ACS 2015

⁵⁴ About half (54%) participating more than once *only* participated in one of the Plug Load and Appliances rebate or recycling programs.

Participation trends have been consistent across the target cities and comparison cities. The level of participation in PG&E energy efficiency programs in the target cities and comparison cities was very similar (Figure 4-2).

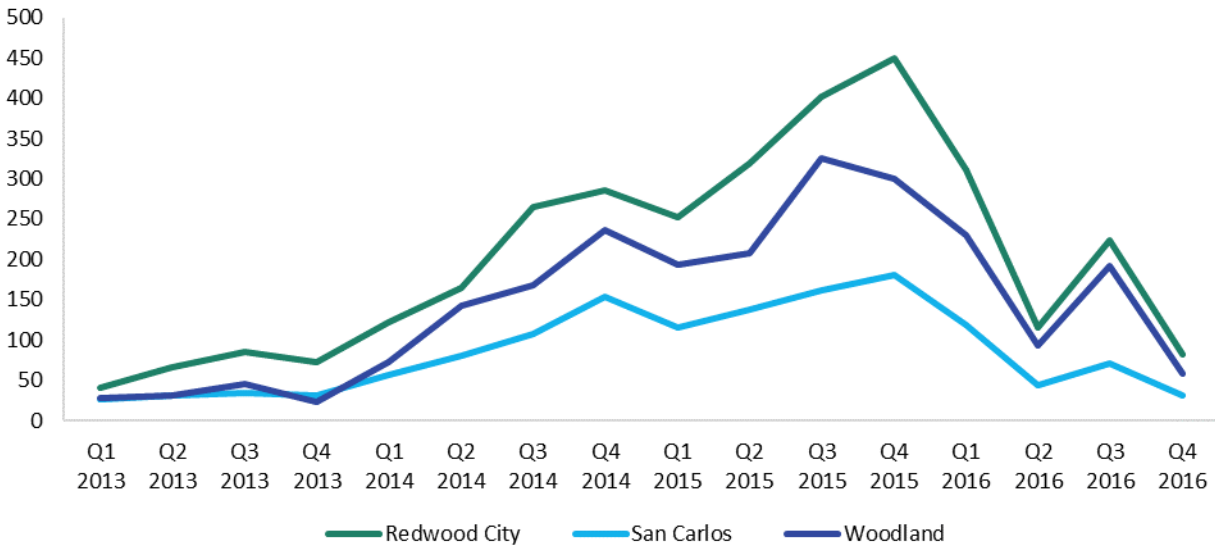
Figure 4-2: Participation Events by City Group and Quarter (January 2013 – September 2016)



* Comparison cities: Daly City, Pacifica, and Yuba City

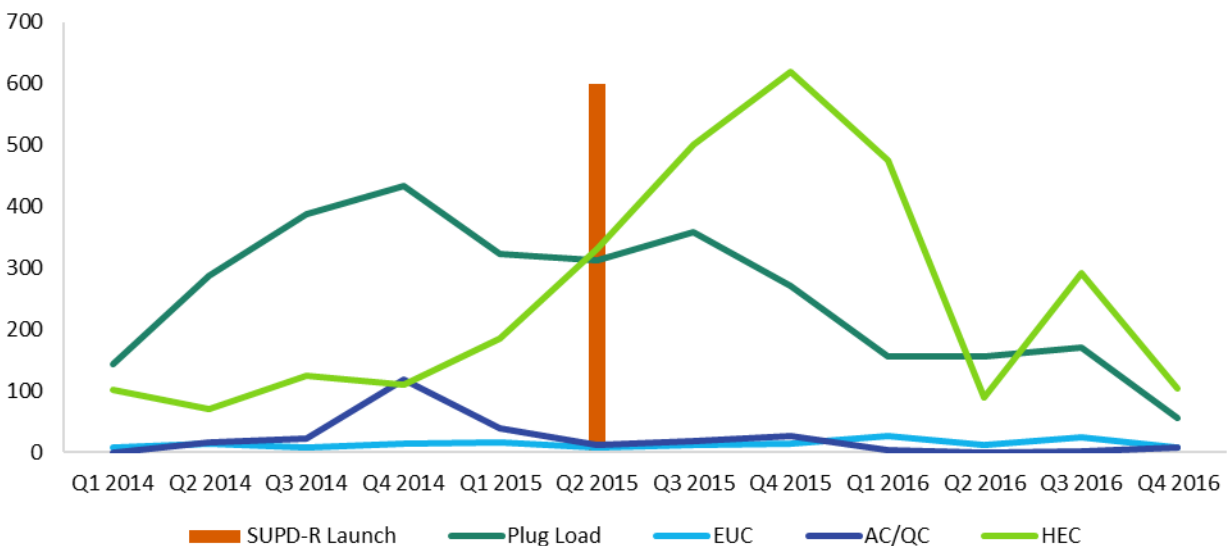
While the level of participation was generally higher in Redwood City and Woodland, due to higher populations, the overall trends are very similar. This is true across the four-year period— from January 2013 through September 2016 – and during the SUPD-R initiative period, from May 2015 to November 2016 (Figure 4-3).

Figure 4-3: Participation Events by City and Quarter (January 2013 – September 2016)



Except for participation in HEC, an on-line audit tool, participation in PG&E’s Energy Efficiency programs in the targeted regions has held relatively steady or, in the case of Plug Load programs decreased somewhat, since the launch of SUPD-R. Notably, participation in Plug Load programs peaked at the end of 2014, and has steadily declined since then (Figure 4-4). Participation in the Plug Load program in the Redwood City in late 2014 largely accounted for the uptick seen in Q4 2015.

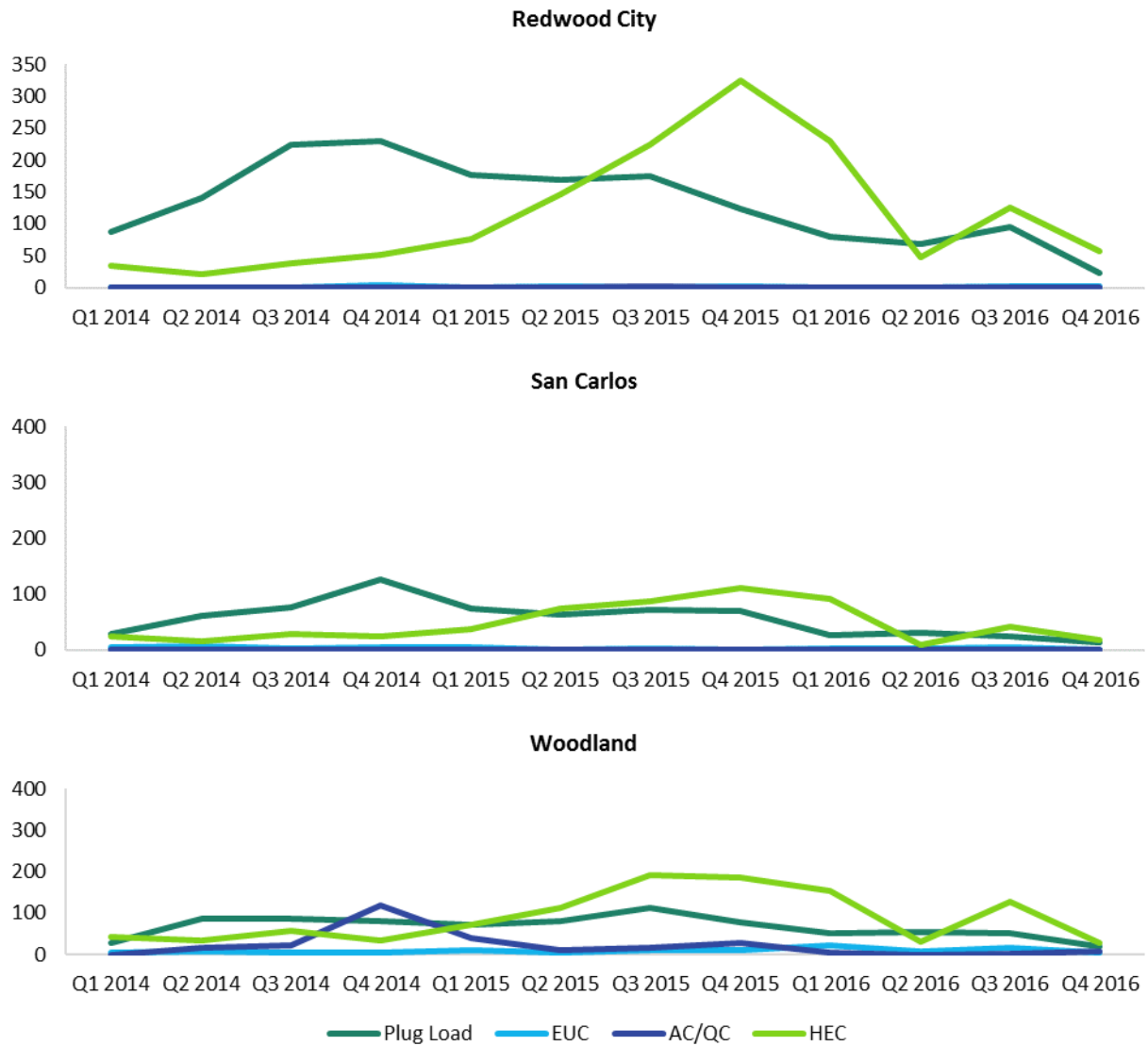
Figure 4-4: Accounts Participating in PG&E EE Programs by Program Quarter (Q1 2014 – Q3 2016)*



* No applications were submitted for HEC, clothes washers, or Home Upgrade (Basic) prior to 2014.

Participation rates by program type were consistent across target cities' regions, except for the Plug Load programs. As mentioned above, Woodland did not see the spike in participation in the Plug Load and Appliance program in 2014 that the Redwood City, and so a lesser extent San Carlos, did (Figure 4-5).

Figure 4-5: Participation by Program and City



4.2.2. Influences on SUPD-R Program Participation

After the launch of SUPD-R, program participation rates spiked and fell in synchrony with territory-wide promotional efforts (Figures 6 and 7). Participation events steadily increased before the launch of SUPD-R, particularly from 2013 to mid-2014. Based on this upward trend, we would expect to see moderate increases in program participation in 2015 and in to 2016.

However, the data show higher than expected spikes in program participation after the launch of SUPD-R in in Q3 2015 and Q4 2015, and an abrupt tailing off to pre-SUPD, or even lower, levels with the exception of a small spike in July 2016 (Figure 4-6). These spikes – and downturns in participation – coincide with the timing of territory wide PG&E promotional activities as shown in Figure 4-7.

While Figure 4-7 only looks at HEC completions in relation to those activities, HEC represents the highest program participation levels during the initiative period. Thus, it's likely PG&E's territory-wide promotional efforts influenced the spikes and troughs we see in SUPD-R's program participation. PG&E marketing staff further corroborate this conclusion, saying that SUPD-R's marketing efforts were modest.

Figure 4-6: Participation Events by Week (10/2012 to 9/2016)

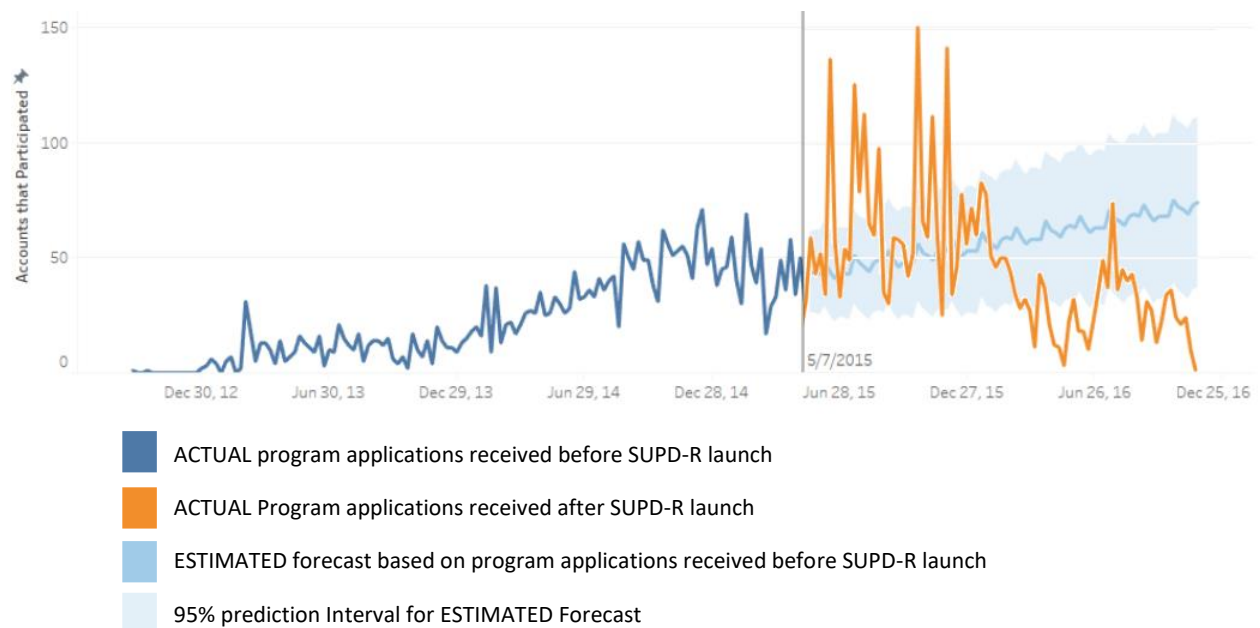
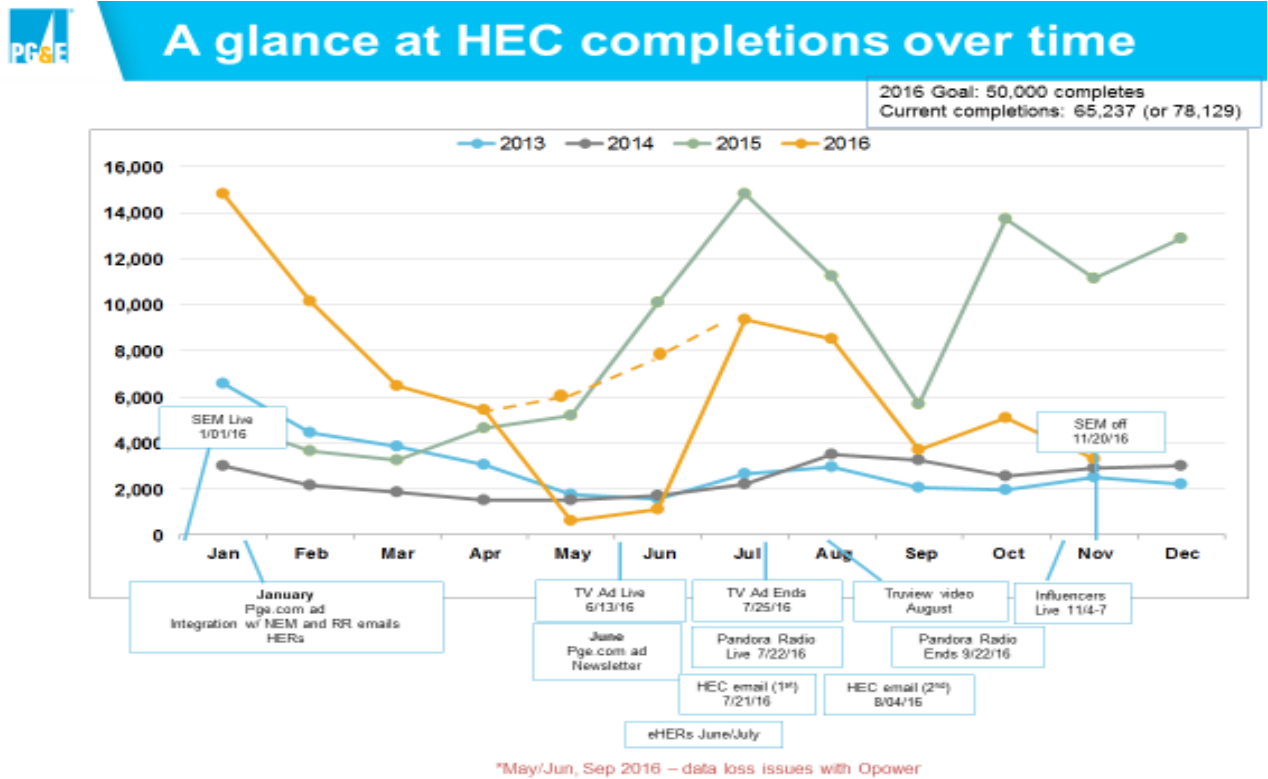


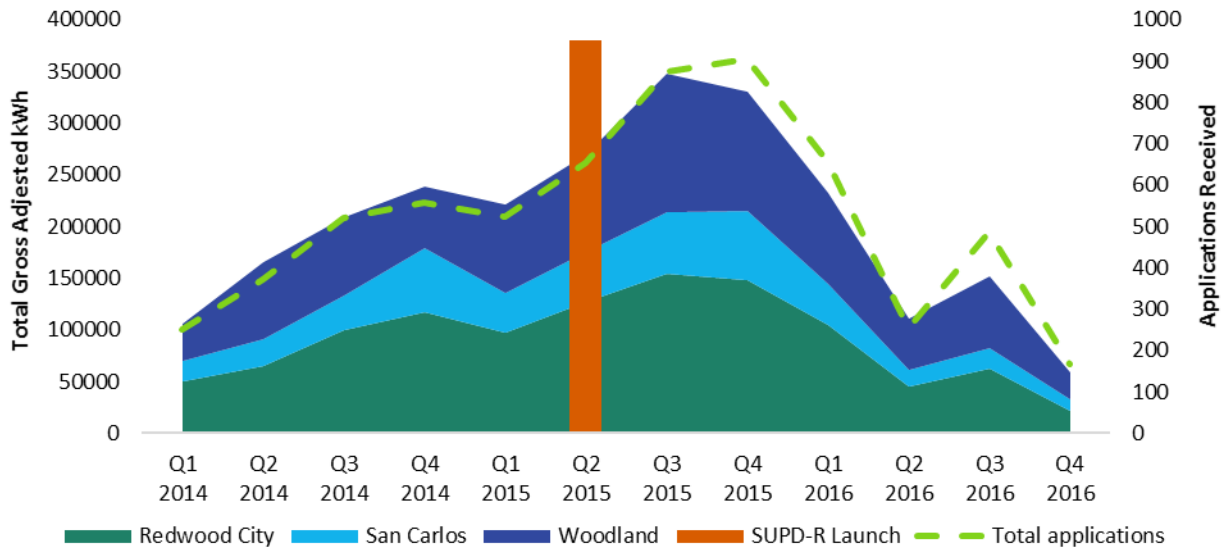
Figure 4-7: HEC Completions Coupled with Key PG&E Territory Wide Promotional Events



4.2.3. Savings in the SUPD-R Areas

The kWh savings associated with PG&E energy efficiency program participation follows a similar path to participation trends. The spike in participation in mid-2015, after the launch of SUPD-R, parallels the spike in kWh savings (Figure 4-8).

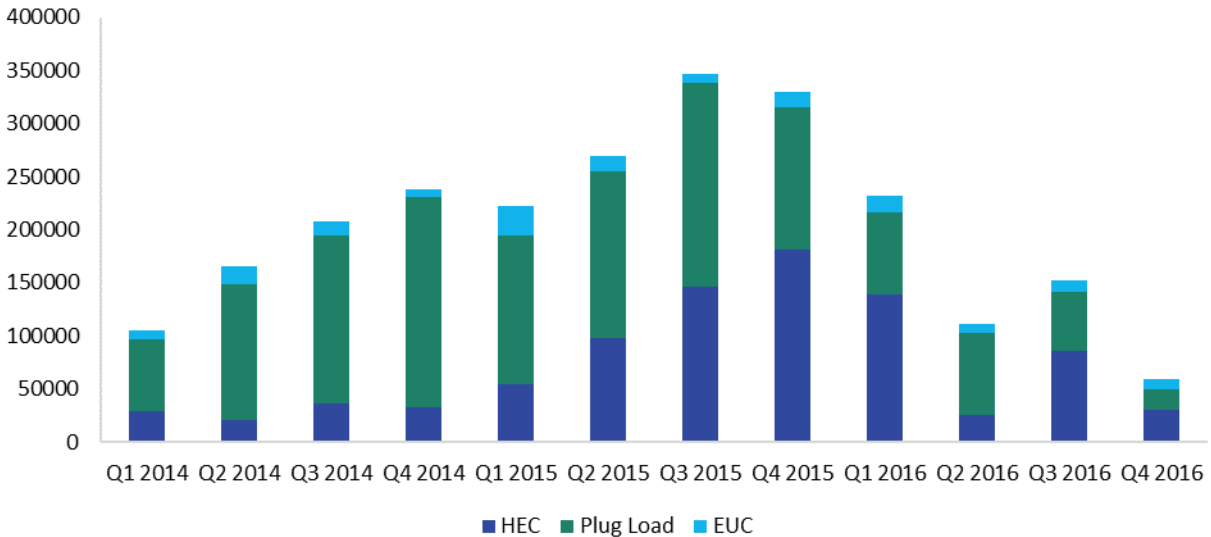
Figure 4-8: Total Gross Adjust kWh Savings*



* AC/QC did not have any savings associated with it, so we removed those events from this analysis.

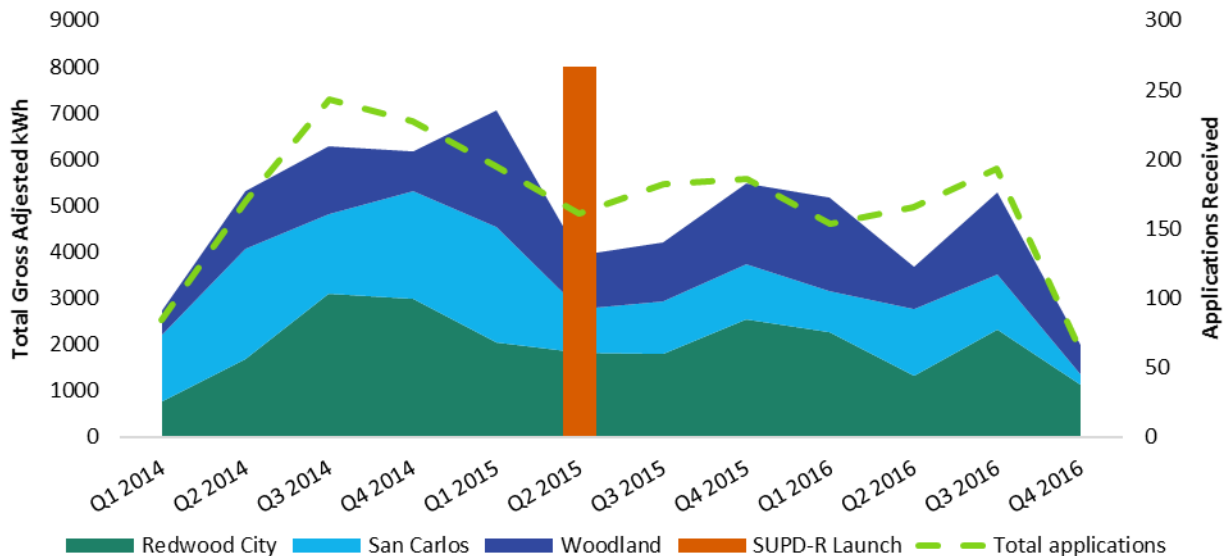
As applications for HEC increased after the launch of SUPD-R, so did the proportion of savings related to these online audits (Figure 4-9).

Figure 4-9: Proportion of Total Gross Adjusted kWh Savings by Program



Only the Plug Load and EUC programs had associated therm savings.⁵⁵ At the time of the SUPD-R launch, the number of applications for these programs was declining. This decline continued after the launch of SUPD-R, and picked up slightly in 2016. Reflecting the decrease in uptake of Plug Load programs since 2014, the savings associated with those programs have also decreased.

Figure 4-10: Total Gross Adjust Therm Savings*



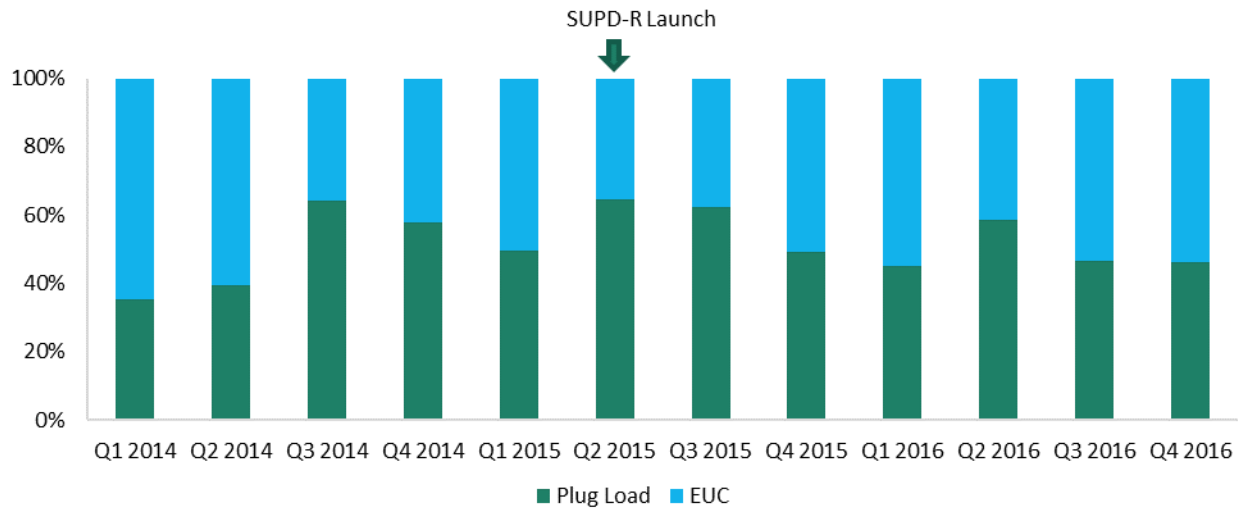
⁵⁵ Refrigerator recycling and High Efficiency Refrigerators were removed from Plug Load programs for therm analysis since the negative savings did not accurately reflect the overall program savings (including kWh).

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* AC/QC and HEC programs did not have any therm associated so they were removed from this analysis. Refrigerator recycling and High Efficiency Refrigerators were removed from Plug Load programs for therm analysis since the negative savings did not accurately reflect the overall program savings (including kWh).

The proportion of total therm savings attributable to each program remains relatively consistent before and after the launch of SUPD-R with the Plug Load programs accounting for most therm savings in most quarters from late 2014 through 2016 (Figure 4-11).

Figure 4-11: Proportion of Total Gross Adjusted Therm Savings by Program



Appendix A. Instruments

A.1. Stakeholder Interview Guide

Interviewer Instructions

Before each interview, read through the guide to determine and make note of which sections best fit or do not fit each respondent. Add any specific probes you think are appropriate for the respondent. You may need to add questions back in or eliminate them “on the spot” based on what respondents tell you they have been involved with.

Introduction Guidelines

Hello I’m _____. Thank you for talking with me today. As part of Research into Action’s process evaluation of PG&E’s Step Up and Power Down Residential campaign, we are talking with key people involved with the campaign. The overall goal of this research is to document the campaign’s history and processes, assess the campaign effectiveness and outcomes, and gather advice for future SUPD-like efforts.

Our interview will last up to 60 (90) minutes. As we go through the interview, if you have documents that would provide helpful information for any question I ask, please let me know. Your participation is voluntary, and we will not identify you in any reporting. I would like to audio record this interview, to ensure the accuracy of my note taking, if that is all right with you? [If asked whether the audio or transcript will be provided to the client: *we do not identify any respondent in our reporting, and it is research best practices not to provide the audio or notes to {the client}, unless legally required to do so.*] Is it ok that I record the interview? Do you have any questions before we get started?

Roles and Responsibilities [ASK ALL]

First, I’d like to ask you about your role in the SUPD-R campaign.

- Q1. What is your title within [organization that employs them]?
- Q2. How long have you been involved with SUPD-R?
- Q3. Please describe your role in SUPD-R? [*Clarify role(s) as needed: data management and marketing and outreach*]⁵⁶
- Q4. What are the main organizations involved in the campaign and what are their roles?
- Q5. How effective have communication and coordination been among these various organizations?

⁵⁶ The interviewer will only ask data management and marketing and outreach questions to respondents involved with these aspects of the campaign.

- Q6. Which aspects of communication and coordination went well and why?
- Q7. Which aspects of communication and coordination were not as effective and why?
- Q8. As you may know, PG&E is planning a second phase of SUPD that will target both residential and commercial customers. What suggestions do you have to make communication and coordination among key stakeholders as effective as possible for this next phase? What lessons have been learned about communication and coordination for efforts like SUPD?

Campaign History and Components [ASK ALL]

- Q1. **[Ask those with history]** Can you briefly describe the history of the campaign and how it has evolved from your perspective? As you tell me the history, I'd particularly like to know about any key changes that were made to its design and operation and why they were made.
- Q2. What are the key components of the campaign offerings and services? Response
- Q3. [Send Customer Journey from the Marketing Plan to respondents.⁵⁷] Now I'd like to hear more about the customer journey. How would you describe the overall strategy and structure of the customer journey?

Next, please look at the graphic of the customer journey from the marketing plan. How well do the components of this original customer journey align with what actually took place in the field?

Given your experience, what advice do you have for crafting a residential customer journey for future SUPD efforts when both residential and commercial customers are targeted within one city? [Probe if needed: A. Welcome/Set-up (learn about SUPD), B. My Energy (enroll), C. Home Energy Check Up, D. CBSM (e.g., attend events), E. Home Energy Update, F. Advanced Home Energy Upgrade, and G. Zero Net Energy or Distributed Generation]

Campaign Goals and Logic [ASK ALL]

- Q4. What are the goals of SUPD-R? [Probe if needed: Increase visibility of PG&E energy efficiency program; Increase participation in existing PG&E residential portfolio; and achieve behavioral actions]⁵⁸
- Q5. Given what you've learned over the course of the campaign, would you make any changes to the campaign's goals?
- Q6. What is the logic behind SUPD-R? [Probe: logic model activities: Build awareness, Deepen Relationship, Leverage PG&E programs, Test/Learn/Adapt, Monitor & Report]⁵⁹

⁵⁷ SUPD Marketing Plan March 20; updated June 22, 2015; page 9.

⁵⁸ SUPD Marketing Plan March 20; updated June 22, 2015 (May-Dec 2015 Goals). Additional numeric goals list in Appendix B.

⁵⁹ SUPD-R Initiative 2016 Goals and Metrics; Updated March 3, 2016; page 3.

- Q7. Given what you’ve learned over the course of the campaign, would you make any changes to the campaign’s logic?
- Q8. [Send table to respondents and refer to it.] Please refer to the 2016 Goals table we sent for this question. Overall, how well is the campaign meeting its awareness goals? Program participation goals? Pledge goals? Actions taken goals? For each goal, ask: What factors help achieve progress toward these (X) goals. What factors impeded progress?

2016 Goals*	Woodland	San Carlos	Redwood City
Awareness/Sign-up/Participation (Awareness)			
SUPD-R sign-ups with # of household with provide contact information	780	630	550
Home Energy Checkup (HECU) surveys completed	120	40	35
PG&E Program Participation (Participation)			
AC Quality Care	39	N/A	N/A
Home Upgrade Pledges	36	24	12
Total Rebates	42	41	48
Behavior Pledges (Pledges)	390	315	275
Behavior Completion (Actions taken)	195	160	140

* SUPD-R Initiative 2016 Goals and Metrics; Updated March 3, 2016; Tables 1, 4, 6, and 7.

- Q9. How adequate are the current goals and metrics for assessing the success of SUPD-R? What other information and evidence should be used to describe the achievements of SUPD-R?
- Q10. What advice do you have for setting goals and measuring success for the next phase of SUPD?

Data Management [ASK IF INVOLVED]

- Q11. Who is responsible for tracking campaign and participant data?
- Q12. How are data being tracked for each goal area? What specific data are being tracked and where does it reside?

[Use table below to make further notes on data tracking for each type of goal]⁶⁰

Data Collected and Tracked	Data Tracking Notes
Sign-ups	
Home Energy Check-up	
AC/QC	

⁶⁰ Data listed in 2015March4_PG&E_Residential_Executive_Summary_Final_Draft

Data Collected and Tracked	Data Tracking Notes
Home Upgrade Pledges	
Total Rebates	
Behavior Pledges	
Behavior Completion	
Other	

- Q13. What other data about the campaign are being tracked and where does that reside?
- Q14. What has worked well about data tracking?
- Q15. What aspects of data tracking have been challenging?
- Q16. [If appropriate] How would you improve the data tracking system?
- Q17. What lessons have you learned about data tracking that should be applied to future SUPD efforts?

Marketing and Outreach [ASK IF INVOLVED]

Now I have more specific questions about the campaign’s marketing and outreach strategies.

- Q18. What are the campaign’s key marketing and outreach tools? [Prompt if needed: yard signs, testimonials posters, workshops, canvassing, presentations, local events, block and house parties, social media (e-newsletters, NextDoor, YouTube, Twitter, E-Blasts, Search Engine Optimization, Facebook)⁶¹
- Q19. What would you say have been the most effective ways to attract awareness of and interest in SUPD-R?
- Q20. What would you say were the least effective ways to attract awareness of and interest in SUPD-R?
- Q21. What methods have effectively generated greater engagement with the campaign? (i.e., pledging, attendance at events) Response Why do you say that?
- Q22. What methods were less effective than anticipated in generating greater engagement with the campaign, if any? (i.e., pledging, attendance at events) Response Why do you say that?
- Q23. What do you think have been the key factors in getting people to complete their pledges (take energy saving actions) in response to campaign efforts? How about signing up for PG&E programs?

⁶¹ SUPD Marketing Plan June 22, 2015; page 16

- Q24. How well has the campaign leveraged local partners such as volunteers, municipal government staff, partner associations (homeowners, business, sustainability or community development), and Home Upgrade Contractors to promote the campaign? Response Why do you say that?
- Q25. Do you have any suggestions how a future campaign might do a better job at leveraging local partners? (As necessary: such as volunteers, municipal government staff, partner associations (homeowners, business, sustainability or community development, and Home Upgrade Contractors) Response Why do you say that?
- Q26. What has gone especially well regarding SUPD-R marketing and outreach design and implementation? [Probe: developing materials, executing marketing and outreach tactics, leveraging partners]
- Q27. Are there any areas that need improvement? [Probe: developing materials, executing marketing and outreach tactics, leveraging partners]

Summary/Closing [ASK ALL]

Now I just have a few final questions before we wrap up our conversation.

- Q28. Thinking back on our talk here today what aspects of SUPD-R have worked the best? [Probe if needed: team communication, marketing and outreach, data collection and tracking, partnering with local leaders, etc.] Why do you say that?
- Q29. What aspects of the campaign would you change or improve? [Probe if needed: team communication, marketing and outreach, data collection and tracking, partnering with local leaders, etc.] How could these aspects be improved?
- Q30. I know we talked about lessons learned earlier, but if you had to describe the two or three of the biggest lessons you have learned so far with SUPD-R, what would they be?
- Q31. What do you think will be the legacy of SUPD in the three cities? What awareness, perceptions, and activities about energy efficiency are likely to continue? What types of continued support do you think the cities need to supply or to have to continue what SUPD began?
- Q32. PG&E is planning to launch Step Up and Power Down into another city, and make the campaign available to both residential and business customers. What advice do you have for making this integrated effort a success?
- Q33. Finally, we want to be sure we captured your overall impressions of the Step Up and Power Down campaign overall. Is there anything else about SUPD-R that we have missed that you would like to discuss?

Thank you again for taking the time to speak with me. Would it be all right if we got back in touch with you if we have any clarification questions?

A.2. Pledged Residential Customer Web Survey

Screening [ASK ALL]

- S1. Do you live at least part time in one of the following cities? Select one.
1. Redwood City
 2. San Carlos
 3. Woodland
 96. Other, please specify: [OPEN-ENDED RESPONSE] [SKIP TO END]
- S2. How would you describe your role in managing energy use in your home, including paying energy bills, tracking how much energy you use, and other related activities?
1. I am solely responsible
 2. I share responsibilities with someone else
 3. Someone else is responsible [SKIP TO END]
- S3. Which of the following services do you receive from PG&E?
1. Electricity
 2. Natural gas
 3. Both electricity and natural gas
 4. None of the above [SKIP TO END]
 98. Don't know [SKIP TO END]
- S4. Do you own or rent your home?
1. Own
 2. Rent/lease
 3. Other

SUPD Awareness [ASK ALL]

- Q1. Before taking the survey today, had you heard about the Step Up and Power Down initiative in [CITY]?
1. Yes, absolutely [SKIP TO Q3]
 2. Maybe
 3. No, haven't heard about it
 98. Don't know

[IF Q1 > 1]

- Q2. [INCLUDE STEP UP AND POWER DOWN LOGO WITH THIS QUESTION] Step Up and Power Down is a partnership between Pacific Gas and Electric Company (PG&E) and the City of [NAME] that targets energy use in homes. Had you heard of the Step Up and Power Down initiative in [NAME] before taking this survey?
1. Yes
 2. Maybe

- 3. No, haven't heard about it [SKIP TO END]
- 98. Don't know [SKIP TO END]

[ASK ALL]

Q3. If a friend asked you to explain the Step Up and Power Down initiative and why they should get involved, what would you tell them?

- 1. [OPEN-ENDED RESPONSE]

Q4. On a scale of 1 to 10, how engaged is your household with the Step Up and Power Down initiative in trying to reduce your home's energy waste?

- 1. Not at all engaged
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10. Extremely engaged
- 98. Don't know

As you may know, [CITY] and PG&E have joined forces to support Step Up and Power Down. It's a community effort to help households make simple choices that reduce energy waste, make homes more comfortable, healthy, and affordable, and make [CITY] more sustainable.

Q5. From which of the following sources have you heard about Step Up and Power Down? Select all that apply.

[MULTIPLE RESPONSE, RANDOMIZE 1-12]

- 1. Website information or advertising, other than PG&E's website
- 2. Social media (for example, Facebook, Twitter)
- 3. Step Up and Power Down website
- 4. Step Up and Power Down email newsletter or event announcement
- 5. Step Up and Power Down representative
- 6. Step Up and Power Down office
- 7. A PG&E representative
- 8. A friend, family member, or coworker
- 9. A realtor
- 10. At a local event, workshop, or information booth
- 11. An email from PG&E
- 12. A letter from the city of [CITY NAME]
- 13. A representative from [CITY NAME]
- 14. Local newspaper advertising or notices
- 15. A flyer, poster, or outdoor banner or sign
- 16. An online video about Step Up and Power Down

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- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 98. Don't know [EXCLUSIVE]

Q6. About how many times do you remember seeing or hearing something about Step up and Power Down in the past year?

- 1. Did not hear about Step Up and Power Down
- 2. Heard about it once
- 3. Heard about it a few times
- 4. Heard about it several times
- 5. Heard about it many times
- 98. Don't know

Q7. Which of these initiative activities have you had a chance to do?

[MATRIX QUESTION, RANDOMIZE 1-7]

[LOGIC] Item	1 Yes. I have done this	2 No, I have not done this	98 DK
Visit a Step Up and Power Down information booth at an event			
Attend a Step Up and Power Down presentation or workshop			
Complete a short online survey to tell us about your energy use at home.			
Receive the monthly Step Up and Power Down newsletter with energy saving tips, information about local events, and success stories			
Visit the Step Up and Power Down website			
Receive personal support from a Step Up and Power Down representative			
Tell a friend or family member about Step Up and Power Down			

Q8. [FOR ALL ACTIVITIES RESPONDENT CONDUCTED IN Q7] On a scale of 1 to 3, how helpful did you find each of these activities for reducing your energy use?

[MATRIX QUESTION, RANDOMIZE 1-7]

[LOGIC] Item	1 Not helpful	2 Somewhat helpful	3 Very helpful	98 DK
[IF Q7.1 = 1] Visit a Step Up and Power Down information booth at an event				
[IF Q7.2 = 1] Attend a Step Up and Power Down presentation or workshop				
[IF Q7.3 = 1] Complete a short online survey to tell us about your energy use at home				
[IF Q7.4 = 1] Receive the monthly Step Up and Power Down newsletter with energy saving tips, information about local events, and success stories				

[LOGIC] Item	1 Not helpful	2 Somewhat helpful	3 Very helpful	98 DK
[IF Q7.5 = 1] Visit the Step Up and Power Down website for information				
[IF Q7.7 = 1] Receive personal support from a Step Up and Power Down representative				
[IF Q7.8 = 1] Tell a friend or family member about Step Up and Power Down				

Participants Who Have Pledged

Q9. Did you or your household make a pledge or commitment to taking specific energy saving actions as part of Step Up and Power Down?

1. Yes
2. No
98. Don't know

[IF Q9 = 1]

Q10. Have you had a chance to complete all, some, or none of the actions that you pledged to take?

1. All
2. Some
3. None
98. Don't know

Q11. H[IF Q11=1 OR 2] On a scale of 1 to 10, how important was this pledge to helping you take energy saving actions?

1. Not at all important
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
10. Extremely important
98. Don't know

Now we just have a few questions about any **energy saving actions** you may have taken in response to finding out about the Step Up and Power Down initiative.

Q12. Have you used any of the following services in response to the Step Up and Power Down initiative? Select all that apply.

[MULTIPLE RESPONSE, RANDOMIZE 1 – 4]

1. Completed PG&E's online Home Energy Checkup and learn about many ways to reduce energy use in your home
2. Talked with a Home Energy Upgrade Advisor or receive an incentive or rebate through Energy Upgrade California® Home Upgrade program
3. Scheduled a complete assessment of your air conditioning system through PG&E's AC Quality Care program
4. Applied for or received a rebate on the purchase of a new clothes washer, water heater, or variable speed pool pump.
96. Other, please specify: [OPEN-ENDED RESPONSE]
98. Don't know [EXCLUSIVE]
99. None of the above [EXCLUSIVE]

Q13. Have you completed any of the following heating and cooling related activities in response to the Step Up and Power Down initiative? Select all that apply.

[MULTIPLE RESPONSE, RANDOMIZE 1 – 3]

1. Used storm windows and/or insulated curtains in the winter
2. Adjusted your AC settings on the hottest days, ran AC for brief intervals and using the fan only to circulate already-cooled air
3. Set your thermostat to 68° during cool weather and/or set your thermostat to 78° during warm weather
96. Other, please specify: [OPEN-ENDED RESPONSE]
98. Don't know [EXCLUSIVE]
99. None of the above [EXCLUSIVE]

Q14. Have you completed any of the following lighting and appliance related activities in response to the Step Up and Power Down Initiative? Select all that apply.

[MULTIPLE RESPONSE, RANDOMIZE 1 – 7]

1. Set your water heater to 120° and/or install an insulated jacket on your water heater
2. Set a timer to turn outdoor lights off in early morning hours
3. Replaced standard power strips with "smart power strips"
4. Used energy efficient LED lights
5. Used a hot tub timer
6. Used an energy efficient pool pump
7. Washed your clothes in cold water and/or air dry your clothes after washing
96. Other, please specify: [OPEN-ENDED RESPONSE]
98. Don't know [EXCLUSIVE]
99. None of the above [EXCLUSIVE]

Q15. For *all* the activities you have done or services you have used, on a scale of 1 to 10, how much did Step Up and Power Down influence you to take these energy related actions or use these services?

- 1. Not at all influenced
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10. Extremely influenced
- 98. Don't know

Q16. Thinking about *all* the energy saving actions you have done or services you have used, what, if anything, was difficult about doing them?

- 1. [OPEN-ENDED RESPONSE]

Q17. [IF Q13.1 is SELECTED OR Q13.2 is SELECTED OR Q13.3 is SELECTED OR Q14.2 is SELECTED AND Q14.7 is SELECTED] **Since learning about the initiative**, please tell us if you **started** the activity; if you **increased** the activity; or if you **continued** the activity at the same rate. If you didn't have a chance to take the action yet, please select "did not do."

[MULTIPLE RESPONSE, RANDOMIZE]

[LOGIC] Item	1. Started (was not doing the activity prior to SUPD)	2. Increased (doing the activity more frequently since SUPD)	3. Continued (doing the activity the same amount as before SUPD)	4. Did not do or Stopped doing	98. Don't know
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[IF Q13.1 Selected] Using storm windows and/or insulated curtains in the winter

[IF Q13.2 Selected] Adjusting your AC settings on the hottest days, running AC for brief intervals and using the fan only to circulate already-cooled air

[IF Q13.3 Selected] Setting your thermostat to 68° during cool weather and/or set your thermostat to 78° during warm weather

[LOGIC] Item	1. Started (was not doing the activity prior to SUPD)	2. Increased (doing the activity more frequently since SUPD)	3. Continued (doing the activity the same amount as before SUPD)	4. Did not do or Stopped doing	98. Don't know
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[IF Q14.2 Selected] Setting a timer to turn outdoor lights off in early morning hours

[IF Q14.7 Selected] Washing your clothes in cold water and/or air dry your clothes after washing

Q18. [FOR THE ACTIONS THEY INDICATED TAKING IN Q14] How likely would you say you are to continue taking each of these actions?

How likely are you to continue...?

[LOGIC] Item	1 Not likely	2 Somewhat likely	3 Very likely	98 Don't know
--------------	-----------------	----------------------	------------------	------------------

[IF Q16.1 = 1 or 2 or 3] To close doors and vents to unused spaces in your home, like spare bedrooms

[IF Q16.2 = 1 or 2 or 3] To set a timer to turn outdoor lights off in early morning hours

[IF Q16.3 = 1 or 2 or 3] To use appliances after 7 PM, like the dishwasher or washing machine

[IF Q16.4 = 1 or 2 or 3] To adjust your AC settings on the hottest days, running AC for brief intervals and using the fan only to circulate already-cooled air

[IF Q16.5 = 1 or 2 or 3] To set your thermostat to 68° during cool weather and/or set your thermostat to 78° during warm weather

[IF Q16.6 = 1 or 2 or 3] To wash your clothes in cold water and/or air dry your clothes after washing

Q19. What motivated you to take energy saving actions as part of Step Up and Power Down? Select all that apply.

[MULTIPLE RESPONSE; RANDOMIZE 1-12]

1. To save money on my energy bill
2. To better understand or make smarter decisions about my home's energy use
3. To join my friends and neighbors in a community-wide effort
4. To be a leader and set a good example for others in my community
5. To have a healthier and safer home
6. To make my home more comfortable

7. To save resources and the planet for future generations
8. To reduce greenhouse gasses and the effects of climate change
9. To make our country more secure through less dependence on foreign energy supplies
10. To improve the economy
11. To increase the value of my home
12. To have more control over my energy bills or to reach goals that I have set
13. Other, please specify: [OPEN ENDED]
98. Don't know [EXCLUSIVE]

Q20. Which of the following benefits have you experienced due to Step Up and Power Down? Select all that apply

1. Reducing our energy bill
2. Reducing the amount of energy we use
3. Learning more about how we use energy at home
4. Joining with others in a community-wide effort
5. Setting a good example for others in my community
6. Creating a healthier and safer home
7. Making my home more comfortable
8. Saving resources for future generations
9. Reducing greenhouse gasses and the effects of climate change
10. Making our country less dependent on energy from other countries
11. Improving our local economy
12. Increasing the value of my home
13. Having more control over my energy bills
14. Other, please specify:
15. No benefits [EXCLUSIVE]
98. Don't know [EXCLUSIVE]

Q21. On a scale of 1 to 10, how much did Step Up and Power Down increase your understanding of how to reduce energy waste in your home?

1. No increased understanding
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
10. Greatly increased understanding
98. Don't know

PG&E Favorability, Awareness, & Influence of SUPD [ASK ALL]

Now we have a few questions about PG&E’s programs and services.

Q22. On a scale of 1 to 10, how would you rate your favorability towards PG&E?

- 1. Not at all favorable
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10. Extremely favorable
- 98. Don't know

Q23. On a scale of 1 to 10, how familiar are you with the energy efficiency or conservation programs that PG&E offers to help households like yours save energy?

- 1. Not at all familiar
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10. Extremely familiar
- 98. Don't know

Q24. Now, please tell us which of these rebates or services from PG&E you have heard of before today.

[MATRIX QUESTION; RANDOMIZE 1-7]

[LOGIC] Item	1 Aware	2 Not aware	3 DK
[DISPLAY IF S1= WOODLAND] Rebate for an AC Quality Care assessment			
Rebate for an energy efficient clothes washer			
Rebate for an energy efficient water heater			
Rebate for an energy efficient variable speed pool pump			
Rebate or incentive from the Home Upgrade program for air sealing, insulation, an energy efficient gas furnace, or other equipment that reduces energy waste			

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[LOGIC] Item	1 Aware	2 Not aware	3 DK
Home Energy Report that provided information about your home’s energy use, compared it to similar homes, and gave you energy saving tips			
PG&E Marketplace			

[ASK IF ANY Q24 = 1 (Aware of any PG&E products and services)]

Q25. How much more familiar have you become with PG&E rebates and programs in the past year?

- 1. No more familiar
- 2. Somewhat more familiar
- 3. Much more familiar
- 98. Don't know

Q26. [IF Q26 = 2 or 3] On a scale of 1 to 10, how influential was Step Up and Power Down in increasing your familiarity with PG&E rebates and programs?

- 1. Not at all influential
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10. Extremely influential
- 98. Don't know

Q27. [FOR ALL ITEMS SELECTED IN Q24] Please tell us if your household has received any of these rebates or services from PG&E after you found out about Step Up and Power Down?

[MATRIX QUESTION; RANDOMIZE 1-7]

[LOGIC] Item	1 Received	2 Not received	3 DK
[DISPLAY IF S1 =WOODLAND AND IF Q27.1 = 1] Rebate for an AC Quality Care assessment or upgrades			
[IF Q27.2 = 1] Rebate for an energy efficient clothes washer			
[IF Q27.3 = 1] Rebate for an energy efficient water heater			
[IF Q27.4 = 1] Rebate for an energy efficient variable speed pool pump			
[IFQ27.5 = 1]			
[IF Q27.6 = 1] Rebate or incentive from the Home Upgrade program for air sealing, insulation, an energy efficient gas furnace, or other equipment that reduces energy waste			

[LOGIC] Item	1 Received	2 Not received	3 DK
[IF Q27.7 = 1] Home Energy Report that provided information about your home's energy use, compared it to similar homes, and gave you energy saving tips			
PG&E Marketplace			

Q28. [IF Q29= 1 (received rebates or services from PG&E)] On a scale of 1 to 10, how much did Step Up and Power Down influence you to pursue these energy efficiency rebates and services?

1. Not at all influenced
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
10. Extremely influenced
98. Don't know

Q29. Which two of the following sustainability issues concern you enough that you are willing to commit to take steps to help solve them? [RANDOMIZE THE ORDER]

1. Reducing energy use
2. Reducing water use
3. Reducing solid waste
4. Reducing traffic congestion
5. None of the above
6. Other – Please specify _____

Demographics & Household Characteristics [ASK ALL]

We're almost done! Next, we have some questions about you and your household.

Q30. Does your home have a pool?

1. Yes
2. No
99. Prefer not to answer

Q31. Do you identify as...

1. Male
2. Female
99. Prefer not to answer

Q32. What is your age?

1. Under 18 years old
2. 18 – 24
3. 25 – 34
4. 35 – 44
5. 45 – 54
6. 55 – 64
7. 65 – 74
8. 75+
99. Prefer not to answer

Q33. Including you, how many people live in your home? [OPEN-ENDED RESPONSE]

Q34. [IF Q35 = 2+] How many children under age 18 live in your home, if any?

1. [OPEN-ENDED RESPONSE]

Q35. Which of the following best describes your ethnic background?

1. African-American
2. Asian or Pacific Islander
3. Hispanic
4. Mixed background
5. Native American
6. White or Caucasian
96. Other: Please specify
99. Prefer not to answer

Q36. Which of the following best describes your current employment status?

1. Employed full-time
2. Employed part-time
3. Student
4. Homemaker
5. Retired
6. Not employed
99. Prefer not to answer

Q37. What is the highest level of education you had the opportunity to complete?

1. Some high school
2. High school graduate
3. Some College
4. 2-year Degree/Trade or Technical Degree
5. 4-year College Degree
6. Post Grad
99. Prefer not to answer

Q38. What is your 2015 annual household income before taxes?

1. Less than \$30,000

2. \$30,000 to less than \$50,000
3. \$50,000 to less than \$75,000
4. \$75,000 to less than \$100,000
5. \$100,000 to less than \$150,000
6. \$150,000 to less than \$200,000
7. \$200,000 or more
98. Don't know
99. Prefer not to answer

Finally, we have a few more questions to help improve future efforts like Step Up and Power Down.

Q39. Is there anything else you would like to share about your experience with Step Up and Power Down?

1. [OPEN-ENDED RESPONSE]

Q40. What could your city do to help you save energy?

1. [OPEN-ENDED RESPONSE]

Q41. What other ideas do you have for ways people in your community can save energy in their homes?

1. [OPEN-ENDED RESPONSE]

Thank you for taking the time to complete this survey! Please hit the next arrow button below to complete the survey.

Appendix B. Survey Frequencies

The data below contains frequencies for all questions among those that completed the survey and were not screened out (n = 109).

B.1. Pledged Residential Customer Web Survey

B.1.1. Frequencies

		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q1 Before taking the survey	Yes, absolutely	32	84%	26	93%	32	74%	90	83%
today, had you heard about the	Maybe	5	13%	2	7%	8	19%	15	14%
Step Up and Power Down	No, haven't heard about it	1	3%	0	0%	2	5%	3	2%
initiative in your city [Single	Don't know	0	0%	0	0%	1	2%	1	1%
Response]	Total	38	100%	28	100%	43	100%	109	100%

		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q2 [IF Q1 > 1] Step Up and Power	Yes	4	67%	0	0%	2	18%	6	32%
Down is a partnership between	Maybe	2	33%	2	100%	9	82%	13	68%
Pacific Gas and Electric Company	No, haven't heard about it	0	0%	0	0%	0	0%	0	0%
(PG&E) and your city that targets	Don't know	0	0%	0	0%	0	0%	0	0%
energy use in homes. Had you	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
heard of the Step Up and Power	Total	6	100%	2	100%	11	100%	19	100%
Down initiative in your city									
before taking this survey? [Single									
Response]									

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Q3. If a friend asked you to explain the Step Up and Power Down initiative and why they should get involved, what would you tell them? (ASK ALL)	City							
	Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
	Count	Row N %	Count2	Row N %3	Count4	Row N %5	Count6	Row N %7
Visit local office to get more info	0	0%	1	4%	1	2%	2	2%
Mention of program ending	0	0%	1	4%	1	2%	2	2%
Raises awareness around energy efficiency	1	3%	1	4%	1	2%	3	3%
PG&E program with a local city partnership to help communities save money/energy	1	3%	1	4%	1	2%	3	3%
Go to SUPD/PG&E website to get more info	4	11%	0	0%	0	0%	4	4%
Other	0	0%	3	11%	3	7%	6	6%
Skipped/Not Answered	3	8%	3	11%	7	16%	13	12%
Dont know	5	13%	2	7%	7	16%	14	13%
Helps you or community reduce GHG emissions/climate change	4	11%	7	25%	5	12%	16	15%
Helps you or community save money	7	18%	6	21%	8	19%	21	19%
Educational program that offers resources/rebates/workshops/events around EE	10	26%	8	29%	10	23%	28	26%
Helps you or community reduce energy/NG use	9	24%	10	36%	13	30%	32	29%

Q4 On a scale of 1 to 10, how engaged is your household with the Step Up and Power Down initiative in trying to reduce your home's energy waste? [Single Response]	City							
	Redwood City		San Carlos		Woodland		Total	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
1 - Not at all engaged	2	5%	1	4%	6	14%	9	8%
2	3	8%	3	11%	2	5%	8	7%
3	2	5%	2	7%	2	5%	6	6%
4	1	3%	1	4%	2	5%	4	4%
5	3	8%	1	4%	3	7%	7	6%
6	2	5%	4	14%	2	5%	8	7%
7	7	18%	7	25%	6	14%	20	18%
8	8	21%	2	7%	6	14%	16	15%
9	2	5%	4	14%	3	7%	9	8%
10 - Extremely engaged	6	16%	3	11%	8	19%	17	16%
Don't know	2	5%	0	0%	3	7%	5	5%
Total	38	100%	28	100%	43	100%	109	100%

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		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q5. From which of the following sources have you heard about Step Up and Power Down? Select all that apply. [Multiple Response]	Website information or advertising, other than PG&E's website	5	13%	2	7%	5	12%	12	11%
	Social media (for example, Facebook, Twitter)	5	13%	3	11%	6	14%	14	13%
	Step Up and Power Down	9	24%	4	14%	9	21%	22	20%
	Step Up and Power Down email newsletter or event	13	34%	10	36%	19	44%	42	39%
	Step Up and Power Down representative	7	18%	10	36%	16	37%	33	30%
	Step Up and Power Down office	8	21%	13	46%	14	33%	35	32%
	A PG&E representative	4	11%	1	4%	3	7%	8	7%
	A friend, family member, or coworker	3	8%	2	7%	9	21%	14	13%
	A Realtor	0	0%	0	0%	3	7%	3	3%
	At a local event, workshop, or information booth	15	39%	15	54%	22	51%	52	48%
	An email from PG&E	14	37%	9	32%	17	40%	40	37%
	A letter from your city	6	16%	10	36%	8	19%	24	22%
	A representative from your city	2	5%	2	7%	4	9%	8	7%
	Local newspaper advertising or notices	1	3%	1	4%	7	16%	9	8%
	A flyer, poster, or outdoor banner or sign	5	13%	5	18%	9	21%	19	17%
	An online video about Step Up and Power Down	2	5%	1	4%	3	7%	6	6%
	Other, please specify:	3	8%	0	0%	1	2%	4	4%
	Other - Farmers Market	1	3%	0	0%	0	0%	1	1%
	Other - Home Depot	1	3%	0	0%	0	0%	1	1%
	Other - Neighborhood Meeting	0	0%	0	0%	1	2%	1	1%
	Other - Redwood City Calendar	1	3%	0	0%	0	0%	1	1%
Don't know	3	8%	0	0%	4	9%	7	6%	

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		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q6 About how many times do you remember seeing or hearing something about Step up and Power Down in the past year? [Single Response]	Did not hear about Step Up and Power Down	0	0%	1	4%	0	0%	1	1%
	Heard about it once	2	5%	1	4%	1	2%	4	4%
	Heard about it a few times	14	37%	10	36%	12	28%	36	33%
	Heard about it several times	11	29%	10	36%	9	21%	30	28%
	Heard about it many times	8	21%	6	21%	15	35%	29	27%
	Don't know	3	8%	0	0%	6	14%	9	8%
Total		38	100%	28	100%	43	100%	109	100%

Q7. Which of these initiative activities have you had a chance to do? [Single Response]		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Visit a Step Up and Power Down information booth at an event	Yes. I have done this	16	42%	19	68%	20	47%	55	50%
	No, I have not done this	22	58%	9	32%	23	53%	54	50%
	Total	38	100%	28	100%	43	100%	109	100%
Attend a Step Up and Power Down presentation or workshop	Yes. I have done this	12	32%	8	29%	17	40%	37	34%
	No, I have not done this	26	68%	20	71%	26	60%	72	66%
	Total	38	100%	28	100%	43	100%	109	100%
Complete a short online survey to tell us about your energy use at home.	Yes. I have done this	17	45%	11	39%	19	44%	47	43%
	No, I have not done this	21	55%	17	61%	24	56%	62	57%
	Total	38	100%	28	100%	43	100%	109	100%
Receive the monthly Step Up and Power Down newsletter with energy saving tips, information	Yes. I have done this	26	68%	16	57%	23	53%	65	60%
	No, I have not done this	12	32%	12	43%	20	47%	44	40%
	Total	38	100%	28	100%	43	100%	109	100%
Visit the Step Up and Power Down website	Yes. I have done this	18	47%	13	46%	20	47%	51	47%
	No, I have not done this	20	53%	15	54%	23	53%	58	53%
	Total	38	100%	28	100%	43	100%	109	100%
Receive personal support from a Step Up and Power Down representative	Yes. I have done this	8	21%	8	29%	9	21%	25	23%
	No, I have not done this	30	79%	20	71%	34	79%	84	77%
	Total	38	100%	28	100%	43	100%	109	100%
Tell a friend or family member about Step Up and Power Down	Yes. I have done this	13	34%	11	39%	17	40%	41	38%
	No, I have not done this	25	66%	17	61%	26	60%	68	62%
	Total	38	100%	28	100%	43	100%	109	100%

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Q8. [FOR ALL ACTIVITIES RESPONDENT CONDUCTED IN Q7] On a scale of 1 to 3, how helpful did you find each of these activities for reducing your energy use? [Single Response]		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Visit a Step Up and Power Down information booth at an event	Not helpful	1	6%	3	16%	1	5%	5	9%
	Somewhat helpful	8	50%	10	53%	6	30%	24	44%
	Very helpful	7	44%	6	32%	11	55%	24	44%
	Skipped/Not Answered	0	0%	0	0%	2	10%	2	4%
	Total	16	100%	19	100%	20	100%	55	100%
Attend a Step Up and Power Down presentation or workshop	Not helpful	0	0%	0	0%	0	0%	0	0%
	Somewhat helpful	2	17%	4	50%	2	12%	8	22%
	Very helpful	9	75%	4	50%	14	82%	27	73%
	Skipped/Not Answered	1	8%	0	0%	1	6%	2	5%
	Total	12	100%	8	100%	17	100%	37	100%
Complete a short online survey to tell us about your energy use at home.	Not helpful	4	24%	0	0%	3	16%	7	15%
	Somewhat helpful	5	29%	7	64%	10	53%	22	47%
	Very helpful	8	47%	2	18%	6	32%	16	34%
	Skipped/Not Answered	0	0%	2	18%	0	0%	2	4%
	Total	17	100%	11	100%	19	100%	47	100%
Receive the monthly Step Up and Power Down newsletter with energy saving tips, information about local events, and success stories	Not helpful	2	8%	0	0%	3	13%	5	8%
	Somewhat helpful	14	54%	7	44%	9	39%	30	46%
	Very helpful	9	35%	7	44%	10	43%	26	40%
	Skipped/Not Answered	1	4%	2	13%	1	4%	4	6%
	Total	26	100%	16	100%	23	100%	65	100%
Visit the Step Up and Power Down website	Not helpful	0	0%	0	0%	2	10%	2	4%
	Somewhat helpful	6	33%	9	69%	8	40%	23	45%
	Very helpful	10	56%	4	31%	8	40%	22	43%
	Skipped/Not Answered	2	11%	0	0%	2	10%	4	8%
	Total	18	100%	13	100%	20	100%	51	100%
Receive personal support from a Step Up and Power Down representative	Not helpful	0	0%	0	0%	1	11%	1	4%
	Somewhat helpful	3	38%	0	0%	0	0%	3	12%
	Very helpful	5	63%	8	100%	8	89%	21	84%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	8	100%	8	100%	9	100%	25	100%
Tell a friend or family member about Step Up and Power Down	Not helpful	0	0%	1	9%	1	6%	2	5%
	Somewhat helpful	7	54%	6	55%	6	35%	19	46%
	Very helpful	4	31%	4	36%	6	35%	14	34%
	Skipped/Not Answered	2	15%	0	0%	4	24%	6	15%
	Total	13	100%	11	100%	17	100%	41	100%

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		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q9 Did you or your household	Yes	15	39%	14	50%	25	58%	54	50%
make a pledge or commitment to	No	19	50%	10	36%	13	30%	42	39%
taking specific energy saving	Don't know	4	11%	4	14%	4	9%	12	11%
actions as part of Step Up and	Skipped/Not Answered	0	0%	0	0%	1	2%	1	1%
Power Down? [Single Response]	Total	38	100%	28	100%	43	100%	109	100%

		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q10 [IF Q9 = 1] Have you had a	All	3	20%	2	14%	10	40%	15	28%
chance to complete all, some, or	Some	12	80%	12	86%	14	56%	38	70%
none of the actions that you	None	0	0%	0	0%	0	0%	0	0%
pledged to take? [Single	Don't know	0	0%	0	0%	1	4%	1	2%
Response]	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	15	100%	14	100%	25	100%	54	100%

		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q11 [IF Q10=1 OR 2] On a scale	1 - Not at all important	1	7%	0	0%	1	4%	2	4%
of 1 to 10, how important was	2	1	7%	0	0%	0	0%	1	2%
this pledge to helping you take	3	0	0%	1	7%	2	8%	3	6%
energy saving actions? [Single	4	0	0%	3	21%	0	0%	3	6%
Response]	5	2	13%	1	7%	1	4%	4	8%
	6	1	7%	1	7%	3	13%	5	9%
	7	3	20%	3	21%	5	21%	11	21%
	8	2	13%	1	7%	2	8%	5	9%
	9	1	7%	2	14%	2	8%	5	9%
	10 - Extremely important	4	27%	2	14%	8	33%	14	26%
	Don't know	0	0%	0	0%	0	0%	0	0%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	15	100%	14	100%	24	100%	53	100%

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		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q12. Have you used any of the following services in response to the Step Up and Power Down initiative? Select all that apply. [Multiple Reponse]	Completed PG&E's online Home Energy Checkup and learn about many ways to reduce energy use in your	17	45%	9	32%	19	44%	45	41%
	Talked with a Home Energy Upgrade Advisor or receive an incentive or rebate through Energy Upgrade California®	1	3%	2	7%	4	9%	7	6%
	Scheduled a complete assessment of your air conditioning system through PG&E's AC Quality Care	0	0%	0	0%	2	5%	2	2%
	Applied for or received a rebate on the purchase of a new clothes washer, water heater, or variable speed pool	3	8%	7	25%	4	9%	14	13%
	None of the above	17	45%	10	36%	19	44%	46	42%
	Other, please specify:	2	5%	1	4%	5	12%	8	7%
	Other - Solar	0	0%	0	0%	3	7%	3	3%
	Other - Low-E windows	0	0%	1	4%	0	0%	1	1%
	Other - Time of use rate plan	1	3%	0	0%	0	0%	1	1%
	Other - Energy assessment	0	0%	0	0%	1	2%	1	1%
	Other - High efficiency	1	3%	0	0%	0	0%	1	1%
	Other - HVAC timer	0	0%	0	0%	1	2%	1	1%
	Don't know	1	3%	2	7%	1	2%	4	4%

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		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q13. Have you completed any of the following heating and cooling related activities in response to the Step Up and Power Down initiative? Select all that apply. [Multiple Response]	Used storm windows and/or insulated curtains in the winter	7	18%	5	18%	12	28%	24	22%
	Adjusted your AC settings on the hottest days, ran AC for brief intervals and using the fan only to circulate already-	9	24%	6	21%	27	63%	42	39%
	Set your thermostat to 68° during cool weather and/or set your thermostat to 78° during warm weather	25	66%	20	71%	29	67%	74	68%
	None of the above	7	18%	5	18%	9	21%	21	19%
	Other, please specify:	5	13%	6	21%	3	7%	14	13%
	Other - Changed usage	2	5%	3	11%	1	2%	6	6%
	Other - Low-E windows	0	0%	1	4%	1	2%	2	2%
	Other - Improved insulation	1	3%	0	0%	0	0%	1	1%
	Other - Switched utility/service provider	1	3%	0	0%	0	0%	1	1%
	Other - Installed LEDs	0	0%	1	4%	0	0%	1	1%
	Other - Already taking action before SUPD	0	0%	0	0%	1	2%	1	1%
	Other - N/A	0	0%	2	7%	0	0%	2	2%
	Don't know	1	3%	0	0%	0	0%	1	1%

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		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q14. Have you completed any of the following lighting and appliance related activities in response to the Step Up and Power Down Initiative? Select all that apply. [Multiple Response]	Set your water heater to 120° and/or install an insulated jacket on your water heater	15	39%	10	36%	20	47%	45	41%
	Set a timer to turn outdoor lights off in early morning	6	16%	9	32%	6	14%	21	19%
	Replaced standard power strips with "smart power strips"	6	16%	5	18%	7	16%	18	17%
	Used energy efficient LED lights	31	82%	23	82%	29	67%	83	76%
	Used a hot tub timer	1	3%	2	7%	2	5%	5	5%
	Used an energy efficient pool	0	0%	3	11%	4	9%	7	6%
	Washed your clothes in cold water and/or air dry your clothes after washing	23	61%	16	57%	31	72%	70	64%
	None of the above	4	11%	1	4%	4	9%	9	8%
	Other, please specify:	1	3%	4	14%	3	7%	8	7%
	Other - Low-E windows	0	0%	1	4%	1	2%	2	2%
	Other - Planted shade trees	0	0%	0	0%	1	2%	1	1%
	Other - Upgrade to tankless water heater	0	0%	1	4%		0%	1	1%
	Other - Changed usage	1	3%	0	0%	1	2%	2	2%
	Other - Already taking action before SUPD	0	0%	1	4%	1	2%	2	2%
	Don't know	2	5%	0	0%	1	2%	3	3%

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		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q15 For all the activities you have done or services you have used, on a scale of 1 to 10, how much did Step Up and Power Down influence you to take these energy related actions or use these services? [Single Response]	1 - Not at all influenced	5	13%	3	11%	6	14%	14	13%
	2	1	3%	4	14%	2	5%	7	6%
	3	3	8%	4	14%	4	9%	11	10%
	4	3	8%	1	4%	2	5%	6	6%
	5	3	8%	1	4%	5	12%	9	8%
	6	2	5%	4	14%	2	5%	8	7%
	7	5	13%	3	11%	6	14%	14	13%
	8	5	13%	3	11%	2	5%	10	9%
	9	4	11%	0	0%	3	7%	7	6%
	10 - Extremely influenced	3	8%	4	14%	7	16%	14	13%
	Skipped/Not Answered	4	11%	0	0%	4	9%	8	7%
	Don't know	0	0%	1	4%	0	0%	1	1%
	Total	38	100%	28	100%	43	100%	109	100%

Q16. Thinking about all the energy saving actions you have done or services you have used, what, if anything, was difficult about doing them? (ASK ALL)		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Row N %	Count2	Row N %3	Count4	Row N %5	Count6	Row N %7
	Skipped/Not Answered	15	39%	16	57%	19	44%	50	46%
	None	9	24%	5	18%	13	30%	27	25%
	Makes home uncomfortable	3	8%	2	7%	4	9%	9	8%
	Cost	3	8%	0	0%	3	7%	6	6%
	Inconvenience of time commitment	3	8%	1	4%	1	2%	5	5%
	Sourcing energy efficient tech or appliances	2	5%	2	7%	1	2%	5	5%
	Other	2	5%	2	7%	0	0%	4	4%
	Weatherization issues	1	3%	0	0%	2	5%	3	3%
	Lack of awareness/opportunities/information	2	5%	0	0%	1	2%	3	3%
	Being a renter or living in apartment	1	3%	1	4%	0	0%	2	2%

Step Up and Power Down Section 3: Residential Initiative Evaluation

SELECTED OR Q14.2 is SELECTED OR Q14.7 is SELECTED] Since learning about the initiative, please tell us if you started the activity; if you increased the activity; or if you continued the activity at the same rate. If you didn't have a chance to take the action yet, please select "did not do." [Single Response]		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Using storm windows and/or insulated curtains in the winter	Started (was not doing the activity prior to SUPD)	2	29%	1	20%	1	8%	4	17%
	Increased (doing the activity more frequently since SUPD)	1	14%	1	20%	2	17%	4	17%
	Continued (doing the activity the same amount as before)	4	57%	3	60%	8	67%	15	63%
	Did not do or Stopped doing	0	0%	0	0%	0	0%	0	0%
	Don't know	0	0%	0	0%	0	0%	0	0%
	Skipped/Not Answered	0	0%	0	0%	1	8%	1	4%
	Total	7	100%	5	100%	12	100%	24	100%
Adjusting your AC settings on the hottest days, running AC for brief intervals and using the fan only to circulate already-cooled air	Started (was not doing the activity prior to SUPD)	1	11%	1	17%	3	11%	5	12%
	Increased (doing the activity more frequently since SUPD)	2	22%	4	67%	8	30%	14	33%
	Continued (doing the activity the same amount as before)	5	56%	1	17%	15	56%	21	50%
	Did not do or Stopped doing	1	11%	0	0%	0	0%	1	2%
	Don't know	0	0%	0	0%	1	4%	1	2%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	9	100%	6	100%	27	100%	42	100%
Setting your thermostat to 68° during cool weather and/or set your thermostat to 78° during warm weather	Started (was not doing the activity prior to SUPD)	3	12%	5	25%	4	14%	12	16%
	Increased (doing the activity more frequently since SUPD)	10	40%	4	20%	6	21%	20	27%
	Continued (doing the activity the same amount as before)	12	48%	11	55%	19	66%	42	57%
	Did not do or Stopped doing	0	0%	0	0%	0	0%	0	0%
	Don't know	0	0%	0	0%	0	0%	0	0%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	25	100%	20	100%	29	100%	74	100%

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Setting a timer to turn outdoor lights off in early morning hours	Started (was not doing the activity prior to SUPD)	0	0%	2	22%	3	50%	5	24%
	Increased (doing the activity more frequently since SUPD)	2	33%	3	33%	2	33%	7	33%
	Continued (doing the activity the same amount as before)	4	67%	4	44%	1	17%	9	43%
	Did not do or Stopped doing	0	0%	0	0%	0	0%	0	0%
	Don't know	0	0%	0	0%	0	0%	0	0%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	6	100%	9	100%	6	100%	21	100%
Washing your clothes in cold water and/or air dry your clothes after washing	Started (was not doing the activity prior to SUPD)	2	9%	3	19%	3	10%	8	11%
	Increased (doing the activity more frequently since SUPD)	2	9%	5	31%	9	29%	16	23%
	Continued (doing the activity the same amount as before)	18	78%	7	44%	19	61%	44	63%
	Did not do or Stopped doing	1	4%	0	0%	0	0%	1	1%
	Don't know	0	0%	1	6%	0	0%	1	1%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	23	100%	16	100%	31	100%	70	100%

Step Up and Power Down Section 3: Residential Initiative Evaluation

Q18. How likely would you say you are to continue taking each of these actions? [FOR THE ACTIONS THEY INDICATED TAKING IN Q14] [Single Response]		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Using storm windows and/or insulated curtains in the winter	Not Likely	0	0%	0	0%	0	0%	0	0%
	Somewhat likely	0	0%	1	20%	0	0%	1	4%
	Very likely	7	100%	4	80%	11	92%	22	92%
	Don't know	0	0%	0	0%	0	0%	0	0%
	Skipped/Not Answered	0	0%	0	0%	1	8%	1	4%
	Total	7	100%	5	100%	12	100%	24	100%
Adjusting your AC settings on the hottest days, running AC for brief intervals and using the fan only to circulate already-cooled air	Not Likely	0	0%	0	0%	0	0%	0	0%
	Somewhat likely	0	0%	0	0%	1	4%	1	2%
	Very likely	8	89%	6	100%	25	93%	39	93%
	Don't know	0	0%	0	0%	0	0%	0	0%
	Skipped/Not Answered	1	11%	0	0%	1	4%	2	5%
	Total	9	100%	6	100%	27	100%	42	100%
Setting your thermostat to 68° during cool weather and/or set your thermostat to 78° during warm weather	Not Likely	0	0%	0	0%	0	0%	0	0%
	Somewhat likely	1	4%	1	5%	1	3%	3	4%
	Very likely	24	96%	19	95%	28	97%	71	96%
	Don't know	0	0%	0	0%	0	0%	0	0%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	25	100%	20	100%	29	100%	74	100%
Setting a timer to turn outdoor lights off in early morning hours	Not Likely	0	0%	0	0%	0	0%	0	0%
	Somewhat likely	0	0%	0	0%	0	0%	0	0%
	Very likely	6	100%	9	100%	6	100%	21	100%
	Don't know	0	0%	0	0%	0	0%	0	0%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	6	100%	9	100%	6	100%	21	100%
Washing your clothes in cold water and/or air dry your clothes after washing	Not Likely	0	0%	0	0%	0	0%	0	0%
	Somewhat likely	1	4%	0	0%	1	3%	2	3%
	Very likely	21	91%	15	94%	28	90%	64	91%
	Don't know	0	0%	0	0%	0	0%	0	0%
	Skipped/Not Answered	1	4%	1	6%	2	6%	4	6%
	Total	23	100%	16	100%	31	100%	70	100%

Step Up and Power Down Section 3: Residential Initiative Evaluation

		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q19. What motivated you to take energy saving actions as part of Step Up and Power Down? Select all that apply. [Multiple Response]	To save money on my energy bill	29	76%	21	75%	36	84%	86	79%
	To better understand or make smarter decisions about my home's energy use	20	53%	14	50%	18	42%	52	48%
	To join my friends and neighbors in a community-wide effort	9	24%	4	14%	4	9%	17	16%
	To be a leader and set a good example for others in my community	7	18%	4	14%	11	26%	22	20%
	To have a healthier and safer home	15	39%	10	36%	18	42%	43	39%
	To make my home more comfortable	12	32%	8	29%	14	33%	34	31%
	To save resources and the planet for future generations	27	71%	20	71%	25	58%	72	66%
	To reduce greenhouse gasses and the effects of climate change	20	53%	15	54%	23	53%	58	53%
	To make our country more secure through less dependence on foreign energy supplies	14	37%	8	29%	13	30%	35	32%
	To improve the economy	7	18%	2	7%	6	14%	15	14%
	To increase the value of my home	7	18%	4	14%	10	23%	21	19%
	To have more control over my energy bills or to reach goals that I have set	24	63%	16	57%	26	60%	66	61%
	None of the above	1	3%	1	4%	1	2%	3	3%
	Other, please specify:	2	5%	0	0%	1	2%	3	3%
	Other - Program did not motivate	0	0%	0	0%	1	2%	1	1%
	Other - Free LED lightbulbs	1	3%	0	0%	0	0%	1	1%
	Other - Lighting upgrade incentive	1	3%	0	0%	0	0%	1	1%
	Not applicable - did not take action	1	3%	0	0%	2	5%	3	3%
	Don't know	1	3%	1	4%	0	0%	2	2%

Step Up and Power Down Section 3: Residential Initiative Evaluation

		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q20. Which of the following benefits have you experienced due to Step Up and Power Down? Select all that apply [Multiple Response]	Reducing our energy bill	21	55%	15	54%	22	51%	58	53%
	Reducing the amount of energy we use	21	55%	13	46%	25	58%	59	54%
	Learning more about how we use energy at home	14	37%	10	36%	20	47%	44	40%
	Joining with others in a community-wide effort	7	18%	4	14%	10	23%	21	19%
	Setting a good example for others in my community	7	18%	3	11%	8	19%	18	17%
	Creating a healthier and safer home	8	21%	6	21%	5	12%	19	17%
	Making my home more	7	18%	7	25%	10	23%	24	22%
	Saving resources for future generations	12	32%	10	36%	14	33%	36	33%
	Reducing greenhouse gasses and the effects of climate	8	21%	7	25%	8	19%	23	21%
	Making our country less dependent on energy from	4	11%	4	14%	7	16%	15	14%
	Improving our local economy	2	5%	1	4%	3	7%	6	6%
	Increasing the value of my	3	8%	2	7%	7	16%	12	11%
	Having more control over my energy bills	20	53%	12	43%	20	47%	52	48%
	No benefits	3	8%	1	4%	5	12%	9	8%
	Other, please specify:	1	3%	0	0%	2	5%	3	3%
	Other - Already experienced benefits before SUPD	0	0%	0	0%	1	2%	1	1%
	Other - Learning about incentives and rebates	1	3%	0	0%	0	0%	1	1%
	Other - Reinforced understanding of how to	0	0%	0	0%	1	2%	1	1%
	Don't know	5	13%	4	14%	4	9%	13	12%

Step Up and Power Down Section 3: Residential Initiative Evaluation

		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q21 On a scale of 1 to 10, how much did Step Up and Power Down increase your understanding of how to reduce energy waste in your home? [Single Response]	1 - No increased	3	8%	2	7%	6	14%	11	10%
	2	2	5%	6	21%	1	2%	9	8%
	3	4	11%	1	4%	5	12%	10	9%
	4	1	3%	1	4%	1	2%	3	3%
	5	4	11%	1	4%	2	5%	7	6%
	6	6	16%	4	14%	4	9%	14	13%
	7	2	5%	5	18%	4	9%	11	10%
	8	6	16%	3	11%	4	9%	13	12%
	9	2	5%	1	4%	3	7%	6	6%
	10 - Greatly increased understanding	4	11%	3	11%	10	23%	17	16%
	Don't know	4	11%	0	0%	3	7%	7	6%
	Skipped/Not Answered	0	0%	1	4%	0	0%	1	1%
	Total	38	100%	28	100%	43	100%	109	100%

		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q22. On a scale of 1 to 10, how would you rate your favorability towards PG&E? [Single Response]	1 - Not at all favorable	1	3%	1	4%	1	2%	3	3%
	2	0	0%	0	0%	1	2%	1	1%
	3	1	3%	1	4%	2	5%	4	4%
	4	3	8%	2	7%	3	7%	8	7%
	5	6	16%	5	18%	4	9%	15	14%
	6	5	13%	5	18%	8	19%	18	17%
	7	8	21%	4	14%	3	7%	15	14%
	8	6	16%	4	14%	6	14%	16	15%
	9	1	3%	2	7%	5	12%	8	7%
	10 - Extremely favorable	6	16%	2	7%	8	19%	16	15%
	Don't know	0	0%	0	0%	2	5%	2	2%
	Skipped/Not Answered	1	3%	2	7%	0	0%	3	3%
	Total	38	100%	28	100%	43	100%	109	100%

Step Up and Power Down Section 3: Residential Initiative Evaluation

		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q23 On a scale of 1 to 10, how familiar are you with the energy efficiency or conservation programs that PG&E offers to help households like yours save energy? [Single Response]	1 - Not at all familiar	0	0%	1	4%	2	5%	3	3%
	2	1	3%	0	0%	2	5%	3	3%
	3	5	13%	2	7%	6	14%	13	12%
	4	2	5%	3	11%	3	7%	8	7%
	5	3	8%	3	11%	5	12%	11	10%
	6	7	18%	5	18%	3	7%	15	14%
	7	4	11%	3	11%	6	14%	13	12%
	8	4	11%	6	21%	6	14%	16	15%
	9	7	18%	2	7%	4	9%	13	12%
	10 - Extremely familiar	3	8%	2	7%	4	9%	9	8%
	Don't know	2	5%	0	0%	2	5%	4	4%
	Skipped/Not Answered	0	0%	1	4%	0	0%	1	1%
	Total	38	100%	28	100%	43	100%	109	100%

Step Up and Power Down Section 3: Residential Initiative Evaluation

Q24. Now, please tell us which of these rebates or services from PG&E have you heard of before today. [Single Response]		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Rebate for an AC Quality Care assessment	Aware	0	0%	0	0%	12	28%	12	11%
	Not aware	0	0%	0	0%	19	44%	19	17%
	Don't know	0	0%	0	0%	9	21%	9	8%
	Skipped/Not Answered	38	100%	28	100%	3	7%	69	63%
	Total	38	100%	28	100%	43	100%	109	100%
Rebate for an energy efficient clothes washer	Aware	29	76%	21	75%	22	51%	72	66%
	Not aware	4	11%	4	14%	12	28%	20	18%
	Don't know	3	8%	2	7%	7	16%	12	11%
	Skipped/Not Answered	2	5%	1	4%	2	5%	5	5%
	Total	38	100%	28	100%	43	100%	109	100%
Rebate for an energy efficient water heater	Aware	20	53%	16	57%	22	51%	58	53%
	Not aware	11	29%	6	21%	11	26%	28	26%
	Don't know	6	16%	4	14%	8	19%	18	17%
	Skipped/Not Answered	1	3%	2	7%	2	5%	5	5%
	Total	38	100%	28	100%	43	100%	109	100%
Rebate for an energy efficient variable speed pool pump	Aware	8	21%	10	36%	14	33%	32	29%
	Not aware	13	34%	8	29%	16	37%	37	34%
	Don't know	12	32%	9	32%	10	23%	31	28%
	Skipped/Not Answered	5	13%	1	4%	3	7%	9	8%
	Total	38	100%	28	100%	43	100%	109	100%
Home energy assessment that tells you about your home's energy use and energy saving improvements	Aware	22	58%	18	64%	29	67%	69	63%
	Not aware	8	21%	7	25%	9	21%	24	22%
	Don't know	5	13%	2	7%	3	7%	10	9%
	Skipped/Not Answered	3	8%	1	4%	2	5%	6	6%
	Total	38	100%	28	100%	43	100%	109	100%
Rebate or incentive from the Home Upgrade program for air sealing, insulation, an energy efficient gas furnace, or other equipment that reduces energy waste	Aware	19	50%	18	64%	20	47%	57	52%
	Not aware	10	26%	5	18%	14	33%	29	27%
	Don't know	7	18%	4	14%	6	14%	17	16%
	Skipped/Not Answered	2	5%	1	4%	3	7%	6	6%
	Total	38	100%	28	100%	43	100%	109	100%
Home Energy Report that provided information about your home's energy use, compared it to similar homes, and gave you energy saving tips	Aware	25	66%	18	64%	29	67%	72	66%
	Not aware	7	18%	9	32%	8	19%	24	22%
	Don't know	4	11%	0	0%	4	9%	8	7%
	Skipped/Not Answered	2	5%	1	4%	2	5%	5	5%
	Total	38	100%	28	100%	43	100%	109	100%

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PG&E Marketplace		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
	Aware	10	26%	6	21%	4	9%	20	18%
	Not aware	17	45%	9	32%	23	53%	49	45%
	Don't know	8	21%	9	32%	10	23%	27	25%
	Skipped/Not Answered	3	8%	4	14%	6	14%	13	12%
	Total	38	100%	28	100%	43	100%	109	100%

		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q25 [ASK IF ANY Q24 = 1 (Aware of any PG&E products and services)] How much more familiar have you become with PG&E rebates and programs in the past year? [Single Response]	No more familiar	10	29%	10	38%	10	29%	30	32%
	Somewhat more familiar	18	51%	11	42%	21	62%	50	53%
	Much more familiar	6	17%	5	19%	3	9%	14	15%
	Don't know	1	3%	0	0%	0	0%	1	1%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	35	100%	26	100%	34	100%	95	100%

		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q26. [IF Q25 = 2 or 3] On a scale of 1 to 10, how influential was Step Up and Power Down in increasing your familiarity with PG&E rebates and programs? [Single Response]	1 - Not at all influential	1	4%	1	6%	0	0%	2	3%
	2	0	0%	0	0%	0	0%	0	0%
	3	2	8%	1	6%	0	0%	3	5%
	4	2	8%	0	0%	0	0%	2	3%
	5	2	8%	3	19%	4	17%	9	14%
	6	1	4%	2	13%	4	17%	7	11%
	7	3	13%	3	19%	2	8%	8	13%
	8	5	21%	2	13%	5	21%	12	19%
	9	4	17%	1	6%	4	17%	9	14%
	10 - Extremely influential	3	13%	3	19%	5	21%	11	17%
	Don't know	1	4%	0	0%	0	0%	1	2%
	99 Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
Total	24	100%	16	100%	24	100%	64	100%	

Step Up and Power Down Section 3: Residential Initiative Evaluation

Q27. [FOR ALL ITEMS SELECTED IN Q24] Please tell us if your household has received any of these rebates or services from PG&E after you found out about Step Up and Power Down? [Single Response]		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Rebate for an AC Quality Care assessment	Received	0	0%	0	0%	3	25%	3	25%
	Not received	0	0%	0	0%	7	58%	7	58%
	Don't know	0	0%	0	0%	1	8%	1	8%
	Skipped/Not Answered	0	0%	0	0%	1	8%	1	8%
	Total	0	0%	0	0%	12	100%	12	100%
Rebate for an energy efficient clothes washer	Received	4	14%	6	29%	5	23%	15	21%
	Not received	22	76%	14	67%	15	68%	51	71%
	Don't know	3	10%	1	5%	1	5%	5	7%
	Skipped/Not Answered	0	0%	0	0%	1	5%	1	1%
	Total	29	100%	21	100%	22	100%	72	100%
Rebate for an energy efficient water heater	Received	1	5%	2	13%	3	14%	6	10%
	Not received	17	85%	13	81%	17	77%	47	81%
	Don't know	1	5%	1	6%	1	5%	3	5%
	Skipped/Not Answered	1	5%	0	0%	1	5%	2	3%
	Total	20	100%	16	100%	22	100%	58	100%
Rebate for an energy efficient variable speed pool pump	Received	0	0%	1	10%	3	21%	4	13%
	Not received	7	88%	9	90%	9	64%	25	78%
	Don't know	1	13%	0	0%	2	14%	3	9%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	8	100%	10	100%	14	100%	32	100%
Home energy assessment that tells you about your home's energy use and energy saving improvements	Received	5	23%	5	28%	10	34%	20	29%
	Not received	16	73%	11	61%	15	52%	42	61%
	Don't know	0	0%	2	11%	4	14%	6	9%
	Skipped/Not Answered	1	5%	0	0%	0	0%	1	1%
	Total	22	100%	18	100%	29	100%	69	100%
Rebate or incentive from the Home Upgrade program for air sealing, insulation, an energy efficient gas furnace, or other equipment that reduces energy waste	Received	1	5%	2	11%	7	35%	10	18%
	Not received	16	84%	15	83%	11	55%	42	74%
	Don't know	1	5%	1	6%	2	10%	4	7%
	Skipped/Not Answered	1	5%	0	0%	0	0%	1	2%
	Total	19	100%	18	100%	20	100%	57	100%

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Home Energy Report that provided information about your home's energy use, compared it to similar homes, and gave you energy saving tips	Received	7	28%	9	50%	11	38%	27	38%
	Not received	16	64%	8	44%	12	41%	36	50%
	Don't know	1	4%	1	6%	6	21%	8	11%
	Skipped/Not Answered	1	4%	0	0%	0	0%	1	1%
	Total	25	100%	18	100%	29	100%	72	100%
PG&E Marketplace	Received	1	10%	1	17%	2	50%	4	20%
	Not received	8	80%	4	67%	1	25%	13	65%
	Don't know	1	10%	1	17%	1	25%	3	15%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
	Total	10	100%	6	100%	4	100%	20	100%

		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q28 [IF Q27= 1 (received rebates or services from PG&E)] On a scale of 1 to 10, how much did Step Up and Power Down influence you to pursue these energy efficiency rebates and services? [Single Response]	1 - Not at all influenced	2	17%	3	21%	4	20%	9	20%
	2	0	0%	0	0%	4	20%	4	9%
	3	1	8%	1	7%	0	0%	2	4%
	4	1	8%	0	0%	0	0%	1	2%
	5	1	8%	1	7%	1	5%	3	7%
	6	2	17%	3	21%	1	5%	6	13%
	7	0	0%	1	7%	3	15%	4	9%
	8	2	17%	2	14%	4	20%	8	17%
	9	1	8%	1	7%	2	10%	4	9%
	10 - Extremely influenced	2	17%	2	14%	1	5%	5	11%
	Don't know	0	0%	0	0%	0	0%	0	0%
	Skipped/Not Answered	0	0%	0	0%	0	0%	0	0%
Total	12	100%	14	100%	20	100%	46	100%	

		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q29. Which two of the following sustainability issues concern you enough that you are willing to commit to take steps to help solve them? [Multiple Response]	Reducing energy use	29	76%	22	79%	36	84%	87	80%
	Reducing water use	26	68%	22	79%	35	81%	83	76%
	Reducing solid waste	15	39%	13	46%	14	33%	42	39%
	Reducing traffic congestion	11	29%	11	39%	11	26%	33	30%
	Other - Influencing large industry to reduce fossil fuel	0	0%	0	0%	1	2%	1	1%
	Other - Reduce over-building	0	0%	1	4%	0	0%	1	1%
	Other, please specify:	0	0%	1	4%	1	2%	2	2%

B.1.2. Demographics

		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q30. Does your home have a pool?	Yes	2	5%	5	18%	8	19%	15	14%
	No	35	92%	23	82%	34	79%	92	84%
	Prefer not to answer	1	3%	0	0%	1	2%	2	2%
	Total	38	100%	28	100%	43	100%	109	100%

		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q31 Do you identify as...	Male	18	47%	10	36%	13	30%	41	38%
	Female	17	45%	17	61%	25	58%	59	54%
	Prefer not to answer	3	8%	1	4%	5	12%	9	8%
	Total	38	100%	28	100%	43	100%	109	100%

		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q32 What is your age?	Under 18 years old	0	0%	0	0%	0	0%	0	0%
	18 – 24	0	0%	0	0%	0	0%	0	0%
	25 – 34	3	8%	1	4%	6	14%	10	9%
	35 – 44	7	18%	7	25%	5	12%	19	17%
	45 – 54	11	29%	6	21%	8	19%	25	23%
	55 – 64	7	18%	5	18%	11	26%	23	21%
	65 – 74	6	16%	6	21%	6	14%	18	17%
	75+	3	8%	2	7%	4	9%	9	8%
	Prefer not to answer	1	3%	1	4%	3	7%	5	5%
	Total	38	100%	28	100%	43	100%	109	100%

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		S1 S1 - CITY							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q33 Including you,	1	8	22%	6	21%	7	17%	21	20%
how many people	2	14	37%	7	25%	20	49%	41	38%
live in your home?	3	8	22%	7	25%	7	17%	22	21%
	4	3	8%	7	25%	7	17%	17	16%
	5	4	11%	1	4%	0	0%	5	5%

		S1 S1 - CITY							
		Redwood City (n=25)		San Carlos (n=19)		Woodland (n=32)		Total (n=76)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q34 How many	0	11	44.0%	5	26.3%	21	65.6%	37	48.7%
children under age	1	11	44.0%	9	47.4%	5	15.6%	25	32.9%
18 live in your	2	2	8.0%	5	26.3%	6	18.8%	13	17.1%
home, if any? [IF	3	1	4.0%	0	0.0%	0	0.0%	1	1.3%

		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q35 Which of the	1 African-American	0	0%	0	0%	0	0%	0	0%
following best	2 Asian or Pacific Islander	8	21%	4	14%	3	7%	15	14%
describes your	3 Hispanic	3	8%	2	7%	8	19%	13	12%
ethnic background? -	4 Mixed background	1	3%	0	0%	1	2%	2	2%
Selected Choice	5 Native American	0	0%	0	0%	0	0%	0	0%
	6 White or Caucasian	18	47%	15	54%	19	44%	52	48%
	7 Other: Please specify	0	0%	0	0%	0	0%	0	0%
	8 Prefer not to answer	7	18%	5	18%	10	23%	22	20%
	9 Mexican-American	1	3%	0	0%	1	2%	2	2%
	10 European-American	0	0%	0	0%	1	2%	1	1%
	11 East Indian	0	0%	1	4%	0	0%	1	1%
	12 Native American & Spanish	0	0%	1	4%	0	0%	1	1%

Step Up and Power Down Section 3: Residential Initiative Evaluation

		City							
		Redwood City		San Carlos		Woodland		Total	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q36 Which of the following best describes your current employment status?	Employed full-time	15	39%	15	54%	22	51%	52	48%
	Employed part-time	5	13%	1	4%	3	7%	9	8%
	Student	1	3%	0	0%	0	0%	1	1%
	Homemaker	1	3%	1	4%	1	2%	3	3%
	Retired	10	26%	10	36%	13	30%	33	30%
	Not employed	2	5%	0	0%	0	0%	2	2%
	Prefer not to answer	4	11%	1	4%	4	9%	9	8%
Total		38	100%	28	100%	43	100%	109	100%

		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q37 What is the highest level of education you had the opportunity to complete?	Some high school	0	0%	0	0%	0	0%	0	0%
	High school graduate	1	3%	0	0%	3	7%	4	4%
	Some College	2	5%	3	11%	4	9%	9	8%
	2-year Degree/Trade or Technical Degree	4	11%	1	4%	6	14%	11	10%
	4-year College Degree	14	37%	12	43%	14	33%	40	37%
	Post Grad	15	39%	11	39%	10	23%	36	33%
	Prefer not to answer	2	5%	1	4%	6	14%	9	8%
	Total		38	100%	28	100%	43	100%	109

Step Up and Power Down Section 3: Residential Initiative Evaluation

		City							
		Redwood City (n=38)		San Carlos (n=28)		Woodland (n=43)		Total (n=109)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Q38 What is your 2015 annual household income before taxes?	Less than \$30,000	3	8%	1	4%	2	5%	6	6%
	\$30,000 to less than \$50,000	1	3%	0	0%	4	9%	5	5%
	\$50,000 to less than \$75,000	5	13%	0	0%	8	19%	13	12%
	\$75,000 to less than \$100,000	5	13%	3	11%	4	9%	12	11%
	\$100,000 to less than \$150,000	3	8%	4	14%	6	14%	13	12%
	\$150,000 to less than \$200,000	3	8%	4	14%	2	5%	9	8%
	\$200,000 or more	5	13%	6	21%	1	2%	12	11%
	Don't know	0	0%	0	0%	0	0%	0	0%
	Prefer not to answer	13	34%	10	36%	16	37%	39	36%
Total	38	100%	28	100%	43	100%	109	100%	