Opinion Dynamics

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TIERRA Resource Consultants, LLC

Assessment of Local Government Partnerships Final Report

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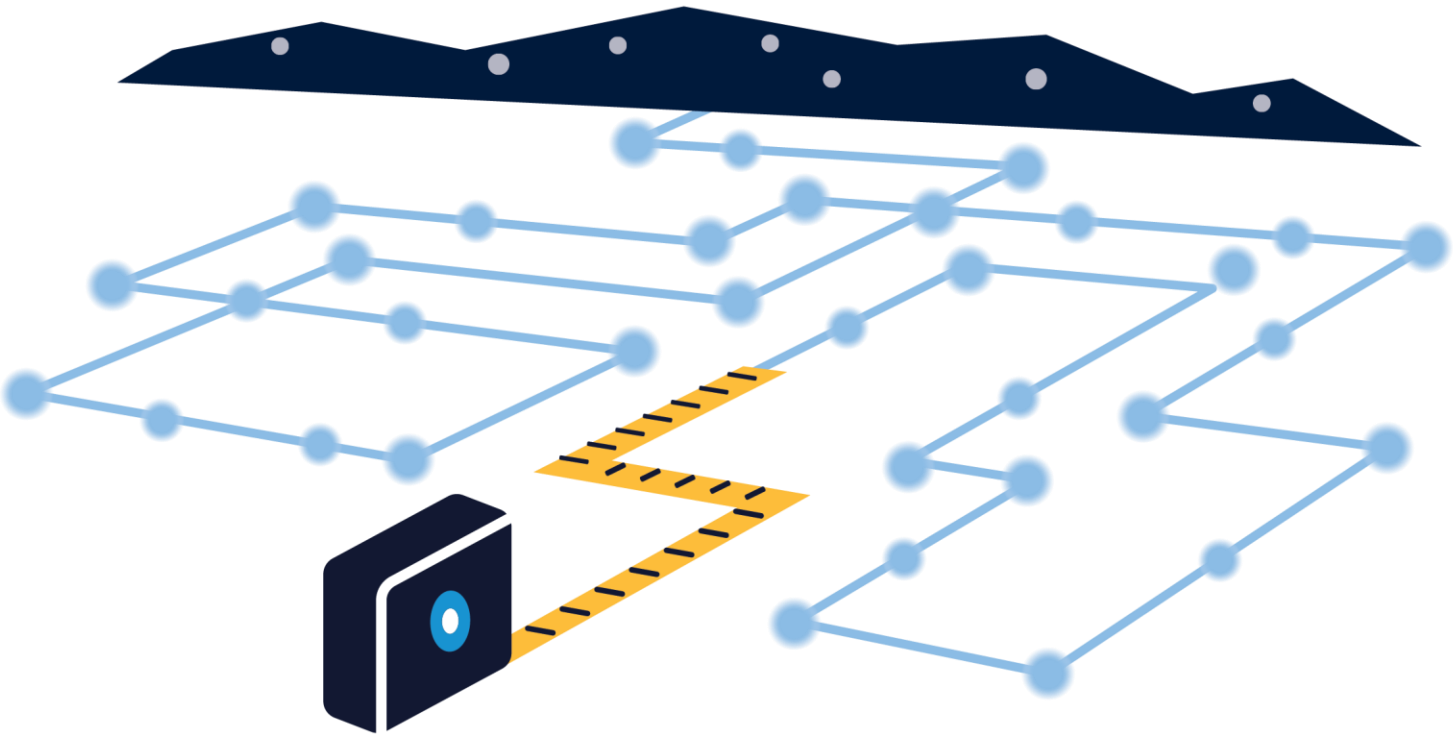

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Abstract

The California Public Utilities Commission defines non-resource programs as activities or programs that have no directly attributed energy savings but that support the energy efficiency portfolio through marketing or access to training and education. This study evaluated the impacts of several Local Government Partnerships' (LGP) non-resource activities on California's energy efficiency portfolio, particularly the impacts at municipal facilities. It focused on LGP programs in the 2016 and 2017 program years. The selected LGPs spanning California's four investor-owned utilities (IOUs) were East Bay Energy Watch (EBEW), Fresno Energy Watch (FEW), San Diego Association of Governments (SANDAG) Partnership, San Gabriel Valley Partnership (SGVP), and West Side Partnership (WSP).

The evaluation approach included in-depth interviews with select LGP staff and IOU staff, qualitative and quantitative data analysis, and a participant web survey. To assess the impacts of LGP non-resource activities on California's energy efficiency portfolio, the evaluation team conducted a channeling analysis to identify a set of municipal customers who had interacted with LGPs' non-resource activities and subsequently went on to participate in resource programs that resulted in energy savings. In addition, the survey identified energy efficient equipment and behavioral changes in these customers, and quantified 1st year gross and net energy savings and determined the amount that was attributable to the non-resource activity itself.

The channeling analysis identified that 6% of LGP non-resource activity participants took part in resource programs following their engagement with LGP non-resource activities. This is likely an underestimate due to incomplete and inconsistent data tracking of LGP non-resource activities. In addition, LGP non-resource activities are generally more successful than other factors at influencing municipalities' decisions to install EE equipment and engage in energy saving behaviors. However, the selected LGPs may have a significant amount of unclaimed energy savings that are attributable to LGP non-resource activities. The evaluation team also found significant regional variations in per capita funding for locally focused programs. To conclude, the study provides recommendations associated with each finding to improve the evaluability of LGP non-resource activities and provide for greater insights into their contributions to the statewide EE portfolio.

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1. Executive Summary

The Opinion Dynamics evaluation team, with Tierra Resource Consultants and Itron as its sub-contractors, is pleased to present to the California Public Utilities Commission (CPUC) this Year 1 Assessment of Local Government Partnerships (LGPs). LGPs, which are organized at the local government level, offer programs that help local governments and their constituents promote and install energy efficiency (EE) measures in public, commercial, and residential facilities. Each LGP is made up of one or more city governments, county agencies, and/or other regional governing and coordinating bodies known as member (partner) governments. The local government or third-party organization that holds the contract with the utility for LGP administration is often referred to as the Implementing Partner (IP).[1] A single city or county, a council of governments, a Joint Powers Authority (JPA), a private company, or another type of association can serve as an IP.

LGP Overview and Study Purpose

The main objective of this evaluation was to understand and measure the impacts of the selected LGPs' non-resource activities on California's EE portfolio, specifically those offered during the 2016 and 2017 program years. The CPUC defines a non-resource program as one that has no directly attributed energy savings but that supports the EE portfolio through activities such as marketing or improved access to training and education. In contrast, energy efficiency programs that are intended to achieve and report quantified energy savings (e.g. MW, GWh and MMTh) are classified as resource programs.[2]

This study broadens the focus from non-resource *programs* to non-resource *activities* since oftentimes Program Administrators (PAs) engage in discrete activities, as opposed to formally defined programs, that are meant to promote participation in their resource programs. These activities, in and of themselves, do not produce energy savings, but may do so indirectly.

At the outset of this research, the CPUC and its evaluation team agreed to focus this study on the impacts of non-resource activities carried out by a selection of the following five LGPs spanning California's four investor-owned utilities (IOUs)

- East Bay Energy Watch (EBEW)
- Fresno Energy Watch (FEW)
- San Diego Association of Governments (SANDAG) Partnership
- San Gabriel Valley Partnership (SGVP)
- West Side Partnership (WSP)

The evaluation team selected LGPs not recently evaluated. The selection was designed to provide coverage that is representative of California's diversity of population and select market metrics, Local Government structures, and span of influence (i.e. cities engaged).

East Bay Energy Watch (EBEW)

The East Bay Energy Watch (EBEW) program is a partnership between Pacific Gas and Electric Company (PG&E), local governments, and energy service providers that serve the East Bay counties of Alameda and

[1] Some IOUs use different terminology. For instance, PG&E calls these organizations Lead Local Partners.
[2] CPUC EE Shareholder Incentive Mechanism: https://www.cpuc.ca.gov/General.aspx?id=4137

Contra Costa. In 2016 and 2017, EBEW conducted both resource and non-resource EE activities for residents, businesses, and municipalities. These activities included, but were not limited to, the direct installation of lower cost EE equipment in small and medium businesses, no-cost installation of EE equipment in residences, residential workforce development, municipal EE technical support, and strategic planning activities.

Fresno Energy Watch (FEW)

The Fresno Energy Watch (FEW) program is a partnership between PG&E, local governments, and energy service providers that serve the City and County of Fresno. One of the FEW sub-programs is the Home and Business Energy Tune-Up program, which provides direct installation of lower cost EE equipment in low to moderate income homes as well as small and medium businesses. Additional FEW program activities included hosting EE seminars on local energy policies and best practices for trade allies and businesses, conducting strategic planning activities such as benchmarking, and supporting the development of local energy policies that promote EE practices, including code compliance.

San Diego Association of Governments (SANDAG) Partnership

The San Diego Association of Governments (SANDAG) Partnership program is a collaboration among San Diego Gas & Electric Company (SDG&E) and various local governments in San Diego County who are members of SANDAG. In 2016 and 2017, the SANDAG Partnership was a non-resource program that specifically served local jurisdictions through a variety of EE activities. These included hosting a variety of meetings and workshops with local governments; providing energy assessments and online tools for municipal facilities; offering municipalities assistance with identifying, planning, implementing, and funding EE projects and building capacity with SANDAG members.

San Gabriel Valley Partnership (SGVP)

The San Gabriel Valley (SGVP) Partnership program is a collaboration among the San Gabriel Valley Council of Governments (SGVCOG), Southern California Edison Company (SCE), and Southern California Gas Company (SCG). The program serves multiple cities within the San Gabriel Valley. The IOUs coordinate on program design and implementation, however resource claims for the SGVP are reported to the CPUC as two distinct programs: the SCG funded San Gabriel Valley COG Partnership (SGVCOG) and the SCE funded San Gabriel Energy Leader Partnership (SGVELP). For this evaluation we assessed data provided from both IOU programs, but aggregated results for both IOU programs and refer to this collectively as the SGVP. Activities included, but were not limited to, informing member agencies about existing EE and demand response (DR) programs; helping municipalities identify, implement, and fund EE retrofits in their facilities; and developing specialized EE offerings including strategic planning activities like climate action planning, code compliance, and reach codes.

West Side Partnership (WSP)

The West Side Partnership (WSP) program is a collaboration among the City of Culver City, Santa Clarita, Santa Monica, Beverly Hills, West Hollywood, Malibu, SCE, and SCG. The WSP reports two distinct programs to the CPUC: the SCG funded West Side Cities Partnership (WSCP) and the SCE funded West Side Energy Leader Partnership (WSELP). For this study, we evaluated data provided from both programs' IOUs, but aggregated results for both West Side programs and refer to this collectively as the WSP. Program activities included, but were not limited to, informing member agencies about existing EE and DR programs; helping municipalities identify, implement, and fund EE retrofits in their facilities; and developing specialized EE offerings including strategic planning activities like climate action planning, code compliance, and reach codes.

Overview of Evaluation Approach

As part of the first-year assessment of LGPs, the evaluation team conducted a variety of tasks to complete this evaluation. The team first conducted in-depth interviews with the selected LGPs and IOU staff to gain an understanding of their resource and non-resource activities. Upon completion of the interviews, we submitted data requests to acquire non-resource activity datasets and supporting program materials to help the team identify which datasets contained the most complete and robust information.

We next conducted an evaluability assessment of the data received from the LGPs to determine if the datasets contained the information necessary to locate participants of non-resource activities in the CPUC program database. The team then used the evaluability assessment to determine which non-resource activity datasets the team could use to support additional evaluation activities.

LGP programs across the state are currently undergoing significant changes to their program design as detailed in the recent IOU business plans and budget advice letters. Based on these, as well as a review of policy and program design changes, we decided to focus our evaluation on activities that led to EE upgrades and behavioral changes in municipal facilities. Accordingly, we did not evaluate how non-resource activities led to program impacts in the residential or other commercial markets, such as direct install (DI) activities in the small commercial market, because these initiatives are generally being phased out going forward as the LGP portfolio focuses specifically on activities supporting public sector facilities. The evaluation team then used a channeling analysis to determine how many municipal customers went on to participate in resource programs after their interaction with LGP non-resource activities. This analysis defined the set of customers who engaged in LGP non-resource activities and identified the subset who subsequently participated in a PA-sponsored energy efficiency program that resulted in energy savings, as discussed in Section 6.

To identify the EE equipment and behavioral changes municipal customers carried out after engaging in the LGP non-resource activities, the evaluation team conducted a participant web survey. The evaluation team used a census approach and contacted LGP municipal customers who had contact information (i.e., email address) identified in the channeling analysis. The evaluation team reached out to 418 municipal LGP non-resource activity participants (out of a population of 1,104) to complete surveys with 33 respondents (see Table 1). The sample size and response rate varied greatly among the selected LGPs because of the quality and quantity of non-resource activity data received (see Evaluation Findings #1 and #2). Given the low number of completes and the uniqueness of each LGP's offerings, we were not able to make a statement about statistical significance and our results should not be interpreted as a statement about the full extent to which LGPs non-resource activities influenced subsequent resource program participation. We will work with the IOUs and IPs in successive evaluations to improve survey participation rates.

Table 1. LGP Participant Survey Sample Composition

LGP	Population N	Sample n	Survey Completes n
East Bay Energy Watch	75	70	6
Fresno Energy Watch	2	1	0
SANDAG Partnership	921	249	19
San Gabriel Valley Partnership	52	45	2
West Side Partnership	54	53	6
Total	**1,104**	**418**	**33**

All survey participants were asked about whether they recalled participating in an LGP non-resource activity, and if they did not, their survey was terminated. For those participants who did recall engaging, the survey asked about the EE actions they have taken through resource programs, as well as outside of EE resource programs, since their interaction with the LGP. This survey also asked about the degree to which the non-resource activity influenced their decision to install energy efficient equipment.

While the low number of responses did not provide statistically significant results, the survey responses were used to arrive at an engineering-based estimate of savings that resulted due to engagement in LGP non-resource activities, also referred to as an attribution analysis.[3] The engineering analysis provided 1st year gross and net electric and gas savings[4] for the equipment installed by municipal non-resource activity participants and the attribution analysis allowed us to determine what amount of savings is attributable to the non-resource activity itself.[5]

The evaluation team used two approaches to estimate gross savings. The first approach was used for measures categories where individual measure attributes could be defined. For these measures, the team analyzed the participant responses and calculated the ex-ante energy savings by applying the deemed savings values using either the CPUC tracking database or the READI (Remote Ex-Ante Database Interface, version 2.5.1) program. When unable to utilize the Database of Energy Efficiency Resources (DEER) as the analysis source, the evaluation team utilized approved workpapers or other widely used industry sources such as the Measure Input Characterization System (MICS) data from the 2018 CPUC Potential and Goals Study. A second analysis approach was used where 1st year ex-ante gross savings for individual lighting and HVAC measures could not be defined, such as whole building projects. This approach involved calculating the change in energy densities between pre- and post-retrofit conditions and multiplying this change in densities by the area (sq. ft.) impacted by the project. Estimates of pre- and post-retrofit energy densities were developed by reviewing analysis completed in 2018 CIAC evaluation[6] for similar types of projects undertaken in similar facilities.

The evaluation team used data collected from web surveys of non-resource activity participants who had also completed EE projects to calculate customer-level ratios that represent the degree of influence their non-resource activities had on the customer's decision to install EE equipment. Once we calculate these ratios, we applied them to the customer-level ex-ante gross calculated in the engineering analysis to estimate the proportion of savings attributable to the LGPs' non-resource activities.

Evaluation Findings and Recommendations

In this section, the evaluation team provides a list of findings and recommendations that came out of the research. Note that not all findings have an associated recommendation.

Finding #1: Based on the evaluability assessment of select LGPs' non-resource activity data, the evaluation team found the quality of the selected LGPs' non-resource program data to be inconsistent and lacking a standardized set of fields useable to match non-resource participants with the CPUC data. Consequently, the team was limited in its ability to fully quantify the benefits of non-resource activities.

[3] We will work with the IOUs and IPs as part of the year 2 evaluation to achieve statistically significant results by improving survey participation rates.
[4] Gross savings are defined as the change in energy consumption and/or demand that results directly from program-related actions taken by participants in an efficiency program, regardless of why the customer participated and unadjusted by any factors. Net savings are the total change in electric or gas consumption and/or demand that is attributable to an energy efficiency program.
[5] Gross energy savings represents the change in energy consumption and/or demand that results directly from program-related actions taken by participants in an efficiency program, regardless of why they participated and unadjusted by any factors. Net energy savings are the total energy savings that are attributable to the energy efficiency program.
[6] 2018 Custom Industrial, Agricultural, and Commercial (CIAC) Draft Impact Evaluation. SBW Consulting, Inc. April 1, 2020.

> **Recommendation:** The evaluation team recognizes that the very nature of certain non-resource activities is not conducive to standardized data collection. **However, for those activities where LGPs can gather detailed participant information (such as during audits, technical assistance visits, etc.) the LGPs should do so.** Information that would improve the evaluability of non-resource activities includes tracking customer name, email address, service address, dates of participation in the non-resource activity, and all associated customer IDs used by the PAs. As data quality and completeness improve, evaluators can more fully capture the attributable energy savings from non-resource activities. Analysis of this sort goes far to demonstrate the benefits of non-resource activities, particularly those offered by PA programs with a more local or community focus, such as LGPs.

Finding #2: The channeling analysis identified 6% of LGP non-resource participants took part in PA resource program by identifying matches in the CPUC program database. This is most definitely an underestimate of the extent to which LGP non-resource participants took part in PA resource programs because 1) the staff attending the LGP non-resource event may work to develop a project but may not be the same staff that appear in program databases (e.g. project applications) and 2) the non-resource activity datasets used in the channeling analysis often contained a limited number of data fields (e.g. phone number, email, service address, etc.) and many of these fields were incomplete. This makes it difficult to identify customers who subsequently installed EE equipment through a PA resource program.

> **Recommendation: The evaluation team recommends the PAs use a standardized method and format for recording the non-resource activity participant data recommended in Finding #1 and update this information to track how participants are contributing to ongoing project development.** For example, when a municipality's staff engages in recurring meetings, attends presentations and workshops, and receives referrals to resource programs, the PAs should capture contact names, business names, email addresses, phone numbers, and mailing addresses, along with customer IDs in a standardized format. The CPUC program database requires the PAs to provide their program data in a standardized format; we recommend the PAs apply this same format, to track non-resource activity. This tracking process should include periodic updates to assess whether these participants are engaged in project development, including how they might be influencing projects where they are not the contact of record in program databases.

Finding #3: According to participant survey results, LGP non-resource activities are generally more successful than other factors at influencing municipalities' decisions to install EE equipment and engage in energy saving behaviors. For EE upgrades, the average influence scores of LGP non-resource activities versus other factors ranged from 4.3 to 7.4 out of 10. Regarding energy savings behaviors, the average influence scores of LGP non-resource activities versus other factors ranged from 5.8 to 7.0 out of 10. The non-resource activities rated by respondents as being the most influential included project technical assistance and program communication (including changes in program operations, funding levels, or what measures are being offered), energy/climate action plans and municipal strategy activities, and recurring LGP meetings. While these are positive findings, they are based on views from a limited set of survey respondents.

Finding #4: Based on the results of the engineering and attribution analysis, the evaluation team found that the selected LGPs may have a significant amount of unclaimed energy savings that are in part attributable to LGP non-resource activities. For the five LGPs studied in this evaluation, we estimate the net electric savings attributable to LGP non-resource activity to be 551 MWh. Approximately 63% of those savings are not accounted for in the CPUC program database since they occur outside of PA resource programs (unless they are incidentally captured as part of spillover in ex post net savings calculations for those programs). In the case of natural gas, of the attributable 1st year net therm savings from EE equipment installations (17,541 therms), approximately 38% resulted from installing EE equipment outside of a PA resource program. This finding was also supported qualitatively by many survey participants and IP staff, who stated that misalignment

between government agency operations and existing program processes was often a barrier to municipal participation in EE resource programs. This misalignment includes but is not limited to code changes in the middle of long project development cycles and program funding cycles mismatching with municipal funding cycles. Findings #6 and #7 expand upon these and other barriers. However, the finding that attributable savings from non-rebated EE equipment is greater than rebated EE equipment also shows that LGPs have been successful in building at least some local jurisdictions' capacities to implement EE equipment upgrades without rebates. For example, some IPs will leverage LGP-funded non-resource engagements to promote California Alternative Energy and Advanced Transportation Financing Authority's (CAEATFA's) Small Business Financing (SBF), loans through the Residential Energy Efficiency Loan (REEL) Program, or Qualified Energy Conservation Bonds (QECB).

Finding #5: Based on feedback from the in-depth interviews of IPs, there appears to be uncertainty about the overall potential for EE in public sector buildings, a primary customer of LGP programs. Several in-depth interview participants indicated that 1) the amount of technical and economic potential in the public sector is not understood and that 2) the expansion of building code requirements and industry standard practices (which is also impacting the availability of energy efficiency in all market sectors) makes it more difficult to achieve savings.[7] The reduction in viable lighting measures from the EE portfolio was noted as a particular concern because these are the primary measures being implemented by public agencies, as confirmed by our engineering and attribution analyses as well as our review of program data. However, as discussed in Section 10 at Figure 16, potential remains for whole building and HVAC measures as indicated in the 2019 EE Potential and Goals Study.[8] This study, funded by the CPUC, shows that overall EE potential in the commercial sector, which include public buildings, diminishes overtime. However, most of this decline is associated with the impact of codes and standards on the potential for lighting measures. The net market potential for whole building projects remains significant and the potential associated with HVAC increases over the 2030 forecast horizon. We caveat this finding by noting that respondents indicated they had completed more HVAC projects in public facilities than is apparent in CPUC program database, as these projects may not have received PA program rebates. See the discussions in Section 7.2 at Figure 7 and Section 7.3 at Figure 11 for additional details. In addition to EE potential in buildings, it is likely that potential remains in non-building assets which are not directly impacted by codes and standards, such as streetlighting or drinking water and wastewater water processing facilities (collectively referred to as water processing facilities). Most water processing facilities are owned and operated by local governments and for these entities water processing usually accounts for 30% to 40% percent of annual electricity use, with streetlighting accounting for 10% to 20%. For local governments that do not have water processing facilities, streetlighting typically accounts for 25% to 50% of annual usage.

> **Recommendation: We recommend the LGPs focus their energy efficiency program activities away from lighting retrofits and towards developing HVAC projects or more comprehensive projects such as those that address whole buildings.** Our analysis of the CPUC's California Energy Data and Reporting System (CEDARS)[9] data indicates that about 88% of savings claims for the LGPs we reviewed are associated with indoor and outdoor lighting, and based on our in-depth interviews we find that the LGPs may not be effectively coordinating across internal local government functions to identify HVAC and whole building projects. This could be accomplished, for example, by participating in the annual capital planning process undertaken by every local government to identify HVAC and whole building retrofit

[7] As noted in the Energy Division & Program Administrator Energy Efficiency Evaluation, Measurement and Verification Plan 2018 - 2020 Version 9, a Statewide Public Sector Market Study was initially anticipated to be completed by Q4 2020 by PG&E and may address this uncertainty. Understanding the full energy efficiency potential in this unique sector will be an important driver in future non-resource and resource program activity.

[8] California 2019 EE Potential and Goals Study: Results Explorer. http://acp.analytica.com/acpbeta/shared/#dash/fca42209-b98d-4e83-852f-3d075f99ce9b

[9] CEDARS is the publicly accessible data system for California demand-side management (DSM) programs.

opportunities early and provide non-resource activities that drive enrollment of these types of non-lighting projects in core programs. This same annual review would apply to capital planning activities for non-building operations, such as water processing or streetlighting.

Finding #6: With the transition to third-party implementation, there is a concern from IPs around the effectiveness of third parties to channel government agencies to IOU programs. Local governments are complex organizations and LGPs currently provide a coordinating role to make sure that program implementers are presented across multiple local government functions and internal operations. During our in-depth interviews, Implementing Partners expressed concern that if LGPs are defunded, there will be no internal coordinating entity and local government staff could be inundated with outreach from a large number of independent implementers and programs. IPs also expressed concern that implementers generally pursue their own business interests and not necessarily the interests of the community. Additionally, there will be no entity that pre-screens vendor offerings or helps coordinate internal outreach across LG departments or community constituents, such as low income or hard-to-reach markets. A second concern expressed by some LGPs was that third-party implementers will not adequately engage small and rural cities due to the limited number or size of projects available and their distance from major metropolitan areas.

> **Recommendation:** We recommend that third party implementation plans define specifically how they will 1) efficiently coordinate with local governments to ensure broad outreach across internal local government functions and 2) where programs are intended to impact efficiency beyond public facilities, how they will engage with constituents that may have limited relevance to the third parties commercial interests, or define how this gap is being addressed by other organizations or agencies if such an engagement is impractical for the third party.

Finding #7: We noticed significant regional variations in per capita funding for locally focused programs. We reviewed program funding levels for 2019 as part of selecting which LGPs to evaluate and noticed considerable variations in per capita funding for locally focused programs, which we have defined as IOU administered local government programs, and REN and CCA administered programs. Specifically, we noticed the funding disparity for local programs appears most significant in counties in the Central Valley where no REN or CCA programs operate. For example, as discussed in Section 10 at Table 29, our analysis indicates that Alameda and Contra Costa County receive $4.43 per capita in local program funding[10] versus $0.65 in Merced County.[11] Merced is located in the Central Valley, an area that is largely defined by disadvantaged communities by CalEPA for the purpose of Senate Bill (SB) 535[12] and the Northern San Joaquin Valley Energy Watch program is the only locally focused program in this county. Alameda and Contra Costa Counties have lower poverty rates, as defined by SB 535, and are served by the East Bay Energy Watch and programs provided through the Bay Area Regional Energy Network. Additionally, Contra Costa is served by program offerings from Marin Clean Energy (MCE). While not reviewed as part of our analysis because they are not a program administrator using public purpose funds, East Bay Community Energy is increasingly providing programs to Alameda County.

It is worth noting that the funding disparity for local programs is in contrast with public purpose funds being paid by ratepayers. Central Valley areas generally have high per capita energy usage as these counties are

[10] Local program funding is defined as approved 2019 budget advice letters for IOU administered local government programs, and REN and CCA administered programs. This does not account for how statewide program funding might be captured within an LGP jurisdiction.

[11] As provided by the CPUC for PG&E's 2019 Annual Budget Advice Letter

[12] Designation of Disadvantaged Communities Pursuant to Senate Bill 535. This map shows the disadvantaged communities designated by CalEPA for the purpose of SB 535. Areas defined in red represent the 25% highest scoring census tracts in CalEnviroScreen 3.0, along with other areas with high amounts of pollution and low populations. Accessed November 2019 at https://calepa.ca.gov/wp-content/uploads/sites/6/2017/04/SB-535-Designation-Final.pdf.

located in hotter climate zones and have high per capita electricity consumption resulting primarily from HVAC usage. Higher per capita usage includes higher payment of public purpose funds, and we estimate Merced county residents pay $143 per capita annually in electricity public purpose funds versus $63 per capita in Alameda and Contra Costa county, which are located in a cooler climate and have lower air conditioning demands. The LGP operating in Merced, the Northern San Joaquin Valley Energy Watch program, was not evaluated in this report other than to assess funding levels and the reference to this program is for comparison only.

> **Recommendation:** We recommend that the IOU study of co-benefits and economic benefits planned for 2020 include an assessment of funding levels relative to low income and disadvantaged community areas. Insofar as the LGPs remain important in addressing the low income and disadvantaged community market a more consistent approach to funding IOU administered LG programs might be beneficial.

Conclusion

The LGPs' non resource activities are having a positive impact on the California EE portfolio, and energy savings arising from these efforts are likely undercounted. While a reasonable percentage of customers who participate in LGP-sponsored non-resource activities go on to install energy efficiency upgrades and adopt energy saving behaviors, data tracking limitations make it difficult to determine the full extent of the impacts associated with these LGP efforts. Establishing a consistent data tracking practices for non-resource activities will improve the evaluability of non-resource activities and provide for greater insights into their contributions to the statewide EE portfolio. This tracking process should include periodic updates to assess whether participants in non-resource activities subsequently engage in project development, including how they might be influencing projects where they are not the contact of record in program databases. In addition, having accurate tracking data is especially important for local government programs going forward because the program delivery model is shifting to a third-party implementation approach and the ability to gage performance of these programs, and compare effectiveness to past models, will largely depend on improved data.

2. LGP Overview and Study Purpose

Since 2002, the CPUC has approved local governments to contract with the IOUs to form LGPs, enabling them to leverage their unique relationships with constituents and municipal facilities to drive EE upgrades. LGPs were initially tasked with transforming California's local governments into "leaders in using EE to reduce energy use and global warming emissions both in their own facilities and throughout their communities."[13] Accordingly, each LGP program has developed its own set of goals and offerings tailored to meet local or regional needs.

Each LGP is made up of one or more city governments, county agencies, and/or other regional governing and coordinating bodies known as member (partner) governments. The local government or third-party organization that holds the contract with the IOU for LGP administration is often referred to as the Implementing Partner (IP).[14] This IP can be a single city or county, a council of governments, JPA, a private company, or another type of association. This IP typically manages administrative aspects of the partnership, including, but not limited, to serving as the main point of contact with the IOU(s), setting LGP goals, managing budgets, arranging recurring meetings with the member governments, and maintaining tracking databases. They also conduct a variety of activities in coordination with IOU program managers and their local government members. The core activities typically undertaken by an LGP can be categorized as follows:

- **Municipal retrofits**. Meeting regularly with local partner staff — either one-on-one or in groups — to discuss their pipeline of municipal facility projects, provide technical assistance, influence the decision-making process to install more efficient equipment, and hand-off the project to the most appropriate IOU program (which may be an LGP program if it has a resource component) for project approval, equipment purchase, and incentive payment.
- **Strategic planning**. Working with Partners to define their energy goals, as well as identify gaps, and provide funding as needed to support accomplishing the related tasks. Common examples of strategic planning activities include Energy/Climate Action Planning, benchmarking, greenhouse gas inventories, and hosting trainings on energy related topics.
- **Core program coordination**. Assisting and outreaching to Partners' customers to promote IOU EE programs. Common examples include residential and commercial audits, direct installs, and marketing of core programs at community events.

Over time each IOU has developed distinct LGP models. One distinguishing element of these LGP program models is their classification as resource or non-resource programs. The CPUC describes a non-resource program as one that has no directly attributed energy savings but serves to support the EE portfolio through activities such as marketing or improved access to training and education.[15] Historically, SCG and SDG&E's LGP programs have been entirely non-resource, meaning that the core programs that customers are channeled into claim savings rather than the LGPs directly. SCE has classified its LGPs as resource programs but only claims municipal retrofit savings. PG&E has also traditionally classified its LGPs as resource programs, but in addition to claiming municipal retrofit savings, they also directly claim DI activity savings. Regardless of an LGP's classification as a resource or non-resource program, savings resulting from the core program coordination activities are claimed by the core programs to which customers are referred.

The Energy Division (ED) of the CPUC indicated an interest in examining the effects of LGP non-resource activities on the EE portfolio with a focus on the 2016 and 2017 program operating years. Accordingly, the

[13] CPUC, California Long Term EE Strategic Plan, September 2008, p. 89.
[14] Some IOUs use different terminology. For instance, PG&E calls these organizations Lead Local Partners.
[15] https://www.cpuc.ca.gov/General.aspx?id=4137

objectives of this evaluation are to understand the impacts of LGP non-resource activities on EE resource programs offered by the PAs and to assess the impacts on EE actions and behaviors in general. The intent of the first-year evaluation is to cover the 2016-2017 program years. However, we also seek to understand how things have changed from past program cycles, and also how these programs have been changing since 2017. Considering the large number of LGP programs within each distinct IOU model, EE and the evaluation team decided to study the influence of non-resource activities for a select number of LGPs.

2.1 Year 1 LGP Selection Process

The large number of LGPs implemented over the past decade, as well as the diversity of motivations, budgets, demographics, and government priorities and resources, present evaluation challenges that are unique to the local government market segment. Thus, the evaluation team specified a set of characteristics to define a community served by an LGP to help guide the selection of programs for evaluation. This set of characteristics includes:

- Community Characteristics
- Economic Burden Characteristics
- Program Delivery Capacity

As defined below, the team used data from publicly available sources to profile various attributes within each of the characteristics' categories. Based on a comparison of these characteristics for all of California's 58 counties and in consideration of research priorities and programs that might not have been addressed in recent evaluations, Table 2 at the end of this section provides the set of five LGPs selected for evaluation in this year 1 study.

Community Characteristics

Community characteristics allow us to understand various attributes of the constituents served by an LGP and allow for a comparison of the LGPs selected for evaluation to other LGPs not being evaluated in year 1. Community characteristics the team focused on include:

- **County**. This is the county where the programs are operating. In general, PG&E programs are organized by county, while SCE programs are generally defined as a collection of cities. LA County (LAC) comprises the largest population center in the state and the evaluation team selected two programs that reflect the diversity within LAC. The SDG&E LGP evaluation focuses on SANDAG, a program whose coverage accounts for three-quarters of the population and most of the cites within SDG&E's service territory.
- **Covered Population**. This is the population covered by selected LGPs net of any other load serving entity (LSE), such as LADWP. This indicator may be useful in assessing the potential span of influence of the programs and how a selection may be designed to include both small and large coverage areas.
- **Number of Cities**. The number of cities included in a program's operating territory may be considered as an indicator of what opportunities LGPs might have available for municipal retrofits at the city level. Most cities have a set of similar facilities, such as city halls, libraries, police and fire stations, and programs with more cities will typically have a larger group of facilities to work with.
- **CEC Climate Zone (CZ)**. Climate zone helps define what might be the most appropriate and beneficial measures in weather sensitive applications. For example, programs operating in hotter areas should have higher HVAC savings than programs operating in more temperate climates.

- **Total 2017 per capita Usage Net of LSEs**. The team analyzed data from the CPUC at the county level to assess per capita usage, excluding the impact of non-IOU LSEs that might also be operating within the same county as an LGP.
- **% of 2017 GWh Non-Residential Usage**. The team examined data from the CPUC to assess what percentage of county consumption is attributable to non-residential loads. These values may be used in conjunction with other metrics to assess if and how LGPs are engaged in outreach to commercial customers, including public facilities.
- **% 5+ Multifamily**. The team reviewed data from the 2017 American Community Survey (ACS) to define what percent of the population resides in larger, 5+ unit multifamily properties.[16] This metric may be used in conjunction with other information to assess if LGPs are engaged in outreach to select populations or if there is coordination with select state initiatives, such as low-income customers or customers in areas with significant SB 350 barriers issues.[17]

Economic Burden Characteristics

Table 2 also provides the following economic burden metrics for the selected LGPs for study in year 1. Three out of four of these metrics originate from the Office of Environmental Health Hazard Assessment's (OEHHA's) California Communities Environmental Health Screening Tool (CalEnviroScreen). CalEnviroScreen is used by the California Environmental Protection Agency (CalEPA) to define disadvantaged communities. "CalEnviroScreen is a screening tool that evaluates the burden of pollution from multiple sources in communities while accounting for potential vulnerability to the adverse effects of pollution. CalEnviroScreen ranks census tracts in California based on potential exposures to pollutants, adverse environmental conditions, socioeconomic factors, and prevalence of certain health conditions".[18] These metrics are useful in defining LGP interactions with disadvantaged and low-income communities and includes the following:

- ***Average of CalEnviroScreen Version 3.0 Score***. This value indicates the average of the overall CalEnviroScreen 3.0 Score for census tracts within each program operating territory. Higher CalEnviroScreen values indicate increasing environmental and economic burden and may be used to assess program efforts to address disadvantaged and low-income focused activities.[19]
- ***CalEnviroScreen 3.0 Average of Poverty Percentile***. This value indicates the average CalEnviroScreen 3.0 poverty score for census tracts within each program's operating territory. Higher CalEnviroScreen values indicate increasing economic burden and may be used to assess program efforts to address disadvantaged and low-income focused activities.
- ***CalEnviroScreen 3.0 Average of Housing Burden Percentile***. This value indicates the average CalEnviroScreen 3.0 poverty score for census tracts within each program operating territory. Higher CalEnviroScreen values indicate increasing housing burden and, where applicable, may be used to assess program efforts to address housing efforts within low income (LI) populations, including multifamily efforts.
- ***California Alternative Rates for Energy (CARE) Eligibility - % Households***. This value is derived from the Public Utilities Code Section 913 Annual Report[20] and states the percent of households participating in CARE at the county level. This metric is generally consistent with CalEnviroScreen values and is also

[16] United States Census Bureau's 2017 American Community Survey.
[17] SB 350 Low-Income Barriers Study, Part A - Commission Final Report. CEC 12/16/2016 TN# 214830
[18] California Office of Environmental Health Hazard Assessment's CalEnviroScreen FAQ. https://oehha.ca.gov/calenviroscreen/calenviroscreen-faqs
[19] California Office of Environmental Health Hazard Assessment's CalEnviroScreen 3.0 Map. https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30
[20] As discussed in Pacific Gas and Electric, San Diego Gas & Electric, Southern California Gas, and Sothern California Edison's 2017 Annual Reports for Low Income Programs.

useful in defining LGP activities regarding low-income programs, such as Energy Savings Assistance (ESA) direct installation program participation, which is based on CARE program eligibility.

Economic and Program Delivery Capacity

Economic and program delivery capacity metrics for the selection are also presented in Table 2. They are useful in defining access to funding for constituents within an LGP operations area and include the following:

- **Average FICO Credit Score of Population**. This metric provides a summary of the individual credit ratings for counties and cities' residents based on FICO scores. This is an overall indication of the financial health of the underlying community and may be useful in assessing how successful LGPs are at driving individuals' utilizations of loans for sustainability projects, including on-bill financing (OBF) or CAEATFA's credit-based products, such as loans through the REEL program. In general, average FICO scores may indicate a municipality's cost to finance municipal debt, as the ability to repay this debt is often tied to the underlying creditworthiness of the city or county population.
- **Median Household Income (Dollars).** This is data from the 2017 American Community Survey (ACS) that provides an estimate of median household income and may indicate how successful cities and counties are at driving sustainability where income is a barrier to action.
- **Estimated per capita Public Purpose Programs (PPP) Dollars Paid**. This is an estimate of PPP funds derived from a county based on CPUC estimates of countywide energy consumption and PPP revenue as defined in the annual California Electric and Gas Utility Cost Report[21] to legislators on the source and use of PPP funds. This metric may help indicate how successful LGPs are at helping constituents access PPPs for project use (for example, by comparing project counts or savings values at the program/portfolio level against constituent funds paid in).
- **Median Home Price**. This is a proxy indicator for equity available to constituents and is informational only, though it may be useful in assessing the potential for community members to access non-FICO based loans used for sustainability projects, such as equity-based Property Assessed Clean Energy (PACE) financing.
- **Total Per Capita Local Program Delivery Funding**. This is a summary of per capita funding available to deliver EE projects implemented by PAs focused on local programs based on 2016 and 2017 approved funding. We define local programs as:
  - LGPs
  - RENs (prorated where RENs overlap with LGP coverage areas)
  - CCAs (prorated where CCAs overlap with LGP coverage areas)

  Table 2 provides additional details on the source of per capita funding and indicates that total per capita funding for PAs focused on local programs ranged from $10.34 to $0.39 for the program years reviewed.

[21] Public Utilities Code Section 913 Annual Report to the Governor and Legislature, April 2018

Table 2. Evaluation Year 1 Program Set Metrics

Electric Utility	SCE/SCG	SCE/SCG	PG&E	PG&E	SDG&E
LGP Name	West Side Community Energy Leader Partnership	San Gabriel Valley Energy Leader Partnership	East Bay Energy Watch	Fresno Energy Watch	San Diego Association of Governments
Community Characteristics					
County	Los Angeles	Los Angeles	Alameda and Contra Costa	Fresno	San Diego
Covered Population	314,235	1,435,977	2,722,260	1,007,229	2,797,353
Number of Cities	3	28	35	16	18
CEC CZ	9	9	3	13	7
Total 2017 per capita usage net of non-IOU LSEs	7,693	7,693	8,507	7,407	5,797
% of 2017 GWh Non-Res	71%	71%	70%	62%	65%
% 5+ Multifamily (ACS)	40%	21%	17%	15%	32%
Economic Burden Characteristics					
Average of CalEnviroScreen 3.0 Score	17	34	20	43	19
CES 3.0 Average of Poverty Percentile	23	50	33	68	33
CES 3.0 Average of Housing Burden Percentile	33	52	40	48	19
CARE Eligibility - % Households	35%	35%	24%	46%	29%
Economic and Program Delivery Capacity					
Ave Credit Score (FICO) of Population	722	693	715	645	693
ACS Total households - Median household income (dollars)	$83,729	$64,063	$82,881	$45,963	$67,177
Est per capita PPP $ Paid	$46.85	$46.85	$86.06	$72.33	$67.71
Median Home Price (Zillow)	$938,692	$612,208	$623,900	$237,200	$632,291
Total Per Capita Delivery Funding	$10.33	$2.08	$4.43	$2.86	$0.39

Table 3 below presents the overlap of the LGPs with RENs and CCAs and Table 4 presents the source of delivery capacity funds for each of the LGPs.

Table 3. REN/CCA Overlap with Selected LGPs

LGP Name	West Side Community Energy Leader Partnership	San Gabriel Valley Energy Leader Partnership	East Bay Energy Watch	Fresno Energy Watch	San Diego Association of Governments
REN Name	SoCalREN	SoCalREN	BayREN	NA	NA
CCA Name	NA	NA	MCE	NA	NA

Table 4. Source of Delivery Capacity Funds

LGP Name	West Side Community Energy Leader Partnership	San Gabriel Valley Energy Leader Partnership	East Bay Energy Watch	Fresno Energy Watch	San Diego Association of Governments
PG&E - 2019 Requested Budget $/Capita	NA	NA	$1.17	$2.86	NA
SCE - 2019 Requested Budget $/Capita	$8.57	$0.59	NA	NA	NA
SCG - 2019 Requested Budget $/Capita	$0.44	$0.17	NA	NA	NA
SDGE - 2019 Requested Budget $/Capita	NA	NA	NA	NA	$0.39
REN	$1.32	$1.32	$2.21	NA	NA
CCA	NA	NA	$1.05	NA	NA
Total	$10.33	$2.08	$4.43	$2.86	$0.39

Table 5 provides a summary showing the population and number of cities in the area covered by the selection of LGPs. The selection of LGPs covers approximately 22% of PG&E's and 9% of SCE's service territory populations, and 17% of PG&E's and 15% of SCE's cities, respectively. Approximately 78% of SDG&E service territory population and 72% of cites are covered. The SCG and SCE LGP programs evaluated in this study serve the same cities. The selection of LGPs also covers approximately 8% of SCG's and 9% of SCE's service territory population as well as 6% of SCG's and 15% of SCE's cities, respectively.

Table 5. Selection Coverage

Metric	Selection	Service Territory	% Coverage
SCE Population	1,750,212	19,500,000	9%
SCG Population[a]	1,750,212	21,800,000	8%
PG&E Population	3,729,489	16,700,000	22%
SDG&E Population	2,797,353	3,600,000	78%
Electric Utility Population	7,269,825	39,600,000	17%

Metric	Selection	Service Territory	% Coverage
SCE Cities	31	202	15%
SCG Cities[b]	31	530	6%
PG&E Cities	51	301	17%
SDG&E Cities	18	25[c]	72%
Total Cities	84	528	16%

a These programs operate in both SCE and SCG and both utilities provide funding and the population is the same
b SCG and SCE programs in this evaluation serve the same cities
c Comprised of San Diego County and South Orange County

2.2 Description of LGPs Covered in this Study

Below are descriptions of the LGPs selected for inclusion in the year 1 evaluation, including their Partnership team, the territories they cover, and an overview of their reported activities in 2016 and 2017.

2.2.1 PG&E's East Bay Energy Watch (EBEW)

The EBEW program is a partnership among PG&E, local governments, and energy service providers that serve the East Bay. In 2016 and 2017, EBEW was a resource program that conducted a variety of EE activities for residents, businesses, and municipalities. The program's Strategic Advisory Committee (SAC), consisting of local government staff from Contra Costa and Alameda counties and coordinated by StopWaste, is responsible for guiding program activity. These activities included, but were not limited to, small and medium business DI, no-cost residential DI, workforce development, municipal EE technical support, and strategic planning activities. EBEW contracted DNV-GL, Rising Sun Energy Center, and QuEST as implementers through the program to provide municipal EE technical support.

In 2016 and 2017 EBEW reported several activities, including:

- All-time high engagement with local government participation, with over 20 local governments formally appointed to the SAC, fueled by significant participation growth in Contra Costa County.
- Participating local governments reporting great success with the CivicSpark program. This program provides municipalities with funding for a full-time Climate Fellow. These Climate Fellows work on a variety of climate action issues, including EE related initiatives. In these program years, the demand from local jurisdictions for Climate Fellow funding exceeded EBEW's resource allocation to this activity.
- Continuing no-cost Building Operator Certifications (BOC) training (scholarships) for municipal employees, as well as no cost participation in software company Lucid's Connected Cities program, leveraging interval data and dashboard technology to inform and educate both public and civic employees on energy consumption and use patterns.

2.2.2 PG&E's Fresno Energy Watch (FEW)

The FEW program is a partnership among PG&E, local governments, and energy service providers that serve the City and County of Fresno. In 2016 and 2017, FEW was a resource program that conducted a variety of EE activities for residents, businesses, and municipalities. The City of Fresno's Department of Sustainability manages EE program activities within the City of Fresno while the Fresno County Economic Development

Corporation oversees program activities serving the rest of the county. Activities included, but were not limited to, hosting EE seminars on local energy policies and best practices for trade allies and businesses, a Home and Business Energy Tune-Up sub-program providing residential and business customers with energy assessments, a Regional DI sub-program, and strategic planning activities such as benchmarking.

In 2016 and 2017 the FEW Partnership reported several successes, including:

- Working in collaboration with Fresno State and their water program to provide water-energy nexus trainings to municipalities, schools, and large commercial water consumers, like golf courses, throughout the Central Valley.
- Hosting a variety of trade professional workshops, and outreach to communicate with local communities about the benefits of EE as well as various programs offered through PG&E such as OBF, Savings by Design, and the Business-Energy Tune-up program.
- Incorporating PG&E rebates and programs into the Fresno Economic Development Corporation's business expansion, attraction, and attention efforts.

2.2.3 SDG&E's San Diego Association of Governments (SANDAG) Partnership

The SANDAG Partnership program is a collaboration among SDG&E and local governments in San Diego County. In 2016 and 2017, the SANDAG Partnership was a non-resource program that specifically served local jurisdictions through a variety of EE activities. Activities included, but were not limited to, hosting a variety of meetings and workshops with local governments; providing energy assessments and online tools for municipal facilities; offering municipalities assistance with identifying, planning, implementing, and funding EE projects, as well as implementing energy codes; and building capacity within SANDAG member agencies that do not have a direct SDG&E LGP affiliation.

In 2016 and 2017 the SANDAG Partnership reported several successes, including:

- Having all eligible cities finish Energy Roadmaps with many beginning implementation of the roadmaps through the Program.
- Supporting cities' development of Climate Action Plans (CAPs) and General Plans'[22] EE components and implementation efforts. These efforts include regional climate change activities to increase coordination and standardized approaches across governments, agencies, SDG&E, and academia.
- Assisting the cities of Del Mar, Encinitas, National City, Oceanside, and Solana Beach with applications to the Beacon Award Program and/or Beacon Spotlight Awards, which they received.

2.2.4 SCE and SCG's San Gabriel Valley Partnership (SGVP)

The SGVP program is a collaboration among the San Gabriel Valley Council of Governments (SGVCOG), SCE, and SoCalGas that serves the San Gabriel Valley. In CEDARS,[23] SGVCOG is listed as two distinct programs: the SCG funded San Gabriel Valley COG Partnership (SGVCOG) and the SCE-funded San Gabriel Energy Leader Partnership (SGVELP). However, the SGVCOG partnership publicly does business as the San Gabriel Valley Energy Wise Partnership (SGVEWP) and is referred to as such in its Program Implementation Plan documents.

[22] General Plans are state mandated documents for local jurisdictions that provide a long-term plan for a city or county's physical development. Climate and Energy Action Plans are often a subcomponent of a jurisdiction's General Plan.
[23] CEDARS is the publicly accessible data system for California demand-side management (DSM) programs.

In 2016 and 2017, SCE's SGVELP was classified as a resource program, while SCG's SGVEWP was classified as a non-resource program.

For this evaluation we assessed data provided from both programs' IOUs, but aggregated results for the SGVP because both are implemented by the Energy Coalition. This also makes the data consistent when comparing it to the other partnerships which encompass both electric and gas. Activities included, but were not limited to, informing member agencies about existing EE and DR programs; helping municipalities identify, implement, and fund EE retrofits in their facilities; and developing specialized EE offerings including strategic planning activities like climate action planning, code compliance, and reach codes.

In 2016 and 2017 the SGVP reported several successes, including:

- Supporting several partner cities in moving up an Energy Leader Tier level by assisting them in implementing DR and Energy Action Planning efforts.
- Completing several municipal projects, which exceeded the partnership's annual goal.
- Completing construction of a database that contains information on San Gabriel Valley cities' facilities' energy usage, year built, and square footage.

2.2.5 SCE and SCG's West Side Partnership (WSP)

The WSP program is a collaboration among Culver City, implementer the Energy Coalition, SCE, and SCG. The program serves several cities including Santa Clarita, Santa Monica, Beverly Hills, and West Hollywood in 2017, as well as Malibu in 2018. In CEDARS it is two distinct programs; the SCG funded West Side Cities Partnership (WSCP) and the SCE funded West Side Energy Leader Partnership (WSELP). For this evaluation we examine data provided from both programs' IOUs, but aggregate results for both West Side programs (WSP) because both are implemented by the Energy Coalition and the program implementation is often coordinated between the two. In 2016 and 2017, SCE's WSELP was classified as a resource program while SCG's WSCP was classified as a non-resource program. Activities included, but were not limited to, informing member agencies about existing EE and DR programs; helping municipalities identify, implement, and fund EE retrofits in their facilities; and developing specialized EE offerings including strategic planning activities like climate action planning, code compliance, and reach codes.

In 2016 and 2017 the SGVP reported several successes, including:

- Completing approximately 20 electric EE projects, as well as several therm savings projects at municipal facilities.
- Expanding the West Side Cities Partnership midway through the 2017 program year to include the cities of Santa Clarita, Santa Monica, Beverly Hills and West Hollywood, as well as prepare Malibu for the transition in early 2018.
- As part of the marketing efforts the Partnership developed a website to serve as a resource for cities and utility partners, as well as assisted Culver City in applying for the Beacon Award and Cool Planet Awards for recognition of their EE efforts.

2.3 Non-Resource Activities Offered by LGPs Covered in this Study

LGPs are ratepayer-funded IOU EE programs that conduct a variety of non-resource activities including marketing and outreach, technical assistance, workshops and trainings, energy audits, and/or referrals to

other programs. As noted earlier, the CPUC describes a non-resource program as one that has no directly attributed energy savings but serves to support the EE portfolio through activities such as marketing or improved access to training and education.[24]

This study broadens the focus from non-resource programs to non-resource activities since oftentimes PAs engage in discrete actions, as opposed to formally defined programs, that are meant to promote participation in their resource offerings, but do not in and of themselves produce energy savings. Energy audits serve as a prime example of a non-resource activity. Audits do not generate savings, but instead provide customers with recommendations to improve EE, perhaps through the installation of new equipment that requires less energy to operate or through behavioral changes. If customers then decide to purchase rebated energy efficient equipment through a resource program, the non-resource activity (the audit) indirectly led to energy savings that contributed to California's EE portfolio.

Each of the selected LGPs engage in non-resource activities, though some offer many more either because they are classified as a non-resource program (SCG and SDG&E's LGPs) or because their unique program goals required it (PG&E's EBEW). To understand the non-resource activities the selected LGPs engaged in during 2016 and 2017, the evaluation team reviewed documentation of their activities as presented in the IOUs' Annual Reports as well as the LGPs' Semi-Annual Strategic Plan Report workbooks for these years. These documents communicate the notable strategies employed by LGPs to encourage EE actions in general and participation in IOU EE resource programs. The evaluation team reviewed these strategies and found that they fit the definition of non-resource activities.

Our review shows that the selected LGPs engaged in several types of non-resource activities with the intention of promoting PA resource programs. For example, LGPs conduct periodic one-on-one or group meetings with local jurisdictions to understand the various projects these municipalities have planned in the pipeline or wish they could complete; identify potential opportunities to install more efficient equipment; provide technical assistance or planning support; and connect municipal projects with the appropriate PA program based on the needs of the jurisdiction. Typically, the LGPs identify a local sustainability lead — sometimes referred to as an "Energy Champion" — who acts as the primary point of contact for the jurisdiction. This Lead plays a key role in disseminating this information to the relevant municipality staff (e.g. public works staff, city planner, etc.) and bringing them to the table to discuss potential EE projects with LGP, IOU and/or implementer staff. These meetings do not produce energy savings, but rather connect the most appropriate municipal staff for a project with resources and technical assistance to which they often wouldn't otherwise have access. This can lead public sector customers towards participation in PA programs, which can then result in savings. Other possibilities include implementing the recommendations through participation in a similar program offered by another PA such as BayREN or SoCalREN, acting on the recommendations on its own outside of an EE program, or not acting on the recommendations at all.

Other non-resource activities that LGPs engaged in are not specifically tied to the promotion of a PA resource program, such as marketing and outreach to its customers more generally about the LGP's mission, the services it offers, as well as providing marketing materials for various PA programs. For example, many of the LGPs send out eNewsletters, attend community events, and host webinars/workshops that provide information about sustainable communities, EE, and EE programs that offer rebates for energy saving equipment. Additionally, it is equally as common for LGPs to support municipal planning efforts by offering a mixture of certification trainings, building benchmarking, Energy/Climate Action Plan funding or assistance, energy audits and/or technical assistance.

[24] https://www.cpuc.ca.gov/General.aspx?id=4137

2.4 Key Research Questions

The study objective for this assessment is to understand the effects of the non-resource activities offered by LGPs on the overall EE portfolio during 2016 – 2017. The following are the research questions the team addressed in this report as defined in the research plan provided to stakeholders:

- What non-resource activities are most successful in channeling customers into PA resource programs and behaviors that reduce energy usage?
- How many participants learned about EE resource programs through participation in LGP non-resource activities and how many went on to participate in resource programs?
- What savings can be attributed to the influence of LGP non-resource activities?
- What types of EE actions do LGP non-resource program participants take that occur outside PA EE resource programs and how much additional energy savings are generated from these behaviors?
- To what degree did the selected LGPs engage with local government agencies/departments and what resulted from these interactions?
- To what degree did the selected LGPs engage with local government agencies/departments, what was that experience like, and what resulted?
- How might LGPs be improved to become more effective?

In addition to these research questions, the team gathered insights into additional questions raised during the course of our work. These are ongoing topics of interest that the evaluation team may research in years 2 and 3 of the evaluation, but we began to explore these areas and provide initial findings in Section 10. These additional research questions that are of interest for years 2 and 3 include:

- What is the market value added by LGP programs?
  - How are the LGPs adding value vis-a-vis leveraging their relationships to local needs?
  - What are innovations that are unique and not present in IOU or third-party programs?
  - Could the same additional market value be achieved through a different administrative structure (i.e. what benefit does the LG administrative layer provide)?
- What is the influence of Implementing Partners on LGP program design?
  - What, if anything, have the LGPs done to control or influence program design in collaboration with IOUS and where LGPs act as drivers of program design?
  - What is their relationship to implementation, and what is their incremental value add?
    - How engaged are they with their customers?
    - How engaged are LGPs with their program implementation team?
  - What influence can we anticipate of the LGPs on programs moving forward?

- How will LGPs support local government capacity building, enabling the public sector to conduct EE activities outside of PA programs?
- How will the co-benefits and local economic improvements provided by local government EE activities, especially those that target hard-to-reach customers and disadvantaged communities, be measured and reported?
- What evidence is there of similar PA programs with overlapping territories coordinating their non-resource activities (e.g. LGPs and REN public agency programs)?

3. Overview of Evaluation Approach

This section first describes the research tasks the evaluation team carried out to address the key research questions presented in Section 2.4. It follows with a description of the data collection and analytical methods used to accomplish the research tasks.

3.1 Research Tasks

As part of the year 1 assessment of LGPs, the evaluation team conducted the following tasks presented in Table 6.

Table 6. Research Tasks for First-Year Assessment of LGPs Study

Evaluation Tasks	Description
Data Request	Submitted a data request to PG&E, SCE, SCG and SDG&E to acquire non-resource activity tracking data including participant names, contact information, and dates of participation.
Materials/Data Review	Reviewed response to the data request to learn about the marketing and outreach campaigns, types of non-resource activities, and resource programs offered by the selected LGPs.
In-Dept Interviews with IOU and LGP Implementing Partner Staff	Conducted in-depth interviews with staff at the IOUs and the Implementing Partners of the covered LGPs to gain insights about how they conduct their non-resource activities, how they are funded, and whether they are a part of resource programs they offer.
Program Theory and Logic Model Development	Reviewed existing program theory and logic models for the selected LGPs with IOU and LGP Implementing Partner staff to better understand how non-resource activities are used to promote participation in EE programs or energy saving behaviors.
Evaluability Assessment	Conducted a review of the non-resource tracking data provided by PG&E, SCE, SCG and SDG&E to determine whether the datasets include information needed to evaluate the benefits of these activities.
Channeling Analysis	Identified non-resource activity participants of the selected LGPs who subsequently participated in a PA resource program and those who did not. Use this information in the development of the survey sample.
LGP Non-Resource Activity Participant survey	Conducted a participant web survey with the selected LGPs' non-resource activity participants to assess whether they installed rebated or non-rebated EE equipment and/or changed their energy using behaviors after participating in an activity; also assess the degree to which the non-resource activity influenced their subsequent equipment installation and behavior.
Engineering/Attribution Analyses	Using the information gathered from the participant web survey to estimate the energy savings from the installation of EE equipment that occurred after engagement with an EBEW, FEW, SANDAG, SGVP, or WSP non-resource activity and attribute the portion of savings coming from the influence of non-resource activities.

3.2 Methodology

This section outlines the methodologies used to complete the year 1 evaluation, including:

- The evaluability assessment of the data provided by PG&E, SCE, SCG, and SDG&E.
- The channeling analysis to determine which EBEW, FEW, SANDAG, SGVP, and WSP non-resource participants went on to participate in PA EE resource programs.
- The LGP non-resource activity participant web survey.
- The engineering analysis used to estimate the ex-ante gross and net 1st year savings from EE installations by EBEW, FEW, SANDAG, SGVP, and WSP non-resource participants.
- The attribution analysis used to determine the influence of EBEW, FEW, SANDAG, SGVP, and WSP's non-resource activities on customers' decisions to purchase EE equipment, some of which were claimed towards California's EE portfolio goals.

3.2.1 Evaluability Assessment

To determine whether the evaluation team could use the non-resource activity data collected by the selected LGPs for the channeling analysis and to develop a sample for its survey efforts, we reviewed data provided by the IOUs in response to data requests sent in February 2019. In March 2019, the evaluation team received the following program materials and data in response to the data requests sent to the IOUs:

- Annual reports, meeting minutes and agendas, marketing brochures, and other materials used to inform customers about each LGP's program offerings[25].
- LGP non-resource and selected EE resource program databases.
- Available data and information supporting the engagement and accomplishment metrics reported in the LGPs' Semi-Annual Strategic Plan Report workbooks.
- Available program and project-level budget documents, scopes of work, and final reports from LGP activities described in the LGP sections of the IOUs' annual reports.

In addition to the data and materials received from the IOUs, the evaluation team also gained access to CPUC's program data, some of which is publicly available through CEDARS.[26]

The evaluation team reviewed the program materials and tracking databases to understand the types of non-resource activities and resource programs the selected LGPs offer to their customers; the goals of their program offerings; the size of the programs based on participation records; and the availability of program participant information for the channeling analysis, survey sample development, and other evaluation tasks.[27]

[25] While program implementation plans, as well as program theory and logic models, were requested in these data requests, these documents were ultimately collected from CEDARS and various past evaluation reports, and then reviewed with IOU staff to confirm their relevance to the LGPs' 2016 and 2017 program design.
[26] The CPUC program database contains data about savings claims with more granularity than what is publicly available. This database contains individual savings claims from all PA resource programs including associated customer information and measures installed.
[27] The evaluation team conducted a high-level review of the selected LGP programs' commercial and residential sector-focused activities during the evaluability assessment. However, this data was excluded from the evaluability assessment. The evaluation team's review of the recent business plans and ABALs, as well as discussions with IOUs, Implementing Partners, and Energy Division staff indicated that generally these activities are in the process of being phased out of the LGP portfolio, with a renewed focus on supporting the public sector. As such, the evaluation team narrowed its review of LGP non-resource activities to those targeting the public sector.

Data completeness, quality, and the feasibility of conducting channeling analyses using LGP data and CPUC program data were the primary focus of the evaluability assessment. Section 5 presents detailed results of the evaluability assessment and recommendations for non-resource activity data tracking.

3.2.2 Channeling Analysis

The evaluation team conducted a channeling analysis to acquire the set of customers who engaged in a selected LGP non-resource activity in 2016-2017 and subsequently participated in an EE program offered by one of the California PAs. The premise of the channeling analysis is that customers who participated in a PA resource program may potentially have been, in part, influenced by the LGP non-resource activity in which they participated. The channeling analysis provides a list of the customers who may have been influenced by the non-resource activity. However, the degree of influence, if any, cannot be determined through this analysis.

We recognize that the LGPs' non-resource activity participants may have chosen to install EE equipment outside of PA resource programs as well. The channeling analysis does not capture this information. However, the team did implement a survey with the LGPs' non-resource activity participants to understand what EE equipment and behavioral changes were made both within and outside of PA resource programs and what influence the non-resource activity had on their decision.

To conduct this analysis, the evaluation team identified records from the LGPs' non-resource activity tracking datasets, used LGP customer data and outside sources to fill in missing information to improve results of the channeling analysis, created unique records of non-resource activity participants, and looked for customer matches in the CPUC tracking data that showed customer purchases of EE equipment occurring after their interaction with an LGP. The CPUC program data used in this analysis covered 2016 through 2018, as the team recognizes that engaging in a non-resource activity during the 2016-2017 timeframe may lead to delayed participation in a PA resource program.

The evaluation team needed two main sources of information to conduct the channeling analysis:

- A list of LGP non-resource activity participants with customer identifying information, type of non-resource activity in which the customer participated, and date of participation; and
- A list of PA resource program participants with customer identifying information and dates of participation so that the evaluation team could confirm that participation occurred after non-resource activity participation.

The two lists ideally should contain a common identifier, such as a customer ID that is included in both datasets. However, this information was only present on occasion. The evaluation team therefore had to rely on other ways to match customers to records in the CPUC tracking data such as through customer name, email address, phone number, and/or mailing address. To prepare the non-resource participant datasets for the channeling analysis, we:

- Converted each non-resource participant tracking dataset into a standardized format;
- Standardized variable names;
- Cleaned the data in a standardized manner; and
- Retained the following fields for each record, where populated: name, premise address, phone, email, and dates of non-resource activity participation.

We next appended all the standardized non-resource tracking datasets. This allowed the team to conduct a search for duplicate records across non-resource activity datasets. The team defined unique records based on a combination of premise location and customer names because EE upgrades, and hence energy savings, occur at the property level and are experienced by the customer that occupies that premise.

The next step in this process was to employ a fuzzy matching algorithm[28] to identify duplicate records. In some cases, a record would contain a customer name and email address and in another it would contain a customer name and street address. In these cases, the evaluation team appended the information from the two datasets so that we would retain as much information as we could for that given record. This allowed the team to create a single unique record from two sources that contained different information about the same customer/premise combination and would help increase the chance of finding a match in the CPUC tracking data. After we ran the algorithm, the final non-resource participant tracking dataset contained unique records. We made sure to include flags to indicate the non-resource activities in which customers participated.

The evaluation team then matched the non-resource participant dataset with unique records to the CPUC program data in a similar manner used to remove duplicate records from the non-resource participant data. We used almost the exact same fuzzy matching algorithm to link records from the non-resource activity data to the CPUC program tracking by looking for matches first by customer ID. Because customer IDs were often unavailable, the team searched for matches based on a combination of names, email addresses, and premise addresses.

3.2.3 LGP Non-Resource Activity Participant Survey

As part of the assessment of LGPs, the evaluation team conducted a computer-assisted web interviewing (CAWI) survey of IOU customers who engaged with non-resource program activities conducted by the selected LGPs as part of their EE programs and their general marketing and outreach campaigns.

Sample Design

The evaluation team conducted this web survey to identify the EE equipment upgrades and behavioral changes municipal customers carried out in public facilities after engaging with LGP non-resource activities. Surveys were sent to municipal customers identified in the tracking datasets provided by the IOUs in response to our data request. These customers included:

- LGP non-resource activity participants located in the CPUC program database. These participants are associated with claims that occurred after engaging in an LGP non-resource activity.
- LGP non-resource activity participants not found in the CPUC database.
- Customers identified in the LGPs' internal tracking databases that completed LGP projects in 2016 and 2017. Although the focus of this survey is LGP non-resource activity participants, customers located in the LGPs' tracking databases that completed projects were surveyed because discussions with the IOUs and LGP Implementing Partners indicated that these customers likely participated in LGP non-resource activities and we wanted to know what that interaction had been and what influence it had.

[28] Fuzzy matching is a computer science-based technique used to link records, particularly when there are less than 100% identical field values across sources.

The evaluation team reached out to 418 LGP contacts across the five selected LGPs to complete surveys and received 33 respondents. As shown in Table 7, the sample size and response rate varied greatly among the selected LGPs because of the quality and quantity of non-resource activity data received.

Since sample points for some of the different non-resource activities are limited, the evaluation team used a census approach and contacted all customer groups described previously who had contact information (i.e., email address). Note that SANDAG provided the majority of sample points because the program primarily serves municipal customers and SDG&E provided a significant amount of meeting attendance tracking data containing municipal customer contact data. FEW provided a low number of sample points because the program primarily focused on serving residential and business customers in 2016 and 2017, particularly through DI initiatives. Given the anticipated changes to LGP program design this study's surveying efforts were limited to interactions with municipalities (See Section 5.1.2 FEW Data Review for additional details). Given the low number of completes and the uniqueness of each LGP's offerings, the results of the survey are not statistically significant and should not be interpreted as a statement about the full extent to which LGPs non-resource activities influenced subsequent resource program participation.

Table 7. LGP Participant Survey Sample Composition

LGP	Population		Sample Frame		Sample		Survey Completes	
	N	Percent (N=1,104)	n	Percent (n=429)	n	Percent (n=418)	n	Percent (n=33)
East Bay Energy Watch	75	7%	75	18%	70	17%	6	18%
Fresno Energy Watch	2	0%	2	0%	1	0%	0	0%
SANDAG Partnership	921	83%	249	58%	249	60%	19	58%
San Gabriel Valley Partnership	52	5%	49	11%	45	11%	2	6%
West Side Partnership	54	5%	54	13%	53	13%	6	18%
Total	**1,104**	**N.A.**	**429**	**N.A.**	**418**	**N.A.**	**33**	**N.A.**

Survey Fielding, Disposition, and Response Rate

The evaluation team fielded the web survey between October 22 and November 12 and contacted LGP non-resource activity participants by email. Table 8 provides the survey dispositions for the participant survey.

Table 8. Participant Survey Disposition

Disposition Code	Disposition Category	Number of Customers
Complete	I	33
Partial complete - survey eligibility confirmed	N	12
Partial complete - survey eligibility unknown	U1	65
Refused	U1	2
No response	U1	169
Ineligible to participate	X1	18
Bounced email	X2	119
Total		**418**

Table 9 presents the response rate (RR) for the participant survey, which was calculated using the standards and formulas set forth by the American Association for Public Opinion Research (AAPOR), as described in Appendix C.

Table 9. Participant Survey Response Rate

AAPOR Rate	Percent
RR3	15.45%

3.2.4 Engineering Analysis

The main objective of the engineering analysis was to estimate the 1st year ex-ante gross and net energy impacts[29] of the EE equipment installed by surveyed customers who initially participated in the selected LGPs' non-resource activities either through a PA resource program or on their own. The evaluation team used the data from the participant survey, which was fielded to non-resource activity participants within the IOUs' service territories. Thirty-three participants provided responses to the survey and the information they provided about the EE retrofits they completed was used in the engineering analysis.

The evaluation team used two approaches to estimate gross savings. The first analysis approach to assess gross savings was used for measures categories, where individual measure attributes could be defined. For these measures, the evaluation team identified sub-measures that contributed to the measure category level savings. For every sub-measure, we analyzed the participant responses and calculated the ex-ante energy savings by applying the deemed savings values using either the CPUC tracking database or the READI (Remote Ex-Ante Database Interface, version 2.5.1) program. Measures analyzed using this approach include:

- Select HVAC Measures including Tune-ups, Steam Water Systems, Air Distribution, and Thermostats
- Office Equipment
- Refrigeration
- Solar
- Water Heating

READI is a program that allows users to examine the ex-ante measure information based on DEER stipulations. Users can access measure-specific information such as:

- Ex-ante data tables
- Existing DEER and non-DEER measure definitions
- Deemed energy impacts associated with measures in tables and graphs
- Measure-specific net-to-gross ratios (NTGRs)

READI also provides an option for the user to download data tables and create and save new measures based on existing scaled measure definitions. The evaluation team used these deemed savings values in conjunction with pertinent survey data on measure quantities and specifications, etc., to determine the 1st year ex-ante gross savings for both rebated and non-rebated EE equipment. When unable to utilize DEER as the analysis

[29] Gross savings are defined as the change in energy consumption and/or demand that results directly from program-related actions taken by participants in an efficiency program, regardless of why the customer participated and unadjusted by any factors. Net savings are the total change in electric or gas consumption and/or demand that is attributable to an energy efficiency program.

source, the evaluation team utilized approved workpapers or other widely used industry sources such as Energy Star Calculator or Measure Input Characterization System (MICS) data from the CPUC Potential and Goals Study.

The following table summarizes the assumptions and sources used to calculate the gross and net savings for each measure category under this approach.

Table 10. Measure Specific Assumptions and Sources

Measure Category	Sub-Measure	Analysis Source/ Assumptions		
		Unit Energy Savings	Measure Qty	NTGR
HVAC	HVAC System Tune-Ups	Workpaper	Survey Data	DEER Support Tables
	Reset hot water supply temp	DEER	Survey Data	DEER Support Tables
	High efficiency boiler	DEER	Survey Data	DEER Support Tables
	Hot Water Pump VFD	DEER	Survey Data	DEER Support Tables
	Optimized building controls to improved building ventilation	Unable to quantify due to insufficient data	-	-
	Installed demand control ventilation	Workpaper	Survey Data	DEER Support Tables
	Installed and maintained clean efficient air filters	Unable to quantify due to insufficient data	-	-
	Repaired and/or replaced dampers	Unable to quantify due to insufficient data	-	-
	Improved existing ductworks	DEER	Survey Data	DEER Support Tables
	Optimized supply fan performance/Balanced Airside Supply	DEER	Survey Data	DEER Support Tables
	Programable or Smart Thermostats	DEER	Survey Data	DEER Support Tables
	Operating Schedule/Thermostat Reprogramming	Workpaper	Survey Data	DEER Support Tables
Office Equipment	Advanced Power Strips	DEER	Survey Data	DEER Support Tables
	Computer Power Management Software	DEER	Survey Data	DEER Support Tables
	Energy Savings desktop or Laptop	IL TRM	Survey Data	DEER Support Tables
	ENERGY STAR Printer	ENERGY STAR Calculator	Survey Data	DEER Support Tables
	ENERGY STAR Copier	ENERGY STAR Calculator	Survey Data	DEER Support Tables
	ENERGY STAR Computer Monitor	ENERGY STAR Calculator	Survey Data	DEER Support Tables
Other	Solar Panels	Itron's PV Watts Simulation Model	Survey Data	DEER Support Tables

Measure Category	Sub-Measure	Analysis Source/ Assumptions		
		Unit Energy Savings	Measure Qty	NTGR
	VFDs for Pool Pumps	Unable to quantify due to insufficient data	-	-
	Weather Based Irrigation Controls	Unable to quantify due to insufficient data	-	-
	Windows	Unable to quantify due to insufficient data	-	-
	Electric Vehicle Charging Stations	Unable to quantify due to insufficient data	-	-
	Demand Response	Unable to quantify due to insufficient data	-	-
	Control Pumps	Unable to quantify due to insufficient data	-	-
Water Heating	High Efficiency Boilers	DEER	Survey Data	DEER Support Tables
	Efficient Storage Water Heaters	DEER	Survey Data	DEER Support Tables
	Efficient Tankless Water Heaters	DEER	Survey Data	DEER Support Tables
	Solar Water Heaters	2018 California Solar Initiative (CSI) Thermal Impact Report	Survey Data	DEER Support Tables
Refrigeration	Freezer Door Heater Controls	MICS/ Washington State University - EE Emerging Technologies Database	Survey Data	DEER Support Tables
	ECM for walk-in and reach-in coolers and/or freezers	MICS/Workpaper	Survey Data	DEER Support Tables
	Strip curtain for walk-in coolers and/or freezers	MICS/Workpaper	Survey Data	DEER Support Tables
	New rubber gaskets and suction line insulation	Unable to quantify due to insufficient data	-	-
Compressed Air	No Survey Responses			

The team also used a second approach to assess 1st year ex-ante gross savings where individual measures were not defined but where representative project level savings accomplishments could be estimated based on a whole building approach for lighting and HVAC projects. This approach used estimates for savings per square foot (sq.ft.) based on differences in energy densities between pre- and post-retrofit conditions multiplied by the amount of the facility's sq. ft. impacted by the project using the following criteria:

- HVAC, where the scaling factor is based on the amount of conditioned space impacted, multiplied by change in HVAC energy use intensity (kWh or therms per sq. ft. of conditioned space) for projects installed under Title 24 HVAC code definitions that applied during 2016 and 2017.
- Interior Lighting, where the scaling factor is based on the amount of conditioned space impacted, multiplied by change in lighting energy use intensity (kWh per sq. ft. of lighted space) for projects installed under Title 24 lighting code definitions that applied during 2016 and 2017.

The estimates of savings per sq. ft. is based on a review of savings from retrofit and new construction projects currently in progress as part of the Large Commercial Industrial and Agricultural sector evaluation (CIAC)[30] for program years 2016 and 2017. The projects selected for review have similar measures and facility operating parameters to the LGP projects for which participant survey respondents provided data. We analyzed 13 projects and Figure 1 shows the range of savings for space cooling, lighting, ventilating and air conditioning (VAC) and space heating. Table 11 shows the energy intensities used to calculate savings for HVAC and lighting projects. To minimize the risk of overstating savings, we used the minimum savings values for VAC and lighting, and the average savings value for space heating,

Figure 1. Range of Energy Savings Intensities from CIAC Project Reviews

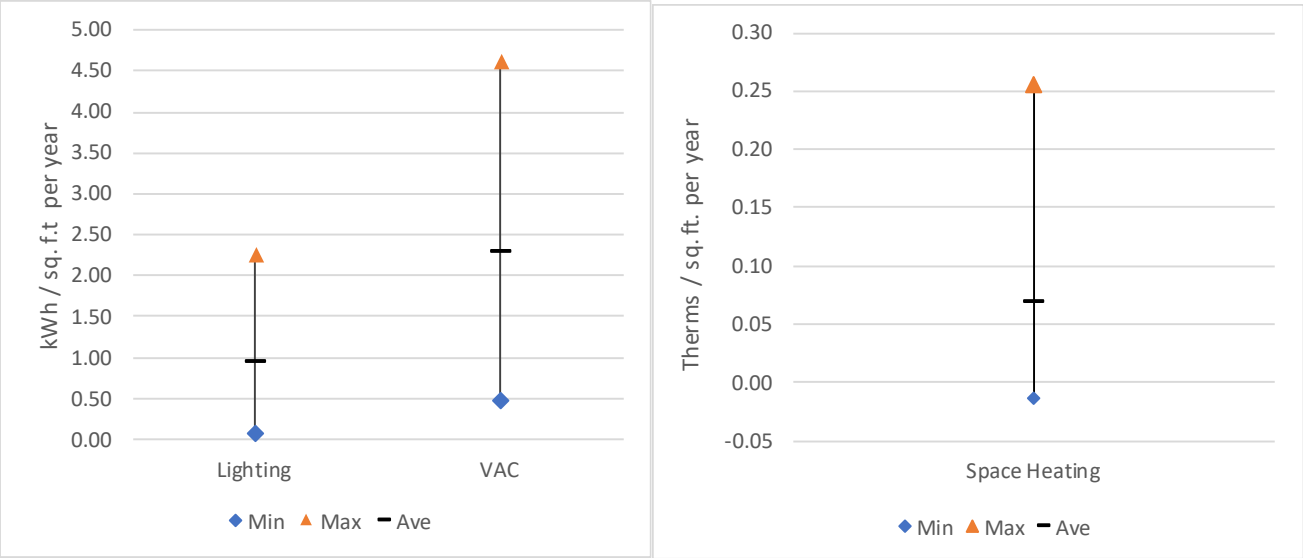


Table 11. CIAC Analysis Savings Values

Measure Category	Savings Value Used	Average
Lighting (kWh/sq. ft. per year)	Minimum	0.08
VAC (kWh/sq. ft. per year)	Minimum	0.47
Space Heating (Therms/sq. ft. per year)	Average	0.07

[30] EE savings measurement, estimation, program oversight, and evaluation of the Group D sectors: large commercial, industrial, and agriculture sector program; and customized project reviews and strategic energy management activities. CPUC RFP #17PS5018

To estimate project level savings, the reported amount of square footage retrofitted was multiplied by the savings per sq. ft. factors. Where survey respondents did not provide square footage information, the team made follow up inquiries with survey respondents to gather this information. If follow up outreach was not successful, we reviewed the number and type of measures that were reported as installed and determined that survey respondents reported, on average, three types of HVAC measures and five types of lighting measures had been installed at participating facilities. Based on this level of activity we determined that a whole building approach could be used for six survey respondents to estimate lighting savings and eight survey respondents for HVAC savings.

The evaluation team also identified and applied measure-specific NTGRs from DEER to the calculated 1st year ex-ante gross savings to estimate the total 1st year ex-ante net energy savings of EE equipment installed by participants of the non-resource activity types and for each of the measure categories above.

As a part of the savings estimation, we relied on our measure-specific evaluation expertise and identified best available proxies for missing tracking database or DEER data fields to establish conservative savings estimates. As such, these estimates are purely representative of the likely non-resource activity related savings and do not have statistical significance or precision-based metrics for broader extrapolation.

3.2.5 Attribution Analysis

Based on data collected from selected LGPs' non-resource activity participants, the evaluation team calculated customer-level ratios that represent the degree of influence their non-resource activities had on the customer's decision to install EE equipment, whether it be through an EE resource program or on their own. Once we calculated this ratio, we applied it to the customer-level ex-ante gross and net energy savings calculated in the engineering analysis to estimate the proportion of savings attributable to the LGPs' non-resource activities.

Attribution Survey Questions

The evaluation team developed customer-level attribution ratio based on responses to the following survey questions:

IN1a. On a scale of 0 to 10, where 0 is "Not at All Influential" and 10 is "Extremely Influential", how influential was the EE related **<NR activity>** in your decision to install energy saving equipment?

IN2a. Now we would like to ask you about the importance of **<LGP>** program in your decision to install energy saving equipment compared to other factors that may have influenced your decision.

If you were given a TOTAL of 10 points to rate the importance of the **<LGP>** program in your decision to install energy saving equipment and you had to divide those 10 points between all your overall interactions with (1) the **<NR activity>**, and (2) any OTHER factors, how many points would you give to the importance of your interaction with the **<LGP>** program? Your best estimate is fine.

[ASK IF IN2a-2 > 2]

IN3a. Please list up to three other factors that influenced your decision to install energy saving equipment. **[OPEN END – ALLOW FOR UP TO THREE RESPONSES]**

IN4a. Now please think about the actions you would have taken with regard to installing energy saving equipment if you hadn't interacted with the **<LGP>** program.

Using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", if you had not interacted with the **<LGP>** Program, including the **<NR activity>,** what is the likelihood that you would have installed EXACTLY the same ENERGY SAVING equipment either at the same time or later?

[ASK IF IN4a>0]

IN5. Using the same scale from 0 to 10, if you had NOT interacted with the **<LGP>** program including the **<NR activity>**, what is the likelihood that you would have installed exactly the same energy saving equipment **within 12 months of when you did it**?

[ASK IF IN5>0]

IN5a. When do you think you would have installed the energy saving equipment had you not interacted with **<LGP>** Program? Please answer relative to the date that you **actually** installed the energy saving equipment:

0. At the same time
1. Within 6 months
2. More than 6 months up to 1 year later
3. More than 1 year up to 2 years later
4. More than 2 years up to 3 years later
5. More than 3 years up to 4 years later
6. More than 4 years later
8. Not sure

[ASK IF IN5a=6]

IN6a. Why do you think it would have been over 4 years later? **[OPEN END]**

Attribution Ratio Algorithm

Based on the responses to the questions above, the evaluation team calculated customer-level attribution ratios using the following algorithm:

Equation 1. Attribution Ratio Formula

Attribution Ratio = Average (NR Relative Influence, Adjusted No NR Activity)

Where:

NR Relative Influence = (IN2a score/10)

*Adjusted No NR Activity = 1 - (IN4a score/10) * Timing adjustment*

Timing adjustment = [1 – (# months expedited from IN5a – 6)/42]

We used the following values to represent the # of months expedited since the survey responses provided ranges from which respondents could select:

Responses to IN5	Month Value	Timing Adjustment
0. At the same time	0	1
1. Within 6 months	0	1
2. 6 months to a year	9	0.928571
3. More than 1 years up to 2 years later	18	0.714286
4. More than 2 years up to 3 years later	30	0.428571
5. More than 3 years up to 4 years later	42	0.142857
6. More than 4 years later	48	0
8. Not sure	Not sure	If IN4 = 8, 9, or 10, then Timing Adjustment = 0; If IN4 < 8, then Timing Adjustment = 0.5

4. Program Theory and Logic Models

The evaluation team reviewed the selected LGPs' existing program theory and logic models (PTLM) and compared them to what we learned from our program materials review and in-depth interviews conducted with IOU and implementing program managers. Initially the evaluation team requested PTLMs from the IOUs in its data request. Although they were not provided in the data request, IOU staff indicated for us to review their PIPs for the latest PTLMs. Consequently, the evaluation team identified the selected LGPs' PTLMs for each IOU from past PIPs and evaluation reports and then confirmed with IOU staff that we had the most recent version of their PTLMs. Through conversations with IOU staff in project coordination group (PCG) discussions and depth-interviews, we determined that LGP PTLMs have generally remained the same for a number of years, including 2016-17, due to the occurrence of multiple bridge years and very few changes to the IOUs' LGP operational structures.

We are aware of PTLM updates that occurred for nine individual LGPs as part of Evergreen Economics' 2017 evaluation[31] and the desire by some stakeholders to continue updating individual LGPs in this manner. The consensus was that PTLM updates are not appropriate at this time due to the significant program redesigns that are currently or are anticipated in the near future for each of the IOUs. However, if the design of LGPs solidifies in the second or third years of this evaluation, it could potentially be appropriate to update selected PTLMs during those years of the evaluation.

These LGP program theory and logic models pair resource activities such as providing incentives, bulk distribution/giveaways, and directly installing EE measures with various non-resource activities that indirectly support the IOUs' core programs and energy savings goals. Examples of these non-resource activities include:

- Energy audits, demonstration projects, education, outreach and training activities to promote awareness and likelihood of investing in EE as well as DR.
- Core program marketing, referrals, technical assistance, and other municipal focused activities to increase awareness of existing EE programs and their requirements.
- Establishing new policies and conducting strategic planning activities that alter municipal behaviors and standard practices.

The outcomes of the activities and outputs for LGP programs include:

- Implementation of more EE projects and measures installed than would otherwise have been completed;
- Changes in municipal staffs' behavior;
- An increase over time of the local governments' capacity to participate in EE programs, as well as install measures outside of PA programs;
- KW, kWh, and therm savings;
- Infrastructure to cost-effectively deliver EE projects;
- Increased penetration of EE products and applications; and
- Long term environmental and other non-energy benefits.

[31] Martha Wudka, John Cornwell, Tami Rasmussen, Steve Grover, Evergreen Economics. LGP Evaluation Webinar. October 5, 2017.

Note that PG&E, SCG, and SDG&E's PTLM's are nearly identical, with SCE's being the most unique as it appears to have been the most recent PTLM that was fully revised. Figure 2 through Figure 5 present the IOUs' LGP PTLMs that were confirmed by IOU staff as relevant to the LGPs in the 2016 and 2017.

Figure 2. SCG's LGP PTLM

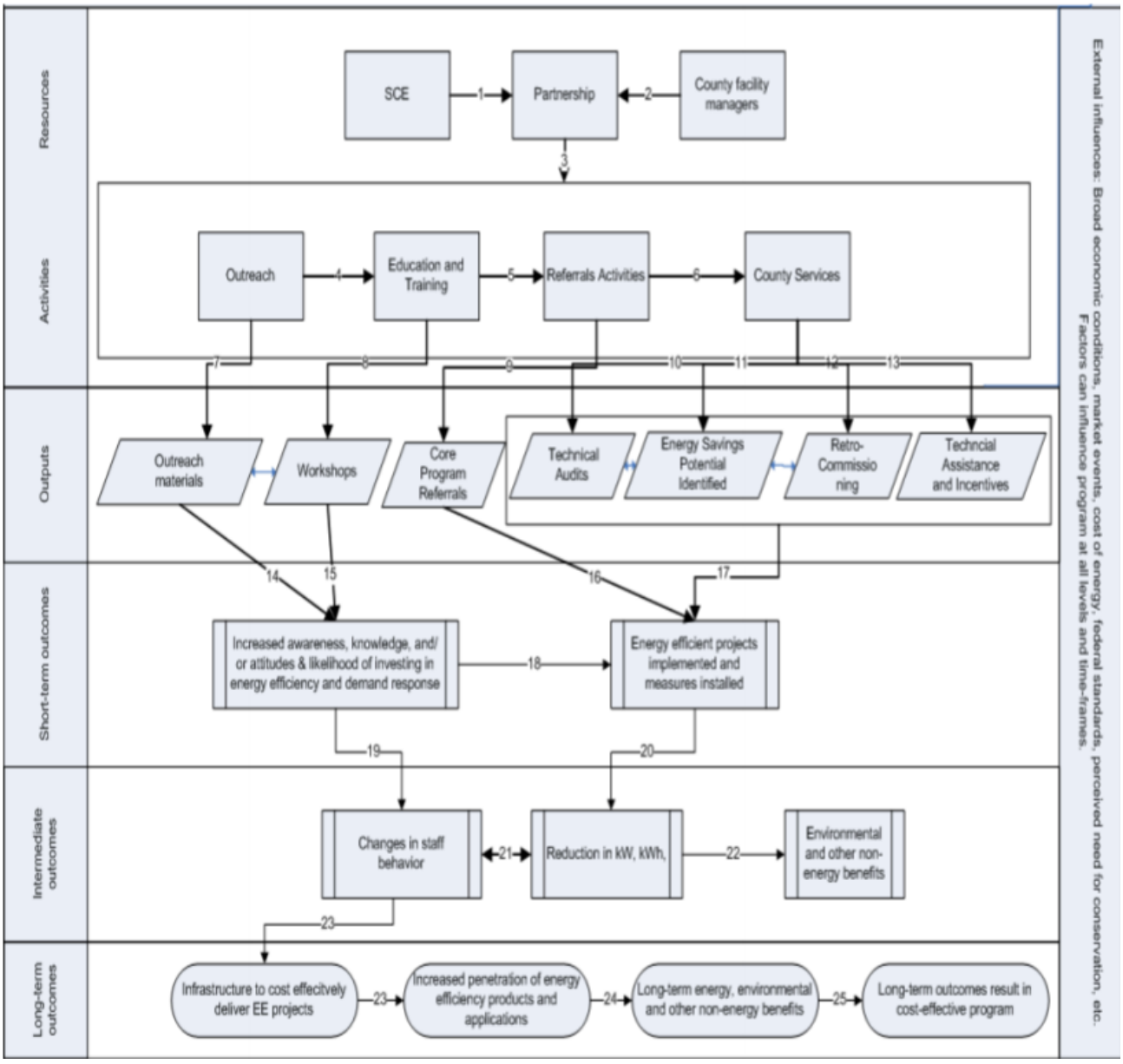


Image from SCG's 2013-2014 EE Programs Local Government Partnership Program, Program Implementation Plan, p.95.

Figure 3. PG&E's LGP PTLM

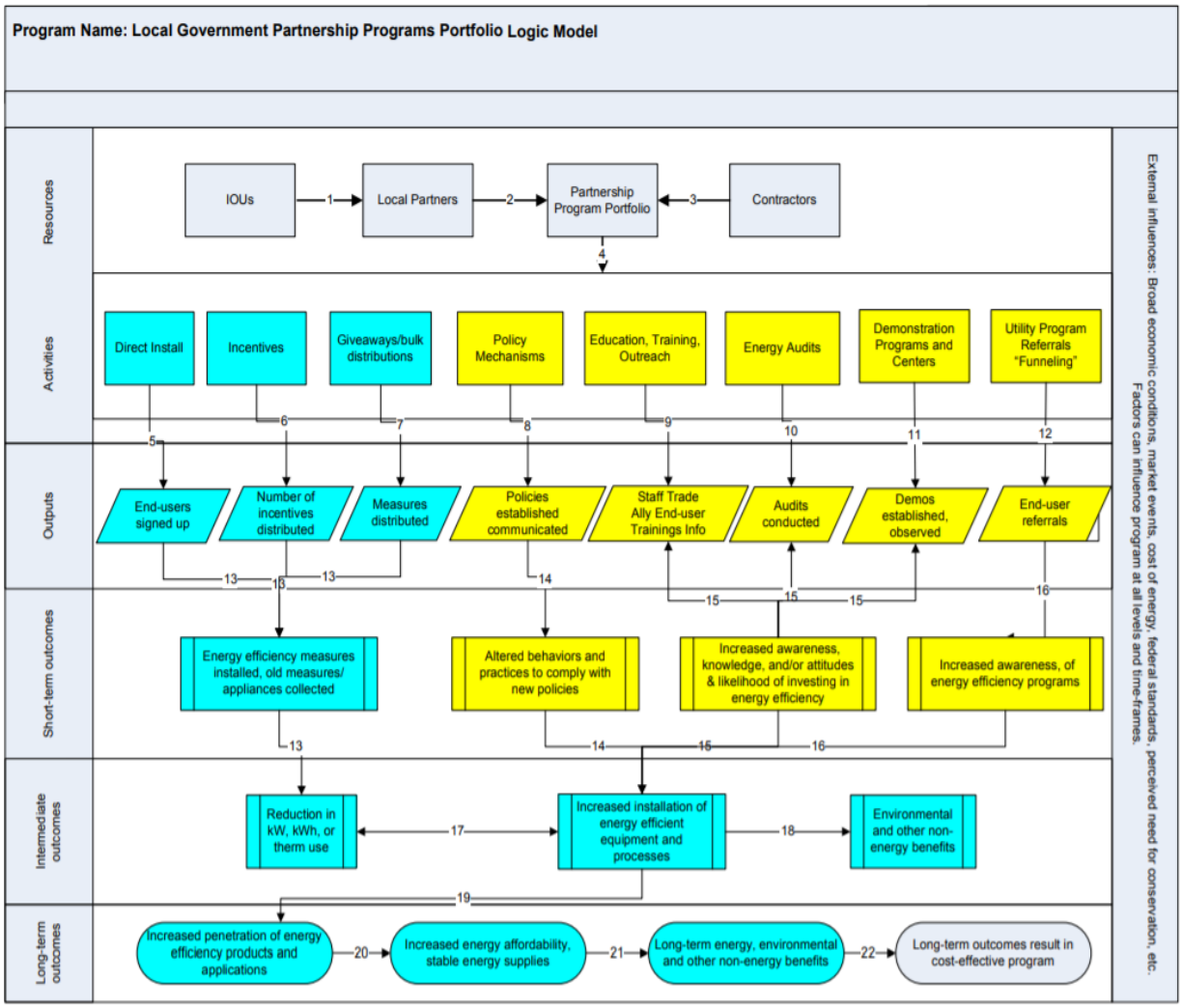


Image from PG&E Summary Report: Process Evaluation of the 2006–2008 Statewide Partnership Programs, p.22. http://www.calmac.org/publications/PGE_Summary_Report_Process_Evaluation_2006-2008_Statewide_Partnership_Programs.pdf.

Figure 4. SDG&E LGP PTLM

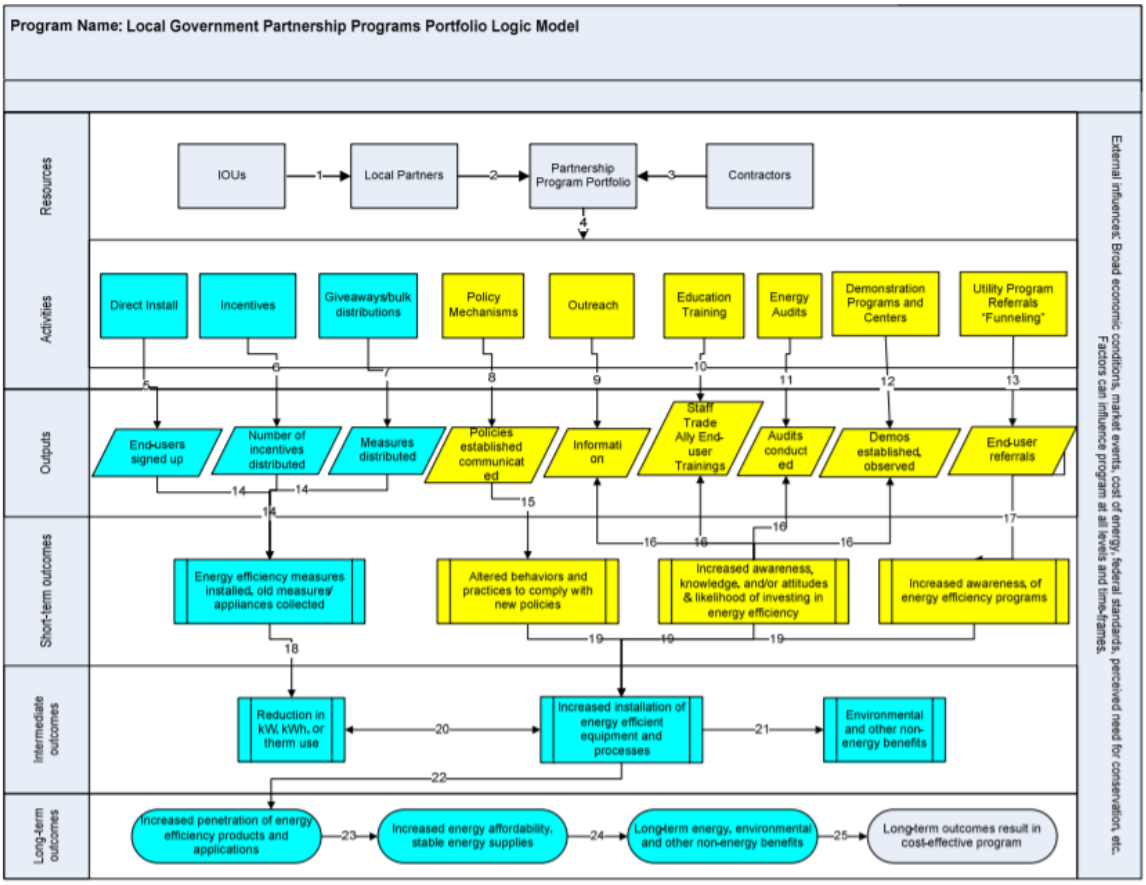


Image from SDG&E Final Summary Report: Process Evaluation of the 2006–2008 Local Government and Institutional Partnership Programs, p.18. http://www.calmac.org/publications/SDGE_LGP_Process_Evaluation_Report_FINAL_1-5-09.pdf.

Figure 5. SCE's LGP PTLM

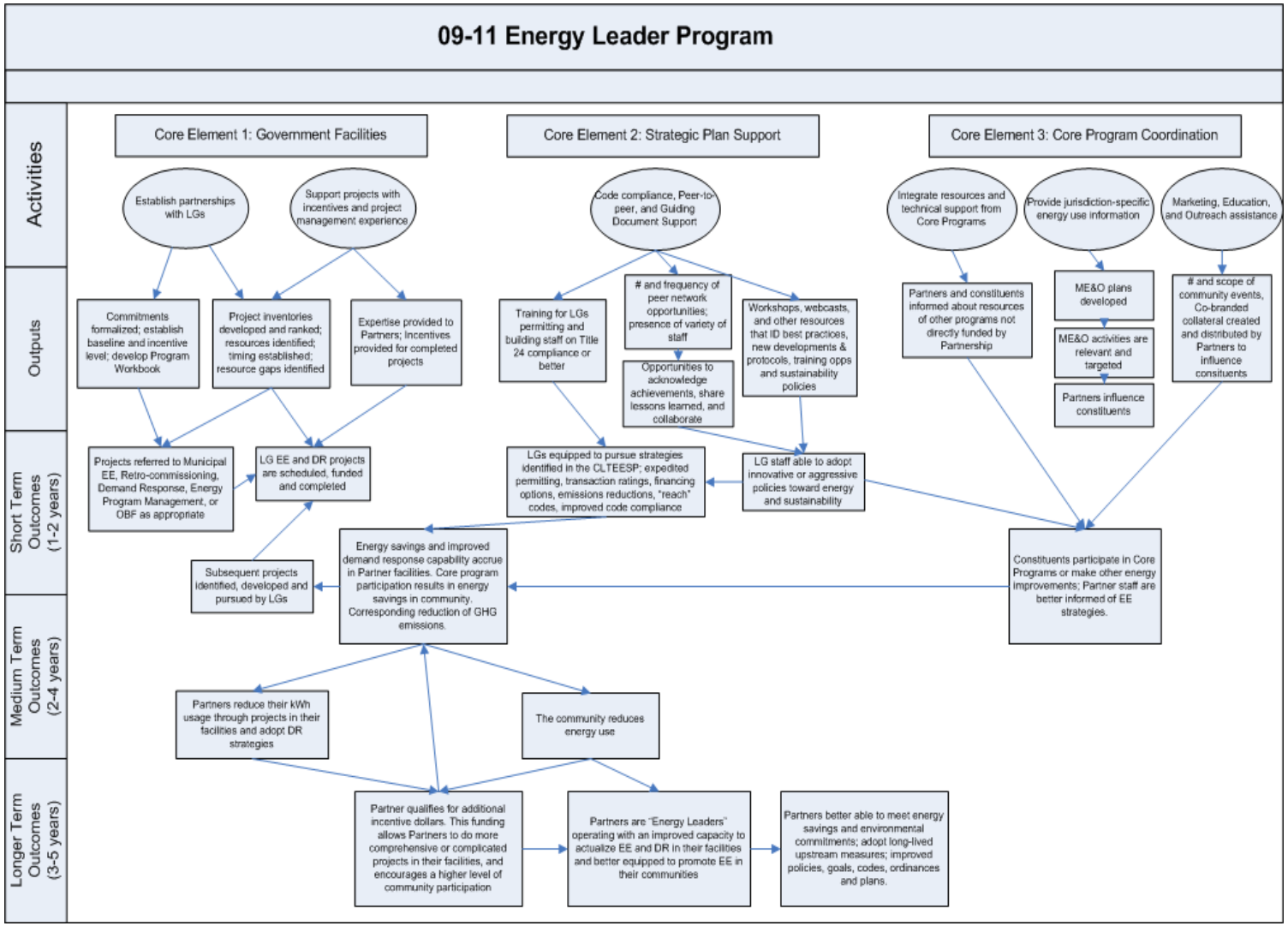


Image from SCE's Program Implementation Plans Exhibit 4C 2013-2014.

5. LGP Evaluability Assessment

On behalf of the evaluation team, the CPUC submitted data requests to PG&E, SCE, SCG, and SDG&E in early February 2019. Responses were initially due as early as February 18, 2019 and in some cases were extended until March 12, 2019. After resolving data request gaps in coordination with the IOUs, all responses were received by the evaluation team by March 20, 2019. In response to the CPUC's data request, the evaluation team received LGP non-resource activity related data for the EBEW, FEW, SANDAG, SGVP and WSPs. These data requests were extensive and asked for a wide range of documents, databases, and other program records including:

- Applicable program staff names and contact information so that the evaluation team could set up in-depth interviews to learn about each LGPs' unique program design as well as their non-resource and resource activities.
- Program materials including program implementation plans, program theory and logic models of resource and non-resource activities (if available), marketing brochures, and other materials used to inform customers about non-resource activities and resource program offerings.
- All non-resource program databases with fields that allow records to merge to the CPUC program database of claimable EE savings. Ideally, these program databases would include, at a minimum, the following fields: customer name, address, phone number, email address, type of non-resource activity in which customer participated, date of participation, utility customer account ID, electric and gas service account IDs, premise ID, and/or other unique identifiers that allow for merging.
- Information on the more granular activities claimed in the LGPs' Annual Reports, as well as the LGPs' Semi-Annual Strategic Plan Report workbooks.
- Documentation and accomplishments related to technical assessments, energy audits, marketing and outreach, educational trainings and workshops, as well as examples of social media engagement.

5.1 PG&E's EBEW and FEW Partnership Non-Resource Activity Tracking Data

For PG&E, the evaluation team requested any data available on strategies and achievements presented in PG&E's 2016 and 2017 Annual Narratives and LGP Semi-Annual Strategic Plan Report workbooks about non-resource activities conducted under its EBEW and FEW Partnership programs.

5.1.1 EBEW Data Review

Like the other LGPs evaluated in this study, the evaluation team found a limited set of EBEW non-resource databases useable for the channeling analysis and participant survey. Most program data provided in response to our data request were text files (e.g. MS Word and PDF documents) detailing the nature and scope of EBEW non-resource activities, but lacking customer data from non-resource activity participants. Comparing these text files to the databases we received revealed that only a small subset of EBEW non-resource activities were recorded in a database format useable to match non-resource participants with the CPUC data. This inconsistency limited the team's ability to quantify the benefits of EBEW's non-resource activities. Table 12 describes the EBEW non-resource activity databases provided in response to the data request and reviewed by the evaluation team.

Table 12. EBEW Non-Resource Activity Tracking Data Descriptions

Non-Resource Activity Tracking Data	Description
Municipal Implementation Team (MIT) Program	The Municipal Implementation Team (MIT) Program is a sub-program of EBEW that is implemented by QuEST. The data provides a list of municipalities that opted to enroll with technical assistance and incentives for EE projects. No contact information mergeable with CPUC data was found in this tracking data.
Building Operator Certifications Training	The Building Operator Certifications Training provides no-cost Building Operator Certifications (BOC) training scholarships for municipal employees. According to the tracking data, level 1 and 2 trainings and exams are made available to municipal staff. Tracking data consists of a list of city employees who participated in the trainings and designates who passed their BOC exams.
East Bay Energy Watch Municipal Program Enhancement Subcommittee's Collaboration with PG&E's Automated Demand Response Program	In collaboration with PG&E's Automated Demand Response (ADR) Program, the East Bay Energy Watch Municipal Program Enhancement Subcommittee encourages East Bay local governments to take advantage of the ADR Program offering, while pioneering implementation of these strategies in Municipal buildings. While the ADR program serves all non-residential customers, their typical participating project profile to date has not included many municipal or small and medium business (SMB) customers. A total of $40,200 of Strategic Energy Resources (SER) funding was earmarked to design and implement 'Municipal Innovation' activities in 2017. The tracking data provided lists the cities to which outreach occurred, project status, and contact info.
EBEW Strategic Advisory Committee Members (Recurring Meetings)	The EBEW Strategic Advisory Committee consists of city representatives from Contra Costa and Alameda who participate in recurring LGP meetings along with staff from the Implementing Partner and service providers to receive updates on ongoing LGP activities and engage in strategic planning for EBEW's activities. The tracking data provided contact information for each committee member.
EBEW Program Participants	As part of the data request, PG&E provided a file containing tracking data for each program participant that was related to a CPUC program database claim.

The databases received and the results of the evaluation team's review of EBEW data is summarized in Table 13 below. As shown in the table, the evaluation team received EBEW tracking data for a variety of non-resource activities. Most of the fields in the tracking data were sufficiently populated and good quality. Fields that were completely blank or had minimal data entries tended to be fields irrelevant to the channeling analysis and survey sample development and, as such, were not utilized. Like many of the other LGPs, the datasets tended to include a limited number of non-resource participants, as well as an insufficient number of fields that are mergeable with CPUC records. This caused challenges in using our "fuzzy matching" algorithm and resulted in evaluation staff often having to manually decide whether or not the algorithm had appropriately identified records in the non-resource datasets. It is likely that there would have been significantly more linkages between non-resource activities and CEDARS had the non-resource databases had additional CPUC mergeable fields. Consistently collecting customer data on a broader set of EBEW non-resource activities would also improve the number of linkages found and increase the number of participants that we could have surveyed. To improve future studies, we strongly encourage more non-resource activities to include tracking of customer data using a standardized set of data collection fields that includes:

- First Name
- Last Name
- Email
- Phone Number
- Organization/Municipality Name
- Project and/or Organization Mailing Addresses (Where Not Overly Burdensome)
- Project, Site and/or Claim IDs (Where Not Overly Burdensome)

Table 13. PG&E's EBEW Partnership Data Review Summary

EBEW Non-Resource Activity Tracking Data Fields	Data Completeness	Data Quality[b]	Mergeable with CPUC Data[c]
Municipal Implementation Team (MIT) Program			
Local Government Name	Fields deemed irrelevant for channeling analysis		
Enrolled (Flag)			
Enrollment Date (Flag)			
Outreach 1 (Flag describing contact method)			
Date 1			
PG&E Rep Copied 1 (Flag)			
Outreach 2 (Flag describing contact method)			
Date 2			
PG&E Rep Copied 2 (Flag)			
Outreach 3 (Flag describing contact method)			
Date 3			
PG&E Rep Copied 3 (Flag)			
Building Operator Certifications Training			
Event Title	✓	✓	Not in CPUC Database
Event Start Date	✓	✓	Not in CPUC Database
Contact Name	✓	✓	✓
Company	✓	✓	✓
Email Address	✓	✓	✓
CC Email Address	✓	✓	✓
Title	✓	✓	Not in CPUC Database
Work Address 1	✓	✓	✓
Work Address 2	✓	✓	✓
Work City	✓	✓	✓
Work State Code	✓	✓	Not in CPUC Database
Work Zip/Postal Code	✓	✓	✓
BOC Graduate (Flag)	Fields deemed irrelevant for channeling analysis		
Enabled PG&E Web Services for Portfolio Manager (Flag)			
Applied for Green Business Program (Flag)			

EBEW Non-Resource Activity Tracking Data Fields	Data Completeness	Data Quality[b]	Mergeable with CPUC Data[c]
Energy Champions trained (Flag)			
Comprehensive Energy Assessment (Flag)			
Computer Power Management (Flag)			
Enrolled in HVAC Quality Maintenance (QM) Program (Flag)			
Behavioral Changes and Operational Upgrades Recommended/Identified (Flag)			
EE Projects Identified (Flag)			
Estimate of Energy Savings (kWh)			
Estimate of Energy savings (Therms)			
Key decision makers made aware of energy savings opportunities and metrics (Flag)			
Local Government Agency Made Aware of Your Energy Manager Program Impact (Flag)			
Completed Your Energy Manager Program Survey (Flag)			
East Bay Energy Watch Municipal Program Enhancement Subcommittee's Collaboration with PG&E's Automated Demand Response Program			
City	✓	✓	✓
First Name	✓	✓	✓
Last Name	✓	✓	✓
Title	✓	✓	Not in CPUC Database
Phone	✓	✓	✓
Email	✓	✓	✓
City	✓	✓	✓
Project	✓	✓	Not in CPUC Database
Interest in ADR	Fields deemed irrelevant for channeling analysis		
Date			
Milestone			
Status			
Status Notes			
Next Steps			
EBEW Strategic Advisory Committee Members (Recurring Meetings)			
Contact 1	✓	✓	✓
Email	✓	✓	✓
Phone	✓	✓	✓
Contact 2	✓	✓	✓
Email	✓	✓	✓
Appointment Letter Date	Fields deemed irrelevant for channeling analysis		
Appointed Alt. Delegate			
Your Energy Manager Program Outreach			

EBEW Non-Resource Activity Tracking Data Fields	Data Completeness	Data Quality[b]	Mergeable with CPUC Data[c]
EBEW Program Participant Tracking			
Project ID	✓	✓	✓
Opportunity/Project Name	✓	✓	Not in CPUC Database
Claim ID	✓	✓	✓
Program Name	✓	✓	✓
Site Address	✓	✓	✓
Site City	✓	✓	✓
Site State	✓	✓	Not in CPUC Database
Site Zip	✓	✓	✓
Contact Name	✓	✓	✓
Contact Phone	✓	✓	✓
Contact Email	✓	✓	✓
Check Issue Date	Fields deemed irrelevant for channeling analysis		

[a] A check (✓) indicates that the data field is populated sufficiently for each participant record in the dataset for conducting a channeling analysis.

[b] Refers to the quality of data in each field (i.e. standardized format across all records, spelling, consistency in entries within each field, etc.) A check (✓) indicates that the data is of generally good quality for each participant record in the dataset for conducting a channeling analysis.

[c] A check (✓) indicates that there is a similar field in the CPUC program database and that it is possible to merge program data with CPUC program data using the fields marked.

5.1.2 FEW Data Review

Early on in this study, PG&E staff provided the evaluation team with a preliminary and evolving guidance document that had been developed to guide the lead local partners (or Implementing Partners) of PG&E's LGPs through program year 2019. This is a transitional year, as PG&E's LGPs prepare to operate as non-resource programs and refocus their activities towards serving the public sector. Consequently, resource activities, such as the regional business DI programs previously operating under LGPs, will be provided through the ongoing third-party solicitation process. A review of FEW's 2016 and 2017 non-resource activity tracking data, provided in response to the evaluation team's data request, found that nearly all of the limited number of tracking databases provided were either: 1) related to the Home or Business Energy Tune-up DI sub-programs, 2) did not contain tracking data mergeable with CPUC records, or 3) contained a small number of tracking data on contractor related non-resource activities, which was not part of the purview of the year 1 evaluation. Table 14 below summarizes the FEW non-resource activity tracking data and provides a description of the activity, as well as the evaluation team's logic for excluding it from the channeling analysis.

Table 14. FEW Partnership Data Review Summary

FEW Non-Resource Activity Tracking Data	Description	Logic for Excluding Data
Trade Pro Workshops	Multiple Trade Professional Alliance Workshops were held in 2016 and 2017, which provided an opportunity for local contractors to learn about the advantages of enrolling in PG&E's Trade Professional Alliance Program.	Contractors were not under preview of year 1 study and were initially slated for Year 2 of this evaluation cycle.

Homeowner Assessment Logs for Home Energy Tune-up Program	Home Energy Tune-up was a regional DI program implemented by Richard Heath & Associates, a third-party implementer, that provided in-home energy assessments as a service to residential customers.	Given the changes to LGP structure going forward and the discontinuation of this program under LGPs, evaluation results would not be informative for future LGP cycles.
Home Energy Tune-Up Distribution Report	Home Energy Tune-up was a regional DI program implemented by Richard Heath & Associates, a third-party implementer, that provided in-home energy assessments as a service to residential customers.	Given the changes to LGP structure going forward and the discontinuation of this program under LGPs, evaluation results would not be informative for future LGP cycles.
Business Energy Tune-up Accounts to Date	The business Energy Tune-Up sub-program provided DI, benchmarking and limited audit services to qualified medium to large business customers.	Given the changes to LGP structure going forward and the discontinuation of this program under LGPs, evaluation results would not be informative for future LGP cycles.
Evaluation Energy Management Software Considered by Cities	Breakout of various EMS software considered by the city of Fresno.	Did not contain tracking data mergeable with CPUC records.

We verified that the FEW program primarily served residential and commercial customers in 2016 and 2017 through interviews with Lead Implementing Partner staff who oversaw the program during these years. Additionally, it became apparent through these interviews that recent staff turnover at the City of Fresno included the previous FEW contact who was primarily responsible for engaging municipal operations. Consequently, the evaluation team identified a total of two FEW non-resource activity participants in the channeling analysis, resulting in zero survey participants from FEW. While, unfortunately, this leaves the evaluation team unable to assess FEW in the proceeding sections, it is an important finding that the LGPs' design changes may disproportionately impact the operations of certain LGPs going forward — particularly those like FEW that prioritized serving residential and commercial customers — as they adjust their activities to better align with the Business Plans and Annual Budget Advice Filings (ABALs). It is important to note that during the evaluation team's in-depth interviews with Implementing Partner staff, residential and commercial focused activities were often perceived by staff as adding unique value to ratepayer-funded EE programs by leveraging customers' trust in their local government agencies. Interviewees also consistently mentioned their uncertainty of whether third parties would be capable of successfully filling this role that LGPs engaged in previously.

PG&E is not alone in its upcoming changes to LGP program design. LGP programs across the state are currently undergoing or anticipating significant changes over the next few years, as detailed in the recent IOU business plans and ABALs. This was also confirmed by the evaluation team's discussions with IOUs, LGP lead Implementing Partners, and Energy Division staff. At this point, there is significant uncertainty in how LGPs will be designed and operated long-term, especially among lead Implementing Partners. Based on these discussions, the ABALs, and PG&E's guidance document, it became clear to the evaluation team that LGPs will generally focus on the public sector through leveraging their pre-existing relationships with local governments. Accordingly, the evaluation team opted to not include residential and commercial assessments and DI related non-resource activities in our participant survey in order to better utilize the limited resources allocated to this deliverable on assessing the LGP's non-resource activities targeting the public sector, which will continue to be the focal point of LGPs in future program years.

5.2 SDG&E's SANDAG Partnership Non-Resource Activity Tracking Data

For SDG&E, the evaluation team requested any data available on strategies and achievements presented in SDG&E's 2016 and 2017 Annual Narratives and LGP Semi-Annual Strategic Plan Report workbooks about non-resource activities conducted under its SANDAG Partnership. The evaluation team found a limited set of SANDAG non-resource databases useable for the channeling analysis and participant survey. Despite a limited set of non-resource databases, SANDAG provided significantly more records of municipal customer data than the other LGPs evaluated. However, the inconsistency of customer data collection across non-resource activities still limited the extent to which the team could assess the benefits of SANDAG's non-resource activities. We recommend collecting customer data across a wider range of LGP non-resource activities so that future evaluations can more comprehensively examine and quantify the impact of LGP non-resource activities. Table 15 describes the SANDAG non-resource activity databases reviewed by the evaluation team.

Table 15. SANDAG Non-Resource Activity Tracking Data Descriptions

Non-Resource Activity Tracking Data	Description
San Diego Regional Energy Partnership (SDREP) Meeting Attendance Summaries	The San Diego Regional Energy Partnership (SDREP) is a collaborative effort between all of the current Local Government Partners including the Cities of San Diego and Chula Vista, the Port of San Diego, SANDAG, and the County. Each partner has dedicated roughly 10% of their total budget to fund efforts that are collectively agreed to. SDREP tasks have included such activities as benchmarking assistance, green real estate initiatives, ZNE webinars, home energy and water tune-ups, and home energy scores. The tracking database provided detailed contact information for the attendees of various meetings.
San Diego Regional Climate Collaborative (SDRCC) Quarterly Meeting Tracking Data	The San Diego Regional Climate Collaborative, which was administered by the by the facilities department of the University of San Diego until mid-2018, is a network for public agencies that serves the San Diego region to share expertise, leverage resources, and advance comprehensive solutions to facilitate climate change planning by partnering with academia, non-profits, and businesses. As part of the outreach for this program, SDRCC holds quarterly meetings that span a wide range of topics, including EE, coastal resilience, climate-smart water, and climate action planning.
Inland Cities, North Coast, and East County Energy Collaborative Participants, Location & Dates	The tracking data provided the names of meeting attendees from various cities who participated in SANDAG's three regional Energy Collaboratives. These Energy Collaboratives consist of recurring meetings with cities and LGP staff to discuss upcoming LGP activities and services.

The data received and the results of the evaluation team's review of the SANDAG data are summarized in Table 16 below. The evaluation team reviewed the data and found that the meeting attendance data for the San Diego Regional Energy Partnership and San Diego Regional Climate Collaborative were somewhat sufficient for purposes of the channeling analysis and survey sample development. However, for these activities the organization name and contact phone number were inconsistently included. Standardizing these would greatly improve the ability to reliably merge the data provided with CPUC program data. On the other

hand, the data from the Inland Cities, North Coast, and East County Energy Action Collaboratives, while useful, was provided in a PDF format requiring the evaluation team to spend additional time translating the documents into a format such as MS Excel which is useable for the channeling analysis. Additionally, the tracking data provided from these activities was limited to contact name and city/organization which, while useable in the channeling analysis, is less likely to be traceable to CEDARS records due to the limited number of fields provided that are mergeable with CPUC data.

To more reliably and accurately merge LGP data with CPUC program data, the evaluation team recommends adopting a standardized set of data collection fields for meeting attendance tracking that at a minimum includes:

- First Name
- Last Name
- Email
- Phone Number
- Organization/Municipality Name

Additional fields that would improve the mergeability of attendance tracking data with CPUC data, but which may be burdensome for meeting attendees to provide, include complete service and/or mailing addresses (including street address, city and zip code) and unique identifiers (i.e., service account numbers). While more difficult to obtain for recurring meetings with generally the same group of attendees, collecting this information may be more manageable as the LGP would only need to solicit this information once when there are new attendees.

Table 16. SDG&E SANDAG Partnership Data Review Summary

SANDAG Non-Resource Activity Tracking Data Fields	Data Completeness[a]	Data Quality[b]	Mergeable with CPUC Data[c]
San Diego Regional Energy Partnership (SDREP) Meeting Attendance Summaries			
Last Name	✓	✓	✓
First Name	✓	✓	✓
Email Address	✓	✓	✓
Attended	✓	✓	Not in CPUC Database
Street Address	✓	✓	✓
City	✓	✓	✓
Postal Code		✓	✓
State		✓	Not in CPUC Database
Country		✓	Not in CPUC Database
Phone		✓	✓
San Diego Regional Climate Collaborative Quarterly Meeting Tracking Data			
First Name	✓	✓	✓
Last Name	✓	✓	✓
Email Address	✓	✓	✓
Organization		✓	✓
Position		✓	Not in CPUC Database
Inland Cities Energy Collaborative Participants, Location & Dates			

SANDAG Non-Resource Activity Tracking Data Fields	Data Completeness[a]	Data Quality[b]	Mergeable with CPUC Data[c]
Meeting Number	✓	PDF Format	Not in CPUC Database
Date	✓	PDF Format	Not in CPUC Database
Host City	✓	PDF Format	Not in CPUC Database
Attendee Name	✓	PDF Format	
Attendee City	✓	PDF Format	
North Coast Energy Action Collaborative Participants, Location & Dates			
Meeting Number	✓	PDF Format	Not in CPUC Database
Date	✓	PDF Format	Not in CPUC Database
Host City	✓	PDF Format	Not in CPUC Database
Attendee Name	✓	PDF Format	✓
Attendee City	✓	PDF Format	✓
East County Energy Action Collaborative Participants, Location & Dates			
Meeting Number	✓	PDF Format	Not in CPUC Database
Date	✓	PDF Format	Not in CPUC Database
Host City	✓	PDF Format	Not in CPUC Database
Attendee Name	✓	PDF Format	✓
Attendee City	✓	PDF Format	✓

[a] A check (✓) indicates that the data field is populated sufficiently for each participant record in the dataset for conducting a channeling analysis.

[b] Refers to the quality of data in each field (i.e. standardized format across all records, spelling, consistency in entries within each field, etc.) A check (✓) indicates that the data is of generally good quality for each participant record in the dataset for conducting a channeling analysis.

[c] A check (✓) indicates that there is a similar field in the CPUC program database and that it is possible to merge program data with CPUC program data using the fields marked.

5.3 SCE and SCG's SGVP and WSP Non-Resource Activity Tracking Data

For SCE and SCG, the evaluation team requested any data available on strategies and achievements presented in their 2016 and 2017 Annual Narratives and LGP Semi-Annual Strategic Plan Report workbooks about non-resource activities conducted under their SGVP and WSP programs. Most program data provided in response to our data request were text files (e.g. MS Word and PDF documents) detailing the nature and scope of non-resource activities but lacking customer data from non-resource activity participants. Comparing these text files to the databases provided revealed that only a small subset of non-resource activities had been recorded in a database format useable to match non-resource participants with the CPUC data. This inconsistency of customer data collection across non-resource activities limited the extent to which the team could quantify the benefits of SGVP and WSP's non-resource activities. Table 17 describes the SGVP non-resource activity databases provided in the data request and reviewed by the evaluation team, while Table 18 describes the WSP non-resource activity databases.

Table 17. SGVP Non-Resource Activity Tracking Data Descriptions

Non-Resource Activity Tracking Data	Description
LGP Kickoff Meeting Sign-in Sheet	This tracking data consisted of sign-in sheets from SGVP's kick-off meetings with local jurisdictional representatives.
Completed LGP Project Tracking Data	As part of the data request, SCE provided tracking data for municipalities under the SGVP and WSP that completed projects during 2016 and 2017. For SGVP these included the city of Alhambra, Arcadia, Claremont, Covina, Monrovia, Montebello, and Monterey Park. For WSP these included Culver City and Santa Monica.
Benchmarking, Energy Action Planning (EAP), and Co-branded Kiosk Participants	This tracking data included contact information for municipal staff who had participated in SGVP's benchmarking, Energy Action Planning, and co-branded kiosks.
SCG Project Tracking Sheet	As part of the data request, SCG provided tracking data for completed gas projects in 2016 and 2017 with various cities.
Pre-commitment Projects, Completed Projects and Completed Direct Install Projects	As part of the data request, SCE provided tracking data for pre-commitment and completed projects under the SGVP. However, the channeling analysis did not return any useable contact information from this tracking data because of a lack of contact information mergeable with CPUC data.
Benchmarking Policy and Appendix for Pomona, West Covina, South Pasadena, and Monrovia	SGVP provided Pomona, West Covina, South Pasadena and Monrovia with funding and resources to develop a jurisdictional benchmarking policy to establish a baseline for performance for identified City facilities. The purpose was to provide City officials and leaders with a better understanding of the energy needs of City facilities and enable staff to make informed decisions and recommend changes, based on energy use findings. Within the provided reports there was tracking data associated with the benchmarked facilities. This tracking data was difficult to use in our analysis because it was not provided in a database format and file type.

Table 18. WSP Non-Resource Activity Tracking Data Descriptions

Non-Resource Activity Tracking Data	Description
West Side Cities Partnership (WSCP) SCG Project Tracker	As part of the data request, SCG provided tracking data for completed gas projects in 2016 and 2017.
"Lunch N Learn" Sign-in Sheets for Corona, Culver City, Irvine, Moreno, and Santa Clarita	The "Lunch N Learn" series consisted of the WSP, along with partner organizations which varied based on the jurisdiction, meeting with municipal staff to discuss how to save money through EE programs. The objective of these meetings is to educate attendees on California's energy goals, available IOU programs, and the benefit of program participation. The provided tracking data consisted of a sign-in sheets with the names of meeting attendees.
West Side Project Tracking and Contact Information	As part of the data request, SCE provided tracking data for municipalities under the SGVP and WSP that completed

Non-Resource Activity Tracking Data	Description
	projects during 2016 and 2017. For WSP these included Culver City and Santa Monica.
West Side Energy Partnership Contact List 2018	As part of the data request response, we received a list of local government contacts that the WSP was engaging with in 2018. Many of these contacts would have been the same during 2016 and 2017.
Westside Team Leaders Meeting	The Westside Team Leaders Meeting occurred in 2016 during which local jurisdictions met with the Implementing Partner, IOU staff, and the Statewide Local Government EE Best Practices Coordinator to discuss program and best practices updates. Tracking data consisted of a sign-in sheet of meeting attendees.

Based on a detailed review of the data provided by SCE and SCG, the evaluation team found the program data collected in these databases to be somewhat sufficient to conduct a channeling analysis with CPUC program data and to develop a sample for the participant survey. However, like the recommendations for the previously discussed LGPs, the evaluation team recommends consistent tracking of fields such as property names, property contact names, street addresses, city, zip, email addresses, and/or telephone numbers. We also recommend including utility service account numbers in data tracking, as well as site identification numbers, when feasible, as these fields are found in CPUC's program database and can facilitate more precise matching between LGP and CPUC databases. In addition, we recommend that tracking data always be maintained in an easily accessible file format for data analysis. When documents with data mergeable with CPUC records are only available in PDF format, it is more likely to be excluded from channeling analyses either because evaluators are unable to locate the data within what are often lengthy reports or because of an inability to efficiently extract tracking data from a PDF into a file type useable for the channeling analysis.

5.3.1 SGVP Data Review

The databases received and the results of the evaluation team's review of SGVP data is summarized in Table 19.

Table 19. SCE and SCG's SGVP Partnership Data Review Summary

SGVP Non-Resource Activity Tracking Data Fields	Data Completeness[a]	Data Quality[b]	Mergeable with CPUC Data[c]
LGP Kickoff Meeting Sign-in Sheet			
City/Agency	✓	✓	✓
Name	✓	✓	✓
Email	✓	✓	✓
Completed LGP Project Tracking Data			
Program ID	✓	✓	✓
Partnership	✓	✓	✓
Project ID	✓	✓	✓
CustomerName	✓	✓	✓
Project Description	Fields deemed irrelevant for channeling analysis		
Measure			

SGVP Non-Resource Activity Tracking Data Fields	Data Completeness[a]	Data Quality[b]	Mergeable with CPUC Data[c]
Measure Description			
Units			
End Use			
BuildingType			
Building Type Code			
ClimateZone			
MeasureType			
ExAnteQuantity			
ExAnteGrUnitSavkW			
ExAnteGrUnitSavkWh			
ExAnteGrSavkW			
ExAnteGrSavkWh			
RealizationRate			
InstallationRate			
TotalGrSav kW			
TotalGrSav kWh			
NetTotalSavkW			
NetTotalSavkWh			
NTGross kW			
NTGR kWh			
FundingCycle			
AuthorizedSignatureDate			
Site Address	✓	✓	✓
Site City	✓	✓	✓
Site State	✓	✓	✓
SiteZipCode	✓	✓	✓
ContactType	✓	✓	✓
ContactName	✓	✓	✓
ContactPhoneNumber	✓	✓	✓
ContactEmail	✓	✓	✓
Benchmarking, EAP, and Co-branded Kiosk Participants			
City / Organization	✓	✓	✓
Last Name	✓	✓	✓
First Name	✓	✓	✓
E-mail Address	✓	✓	✓
Job Title	✓	✓	Not in CPUC Database
Benchmarking	Fields deemed irrelevant for channeling analysis		
Update EAP			
IDSM Tier Criteria			
ELP Tier Advancement			

SGVP Non-Resource Activity Tracking Data Fields	Data Completeness[a]	Data Quality[b]	Mergeable with CPUC Data[c]
SCG Project Tracking Sheet			
Completion Date	Fields deemed irrelevant for channeling analysis		
Jurisdiction			
CRM#			
Project Description			
Facility Description			
Status			
Date of Update			
Therms (Est)	✓	✓	Not in CPUC Database
Therms Saved	✓	✓	Not in CPUC Database
AE Responsible	✓	✓	Not in CPUC Database
City Contact	✓	✓	✓
Title	✓	✓	Not in CPUC Database
Email	✓	✓	✓
Pre-commitment Projects, Completed Projects and Completed Direct Install Projects			
ProjID	✓	✓	✓
ProjDesc	✓	✓	Not in CPUC Database
Approach	✓	✓	Not in CPUC Database
Stage	✓	✓	Not in CPUC Database
Customer (Name of City, Not Contact info)	✓	✓	Not in CPUC Database
Gr_kwh	Fields deemed irrelevant for channeling analysis		
Gr_kw			
Incentive			
OBF			
ECD			
Reporting_Date			
Realized_kWh			
Realized_kW			
ReportMonth			
ReportYear			
CommitYear			
Out of SLA			
ProgID	✓	✓	✓
ProgDesc	Fields deemed irrelevant for channeling analysis		
Realization_Rate			
ProjectStatus			
StatusDate			
Application			
Commitment Date			
IR Rec'd			

SGVP Non-Resource Activity Tracking Data Fields	Data Completeness[a]	Data Quality[b]	Mergeable with CPUC Data[c]
UPN			
CustNo	✓	✓	✓
Sub Status	Fields deemed irrelevant for channeling analysis		
Sub Status Date			
Declined/Withdrawn Date			
D/W Month			
D/W Year			
Benchmarking Policy and Appendix for Pomona, West Covina, South Pasadena, and Monrovia			
Facility Name	✓	PDF	✓
Building Area (GSF)	Fields deemed irrelevant for channeling analysis		
Year of Construction			
Year of Renovation/Expansion			
Space Type			
Weekly Operating Hours			
Workers on Main Shift			
Number of PCs			
% of the Space that is Air Conditioned			
% of the Space that is Heated			
ABS Enabled			
Natural Gas Meter #	✓	PDF	✓
Electricity Account Number	✓	PDF	✓

[a] A check (✓) indicates that the data field is populated sufficiently for each participant record in the dataset for conducting a channeling analysis.

[b] Refers to the quality of data in each field (i.e. standardized format across all records, spelling, consistency in entries within each field, etc.) A check (✓) indicates that the data is of generally good quality for each participant record in the dataset for conducting a channeling analysis.

[c] A check (✓) indicates that there is a similar field in the CPUC program database and that it is possible to merge program data with CPUC program data using the fields marked.

5.3.2 WSP Data Review

The databases received and the results of the evaluation team's review of WSP's data is summarized in Table 20.

Table 20. SCE and SCG's WSP Data Review Summary

WSP Non-Resource Activity Tracking Data Fields	Data Completeness[a]	Data Quality[b]	Mergeable with CPUC Data[c]
WSCP SCG Project Tracker			
Partner City	✓	✓	Insufficient for Merging with CPUC Database
Project ID	✓	✓	Not in CPUC Database
Description	✓	✓	Not in CPUC Database

WSP Non-Resource Activity Tracking Data Fields	Data Completeness[a]	Data Quality[b]	Mergeable with CPUC Data[c]
End Use	✓	✓	Not in CPUC Database
Approach Type Medium Name	✓	✓	Not in CPUC Database
TEN Project	✓	✓	Not in CPUC Database
kWh	✓	✓	Not in CPUC Database
kW	✓	✓	Not in CPUC Database
Therms	✓	✓	Not in CPUC Database
Lunch N Learn Sign-in Sheets for Culver City, Irvine, Moreno, and Santa Clarita			
Name	✓	PDF	
Email	✓	PDF	
Division	✓	PDF	Not in CPUC Database
Attended	✓	✓	Not in CPUC Database
Division/Organization	✓	✓	Not in CPUC Database
Title	✓	PDF	Not in CPUC Database
Department/Organization	✓	PDF	✓
West Side Project Tracking and Contact Info			
Program ID	✓	✓	✓
Partnership	✓	✓	✓
Project ID	✓	✓	✓
CustomerName	✓	✓	✓
Project Description	Fields deemed irrelevant for channeling analysis		
Measure			
Measure Description			
Units			
End Use			
BuildingType			
Building Type Code			
ClimateZone			
MeasureType			
ExAnteQuantity			
ExAnteGrUnitSavkW			
ExAnteGrUnitSavkWh			
ExAnteGrSavkW			
ExAnteGrSavkWh			
RealizationRate			
InstallationRate			
TotalGrSav kW			
TotalGrSav kWh			
NetTotalSavkW			
NetTotalSavkWh			
NTGross kW			

WSP Non-Resource Activity Tracking Data Fields	Data Completeness[a]	Data Quality[b]	Mergeable with CPUC Data[c]
NTGR kWh			
FundingCycle			
AuthorizedSignatureDate			
Site Address	✓	✓	✓
Site City	✓	✓	✓
Site State	✓	✓	✓
SiteZipCode	✓	✓	✓
ContactType	✓	✓	✓
ContactName	✓	✓	✓
ContactPhoneNumber	✓	✓	✓
ContactEmail	✓	✓	✓
West Side Energy Partnership Contact List 2018			
City/Org	✓	PDF	✓
Position	✓	PDF	Not in CPUC Database
Name	✓	PDF	✓
Email	✓	PDF	✓
Phone	✓	PDF	✓
✓	✓	PDF	
City/Org	✓	PDF	
Attended	✓	PDF	Not in CPUC Database

[a] A check (✓) indicates that the data field is populated sufficiently for each participant record in the dataset for conducting a channeling analysis.

[b] Refers to the quality of data in each field (i.e. standardized format across all records, spelling, consistency in entries within each field, etc.) A check (✓) indicates that the data is of generally good quality for each participant record in the dataset for conducting a channeling analysis.

[c] A check (✓) indicates that there is a similar field in the CPUC program database and that it is possible to merge program data with CPUC program data using the fields marked.

6. Channeling Analysis Results

The evaluation team conducted a channeling analysis to determine the proportion of LGP non-resource activity municipal participants who subsequently participated in a PA resource program. We conducted this analysis by looking for records in the non-resource activity datasets and matching them to records in the CPUC program database so long as the records indicating participation in a PA resource program occurred after the participant's interaction with the LGP. The channeling analysis located 6% of the selected LGPs' non-resource participants in the CPUC program data. This is likely a drastic underestimation and sets a lower bound because the non-resource activity datasets contained several incomplete records and covered a limited subset of LGP non-resource activities. Because non-resource activities do not directly generate savings, the CPUC does not place any requirements on the PAs to keep standardized records of participants. Additionally, the very nature of certain types of non-resource activities makes it difficult to track who may have seen or been influenced by them. For example, PAs would have an extremely difficult time recording the individuals exposed to its meetings and marketing and outreach campaigns.

The channeling analysis located 6% of selected LGPs' non-resource activity municipal participants in the CPUC program data. This is likely a drastic underestimation and represents a lower bound because the non-resource activity datasets contained several incomplete records and covered a limited subset of LGP non-resource activities, thereby making it difficult to identify matches.

Table 21 shows the number of unique records for which the team could identify either an associated email address and/or customer name and mailing address to use in the channeling analysis. The last two columns in the table show, for each non-resource activity dataset, the number of records we could not locate and those found in the CPUC program data.

Table 21. LGP Non-Resource Municipal Participant Channeling Analysis Results

LGP	Number of Unique Municipal Records w/ Contact Information	Records not found in CPUC Tracking Data	Records found in CPUC Tracking Data
EBEW	75	59	16
FEW	2	1	1
SANDAG	249	249	0
SGVP	49	45	4
WSP	54	51	3
Total	**429** **100%**	**405** **94%**	**24** **6%**

7. Participant Survey Results

7.1 Survey Respondent Background

The evaluation team conducted a web survey to identify the EE equipment upgrades and behavioral changes customers carried out in public facilities after engaging with LGP non-resource activities. Surveys were sent to municipal customers identified in the tracking datasets provided by the IOUs in response to our data request. These customers included:

- LGP non-resource activity participants located in the CPUC program database. These participants are associated with claims that occurred after engaging in an LGP non-resource activity.
- LGP non-resource activity participants not found in the CPUC database.
- Customers identified in the LGPs' tracking databases that completed LGP projects 2016 and 2017.

Although the focus of this survey is LGP non-resource activity participants, we also surveyed customers located in the LGPs' tracking databases that completed projects in 2016 or 2017 because of the limited tracking data available for LGPs' non-resource activities. Based on the evaluation team's IOU and LGP Implementing Partner interviews, these customers likely participated in an LGP non-resource activity and were provided in the IOUs' responses to the evaluation team's LGP data request for non-resource activity tracking databases.

The evaluation team fielded the survey among 418 LGP contacts between October 22 and November 12 in 2019 and received 33 survey completes. As shown in Table 22, the majority of survey respondents are municipal customers that participated in a SANDAG non-resource activity (58%), followed by EBEW and WSP non-resource activity participants (18% each), and SGVP non-resource activity participants (6%). No responses were received from FEW participants (as described previously in Section 5.1.2) and are consequently excluded from our analysis of the participant survey results.

Table 22. Participant Survey Respondents

Program	EBEW	FEW	SANDAG	WSP	SGVP	Total
Number of Respondents	6	0	19	6	2	33
Percentage of All Respondents	18%	0%	58%	18%	6%	100%

7.2 Survey Respondent Energy Related Activities

Of the 33 respondents, 88% (n=29) indicated completing at least one EE equipment upgrade in their municipal facility since interacting with an LGP non-resource activity in 2016 or 2017. Figure 6 shows that only one respondent's municipality did not install EE equipment, while another three respondents were unsure if their municipality installed energy efficient equipment.

Figure 6. Respondents Implementing Energy Saving Equipment Upgrades by LGP

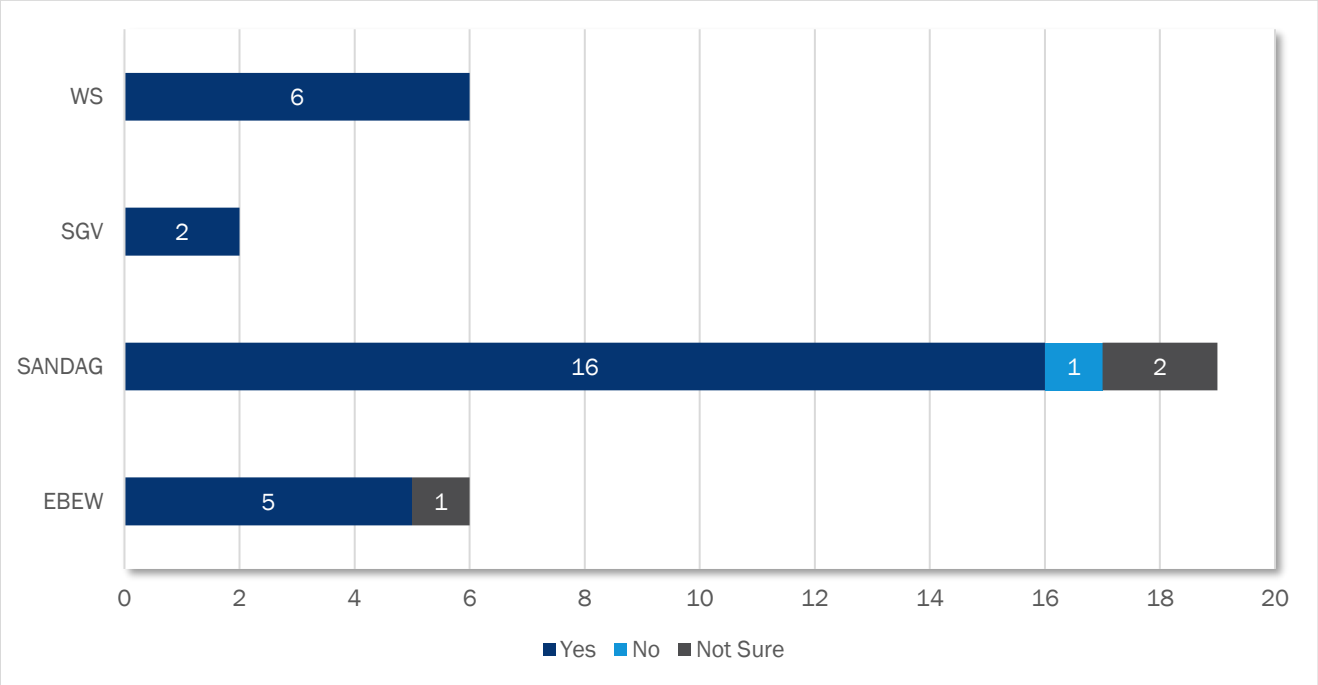


Table 23 shows the percentage of respondents who indicated that their municipality installed equipment from various measure categories. A vast majority of survey respondents indicated that their municipality installed lighting equipment (90%), followed by HVAC (55%) and solar (52%).

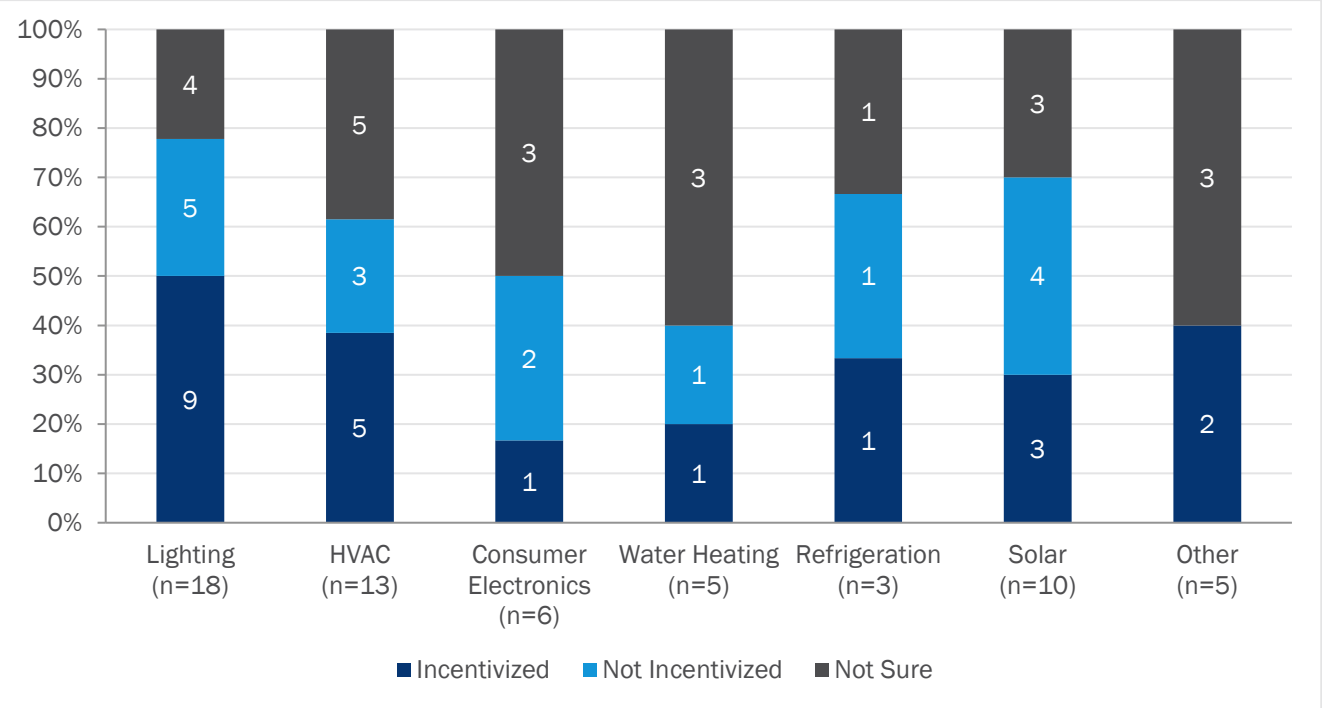
Table 23. Types of Participant Energy Equipment Upgrades of Those Who Installed EE Equipment

LGP	Lighting	HVAC	Solar	Consumer Electronics	Water Heating	Refrigeration	Other
EBEW (n=5)	100%	40%	60%	40%	20%	20%	40%
SANDAG (n=16)	81%	56%	69%	25%	13%	19%	6%
SGVP (n=2)	100%	0%	0%	50%	0%	0%	0%
WSP (n=6)	100%	83%	17%	33%	50%	17%	17%
Total (n=29)	90%	55%	52%	31%	21%	17%	14%

The 29 respondents who indicated their municipality installed EE equipment were asked a series of more detailed equipment installation questions about up to three categories of installed energy saving equipment. As shown in Figure 7, lighting (50%) and HVAC (39%) are the most often incentivized categories of equipment upgrades. Note that Figure 7 does not distinguish whether the EE equipment was incentivized through a PA resource program or not. Examples of non-PA incentives included those provided by local water districts and

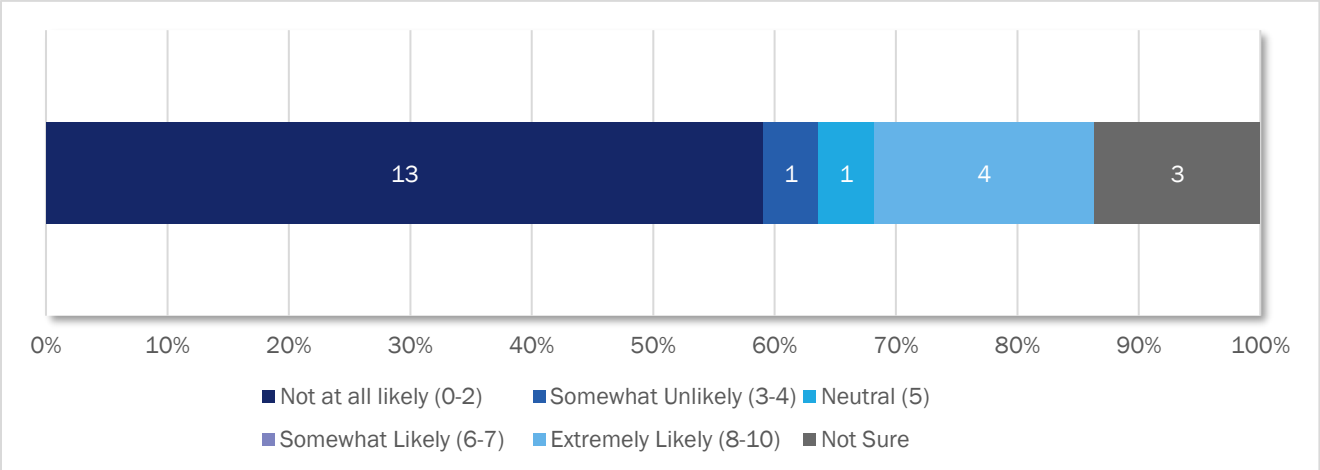
California Energy Commission programs. Survey findings suggest that of the 29 respondents who reported upgrading equipment, nine or 31% received an incentive through a PA EE resource program.

Figure 7. Energy Saving Equipment Upgrades Incentivized by Measure Category (Multiple Responses)



For each measure category that respondents received an incentive for installing (n=22), they were asked to rank the likelihood that their municipality would have installed exactly the same energy saving equipment without the rebates they had received. Figure 8 shows that 59% (n=13) of responses indicated that their municipality was not at all likely to have installed the energy saving equipment while 18% (n=4) stated that their municipality was extremely likely to have still installed the energy efficient equipment.

Figure 8. Likelihood of Municipalities Installing the Same Energy Saving Equipment without Incentives (Multiple Responses)



When asked to identify the main reason their municipality did not receive rebates from a list of options, the responses ranged from not knowing if one existed or having equipment not qualify, to the perception that rebates were too "much of a hassle". However, multiple write-in responses stated that rebates had been exhausted and thus none were available. One respondent elaborated on this issue while also summarizing what the evaluation team heard from many Implementing Partners' staff during in-depth interviews: "the process within a government agency was not aligned with the rebate/application process, so much of the time rebates/incentives were no longer available or did not apply by the implementation phase of the project."

> *"The process within a government agency was not aligned with the rebate/application process, so much of the time rebates/incentives were no longer available or did not apply by the implementation phase of the project"*

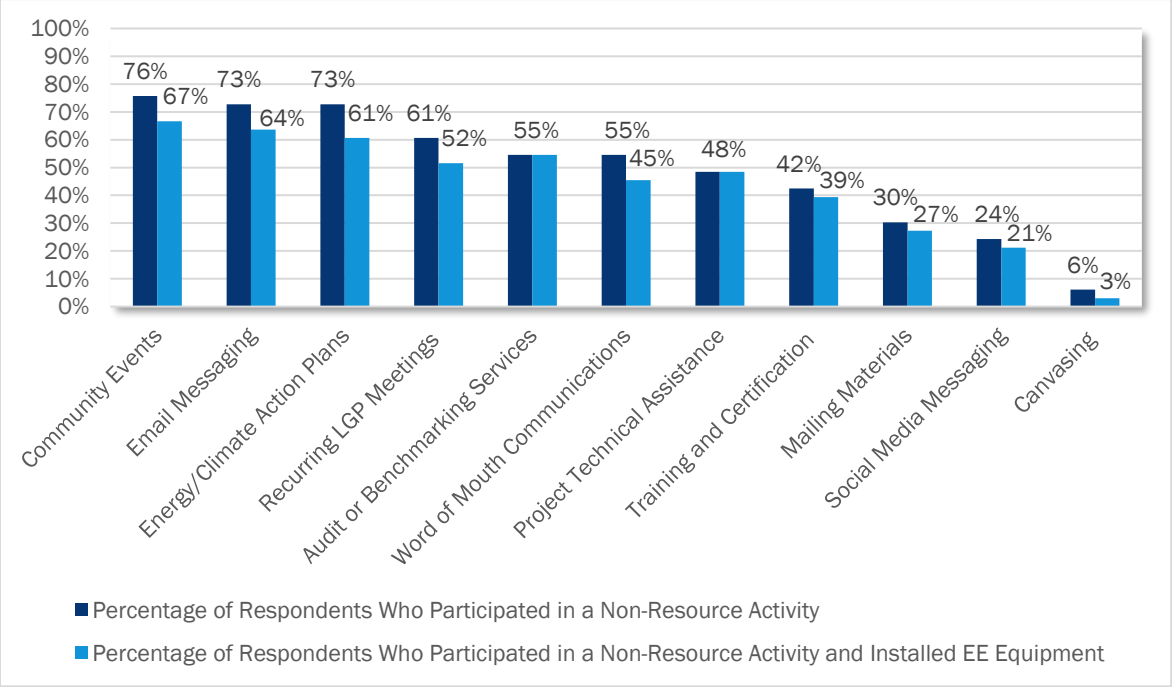
Given the high percentage of respondents who installed energy saving equipment and the relatively low percentage that received a rebate, a misalignment between government agency operations and available program processes is likely a barrier to municipal participation in EE resource programs. Based on the evaluation team's in-depth interviews with IOU and Implementing Partner staff, reasons that some projects do not align with current program processes include, but are not limited to:

- 3-5-year project municipal development timeframes
- Mismatches between the municipal fiscal year and when program budgets are approved
- The phasing out of lighting retrofits as an incentivized measure, which many municipalities have yet to complete

7.3 Factors Influencing Energy Saving Equipment Upgrades and Behavioral Actions

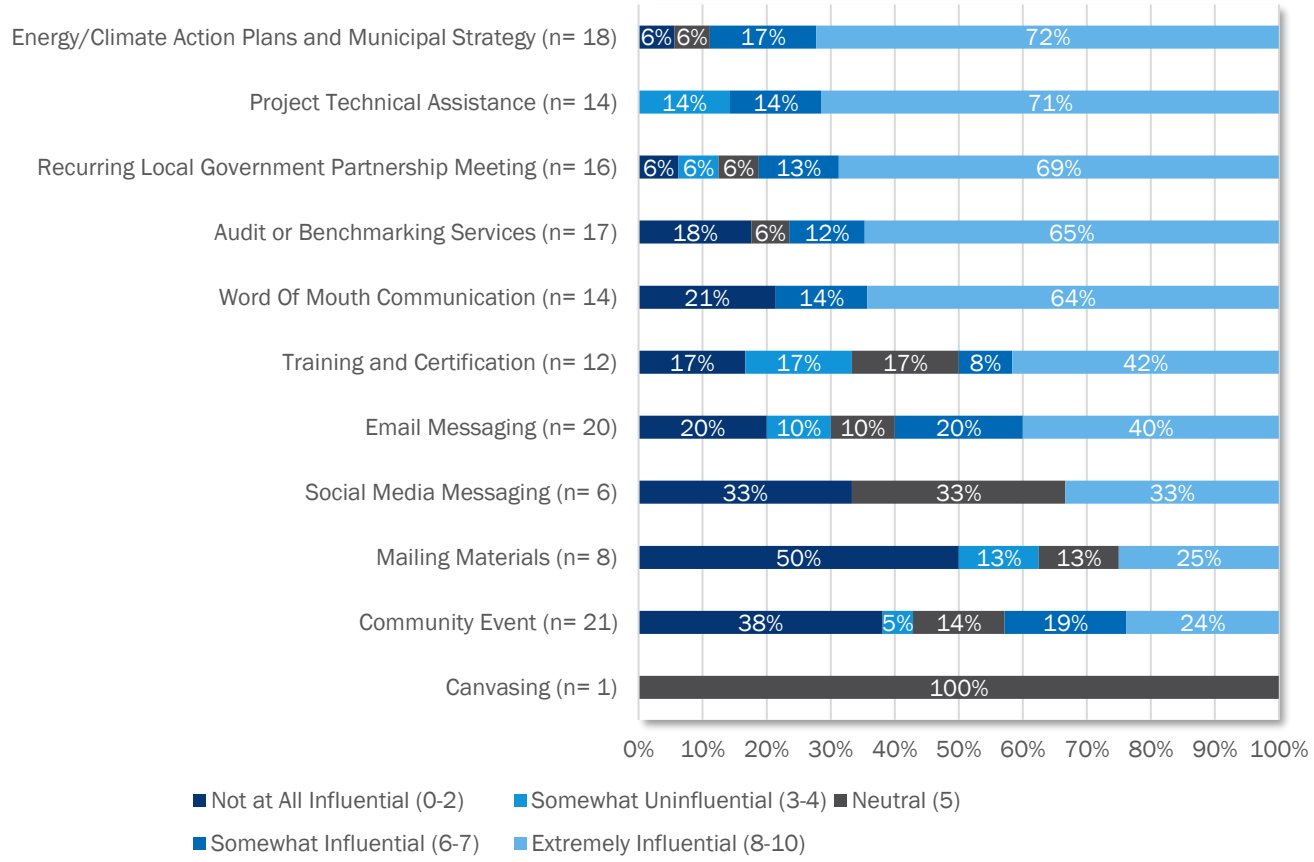
To assess whether LGP non-resource activities influenced customers' actions toward saving energy, survey respondents identified all of the LGP non-resource activities they recalled participating in prior to their municipality completing EE upgrades. Figure 9 shows the percent of respondents who participated in LGP non-resource activities, as well as the percent of respondents that both participated in non-resource activities and installed EE measures (multiple responses). Community events (76%), email messaging (73%), and Energy/Climate Action Plans (73%) were the non-resource activities with the highest participation rates among respondents. Mailing materials (30%), social media messaging (24%), and canvasing (6%) had the lowest participation rates. Notably, all respondents who participated in audit or benchmarking services, or project technical assistance went on to install energy saving equipment.

Figure 9. LGP Non-Resource Activity Participants Who Installed EE Equipment Upgrades (Multiple Response, n =33)



To further assess the influence of LGP non-resource activities on municipal customers' decisions to install energy saving equipment, survey respondents were asked to rate the influence of non-resource activities on a scale of 0 to 10, where 0 is "not at all influential" and 10 is "extremely influential". Respondents were asked about each of the non-resource activities in which they engaged (i.e. to provide multiple responses). As shown in Figure 10, the top three non-resource activities rated "extremely influential" were Energy/Climate Action Plans and municipal strategy (72%), project technical assistance (71%), and recurring local government partnership meetings (69%). The top three non-resource activities rated "not at all influential" were mailing materials (50%), community events (38%), and social media messaging (33%).

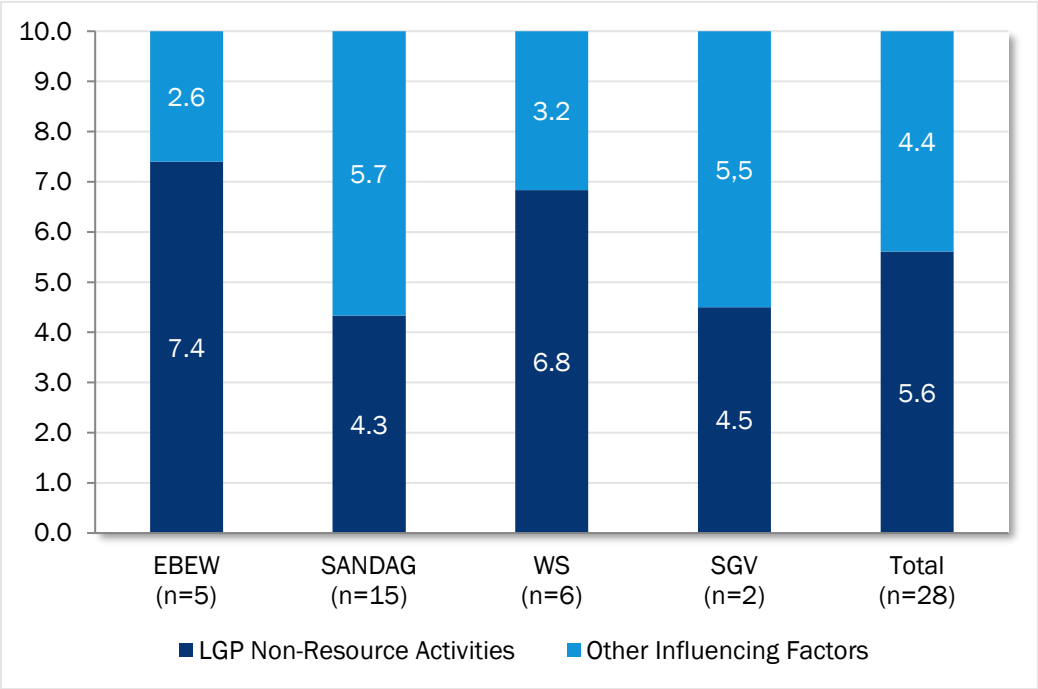
Figure 10. Influence of LGP Non-Resource Activities on Municipalities Installing Energy Saving Equipment Upgrades (Multiple Responses, n =33)



In addition to assessing the level of influence specific LGP non-resource activities had over participants' decisions to install energy efficient equipment, the evaluation team asked respondents to rate the overall importance of LGP non-resource activities relative to other factors that may influence energy saving equipment upgrade decisions. Figure 11 illustrates the average influence scores of LGP non-resource activities versus other factors' influence on municipalities' decisions to install energy saving equipment. Notably, EBEW, and WSP respondents who engaged in non-resource activities reported that LGP non-resource activities were more influential than other factors and had influence scores higher than the average, while SANDAG and SGVP participants reported that the influence of other factors were slightly more important on average than LGP non-resource activities' influence. Importantly, the average non-resource activity influence score across all selected LGPs was higher (5.6) than other factors (4.4). When asked to list up to three other factors, local governments provided a broad range of answers. However, the most highly cited factors were energy or cost savings as well as Climate Action Plan goals.

Together, Figure 10 and Figure 11 show that LGP non-resource activities appear to have a significant influence on municipalities' decisions to carry out energy saving upgrades. Survey participant responses also showed climate action planning, technical assistance, and recurring local government partnership meetings to be the most influential non-resource activities for municipalities.

Figure 11. Average Influence Scores of LGP Non-Resource Activities versus Other Factors on EE Upgrades



In addition to installing energy efficient equipment, the survey asked respondents if their municipality implemented energy saving actions or behavioral changes after engaging with LGP non-resource activities. As shown in Figure 12, 83% of respondents from WSP and EBEW undertook energy saving actions, while about 50% of respondents from SVG and SANDAG took actions. When asked if this action was taken before or after their engagement with the LGP, responses varied greatly depending on the type of action. As shown in Figure 13, the most common behavioral actions undertaken after engaging with LGP non-resource activities are optimizing lighting system run hours (69%), changing packaged/split-system HVAC equipment (62%), and implementing HVAC scheduling or space temperature changes (60%). In general, survey responses indicated that their municipalities did not take more complex behavioral actions such as cooling tower optimization (67%), economizer and ventilation control changes (60%), and fan optimization/air distribution upgrades (60%).

Figure 12. Respondents Implementing Energy Saving Behavioral Actions

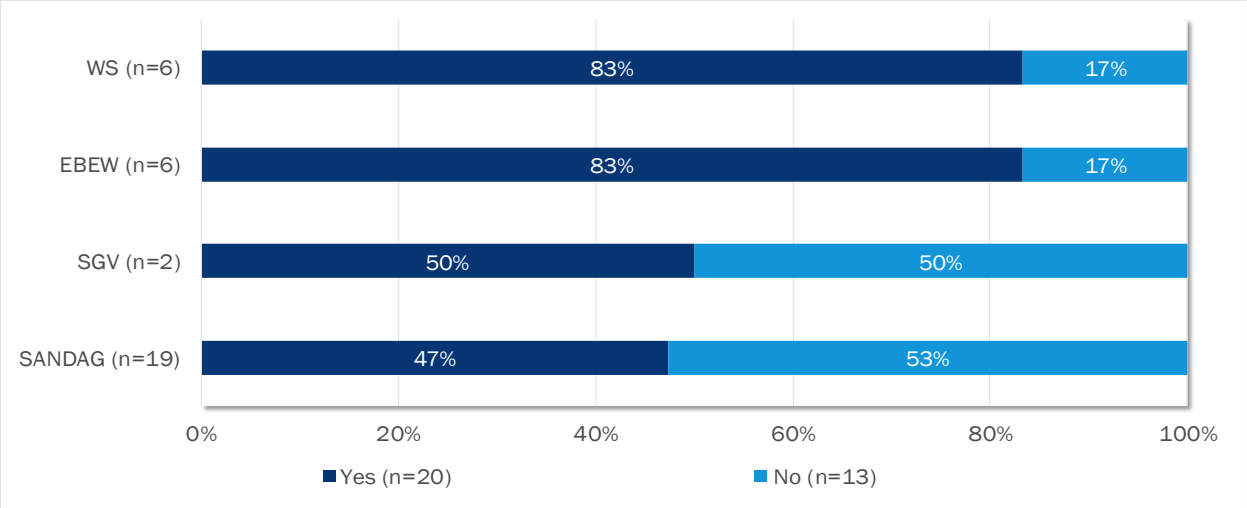
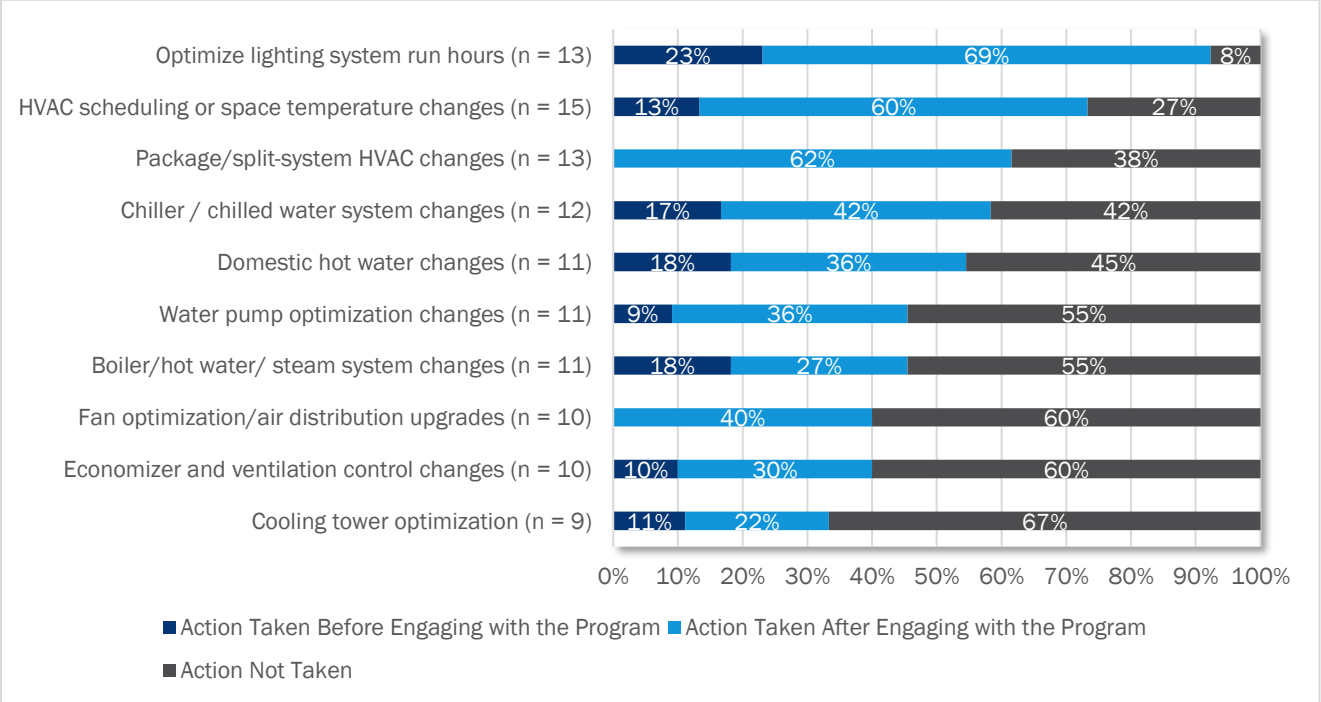


Figure 13. Timing of Behavioral Activities (Multiple Responses)



When asked to rate how influential LGPs' non-resource activities are on municipal actions or behaviors toward saving energy, all non-resource activities except for canvasing had a majority of respondents report that the activity was either somewhat or extremely influential (Figure 14). Similar to responses about the influence of non-resource activities on installing energy saving equipment, project technical assistance (70%) and Energy/Climate Action Plans (76%) are two of the three highest rated influential non-resource activities on municipal behavior. Word of mouth communication was rated the most influential with 77% of respondents indicating that the non-resource activity is extremely influential.

Further, when asked to rank how important the various LGP non-resource activities were in their municipalities' decisions to undertake energy saving actions or behaviors relative to other influencing factors, respondents from all surveyed LGPs generally indicated that LGP non-resource activities are more influential (Figure 15). According to the survey results, non-resource activities appear to have a significant influence on municipalities' decision to engage in energy saving behaviors or actions.

LGP non-resource activities appear to significantly influence municipalities' decisions to install EE equipment and engage in energy saving behaviors. Other factors considered important are energy/cost savings, as well as meeting climate action plan or other municipal sustainability goals.

Figure 14. Influence of LGP Non-Resource Activities on Municipalities' Energy Saving Behaviors (Multiple Responses)

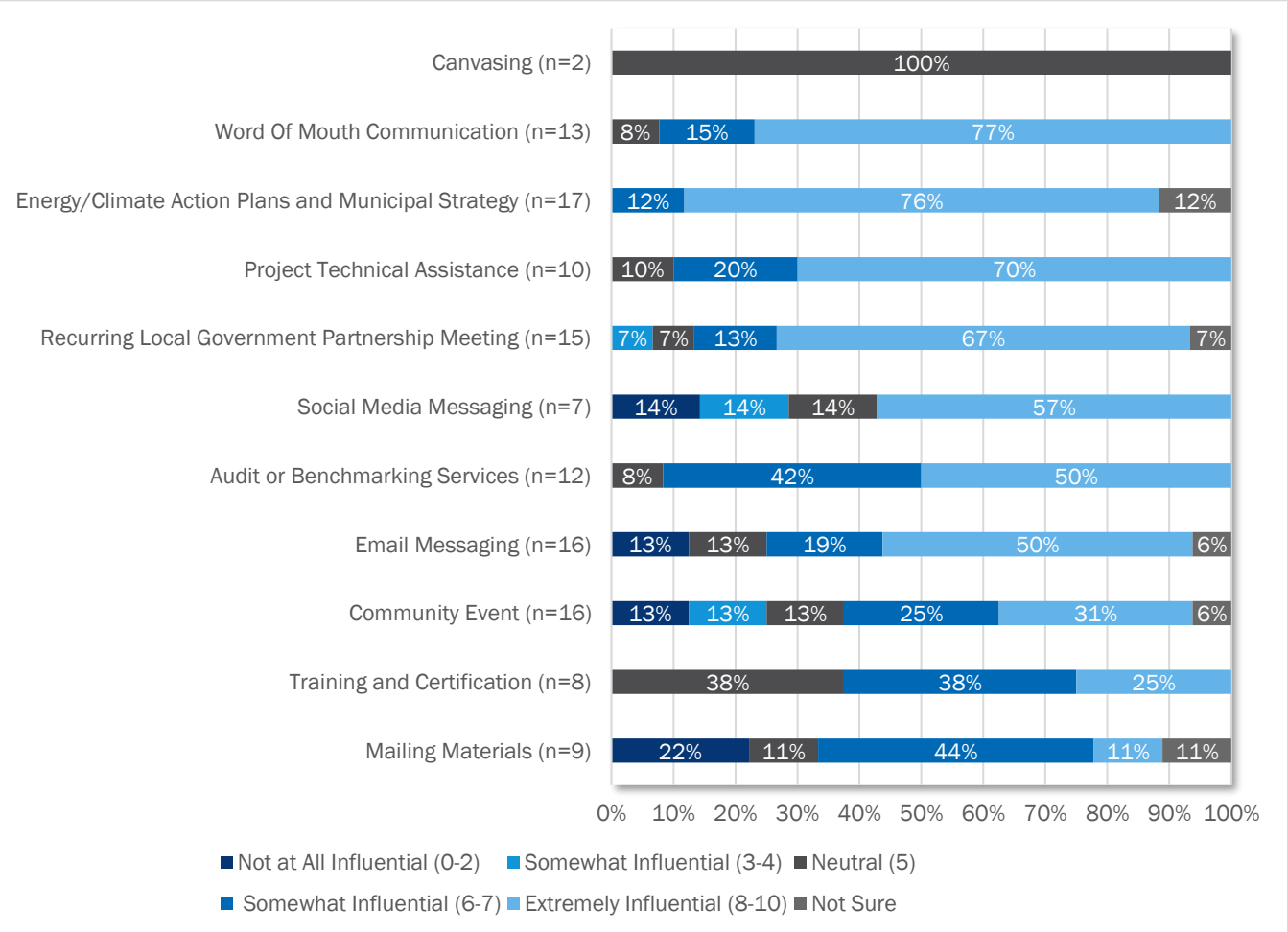
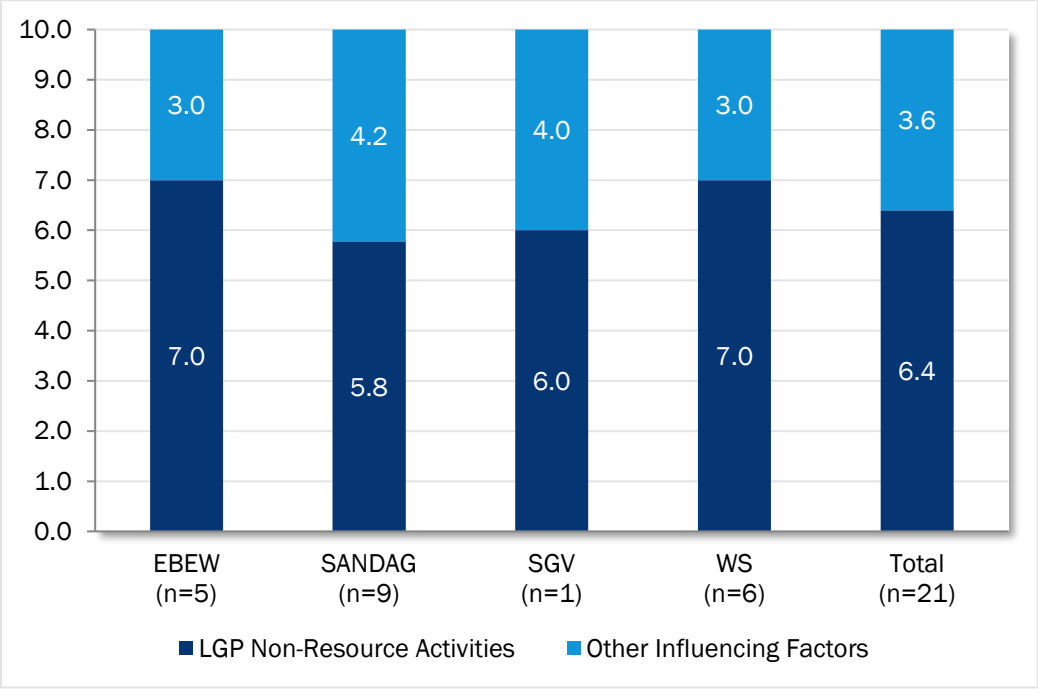


Figure 15. Average Influence Scores of LGP Non-resource Activities versus Other Factors on Energy Saving Behavior



7.4 Drivers to Program Participation

To assess what drives municipalities to participate in EE programs, respondents were asked to rate from 0 to 10, where 0 is "Not at all important" and 10 is "Extremely important", various actions that would encourage their municipality to install or upgrade energy saving equipment through their utility. Across all surveyed LGPs, respondents indicated that understanding facility energy use (average rating of 8.7, n=30), expanded access to low-cost financing (average rating of 7.6, n=31), and assistance identifying utility programs for EE equipment replacements (average rating of 8.4, n=31) somewhat or extremely encourage their municipality to participate in an EE program.

One respondent elaborated on the difficulties of conducting energy saving upgrades in municipalities, especially through utility programs, stating that "With existing municipal facilities, it is hard to get the attention and funding necessary and with the rebates/incentives only aimed at above-code measures, there is little to no funding now for implementation. We are constantly competing internally for funds on these projects. The biggest challenge is a lack of financial resources to implement the necessary infrastructure improvements / equipment retrofits." These appear to be common challenges across local governments, as these issues were also often mentioned by Implementing Partner staff in the evaluation team's in-depth interviews. Other valuable write-in suggestions that drive program participation included:

- Development of policy documents that support more EE projects.
- More relevant rebates and incentives that remained constant (i.e. did not suddenly expire) and are easier to apply for and receive.
- Ability to combine EE with other energy-related projects (solar, storage, EV charging infrastructure, fuel-switching/substitution) for combined cost savings and access to financing (in particular, OBF).

- Ability to single-source a contractor or piggyback on other public agency contracts.
- Ability to justify all energy and resiliency projects cost-effectiveness on the basis of GHG emissions reductions rather than on utility bill savings from efficiency only.
- Support to conduct energy audits/prepare design drawings for the installation and upgrade of energy saving equipment.

> *"With existing municipal facilities, it is hard to get the attention and funding necessary especially with rebates/incentives only aimed at above-code measures, leaving little to no funding now for implementation. Municipalities are constantly competing internally for funds on these projects. The biggest challenge is a lack of financial resources to implement the necessary infrastructure improvements / equipment retrofits."*

8. Engineering Analysis Results

This section presents gross and net energy savings associated with the surveyed municipal customers who installed EE and solar equipment after interacting with the selected LGPs through non-resource activities. In the following tables, electric savings from solar are separated from EE electric savings. The evaluation team separated solar and EE savings in this analysis because typically solar is not classified as an EE measure and the survey respondents reported much greater electricity savings from solar than from EE measures. For these tables, the sum of EE electric savings and solar electric savings (kWh) represents the total electric savings estimated by the evaluation team's engineering analysis.

Table 24 presents the electric and natural gas 1st year savings by LGP. The gross savings from the installation of EE equipment that occurred after municipal staff interacted with an LGP through at least one non-resource activity are 2,052 MWh and are 72,746 therms, while gross solar savings are 6,880 MWh. Total gross electric savings from both EE and solar are 8,932 MWh. The net EE electric savings are equal to 1,382 MWh and net therm savings are 72,746 therms, while net solar savings are 3,784 MWh. Total net electric savings from both EE and solar are 5,166 MWh.

Table 24. Overall Electric and Natural Gas First-Year Savings by LGP

LGP	1st Year Gross EE Electric Savings (kWh)	1st Year Net EE Electric Savings (kWh)	1st Year Gross EE Gas Savings (Therms)	1st Year Net EE Gas Savings (Therms)	1st Year Gross Solar Electric Savings (kWh)	1st Year Net Solar Electric Savings (kWh)
EBEW	40,489	27,408	(0.08)	(0.04)	2,640,000	1,452,000
SANDAG	626,134	427,687	15,382	9,230	3,280,000	1,804,000
SGVP	1,811	1,087	(2)	(1)	-	-
WSP	1,383,666	925,861	57,366	34,420	960,000	528,000
Total	2,052,100	1,382,043	72,746	43,648	6,880,000	3,784,000

Table 25 presents the 1st year gross and net savings from the installation of rebated and non-rebated EE and solar equipment installed by LGP non-resource activity participants. This disaggregation of rebated versus non-rebated equipment is based on whether customers reported to have received a rebate from one of the California PAs for the EE equipment they installed. While a majority of the net EE electric savings came from the installation of EE equipment outside of PA resource programs (881 MWh), 501 MWh overall net savings came from the installation of EE equipment through PA resource programs. LGPs also had significant net electric savings from solar panel installation with 1,540 MWh of non-rebated solar and 2,244 MWh of rebated solar panels.

Table 25. Rebated and Non-Rebated Electric and Natural Gas First-Year Savings by LGP

Non-Resource Activity	1st Year Gross EE Electric Savings (kWh)	1st Year Net EE Electric Savings (kWh)	1st Year Gross EE Gas Savings (Therms)	1st Year Net EE Gas Savings (Therms)	1st Year Gross Solar Electric Savings (kWh)	1st Year Net Solar Electric Savings (kWh)
Rebated Measures						
EBEW	5,513	3,032	(0.08)	(0.04)	2,640,000	1,452,000
SANDAG	150,701	99,933	8,083	4,850	1,440,000	792,000
SGVP	1,811	1,087	(2)	(1)	-	-

Non-Resource Activity	1st Year Gross EE Electric Savings (kWh)	1st Year Net EE Electric Savings (kWh)	1st Year Gross EE Gas Savings (Therms)	1st Year Net EE Gas Savings (Therms)	1st Year Gross Solar Electric Savings (kWh)	1st Year Net Solar Electric Savings (kWh)
WSP	598,423	396,737	25,068	15,041	-	-
Rebated Measures Total	756,448	500,789	33,149	19,889	4,080,000	2,244,000
Non-Rebated Measures						
EBEW	34,976	24,376	-	-	-	-
SANDAG	475,434	327,755	7,299	4,380	1,840,000	1,012,000
SGVP	-	-	-	-	-	-
WSP	785,243	529,123	32,299	19,379	960,000	528,000
Non-Rebated Measures Total	1,295,653	881,254	39,598	23,759	2,800,000	1,540,000

9. Attribution Analysis Results

This section presents average attribution ratios for the non-resource activities offered by the LGPs selected for in-depth examination in this study. It also presents the total 1st year gross and net electric and gas savings attributable to each LGPs' non-resource activities, as well as disaggregates the savings coming from the installation of rebated and non-rebated EE equipment.

9.1 Average Attribution Ratios for Non-Resource Activities

The evaluation team calculated average attribution ratios for each LGPs' collection of non-resource activities we asked participants about in the participant survey. As shown in Table 26, the influence of EBEW's non-resource activities has the lowest average attribution ratio at 0.21 while those offered by SANDAG and SGVP have the highest attribution ratios of 0.32. The ratio for WSP'S non-resource activities is also close to the respondent average, with a ratio of 0.29.

Table 26. Average Attribution Ratios for Non-Resource Activities by LGP

LGP	Attribution Ratio for Non-Resource Activities
All Respondents	0.31
EBEW	0.21
SANDAG	0.32
SGVP	0.32
WSP	0.29

The evaluation team chose to provide simple averages for the attribution ratios rather than weighted ratios to generally illustrate the influence of each of the LGPs' non-resource activities. In our calculations of savings attributable to each of the LGPs presented in the next sub-section, the team relied on customer-level attribution ratios and savings values.

9.2 Savings Attributable to Non-Resource Activities

This section presents attributable gross and net energy savings associated with the surveyed municipal customers who installed EE and solar equipment after interacting with the selected LGPs through non-resource activities. In the following tables, electric savings from solar are separated from EE electric savings. For these tables, the sum of attributable EE and solar electric savings (kWh) represents the total attributable electric savings estimated by the evaluation team's engineering analysis.

To estimate the electric and gas 1st year savings attributable to the non-resource activities, the evaluation team applied customer-level attribution ratios to their 1st year savings calculated from the engineering analysis. We then summed the savings for customers who participated in the different non-resource activities to arrive at the electric and gas savings attributable to each of the non-resource activities. The application of customer-level attribution ratios to the savings estimated from the engineering analysis allows us to gain an understanding about how influential the different LGPs' collection of non-resource activities is on municipalities' decisions to install EE equipment.

Table 27 presents the attributable electric and natural gas 1st year gross and net EE savings by LGP in order of magnitude of 1st year gross electric savings. The gross electric EE savings attributable to LGP non-resource

activities are 821 MWh and the net savings are 551 MWh. While gross therm EE savings attributable to LGP non-resource activities are 29,235 therms and the net savings are 17,541 therms. Just as in the engineering analysis, LGPs also had significant net electric savings from solar panel installations with gross savings of 2,894 MWh and net savings of 1,592 MWh. Total gross electric savings from both EE and solar attributable to LGP non-resource activities are 3,715 MWh and net savings are 2,143 MWh. These results indicate that the selected LGPs may have a significant amount of unclaimed energy savings.

Table 27. Overall Attributable Electric and Natural Gas First-Year Savings by LGP

Non-Resource Activity	1st Year Gross EE Electric Savings (kWh)	1st Year Net EE Electric Savings (kWh)	1st Year Gross EE Gas Savings (Therms)	1st Year Net EE Gas Savings (Therms)	1st Year Gross Solar Electric Savings (kWh)	1st Year Net Solar Electric Savings (kWh)
EBEW	23,763	16,142	(0)	(0)	1,056,000	580,800
SANDAG	285,688	195,275	6,823	4,094	1,241,714	682,943
SGVP	686	411	(1)	(1)	-	-
WSP	510,431	338,856	22,413	13,448	596,571	328,114
Total	820,568	550,685	29,235	17,541	2,894,285	1,591,857

Table 28 presents the attributable 1st year gross and net savings from rebated and non-rebated EE as well as solar equipment installed by LGP non-resource activity participants. This analysis provides information to the CPUC about the impacts of the LGPs' activities that do not directly lead to claimed savings. Particularly important are the savings from EE equipment installations that were not carried out through a PA resource program, as these savings would not necessarily be accounted for in the California EE portfolio.

The net electric EE savings coming from non-rebated measures are equal to 349 MWh. This represents about 63% of the total net EE electric savings attributable to the non-resource activities examined for this study. Net therm EE savings coming from non-rebated measures are equal to 6,652 therms, representing about 38% of the total net therm savings attributable to the non-resource activities examined for this study. The net electric savings from non-rebated solar are equal to 810 MWh. This represents about 51% of the total net electric solar savings attributable to the non-resource activities examined for this study. Based on the results of this analysis, the selected LGPs may have a significant amount of unclaimed energy savings that are in part attributable to LGP non-resource activities. This finding is also supported qualitatively by many survey participants and Implementing Partner staff, who stated that misalignments between government agency operations and existing program processes are often a barrier to municipal participation in EE resource programs. However, the finding that attributable savings from non-rebated EE equipment is greater than rebated EE equipment also shows that LGPs have been successful in building at least some local jurisdictions' capacity to implement EE equipment upgrades without rebates.

Table 28. Attributable Electric and Natural Gas First-Year Savings by LGP

Non-Resource Activity	1st Year Gross EE Electric Savings (kWh)	1st Year Net EE Electric Savings (kWh)	1st Year Gross EE Gas Savings (Therms)	1st Year Net EE Gas Savings (Therms)	1st Year Gross Solar Electric Savings (kWh)	1st Year Net Solar Electric Savings (kWh)
Rebated Measures						
EBEW	2,993	1,646	(0.04)	(0.02)	1,056,000.00	580,800.00
SANDAG	80,566	53,775	3,811	2,287	365,714	201,143
SGVP	686	411	(1)	(1)	-	-
WSP	227,331	145,823	14,338	8,603	-	-
Rebated Measures Total	311,576	201,655	18,148	10,889	1,421,714	781,943
Non-Rebated Measures						
EBEW	20,770	14,496	-	-	-	-
SANDAG	205,122	141,500	3,011	1,807	876,000	481,800
SGVP	-	-	-	-	-	-
WSP	283,100	193,033	8,075	4,845	596,571	328,114
Non-Rebated Measures Total	508,992	349,030	11,086	6,652	1,472,571	809,914

It is important to keep in mind that the net electric and gas savings from the installation of EE equipment outside of PA resource programs are not accounted for in the California EE portfolio, unless they were incidentally incorporated into spillover analyses conducted of the IOU resource programs.

10. Findings and Recommendations

In this section, the evaluation team provides a list of findings and recommendations that came out of the research and evaluation activities previously described. Note that not all findings have an associated recommendation.

Finding #1: Based on the evaluability assessment of select LGPs' non-resource activity data, the evaluation team found the quality of the selected LGPs' non-resource program data to be inconsistent and lacking a standardized set of fields useable to match non-resource participants with the CPUC data. Consequently, the team was limited in its ability to fully quantify the benefits of non-resource activities.

> **Recommendation:** The evaluation team recognizes that the very nature of certain non-resource activities is not conducive to standardized data collection. **However, for those activities where LGPs can gather detailed participant information (such as during audits, technical assistance visits, etc.) the LGPs should do so.** Information that would improve the evaluability of non-resource activities includes tracking customer name, email address, service address, dates of participation in the non-resource activity, and all associated customer IDs used by the PAs. As data quality and completeness improve, evaluators can more fully capture the attributable energy savings from non-resource activities. Analysis of this sort goes far to demonstrate the benefits of non-resource activities, particularly those offered by PA programs with a more local or community focus, such as LGPs.

Finding #2: The channeling analysis identified 6% of LGP non-resource participants took part in PA resource program by identifying matches in the CPUC program database. This is most definitely an underestimate of the extent to which LGP non-resource participants took part in PA resource programs because 1) the staff attending the LGP non-resource event may work to develop a project but may not be the same staff that appear in program databases (e.g. project applications) and 2) the non-resource activity datasets used in the channeling analysis often contained a limited number of data fields (e.g. phone number, email, service address, etc.) and many of these fields were incomplete. This makes it difficult to identify customers who subsequently installed EE equipment through a PA resource program.

> **Recommendation: The evaluation team recommends the PAs use a standardized method and format for recording the non-resource activity participant data recommended in Finding #1 and update this information to track how participants are contributing to ongoing project development.** For example, when a municipality's staff engages in recurring meetings, attends presentations and workshops, and receives referrals to resource programs, the PAs should capture contact names, business names, email addresses, phone numbers, and mailing addresses, along with customer IDs in a standardized format. The CPUC program database requires the PAs to provide their program data in a standardized format; we recommend the PAs apply this same format, to track non-resource activity. This tracking process should include periodic updates to assess whether these participants are engaged in project development, including how they might be influencing projects where they are not the contact of record in program databases.

Finding #3: According to participant survey results, LGP non-resource activities are generally more successful than other factors at influencing municipalities' decisions to install EE equipment and engage in energy saving behaviors. For EE upgrades, the average influence scores of LGP non-resource activities versus other factors ranged from 4.3 to 7.4 out of 10. Regarding energy savings behaviors, the average influence scores of LGP non-resource activities versus other factors ranged from 5.8 to 7.0 out of 10. The non-resource activities rated by respondents as being the most influential included project technical assistance and program communication (including changes in program operations, funding levels, or what measures are being

offered), energy/climate action plans and municipal strategy activities, and recurring LGP meetings. While these are positive findings, they are based on views from a limited set of survey respondents.

Finding #4: Based on the results of the engineering and attribution analysis, the evaluation team found that the selected LGPs may have a significant amount of unclaimed energy savings that are in part attributable to LGP non-resource activities. For the five LGPs studied in this evaluation, we estimate the net electric savings attributable to LGP non-resource activity to be 551 MWh. Approximately 63% of those savings are not accounted for in the CPUC program database since they occur outside of PA resource programs (unless they are incidentally captured as part of spillover in ex post net savings calculations for those programs). In the case of natural gas, of the attributable 1st year net therm savings from EE equipment installations (17,541 therms), approximately 38% resulted from installing EE equipment outside of a PA resource program. This finding was also supported qualitatively by many survey participants and IP staff, who stated that misalignment between government agency operations and existing program processes was often a barrier to municipal participation in EE resource programs. This misalignment includes but is not limited to code changes in the middle of long project development cycles and program funding cycles mismatching with municipal funding cycles. Findings #6 and #7 expand upon these and other barriers. However, the finding that attributable savings from non-rebated EE equipment is greater than rebated EE equipment also shows that LGPs have been successful in building at least some local jurisdictions' capacities to implement EE equipment upgrades without rebates. For example, some IPs will leverage LGP-funded non-resource engagements to promote California Alternative Energy and Advanced Transportation Financing Authority's (CAEATFA's) Small Business Financing (SBF), loans through the Residential Energy Efficiency Loan (REEL) Program, or Qualified Energy Conservation Bonds (QECB).

Finding #5: Based on feedback from the in-depth interviews of IPs, there appears to be uncertainty about the overall potential for EE in public sector buildings, a primary customer of LGP programs. Several in-depth interview participants indicated that 1) the amount of technical and economic potential in the public sector is not understood and that 2) the expansion of building code requirements and industry standard practices (which is also impacting the availability of energy efficiency in all market sectors) makes it more difficult to achieve savings.[32] The reduction in viable lighting measures from the EE portfolio was noted as a particular concern because these are the primary measures being implemented by public agencies, as confirmed by our engineering and attribution analyses as well as our review of program data. However, as shown in Figure 16 below, potential remains for whole building and HVAC measures as indicated in the 2019 EE Potential and Goals Study.[33] This study, funded by the CPUC, shows that overall EE potential in the commercial sector, which include public buildings, diminishes overtime. However, most of this decline is associated with the impact of codes and standards on the potential for lighting measures. The net market potential for whole building projects remains significant and the potential associated with HVAC increases over the 2030 forecast horizon. We caveat this finding by noting that respondents indicated they had completed more HVAC projects in public facilities than is apparent in CPUC program database, as these projects may not have received PA program rebates. See the discussions in Section 7.2 at Figure 7 and Section 7.3 at Figure 11 for additional details. In addition to EE potential in buildings, it is likely that potential remains in non-building assets which are not directly impacted by codes and standards, such as streetlighting or drinking water and wastewater water processing facilities (collectively referred to as water processing facilities). Most water processing facilities are owned and operated by local governments and for these entities water processing usually accounts for 30% to 40% percent of annual electricity use, with streetlighting accounting for 10% to 20%. For local

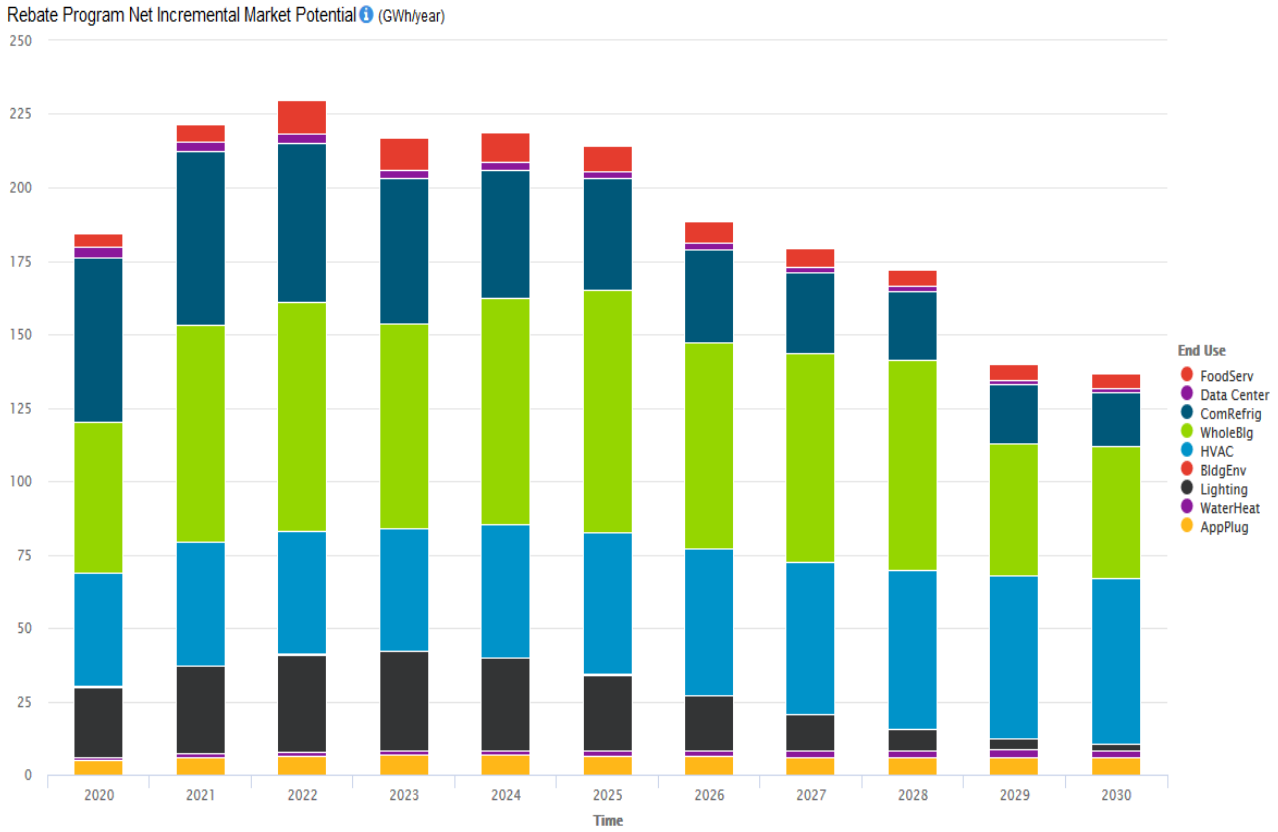
[32] As noted in the Energy Division & Program Administrator Energy Efficiency Evaluation, Measurement and Verification Plan 2018 - 2020 Version 9, a Statewide Public Sector Market Study was initially anticipated to be completed by Q4 2020 by PG&E and may address this uncertainty. Understanding the full energy efficiency potential in this unique sector will be an important driver in future non-resource and resource program activity.

[33] California 2019 EE Potential and Goals Study: Results Explorer. http://acp.analytica.com/acpbeta/shared/#dash/fca42209-b98d-4e83-852f-3d075f99ce9b

governments that do not have water processing facilities, streetlighting typically accounts for 25% to 50% of annual usage.

Recommendation: We recommend the LGPs focus their energy efficiency program activities away from lighting retrofits and towards developing HVAC projects or more comprehensive projects such as those that address whole buildings. Our analysis of the CPUC's California Energy Data and Reporting System (CEDARS)[34] data indicates that about 88% of savings claims for the LGPs we reviewed are associated with indoor and outdoor lighting, and based on our in-depth interviews we find that the LGPs may not be effectively coordinating across internal local government functions to identify HVAC and whole building projects. This could be accomplished, for example, by participating in the annual capital planning process undertaken by every local government to identify HVAC and whole building retrofit opportunities early and provide non-resource activities that drive enrollment of these types of non-lighting projects in core programs. This same annual review would apply to capital planning activities for non-building operations, such as water processing or streetlighting.

Figure 16. Net Incremental Market Potential (GWh/year)



[34] CEDARS is the publicly accessible data system for California demand-side management (DSM) programs.

Finding #6: With the transition to third-party implementation, there is a concern from IPs around the effectiveness of third parties to channel government agencies to IOU programs. Local governments are complex organizations and LGPs currently provide a coordinating role to make sure that program implementers are presented across multiple local government functions and internal operations. During our in-depth interviews, Implementing Partners expressed concern that if LGPs are defunded, there will be no internal coordinating entity and local government staff could be inundated with outreach from a large number of independent implementers and programs. IPs also expressed concern that implementers generally pursue their own business interests and not necessarily the interests of the community. Additionally, there will be no entity that pre-screens vendor offerings or helps coordinate internal outreach across LG departments or community constituents, such as low income or hard-to-reach markets. A second concern expressed by some LGPs was that third-party implementers will not adequately engage small and rural cities due to the limited number or size of projects available and their distance from major metropolitan areas.

> **Recommendation:** We recommend that third party implementation plans define specifically how they will 1) efficiently coordinate with local governments to ensure broad outreach across internal local government functions and 2) where programs are intended to impact efficiency beyond public facilities, how they will engage with constituents that may have limited relevance to the third parties commercial interests, or define how this gap is being addressed by other organizations or agencies if such an engagement is impractical for the third party.

Finding #7: We noticed significant regional variations in per capita funding for locally focused programs. We reviewed program funding levels for 2019 as part of selecting which LGPs to evaluate and noticed considerable variations in per capita funding for locally focused programs, which we have defined as IOU administered local government programs, and REN and CCA administered programs. Specifically, we noticed the funding disparity for local programs appears most significant in counties in the Central Valley where no REN or CCA programs operate. For example, as shown in Table 29, our analysis indicates that Alameda and Contra Costa county receive $4.43 per capita in local program funding[35] versus $0.65 in Merced County.[36] Merced is located in the Central Valley, an area that is largely defined by disadvantaged communities by CalEPA for the purpose of SB 535[37] and the Northern San Joaquin Valley Energy Watch program is the only locally focused program in this county. Alameda and Contra Costa Counties have lower poverty rates, as defined by SB 535, and are served by the East Bay Energy Watch and programs provided through the Bay Area Regional Energy Network. Additionally, Contra Costa is served by program offerings from Marin Clean Energy (MCE). While not reviewed as part of our analysis because they are not a program administrator using public purpose funds, East Bay Community Energy is increasingly providing programs to Alameda County.

It is worth noting that the funding disparity for local programs is in contrast with public purpose funds being paid by ratepayers. Central Valley areas generally have high per capita energy usage as these counties are located in hotter climate zones and have high per capita electricity consumption resulting primarily from HVAC usage. Higher per capita usage includes higher payment of public purpose funds, and we estimate Merced county residents pay $143 per capita annually in electricity public purpose funds versus $63 per capita in Alameda and Contra Costa county, which are located in a cooler climate and have lower air conditioning demands. The LGP operating in Merced, the Northern San Joaquin Valley Energy Watch program, was not

[35] Local program funding is defined as approved 2019 budget advice letters for IOU administered local government programs, and REN and CCA administered programs. This does not account for how statewide program funding might be captured within an LGP jurisdiction.

[36] As provided by the CPUC for PG&E's 2019 Annual Budget Advice Letter.

[37] Designation of Disadvantaged Communities Pursuant to Senate Bill 535. The map shows the disadvantaged communities designated by CalEPA for the purpose of SB 535. Areas defined in red represent the 25% highest scoring census tracts in CalEnviroScreen 3.0, along with other areas with high amounts of pollution and low populations. Accessed November 2019 at https://calepa.ca.gov/wp-content/uploads/sites/6/2017/04/SB-535-Designation-Final.pdf.

evaluated in this report other than to assess funding levels and the reference to this program is for comparison only.

> **Recommendation:** We recommend that the IOU study of co-benefits and economic benefits planned for 2020 include an assessment of funding levels relative to low income and disadvantaged community areas. Insofar as the LGPs remain important in addressing the low income and disadvantaged community market a more consistent approach to funding IOU administered LG programs might be beneficial.

Table 29. 2019 Requested Budget $/Capita for Locally Focused Programs

LGP Name	West Side Community Energy Leader Partnership	San Gabriel Valley Energy Leader Partnership	East Bay Energy Watch	Fresno Energy Watch	San Diego Association of Governments	Northern San Joaquin Valley Energy Watch
County	Los Angeles	Los Angeles	Alameda & Contra Costa	Fresno	San Diego	Merced
REN	SoCalREN	SoCalREN	BayREN			
CCA			MCE			
PG&E	$0.00	$0.00	$1.17	$2.86	$0.00	$0.65
SCE	$8.57	$0.59	$0.00	$0.00	$0.00	$0.00
SCG	$0.44	$0.17	$0.00	$0.00	$0.00	$0.00
SDGE	$0.00	$0.00	$0.00	$0.00	$0.39	$0.00
REN	$1.32	$1.32	$2.21	$0.00	$0.00	$0.00
CCA	$0.00	$0.00	$1.05	$0.00	$0.00	$0.00
Total	$10.34	$2.09	$4.43	$2.86	$0.39	$0.65

Conclusion

The LGPs' non resource activities are having a positive impact on the California EE portfolio, and energy savings arising from these efforts are likely undercounted. While a reasonable percentage of customers who participate in LGP-sponsored non-resource activities go on to install energy efficiency upgrades and adopt energy saving behaviors, data tracking limitations make it difficult to determine the full extent of the impacts associated with these LGP efforts. Establishing a consistent data tracking practices for non-resource activities will improve the evaluability of non-resource activities and provide for greater insights into their contributions to the statewide EE portfolio. This tracking process should include periodic updates to assess whether participants in non-resource activities subsequently engage in project development, including how they might be influencing projects where they are not the contact of record in program databases. In addition, having accurate tracking data is especially important for local government programs going forward because the program delivery model is shifting to a third-party implementation approach and the ability to gage performance of these programs, and compare effectiveness to past models, will largely depend on improved data.

Appendix A. In-Depth Interview Guide

CPUC Energy Efficiency
Program Oversight and Evaluation of the Group B Sectors
Deliverable 22 – Local Government Partnership In-Depth Interview Guide
March 2019

Study Overview

On behalf of the California Public Utilities Commission (CPUC), the Opinion Dynamics and Tierra Resource Consultants evaluation team is assessing the energy savings benefits derived from non-resource activities offered by local government partnerships (LGPs) including PG&E's East Bay Energy Watch and Fresno Energy Watch, SCE and SCG's West Side Community Leadership Program and San Gabriel Valley Energy Leadership Partnership, as well as SDG&E's San Diego Association of Governments (SANDAG) Partnership. Our focus is on program years 2016 and 2017, however we will also be asking questions to understand how things have changed from past program cycles, and how you think they might be changing in the future.

Due to the significant number of Local Government Partnerships (LGPs), the CPUC is interested in examining the activities of a small selection of LGPs in each year of this 3-year study. While each IOU's LGP program is uniquely structured, and there exist operational differences among LGPs in the same IOU service territory, past studies have defined LGP activity areas as consisting of municipal building retrofits, Strategic Plan support, and IOU core programs coordination. Activities that are typically defined as 'non-resource' include, but are not limited to, marketing and outreach, educational workshops, technical assistance, trainings, energy audits, benchmarking, reach codes, and/or financing options. The evaluation team will use this study to build a foundational understanding of whether those LGP non-resource activities with the most participation are channeling their customers into ratepayer-funded resource programs offered by Program Administrators (PAs) and/or encouraging them to take energy-saving actions outside of programs (e.g., individual actions or behavior changes without rebates).

Research questions the evaluation team would like to answer from this study include the following:

- Which the LGP non-resource activities engaged with the most customers during 2016 and 2017 program years?
- What non-resource activities have been the most successful in channeling customers into PA EE resource programs and to which programs have customers been channeled, particularly during 2016 and 2017?
- What types of EE actions are being taken outside the PA EE resource programs that are attributable to participation in an LGP non-resource activity?
- Since the end of 2017, in what additional non-resource activities has the LGP engaged? Have there been changes to the resource and non-resource offerings?
- How effective have the LGPs been at achieving the CPUC's stated program design goal of:
  - Filling gaps (i.e., not duplicating the utilities' activities);
  - Piloting different or unique approaches that have potential to scale;

- Adding value based on their unique expertise and relationships with local stakeholders;
- Targeting customers, including hard-to-reach, where they may duplicate utility offerings (this applies primarily to activities intended to coordinate with core utilities programs for residential and commercial markets, not limited to municipal facilities).

Fielding Strategy

The evaluation team plans to conduct depth interviews with IOU program managers and implementing partners'[38] program management. We do not expect any individual interviewee to have responses to all the questions in this interview guide. This interview guide is comprehensive, and the team's plan is to use this document to create unique guides for each planned interview. The questions below are not designed to be read verbatim. Instead, the interviewer will follow the conversational flow of the interview and cover topics as discussed. The evaluation team will conduct nine interviews including:

- Interviews with the IOU management overseeing all LGP programs (single or team), consisting of four total interviews comprised of one interview with a representative from each IOU to cover the selected LGPs. Key participant(s) include the senior IOU manager over local government programs (e.g. Principals, Supervisors, etc.) operating during the 2016-2017 program cycle and IOU management staff overseeing the current program cycle if different from 2016-2017. These will be scheduled for 2 hours in duration but may vary depending on the program (e.g. Number of Local Government Partners in the program, number of Strategic Plan activities undertaken, etc.).
- Interviews with the Implementing Partners' management (single or team), consisting of 1 per program, for 5 total interviews. Key participant(s) are the senior Implementation Partner manager over the program during the 2016-2017 program cycle, and also the senior Implementation Partner manager overseeing the current program cycle if different from 2016-2017. These will be scheduled for 2 hours in duration but may vary depending on the program.

In-Depth Interview Guide

Interviewee:_____

Title and Organization:_____

Date and Time of Interview:_____

Interviewer:_____

Introduction

Ask permission record and transcribe this conversation.

Thank you again for taking the time to speak with us today. We recognize that your organization engages in multiple activities and that you may have information about some of the topics below. We would appreciate it if you could respond with what you know and direct us to the most appropriate staff member of your organization to provide us answers to the questions for which you do not have information. For today's interview, we'd like to focus on the following topics:

[38] Defined as local governments or third-party organizations that hold the contract with the IOU for LGP administration; this can be a single city/county, other type of association/council of governments/JPA, or a private company.

- Roles and Responsibilities. Your role in the organization and your responsibilities during the 2016-2017 program cycle
- Program Design and Implementation Processes. This section explores how the non-resource activities of the 2016- 2017 program were designed and implemented in a way that channeled participation in resource programs. This section includes four areas of interest:
  - IOU/LGP Coordination on Program Design and Goals
  - Coordination Across Delivery Platforms
  - Local Capacity Building
  - Program Goals and Performance
- Non-Resource Activities. This section explores specific activities that have channeled participation in IOU resource programs. This section includes three areas of interest:
  - Municipal retrofits and behavior programs
  - Strategic Plan goals
  - Coordination with core IOU programs (where applicable)
- Program Theory and Logic Model. These questions apply only to IOU staff.

Roles and Responsibilities (Questions for IOU Program Managers and Implementing Partner Staff)

Our first set of questions are regarding staff roles and responsibilities.

1. What is your role and title within <IOU/Program>?
2. How long have you been in this position?
3. How long have you worked at the <IOU/Program>?
4. Can you tell us how your role at <IOU/Program> has changed since you first started there?

Program Design and Implementation Processes (Questions for IOU Program Managers and Implementing Partner Staff)

5. Can you please describe the design and implementation of the program you manage as it operated in 2016 and 2017, particularly the non-resource elements of the program? Since 2017, what has changed or is anticipated to change?

[PROBE FOR DETAILS REGARDING PROGRAM PARTICIPATION PROCESS, CUSTOMER ELIGIBILITY REQUIREMENTS, IMPLEMENTATION PARTNERS, INCENTIVES, PERFORMANCE/DATA TRACKING, ETC.]

Coordination on Program Design

6. What are your overall perspectives on the ways that IOUs, Implementing Partners, and Member Local Governments coordinate to support local governments' non-resource activities? From your

perspective, are there ways to improve coordination between the IOU and Implementing Partners to support local governments?

[PROBE FOR DETAILS ABOUT LEVEL OF COORDINATION AND INVOLVEMENT WITH MEMBER LOCAL GOVERNMENT]

7. During the 2016 - 2017 program cycle, what are traditional ways that the program channeled participation to resource programs? For example, what had worked well in previous program cycles that was used in 2016-2017?

8. During the 2016 - 2017 program cycle, what innovations were implemented that helped channel projects to resource programs in a way that is unique and not present in other IOU or third-party programs? Who was the primary driver of these innovations, the IOU or Implementing Partner? Since the 2017 program year, what innovations were implemented that helped channel projects to resource programs in a way that is unique? Who was the primary driver of these innovations? What gaps remain in the program's design for delivering non-resource activities and how are the IOU or Implementation Partner working to address this?

[PROBE FOR DETAILS DEFINING RELATIVE ROLES OF IOU AND IMPLEMENTATION PARTNER]

9. What was the nature of the collaboration between the IOU and Implementing Partner in determining the overall budget for the 2016 - 2017 program cycle? What about after 2017 - what was the nature of the collaboration between the IOU and Implementing Partner in determining the overall budget?

Coordination Across Delivery Platforms

Next, we would like to discuss the type and level of cooperation and coordination between the program and non-resource activities that might be undertaken by RENs and CCAs also present in your operating territory.

10. Does <Applicable REN and/or Applicable CCA> perform non-resource activities in your operating area? If yes:

    a. Do these <Applicable REN and/or Applicable CCA> activities overlap with any program activities? Are there any programmatic synergies between <Applicable REN and/or Applicable CCA> that are being leveraged?

    b. Considering that <Applicable REN and/or Applicable CCA> are also present in the program operating territory, what gaps remain in the program design for delivering non-resource activities?

Local Capacity Building

Capacity building involves introducing new tools and support for the program and retiring existing tools and support that was not producing savings.

11. Compared to previous program cycles, for 2016 and 2017 what new tools and support were provided that helped program participants to develop and channel projects to IOU resource programs? What was the nature of the collaboration between the IOU and Implementing Partner to implement the new tools and support? Who was primarily responsible for getting this implemented? How are these tools and support unique from, or how does it compliment, tools and support offered by IOU or third-party programs? How does this help to leverage local government relationships to meet their local needs?

12. What support and tools were discontinued after 2017 and why?

13. Since 2017, what new tools and support were provided that helped program participants to develop and channel projects to IOU resource programs? In what ways does this help to leverage local government relationships to meet their local needs that couldn't be done in 2016-2017? What was the nature of the collaboration between the IOU and Implementing Partner on getting this done? Who was the primarily responsible for getting this implemented? How are tools and support implemented after 2017 unique from, or how does it compliment, tools and support offered by IOU or third-party programs?

Capacity building also involves 1) increasing the number of Member Local Governments participating in the program, and 2) increasing the annual rate at which they submit projects.

14. Did the total number of Member Local Governments submitting projects in 2016 and 2017 increase, decrease, or stay the same compared to previous program cycles? How has the rate changed since the end of 2017 until now?

15. What was the distribution of Member Local Governments submitting projects in 2016 and 2017 compared to previous program cycles? What has it been since the end of 2017 until now?

    a. Percent submitting more projects.
    b. Percent submitting the same level projects as in the past.
    c. Percent submitting fewer projects as in the past.
    d. Percent not submitting projects.

Program Goals and Performance Tracking

16. Do you have energy savings goals for Strategic Plan activities?

    [IF YES]

    a. Can you describe the goal setting process? How frequently are goals set? How are you tracking progress these goals?

17. Do you have energy savings goals for municipal retrofits?

    [IF YES]

    a. Can you describe the goal setting process? How frequently are goals set? How are you tracking progress these goals?

18. How are you following up and tracking customer participation in:

    a. Municipal retrofits
        i. Are there tools and processes that can be used to improve this tracking going forward?
    b. Strategic Plan activities
        i. Are there tools and processes that can be used to improve this tracking going forward?
    c. Coordination with core IOU programs (where applicable)
        i. Are there tools and processes that can be used to improve this tracking going forward?

19. From your perspective, does the program track how non-resource activities are channeling participation into resource programs? What is working and not working to channel participation?

Non-Resource Activity Savings (Questions for Implementing Partner Staff Only)

We'd like to ask some questions that will allow us to better quantify the savings attributable to the programs' non-resource activities.

Municipal Retrofits

20. [SCG and SDG&E ONLY] Our understanding is that you implement entirely non-resource partnerships, meaning you do not directly claim any energy savings from municipal retrofits; all energy savings are claimed by core IOU programs to which the partnerships direct customers. Is this consistent with your understanding of the partnerships?

21. [PG&E ONLY] Our understanding is that in the 2016/17 PY, PG&E partnerships claimed energy savings for municipal retrofits and direct install activities, but that in 2020, PG&E's LGP program budgets will only cover non-resource activities while any municipal retrofit and direct install activities will be facilitated through the 3rd party solicitation process. Is this consistent with your understanding of the partnerships?

22. [SCE ONLY] Our understanding is that SCE's partnerships claim only the savings resulting from municipal retrofits, while savings from core program coordination activities are claimed by the core programs to which customers are referred. Is this consistent with your understanding of the partnerships?

23. Did your program engage with local governments to identify municipal retrofits in the 2016 and 2017 program cycle? What, if any, municipal retrofit projects were completed during these program years? Where does the program track information related to the progress of municipal retrofit projects and report on their energy savings?

24. We are aware that projects involving local governments can take a long time to complete, including the time needed for design, funding acquisition, and construction. As a result, savings recorded by the IOUs and reported to the CPUC sometimes might not show up until some length of time after the program non-resource activity has occurred. With that in mind:

    a. On average, how long does it take (e.g. years, months, etc.) to complete a municipal retrofit project (i.e. complete post inspection and submit an invoice to IOU for incentives), from the time local government representatives first engage with the program to discuss which facilities to retrofit?
    b. Do you think the partnership has reduced the timeline for completing municipal retrofit projects?

25. What marketing, education and outreach activities does your program staff engage in to support development of municipal retrofits?

26. Can you briefly describe these marketing, education and outreach activities and how they were carried out in 2016/2017?

    [PROBE FOR M&O PARTNERS SUCH AS INSTITUTIONAL ORGANIZATIONS, LOCAL BUSINESS GROUPS, CONTRACTORS, CPUC STATEWIDE MARKETING, ETC.]

    a. What key messages do your marketing and outreach activities try to convey to your customers?

b. What actions, if any, do these activities encourage customers to take?

27. Based on your experience/involvement in marketing and outreach activities, which of these activities have been most effective in engaging customers, if not channeling them toward taking steps toward energy efficiency? Can you rank these activities by effectiveness? Do these results vary by customer and if so how come?

28. What informational and educational materials are offered? If you haven't already, can you provide examples of marketing brochures and educational materials to us?

29. Have you tracked actions that participants in these marketing activities take that occur outside IOU resource programs? Are you estimating savings for these actions? Where can we find this data?

Strategic Plan Activities

30. Table 2 in Appendix B shows that in 2016 and 2017 the program undertook several Strategic Plan activities.

    a. How does the program establish goals and metrics for Strategic Plan Projects?
    b. What metrics does the program use to measure Strategic Plan Project success?
    c. How and why have you selected these metrics?
    d. How often do you measure performance against established metrics?

31. Which Strategic Plan activities are successfully leading municipal customers to participate in IOU resource programs? Have you tracked energy savings achieved by these participants? Where can we find this data?

    [SAME AS MUNICIPAL RETROFITS, PROBE FOR DETAILS BEYOND WHAT MIGHT BE PRESENT IN CEDARS, ETC.]

32. Have you tracked actions that participants in the program's Strategic Plan activities take that occur outside IOU resource programs? Are you estimating savings for these actions? Where can we find this data?

33. For Strategic Pan activities that are identified as Re-Launch of Past Projects, what do you think is the trajectory of these activities leading to projects being reported through IOU resource programs. Over time did the number of projects resulting from Strategic Plan activities increase / decrease / stay the same? Have you formerly tracked this?
34. Core Program Coordination

35. Aside from municipal retrofit and Strategic Plan activities, in what M&O activities did the program engage the broader community to help channel projects to resource programs? Can you briefly describe these activities and how they were carried out in 2016/2017? [Discuss any M&O partners such as local business groups, contractors, other organizations, CPUC statewide marketing, etc.]

36. Can you briefly describe these marketing activities and how they were carried out in 2016/2017?

    [PROBE FOR M&O PARTNERS SUCH AS INSTITUTIONAL ORGANIZATIONS, LOCAL BUSINESS GROUPS, CONTRACTORS, CPUC STATEWIDE MARKETING, ETC.]

a. What key messages do your marketing and outreach activities try to convey to your customers?
b. What actions, if any, do these activities encourage customers to take?

37. Based on your experience/involvement in marketing and outreach activities, which of these activities have been most effective in engaging customers, if not channeling them toward taking steps toward energy efficiency? Can you rank these activities by effectiveness? Do these results vary by customer and if so how come?

38. What informational and educational materials are offered? If you haven't already, can you provide examples of marketing brochures and educational materials to us?

Program Theory and Logic Model (Questions for IOU Program Managers only)

Part of our research activities includes revising existing Program Theory and Logic Models for non-resources activities offered by the program. If they do not exist, the evaluation team plans on developing these models for selected LGP programs. To aid this process could you please describe the following.

39. What are the resources/inputs used to offer the program (i.e., budgets, staff, etc.)? Which are dedicated to non-resource activities? How engaged was the Implementation Partner in defining these activities? How engaged were the Local Government Partner in defining these activities?

40. Who are the target customers of the program's Strategic Plan and core coordination activities?

41. What are the main outputs (i.e. key program activities) of the program and how are they tracked? Are they compared to any established benchmarks?

42. What are the short- and long-term outcomes of the program?

[PROBE FOR DESIRED OR INTENDED OUTCOME FOR EACH KEY PROGRAM ACTIVITY, INCLUDING SPECIFIC KPIs FOR EACH MAIN ACTIVITY]

43. What key performance indicators are used to identify program success?

Closing

44. Do you have any suggestions or final comments on what the evaluation of the non-resource activities of your organization should cover this year or in future years?

These were all the questions I have for now. Thanks again for taking the time to speak with us. We are currently conducting interviews with other LGP staff to learn about the various non-resource activities in which these LGPs are engaged. If we have follow-up questions based on the additional information we learn, is it okay for us to follow up with you by email?

Thank you.

Appendix B. Survey Instrument

California Public Utilities Commission (CPUC) EE
Program Oversight and Evaluation of the Group B Sectors
Deliverable 22 – Local Government Partnership Participant survey
October 2019

Overview

On behalf of the CPUC, the Opinion Dynamics and Tierra Resource Consultants evaluation team is assessing the energy savings benefits derived from non-resource activities offered by select Investor Owned Utility (IOU) Local Government Partnership Programs, with a focus on program years 2016 and 2017. The number of LGPs implemented over the past decade, as well as the diversity of sizes, budgets, constituents, experiences, and government priorities, makes evaluation of these programs difficult. Thus, the evaluation team is performing evaluations for a selection of LGPs in each evaluation year, recognizing the template nature of the Energy Watch and Energy Leader designs. The evaluation team's selected set of LGPs for the first year was conducted in consultation with ED staff. For program years 2016 and 2017, the evaluation team is assessing the following LGPs:

- PG&E's East Bay Energy Watch
- PG&E's Fresno Energy Watch
- SCE and SCG's West Side Partnership
- SCE and SCG's San Gabriel Valley Partnership
- SDG&E's San Diego Association of Governments (SANDAG) Partnership

This survey is designed to gather data from IOU customers that participated in an LGP non-resource activity.

Since inception, these LGPs have offered a variety of non-resource activities to their residential and non-residential customers including marketing and outreach, technical assistance, trainings, energy audits, benchmarking, and/or referrals to other programs. However, LGP programs across the state are currently undergoing significant changes to their program design as detailed in the recent IOU business plans and ABALs, and, confirmed by the evaluation team's discussions with IOUs, LGP lead Implementing Partners and energy division staff. Accordingly, the evaluation team is not assessing residential and commercial assessments and direct install related non-resource activities because they are generally being phased out of the LGP portfolio going forward, with a renewed focus being placed on supporting the public sector. As such, the evaluation team is focusing on assessing the LGP's non-resource activities targeting the public sector, which will continue to be conducted and will be the primary focus of LGPs in future program years. The evaluation team is using this survey to build a foundational understanding of whether the LGP's public sector non-resource activities channel their customers into ratepayer-funded EE resource programs offered by Program Administrators (PAs) and/or encourage them to take energy-saving actions outside of programs (e.g., equipment upgrades or behavior changes without rebates).

Research questions the evaluation team answered through this study include the following:

- What non-resource activities do LGP public sector customers recall?

- What PA EE resource programs did customers participate in after engaging in an LGP non-resource activity, particularly during the 2016- and 2017-time frame?
- What EE behavioral changes and actions have customers made outside of EE resource programs since they were engaged in an LGP non-resource activity?
- Do customers plan to participate in PA EE resource programs and take other EE actions in the future after interacting with an LGP through its non-resource activities?
- How did customers become aware of EE resource programs and other EE behavior changes in which they participated?
- Did the non-resource activities in which customers' engaged influence their decisions to participate in EE resource programs or other EE actions?
- Are there other factors that influenced customers' decisions to participate in EE resource programs and/or take actions toward EE outside of resource programs?
- What challenges, if any, did customers experience in participating in PA EE resource programs?
- Are customers satisfied with the non-resource activities in which they participated? How can LGPs improve their non-resource activities?

Fielding Strategy

The evaluation team administered surveys with the selected LGPs' public sector non-resource program participants as well as public sector participants in LGP programs that completed projects and targeted a 10% response rate of all email addresses.[39] The team administered computer-assisted web interviews (CAWI) to collect data. Based on the type of contact information available, we used a combination of phone and email push to web survey strategy.

The evaluation team conducted this web survey to identify the EE equipment upgrades and behavioral changes customers carried out on public facilities after engaging with LGP non-resource activities. Surveys were sent to municipal customers identified in the tracking datasets provided by the IOUs in response to our data request. These customers included:

- LGP non-resource activity participants located in the CPUC program database. These participants located in the CPUC program tracking participated in an EE resource program after engaging in an LGP non-resource activity.
- LGP non-resource activity participants not located in the CPUC database.
- Customers identified in the LGPs' tracking databases of LGP projects completed in 2016 and 2017.

Although the focus of this survey is LGP non-resource activity participants, customers located in the LGPs' tracking databases of projects completed in 2016/2017 were surveyed because of the limited tracking data available for LGPs' non-resource activities. Based on the evaluation team's IOU and LGP Implementing Partner interviews, these customers likely participated in an LGP non-resource activity and were provided in the IOUs'

[39] When the research sector plan was initially developed, the evaluation team set a target of 200 completes (100 for the EE resource program participant survey and 100 for the EE resource program non-participant survey). Since then, we've combined the two surveys into one effort covering both customer types and are focusing exclusively on public sector customers of the LGPs. For these reasons as well as the small sample size, we have revised our target number of completes to 10% of email addresses.

responses to the evaluation team's LGP data request for non-resource activity tracking databases. All survey participants were asked about whether they recalled participating in an LGP non-resource activity and if they did not, their survey was terminated. The survey asked all sets of customers about the EE actions they have taken through resource programs, as well as outside of EE resource programs, since their interaction with an LGP non-resource activity.

Sample Composition and Sampling Approach

The sample composition and approach for the survey was determined by the most common non-resource activities in which customers engaged and for which the selected LGPs were able to provide customer contact information. Interviews with program staff and an accompanying assessment of the non-resource activity data revealed that customer contact primarily occurred via the following channels:

- Recurring Implementing Partner meetings with local government and utility staff
- Regional collaboration meetings between multiple local government staff and other stakeholders
- Mailing, emailing, and social media campaigns
- Community events
- Workshops and webinars on a variety of energy related subjects
- Municipal energy audits and benchmarking services
- Energy project technical assistance services

The following table presents the number of customers for whom the evaluation team was able to identify contact information (either email addresses or mailing addresses) across various non-resource activities. The team conducted a channeling analysis to see how many customers we could locate in the CPUC program database (i.e., customers who engaged in a PA resource program after interacting with a selected LGP through a non-resource activity). The number of contacts located in the CPUC program database is presented alongside the number of contacts that were not located.

Table 30. LGP Participant Survey Sample Composition

LGP	Population		Sample Frame		Sample		Survey Completes	
	N	Percent (N=1,104)	n	Percent (n=429)	n	Percent (n=418)	n	Percent (n=33)
East Bay Energy Watch	75	7%	75	18%	70	17%	6	18%
Fresno Energy Watch	2	0%	2	0%	1	0%	0	0%
SANDAG Partnership	921	83%	249	58%	249	60%	19	58%
San Gabriel Valley Partnership	52	5%	49	11%	45	11%	2	6%
West Side Partnership	54	5%	54	13%	53	13%	6	18%
Total	**1,104**	**N.A.**	**429**	**N.A.**	**418**	**N.A.**	**33**	**N.A.**

Survey Structure

The following table outlines the structure of the survey, including the key sections, respondents that will receive them, and the key desired outcome from those questions. The team designed the survey to balance data needs and respondent burden.

Table 31. LGP Participant Survey Structure

Survey Section	Target Audience	Primary Goal
Participation Verification	All respondents	Verify that people recall engaging with specific non-resource activities
Energy Saving Actions	Respondent groups detailed below	Determine what EE resource programs respondents participated in and/or EE actions were taken after exposure to non-resource activities
East Bay Energy Watch Partnership	*Respondents who participated in East Bay Energy Watch's recurring meetings, Building Operator Certifications training, Municipal Innovation' activities or completed a municipal project associated with EBEW.*	*Assess EE resource program participation/EE actions taken by public entity after exposure to East Bay Energy Watch non-resource activities.*
Fresno Energy Watch Partnership	*Respondents who completed a municipal project associated with FEW*	*Assess EE resource program participation/EE actions taken by public entity after exposure to Fresno Energy Watch non-resource activities.*
SANDAG Partnership	*Respondents who participated in SANDAG Partnership's regional events and meetings, as well as recurring quarterly meetings.*	*Assess EE resource program participation/EE actions taken by public entity after exposure to SANDAG Partnership non-resource activities.*
San Gabriel Valley Partnership	*Respondents who participated in San Gabriel Valley Energy Leader Partnership's events, recurring meetings, benchmarking and EAP, as well as municipal projects associated with SGVP.*	*Assess EE resource program participation/EE actions taken by public entity after exposure to San Gabriel Valley Energy Leader Partnership non-resource activities.*
West Side Partnership	*Respondents who participated in West Side Community Energy Leader*	*Assess EE resource program participation/EE actions taken by public entity after exposure to West Side*

Survey Section	Target Audience	Primary Goal
	Partnership's Lunch and Learns, events, recurring meetings, and municipal projects associated with WSP.	*Community Energy Leader Partnership non-resource activities.*
Attribution of Non-Resource Activities on Participation in EE Resource Programs	Respondents who participated in EE resource programs	Assess the degree to which non-resource activity engagement influenced the decision to participate in an EE resource program
Attribution of Non-Resource Activities on EE Actions taken outside of EE Resource Programs	All respondents	Assess the degree to which non-resource activity engagement influenced the decision to carry out EE actions/behavior changes outside of an EE resource program
Awareness of EE Resource Programs	All respondents	Assess awareness of EE resource programs
Drivers and Barriers to Participation in EE Resource Programs	All respondents	Assess what motivates and poses barriers to customers to participate in EE resource programs
Non-Resource Activity Satisfaction and Improvement	All respondents	Inquire about customer satisfaction with the non-resource activity in which they engaged and whether they have suggestions for improvement
Demographics/Firmographics	All respondents	Gather demographic/firmographic information about non-resource activity customers

Survey Variables

Survey Flags in Sample (FL = flag)

EBEW_FL Denotes East Bay Energy Watch program participant

FEW_FL Denotes Fresno Energy Watch program participant
SAND_FL Denotes San Diego Association of Governments program participant
WSide_FL Denotes West Side program participant
SGab_FL Denotes San Gabriel Valley program participant

Survey Flags Determined by Customer Responses

Table 32. Survey Flag Descriptions

Flag	Denotes the following
Community event FL	Community event, workshop, or presentation where someone discussed EE
Canvasing FL	Door to door canvasing notice or discussion about EE
Mail FL	Mail message such as a letter, postcards or flyers about EE

Flag	Denotes the following
Email FL	Email about EE
Social media FL	Social media about EE
WOM FL	Word of mouth from co-workers
Rebate FL	Rebate and/or discount for energy efficient products or services
Previous FL	Previously participated in an EE program
Other FL	Other, non-resource activity
COM_FL	upgrades to municipal facilities
REB_FL	Participant received rebate or incentives for upgrades
Meetings FL	Participation in recurring program meetings where someone discussed EE programs, equipment or actions
Audit FL	Municipal facility audit or benchmarking services
Strategies FL	Support developing Energy/Climate Action Plans, greenhouse gas inventories, or other municipal energy strategies
Certification FL	Training or certification on energy related topics (e.g. building operator certification)
TA FL	Municipal project technical assistance and program communication

Read-Ins

ADDRESS Customer address that corresponds with participation (when available)

Table 33. List of Known EE Programs in which LGP Non-Resource Activity Participants Participated

Program Name	Program ID
Commercial Calculated Incentives	PGE21011
Commercial Deemed Incentives	PGE21012
Commercial HVAC	PGE21015
San Gabriel Valley Energy Leader Partnership	SCE-13-L-002M
East Bay	PGE211009
Fresno	PGE211010
West Side Community Energy Leader Partnership	SCE-13-L-002T
Community Energy Leader Partnership	SCE-13-L-002G

Participant survey Instrument

Landing Page

Please enter your Survey Access Code to begin the survey. This is the 6-digit PIN provided with the survey link on the letter you received.

Survey Access Code:

Introduction

On behalf of the California Public Utilities Commission (CPUC), thank you for participating in this survey. Tierra Resource Consultants is conducting this survey on behalf of the CPUC to gather information about your experience on behalf of a municipality, with energy saving related activities associated with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program**.** We're specifically interested in understanding how the program influenced EE retrofits in municipal facilities owned and/or operated by city or county governments. This would include, for example, projects at municipal buildings such as city halls, or upgrades to operational processes such as those found in municipal water operations. Rest assured that your responses will remain confidential.

If you have only a short amount of time right now, you may complete part of the survey and come back to it where you left off when you have more time.

Please click CONTINUE below to start the survey.

Screener and Participation Verification

S1. During 2016 or 2017, did you participate in any of the following **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** activities on behalf of your municipality, in which you learned about programs or ways to save energy and/or money through energy saving equipment or actions? Check all that apply.

1. Community event, workshop, or presentation where someone discussed EE programs, equipment or actions
2. Door to door canvasing notice or discussion about EE programs, equipment or actions
3. Mail message such as a letter, postcards or flyers about EE programs, equipment or actions
4. Email about EE programs, equipment or actions
5. Social media about EE programs, equipment or actions
6. Word of mouth from co-workers about EE programs, equipment or actions
7. Rebate and/or discount for energy efficient products or services
8. Previously participated in an EE program
9. Participation in recurring meetings where someone discussed EE programs, equipment or actions
10. Municipal facility audit or benchmarking services
11. Support developing Energy/Climate Action Plans, greenhouse gas inventories, or other municipal energy strategies
12. Training or certification on energy related topics (e.g. building operator certification)
13. Municipal project technical assistance and program communication
14. Other, specify **[OPEN ANSWER]**
15. Don't recall

[IF S1 =15, THANK AND TERMINATE, ELSE CONTINUE AND GENERATE FLAGS AS FOLLOWS.]

1. Community event FL
2. Canvasing FL
3. Mail FL
4. Email FL
5. Social media FL
6. WOM FL
7. Rebate FL
8. Previous FL
9. Meetings FL
10. Audit FL
11. Strategies FL
12. Certification FL
13. TA FL
14. Other FL

S2. You indicated that you participated in activities associated with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** in which you learned about energy saving equipment or actions. In which year did the this first participate in any of these activities?

1. Before 2016
2. 2016
3. 2017
4. 2018

[ASK IF <ADDRESS> = NULL]

AD1. Can you please provide the full street address with city and state for these municipal facilities which have undergone energy saving upgrades? [PROVIDE 5 INDIVIDUAL OPEN-END SPACES FOR RESPONSES WITH ONLY 1 BOX NEEDING TO BE FORCED (PARTICIPANTS SHOULD BE ABLE TO PROCEED WITHOUT NEEDING TO FILL IN ALL SPACES).; CHECKBOX FOR PREFER NOT TO ANSWER]

9. Prefer not to answer

AD2. Please provide the name of your municipality. [OPEN END; CHECKBOX FOR PREFER NOT TO ANSWER]

9. Prefer not to answer

[LET OPEN END TO AD1] = <ADDRESS>

Energy Savings Actions

[DISPLAY SENTENCE BELOW ON SAME PAGE AS EE0]

Next, we would like to learn about any actions the municipal facilities you're engaged with may have taken toward saving energy, either on their own or by participating in energy saving programs.

EE0. Since your interaction with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program on behalf of your municipality, through the **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1] ,** has your municipality completed any equipment upgrades to a facility to help save energy?

1. Yes
2. No **[SKIP TO B1, BEHAVIORAL SECTION]**
8. Not sure **[SKIP TO B1, BEHAVIORAL SECTION]**

[ASK IF EE0=1; ELSE SKIP TO BEHAVIORAL SECTION]

EE1. What types of energy saving equipment did your municipality upgrade or install to reduce their facilities' energy usage **since 2016? [MULITPLE RESPONSE, ROTATE RESPONSE OPTIONS 1 THROUGH 11]**

1. Lighting equipment or lighting controls
2. Heating, cooling and ventilation equipment or controls, including thermostats and duct work
3. Energy saving consumer electronics or office equipment
4. Water heating equipment or controls
5. Refrigeration equipment and controls
6. Compressed air equipment
7. Installed solar panels

00. Something else, please specify **[OPEN END]**
98. Not sure **[SKIP TO B1, BEHAVIORAL SECTION]**
99. None **[SKIP TO B1, BEHAVIORAL SECTION]**

EE1_SHOWN

1. Lighting equipment or lighting controls
2. Heating, cooling and ventilation equipment or controls, including thermostats and duct work
3. Energy saving consumer electronics or office equipment
4. Water heating equipment or controls
5. Refrigeration equipment and controls
6. Compressed air equipment
7. Installed solar panels

00. Other

[NOTE TO PROGRAMMER: IF RESPONSDENT SELECTS MORE THAN 3 EQUIPMENT TYPES IN EE1, LEAST FILL UP TO 3 EQUIPMENT TYPES TO ASK ABOUT IN THE SUCCEEDING QUESTIONS ("LIGHTING" THROUGH "OTHER" SECTIONS BELOW - WE WANT TO LIMIT THE NUMBER OF EQUIPMENT TYPES TO ASK THEM ABOUT BELOW TO A MAXIMUM OF 3)]

EE2. With regard to these upgrades completed by your municipality **since 2016**, how would you describe the type of facilities upgraded? (Please select all options that are applicable to your municipality). These municipal facilities upgrades included…

1. Municipal buildings such as city halls, fire stations, annex buildings, etc.
2. Water systems such as a treatment plant of potable water pumping plant, etc.
3. Streetlights operated by the city or county.

EE3. During 2016 or 2017, did you **personally** influence any of these energy saving project(s) (i.e. identifying facilities to update, developing technical components, approval and budgeting process support or administration, project buildout, etc)?

1. Yes
2. No
8. Not sure

[ASK IF EE3=1 ELSE SKIP TO L1]

EE4. On a scale of 0 to 10, where 0 is "Not at All Influential" and 10 is "Extremely Influential"' what aspect of the project(s) did you influence? We're interested to know, in general what role you play in influencing the installation of EE projects, later we'll ask about specific measures or the influence of the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** Program.

Energy-Efficiency Project Related Activity	Not at All Influential 0	1	2	3	4	5	6	7	8	9	Extremely Influential 10	Not Sure
1. Identifying the project	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2. Developing and specifying the technical components of the project	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3. Moving the project through the approval and budgeting process	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4. Engaged in the buildout of the project (e.g. SERVED AS project management or contract management)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5. Other Activity	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

[ASK IF EE4_5=1 through10 ELSE SKIP TO L1]

EE5. You indicated that you had taken energy-efficiency project related activity to save energy that were not described on the previous list. Please tell us briefly what actions those were. **[OPEN END].**

[ASK IF EE1_Shown = 1]

LIGHTING SECTION

[DISPLAY SENTENCE BELOW ON SAME PAGE AS L1]

Next, we would like to learn more about the energy saving upgrades you have completed at your municipality's properties.

L1. Which of the following type(s) of **lighting** equipment have you installed or upgraded at your municipality's properties? Please select all that apply. **[MULTIPLE RESPONSE] [RANDOMIZE RESPONSE OPTIONS 2-5]**

1. Lighting controls (such as occupancy sensors, timers, photocells, bi-level controls) **[ANCHOR]**
2. Interior CFL bulbs or fixtures (e.g higher efficiency CFL bulbs replacing less efficient bulbs or ceiling 'can' type fixtures with CFL bulbs replacing less efficient fixtures)
3. Interior LED bulbs, lamps, or fixtures (e.g. 1x4, 2x2, and 2x4 luminaires with LEDs for ambient lighting of interior commercial spaces, such as offices)
4. Interior Linear fluorescent lamps or fixtures (e.g. 1x4, 2x2, and 2x4 luminaires with high efficiency fluorescent lamps for ambient lighting of interior commercial spaces, such as offices)
5. Exterior LEDs (e.g. wall, canopy, pole mounted lights, or exterior signs)

00. Something else, please specify **[OPEN END]**

98. Not sure **[Skip to H1]**

[ASK IF L1=2 Through 5 or 00]

L2. During the years 2016 through 2017, how much total lighted space was upgraded (sq. ft.) at your municipality? Your best estimate is fine. Leave both columns blank in the table below if you didn't install particular type of equipment. **[NUMERIC OPEN END, CHECKBOX FOR NOT SURE, ONLY REQUIRE 1 OPTION TO BE ANSWERED]**

Lighting Type	Total Lit Space Installed (sq. ft)	Installed equipment but not sure of sq. ft. impacted
1. **[SHOW IF L1=2]** Standard CFLs		☐
2. **[SHOW IF L1=2]** Pin-Based CFLs		☐
3. **[SHOW IF L1=3]** Standard LEDs		☐
4. **[SHOW IF L1=3** LED Globe		☐
5. **[SHOW IF L1=3]** LED Candelabra		☐
6. **[SHOW IF L1=3]** LED Reflector		☐
7. **[SHOW IF L1=3]** LED Flood Lights		☐
8. **[SHOW IF L1=3]** LED Canned Light Fixtures		☐
9. **[SHOW IF L1=3]** LED Track Light Fixtures		☐
10. **[SHOW IF L1=3 OR 5]** LED Wall Pack		☐

Lighting Type	Total Lit Space Installed (sq. ft)	Installed equipment but not sure of sq. ft. impacted
11. **[SHOW IF L1=3 OR 5]** LED Canopy		☐
12. **[SHOW IF L1=3 OR 5]** LED Pole Mounted (i.e. parking lot lighting)		☐
13. **[SHOW IF L1=3 OR 5]** LED Bollards		☐
14. **[SHOW IF L1=3 OR 5]** LED Exit Signs		☐
15. **[SHOW IF L1=3 OR 5]** LED Exterior Signs, such as "Open" signs		☐
16. **[SHOW IF L1=3]** High Bay LED Fixtures replacing non-LED fixtures		☐
17. **[SHOW IF L1=4]** High Bay Fluorescent Fixtures with T5 lamps replacing less efficient fixtures		☐
18. **[SHOW IF L1=4]** High Bay Fluorescent Fixtures with T8 lamps replacing less efficient fixtures		☐
19. **[SHOW IF L1=3]** Linear or tube LED lamps or fixtures replacing linear fluorescent lamps or fixtures		☐
20. **[SHOW IF L1=4]** Linear Fluorescent T8 lamps or fixtures replacing less efficient fluorescent lamps or fixtures		☐
21. **[SHOW IF L1=4]** Linear Fluorescent T5 lamps or fixtures replacing less efficient fluorescent lamps or fixtures		☐
22. **[SHOW IF L1=4]** Removed linear fluorescent lamps (i.e. delamping)		☐
23. **[SHOW IF L1=00] [INSERT RESPONSE FROM L1_00]** (If more than one type, please provide total lighted space installed for each type of lighting equipment installed) **[OPEN END]**		☐

[ASK IF L1 = 1]

L3. How much lighted space (sq. ft.) did your municipality install new controls for, for each of the following types of lighting? Consider only controls on interior lights that had previously been controlled through single level manual switches. Your best estimate is fine. Leave all columns blank in the table below if you didn't install particular type of equipment. **[NUMERIC OPEN END, CHECKBOX FOR NOT SURE, ONLY REQUIRE ONE OPTION TO BE ANSWERED]**

Lighting Control Type	Occupancy Sensors (sq. ft.)	Photo Sensors (sq. ft.)	Bilevel Switching (sq. ft.)	Facility Wide EMS (sq. ft.)	Installed equipment but not sure of sq. ft. impacted
1. Interior CFL bulbs or fixtures					☐
2. Interior LED bulbs, lamps, or fixtures					☐
3. Interior Linear fluorescent lamps or fixtures					☐
4. Exterior LEDs (such as wall, canopy, pole mounted, or exterior signs)					☐

[ASK IF ANY L1=1 Through 5 OR 00]

L5. In general, what were the main types of lighting **removed** and replaced with new lighting? Please select the three most common types of lights replaced. **[MULTIPLE RESPONSE UP TO THREE]**

1. Incandescent bulbs
2. Halogen bulbs
3. CFLs bulbs
4. Standard LED bulbs
5. Specialty LED bulbs
6. LED tubes/linear LEDs
7. Linear fluorescent T12 fixtures
8. Linear fluorescent T8 fixtures
9. High-bay metal halide fixtures
00. Something else, please specify **[OPEN END]**
98. Not sure

[ASK IF L1=4]

L6. What type of Linear Fluorescent T8 lamps were installed? **[MULTIPLE RESPONSE]**

1. Standard
2. High Performance
3. Reduced Wattage
00. Something else, please specify **[OPEN END]**
98. Not sure

[ASK IF ANY L1 = 1 THROUGH 5 OR 00]

L7. Did the municipal facilities you're engaged with receive any rebates or incentives for installing any of your energy saving lighting equipment?

1. Yes
2. No
8. Not sure

[ASK IF L7=1]

L7a. For which energy saving lighting equipment did your municipality receive rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. **[SHOW IF L2-1= <>NULL]** Standard CFLs
2. **[SHOW IF L2-2= <>NULL]** Pin-Based CFLs
3. **[SHOW IF L2-3= <>NULL]** Standard LEDs
4. **[SHOW IF L2-4= <>NULL]** LED Globe
5. **[SHOW IF L2-5= <>NULL]** LED Candelabra
6. **[SHOW IF L2-6= <>NULL]** LED Reflector
7. **[SHOW IF L2-7= <>NULL]** LED Flood Lights
8. **[SHOW IF L2-8= <>NULL]** LED Canned Light Fixtures
9. **[SHOW IF L2-9= <>NULL]** LED Track Light Fixtures
10. **[SHOW IF L2-10= <>NULL]** LED Wall Pack
11. **[SHOW IF L2-11= <>NULL]** LED Canopy
12. **[SHOW IF L2-12= <>NULL]** LED Pole Mounted

13. **[SHOW IF L2-13= <>NULL]** LED Bollards
14. **[SHOW IF L2-14= <>NULL]** LED Exit Signs
15. **[SHOW IF L2-15= <>NULL]** LED Exterior Signs, such as "Open" signs
16. **[SHOW IF L2-16= <>NULL]** High Bay LED Fixtures
17. **[SHOW IF L2-17=<>NULL]** High Bay Fluorescent Fixtures with T5 lamps
18. **[SHOW IF L2-18=<>NULL]** High Bay Fluorescent Fixtures with T8 lamps
19. **[SHOW IF L2-19= <>NULL]** Linear or tube LED lamps or fixtures
20. **[SHOW IF L2-20= <>NULL]** Linear Fluorescent T8 lamps or fixtures
21. **[SHOW IF L2-21= <>NULL]** Linear Fluorescent T5 lamps or fixtures
22. **[SHOW IF L2-22= <>NULL]** Lighting controls
00. **[SHOW IF L2-23=00] [INSERT RESPONSE FROM L1]**
24. Other **[OPEN ENDED RESPONSE]**
23. I received no rebates for the above listed equipment

[ASK IF L7 = 1]

L7b. Please identify the organization(s) from which your municipality received rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. [Show if EBEW_FL or FEW_FL] Pacific Gas and Electric Company (PG&E)
2. [Show if EBEW_FL] Bay Area Regional Energy Network (BayREN)
3. [Show if EBEW_FL] Marin Clean Energy (MCE)
4. [Show if WSide_FL or SGab_FL] Southern California Edison (SCE)
5. [Show if WSide_FL or SGab_FL or FEW_FL] Southern California Gas (SCG)
6. [Show if WSide_FL or SGab_FL] Southern California Regional Energy Network (SoCalREN)
7. [Show if SAND_FL] San Diego Gas & Electric (SDG&E)
8. Other municipal utility, please specify **[OPEN END]**
9. Propane delivery company, please specify **[OPEN END]**
00. Another organization, please specify **[OPEN END]**
12. Not sure

[ASK IF L7=2]

L7c. Please identify the main reason why your municipality did not receive rebates.

1. Equipment did not qualify
2. Was in a hurry to purchase new equipment
3. Too much of a hassle to apply for the rebate
4. Did not know if one existed

0. Something else, please specify **[OPEN END]**

[ASK IF L7=1]

L8. Using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", If your municipality hadn't received a rebate, what is the likelihood that your municipality would have installed EXACTLY the same ENERGY SAVING equipment without the rebates they received?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK SECTION IF EE1_SHOWN= 2]

HEATING, COOLING AND VENTILATION (HVAC) SECTION

H1. Which of the following **heating, cooling, and/or ventilation systems** has your municipality upgraded or installed at your municipality's properties? Please select all that apply. **[MULTIPLE RESPONSE] [RANDOMIZE RESPONSE OPTIONS 1 THROUGH 7]**

1. New energy saving heating and cooling equipment
2. Heating and/or cooling system tune-ups
3. Made changes to chillers or chilled water system(s)
4. Made changes to boilers or steam water system(s)
5. Made changes air distribution equipment and ventilation controls
6. Made changes to HVAC operating schedules
7. Variable speed fan or blower motors

00. Something else, please specify **[OPEN END] [ANCHOR]**
98. Not sure **[SKIP TO HE1] [ANCHOR]**

[ASK IF H1=1 or H1=0]

H2. What type of energy saving **heating and/or cooling equipment** did your municipality install or upgrade? **[MULTIPLE RESPONSE]**

1. 2 to 5-ton Split System Air Conditioner
2. 2 to 5-ton Split System Heat Pump
3. Mini-Split (Ductless) Heat Pump
4. Ground Source Heat Pump
5. Boiler
6. Furnace
7. Infrared Heater
8. Gas-Fired Condensing Unit Heater
9. Packaged Heating and/or Air Conditioner (e.g. 5+ ton rooftop unit)
10. Packaged Heat Pump (e.g. 5+ ton rooftop unit)
11. Chiller
12. Cooling Tower
13. Variable Air Volume (VAV) box

00. [INSERT ANSWER FROM H1=00] **[hide 00 if H1 != 0]**
98. Not sure

[ASK IF H2 = 1 TO 00]

H2a. How much conditioned space was impacted by each type of **heating and/or cooling equipment** installed or upgraded? Select all that apply, your best estimate is fine. Leave both columns blank in the table below if you didn't install particular type of equipment. **[MULTIPLE RESPONSE] [NUMERIC OPEN END, CHECKBOX FOR NOT SURE FOR EACH ROW]**

Heating and/or Cooling Equipment	Total Conditioned Space Impacted (sq. ft.)	Installed equipment but not sure of sq. ft. impacted
1. **[SHOW IF H2 =1]** 2 to 5-ton Split System Air Conditioner		☐
2. **[SHOW IF H2 = 2]** 2 to 5-ton Split System Heat Pump		☐
3. **[SHOW IF H2 = 3**] Mini-Split (Ductless) Heat Pump		☐

Heating and/or Cooling Equipment	Total Conditioned Space Impacted (sq. ft.)	Installed equipment but not sure of sq. ft. impacted
4. **[SHOW IF H2 = 4]** Ground Source Heat Pump		☐
5. **[SHOW IF H2 = 5]** Boiler		☐
6. **[SHOW IF H2 = 6]** Furnace		☐
7. **[SHOW IF H2 = 7]** Infrared Heater		☐
8. **[SHOW IF H2 = 8]** Gas-Fired Condensing Unit Heater		☐
9. **[SHOW IF H2 = 9]** Packaged Heating and/or Air Conditioner (e.g. 5+ ton rooftop unit)		☐
10. **[SHOW IF H2 = 10]** Packaged Heat Pump (e.g. 5+ ton rooftop unit)		☐
11. **[SHOW IF H2 = 11]** Chiller		☐
12. **[SHOW IF H2 = 12]** Cooling Tower		☐
13. **[SHOW IF H2 = 13]** Variable Air Volume (VAV) box		☐
14. **[SHOW IF H1 =00]** [INSERT RESPONSE TO H1_00]		☐

[ASK IF H1=2]

H3. Please identify all equipment that received tune-ups. **[MULTIPLE RESPONSE]**

1. 2 to 5-ton Split System Air Conditioner
2. 2 to 5-ton Split System Heat Pump
3. Mini-Split (Ductless) Heat Pump
4. Ground Source Heat Pump
5. Boiler
6. Furnace
7. Infrared Heater
8. Gas-fired Condensing Unit Heater
9. Packaged Heating and/or Air Conditioner
10. Packaged Heat Pump
11. Chiller
12. Cooling Tower
13. Variable Air Volume (VAV) box

00. Something else, please specify **[OPEN END]**

98. Not sure

[ASK IF H3=1 Through 00]

H3a. How many of these heating or cooling equipment received tune-ups? **[MULTIPLE RESPONSE] [NUMERIC OPEN END 0-99, CHECKBOX FOR NOT SURE FOR EACH ROW]**

Tune-Up Equipment	Quantity	Not sure
1. **[SHOW IF H3=1]** 2 to 5-ton Split System Air Conditioner		☐
2. **[SHOW IF H3=2]** 2 to 5-ton Split System Heat Pump		☐

Tune-Up Equipment	Quantity	Not sure
3. **[SHOW IF H3=3]** Mini-Split (Ductless) Heat Pump		☐
4. **[SHOW IF H3=4]** Ground Source Heat Pump		☐
5. **[SHOW IF H3=5]** Boiler		☐
6. **[SHOW IF H3=6]** Furnace		☐
7. **[SHOW IF H3=7]** Infrared Heater		☐
8. **[SHOW IF H3=8]** Gas-fired Condensing Unit Heater		☐
9. **[SHOW IF H3=9]** Packaged Heating and/or Air Conditioner		☐
10. **[SHOW IF H3=10]** Packaged Heat Pump		☐
11. **[SHOW IF H3=11]** Chiller		☐
12. **[SHOW IF H3=12]** Cooling Tower		☐
13. **[SHOW IF H3=13]** Variable Air Volume (VAV) box		☐
0. **[SHOW IF H3=00]** [INSERT RESPONSE/S FROM H3_00]		☐

[ASK IF H1=3]

H4. Please identify all changes you made to your **chiller and/or chilled water systems. [MULTIPLE RESPONSE]**

1. Replaced existing chillers with new high-efficiency chiller(s)
2. Balanced water side
3. Adjusted the chilled water temperature reset based on load
4. Optimized chiller sequencing
5. Maintained operating logs
6. Monitored pump operating pressures
7. Utilized water side economizer
8. Insulated chilled water piping
9. Installed thermal storage system(s)
10. Installed evaporative condenser system(s)
11. Optimized part load efficiency with multiple chillers or variable speed compressors
12. Installed absorption cooling system(s)

00. Something else, please specify **[OPEN END]**

98. Not sure

[ASK IF H4=1 or H2=11]

H5. What type(s) of chiller(s) did you install? Please select all that apply. **[MULTIPLE RESPONSE]**

1. Air Cooled Screw Chiller
2. Air Cooled Reciprocating Chiller
3. Air Cooled Absorption Chiller
4. Water Cooled Screw Chiller
5. Water Cooled Reciprocating Chiller
6. Water Cooled Centrifugal Chiller
7. Water Cooled Absorption Chiller

00. Something else, please specify [OPEN END]

98. Not sure

H5a. How many of each type of chiller did you install? **[NUMERIC OPEN END 0-99, CHECKBOX FOR NOT SURE]**

Chiller Type	Quantity	Not Sure (998)
1. **[SHOW IF H5=1]** Air Cooled Screw Chiller		☐
2. **[SHOW IF H5=2]** Air Cooled Reciprocating Chiller		☐
3. **[SHOW IF H5=3]** Air Cooled Absorption Chiller		☐
4. **[SHOW IF H5=4]** Water Cooled Screw Chiller		☐
5. **[SHOW IF H5=5]** Water Cooled Reciprocating Chiller		☐
6. **[SHOW IF H5=6]** Water Cooled Centrifugal Chiller		☐
7. **[SHOW IF H5=7]** Water Cooled Absorption Chiller		☐
8. **[SHOW IF H5=00] [INSERT H5_00]**		☐

[ASK IF H1=4]

H6. Please identify all changes you made to your property's **boiler and/or steam water system. [MULTIPLE RESPONSE]**

1. Installed high efficiency boiler(s)
2. Installed hot water pump VFDs
3. Reset hot water supply temperature
4. Repaired or replaced boiler steam trap(s)
5. Reset boiler lockout controls
6. Increased boiler burner turndown ratio
7. Installed shut off damper on exhaust flue or combustion air intake

00. Something else, please specify **[OPEN END]**
98. Not sure
99. None

[ASK IF H6 = 1 OR 2 OR 4]

H7. How many of each **boiler and/or steam water system equipment** did you install? **[NUMERIC OPEN END s0-99, CHECKBOX FOR NOT SURE FOR EACH ROW]**

Boiler and/or Steam Water System Equipment	Quantity	Not Sure (998)
1. **[SHOW ROW IF H6=1]** High-efficiency boilers		☐
2. **[SHOW ROW IF H6=2]** Hot water pump VFDs		☐
3. **[SHOW ROW IF H6=4]** Steam traps		☐

[ASK IF H6= 3 OR 5 OR 6 OR 7 OR 00]

H8. How many boilers are currently operating at the facilities you upgraded, including the boilers replaced? **[NUMERIC OPEN END, CHECKBOX FOR NOT SURE]**

[ASK IF H1=5]

H9. Please identify all upgrades you made to your property's **air distribution equipment and changes to ventilation controls. [MULTIPLE RESPONSE] [RANDOMIZE 1 THROUGH 10]**

1. Optimized building controls to improved building ventilation
2. Installed demand control ventilation
3. Installed economizer

4. Repaired and optimized existing economizer
5. Installed building pressurization control
6. Installed and maintained clean efficient air filters
7. Repaired and/or replaced dampers
8. Installed heat recovery or energy recovery ventilators
9. Installed destratification fans
10. Improved existing ductwork
00. Something else, please specify **[OPEN END] [ANCHOR]**
98. Not sure **[ANCHOR]**

[ASK IF H9=1]

H10. Please identify all changes you made to your property's ventilation control settings. **[MULTIPLE RESPONSE]**
1. Scheduled exhaust fans
2. Optimized supply fan performance
3. Balanced airside supply
4. Reduced or reset duct static pressure
5. Reduced outside air ventilation
6. Increased natural ventilation instead of cooling or heating
7. Performed or scheduled night purge cycle for pre-cooling
00. Something else, please specify **[OPEN END]**
98. Not sure

[ASK IF H9=10]

H11. Please identify all improvements you made to your property's duct system. **[MULTIPLE RESPONSE]**
1. Sealed ductwork
2. Insulated ductwork
3. Something else, please specify **[OPEN END]**
98. Not sure

[ASK IF H1=6]

H12. Please identify all changes you made to your property's **HVAC system operating scheduling settings**. **[MULTIPLE RESPONSE] [RANDOMIZE 1 THROUGH 7]**
1. Installed programmable or advanced thermostats
2. Adjusted schedules to space occupancy
3. Adjusted schedules for optimization
4. Scheduled optimum starts
5. Installed Guest Room Energy Management (GREM) systems
6. Reset supply air temperature
7. Reduced simultaneous heating and cooling
00. Something else, please specify **[OPEN END] [ANCHOR]**
98. Not sure **[ANCHOR]**

[ASK IF H12=1]

H13. How many programmable or advanced thermostats did you install at your property? **[NUMERIC OPEN END 0-99,]**

98. Not sure [Checkbox]

[ASK IF H12=2 or 3 or 4]

H14. Please specify type of equipment impacted by updating operating schedules. **[MULTIPLE RESPONSE]**

1. Air Handling Units (AHU)
2. Boilers
3. Return and exhaust fans
4. Fan powered VAV boxes
5. Heaters
6. Pumps

00. Something else, please specify **[OPEN END]**

H14a. Please specify number of equipment impacted by updating operating schedules. **[MULTIPLE RESPONSE] [NUMERIC OPEN END 0-99, CHECKBOX FOR NOT SURE FOR EACH ROW]**

Equipment Type	Quantity	Not sure
1. **[SHOW IF H14=1]** Air Handling Units (AHU)		☐
2. **[SHOW IF H14=2]** Boilers		☐
3. **[SHOW IF H14=3]** Return and exhaust fans		☐
4. **[SHOW IF H14=4]** Fan powered VAV boxes		☐
5. **[SHOW IF H14=5]** Heaters		☐
6. **[SHOW IF H14=6]** Pumps		☐
7. **[SHOW IF H14=00] [INSERT RESPONSE FROM H14_00]**		☐

[ASK IF H1=7]

H15. Please select equipment that received VFD installations or upgrades from the list below. Please select all that apply. **[MULTIPLE RESPONSE]**

1. Hot Water Pump
2. Chilled Water Pump
3. Cooling Tower Fan
4. HVAC Supply/Return Fans

00. Something else, please specify **[OPEN END]**

98. Not sure

H15a. How many of the following equipment received installations or VFD upgrades. **[NUMERIC OPEN END 0-99, CHECKBOX FOR NOT SURE FOR EACH ROW]**

VFD Application	Quantity	Not sure
1. **[SHOW IF H15=1]** Hot Water Pump		☐
2. **[SHOW IF H15=2]** Chilled Water Pump		☐
3. **[SHOW IF H15=3]** Cooling Tower Fan		☐
4. **[SHOW IF H15=4]** HVAC Supply/Return Fans		☐
5. **[SHOW IF H15=00]** [INSERT RESPONSE TO H15_00]		☐

H16. Did your municipality receive any rebates or incentives for installing or upgrading any of your **heating, cooling, and/or ventilation** equipment?

1. Yes
2. No
98. Not Sure

[ASK IF H16=1]

H16a. For which energy saving **heating, cooling, and/or ventilation** equipment did your municipality receive rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. **[SHOW IF H2=1]** 2 to 5-ton Split System Air Conditioner
2. **[SHOW IF H2=2]** 2 to 5-ton Split System Heat Pump
3. **[SHOW IF H2=3]** Mini-Split (Ductless) Heat Pump
4. **[SHOW IF H2=4]** Ground Source Heat Pump
5. **[SHOW IF H2=5]** Boiler
6. **[SHOW IF H2=6]** Furnace
7. **[SHOW IF H2=7]** Infrared Heater
8. **[SHOW IF H2=8]** Gas-Fired Condensing Unit Heater
9. **[SHOW IF H2=9]** Packaged Heating and/or Air Conditioner
10. **[SHOW IF H2=10]** Packaged Heat Pump
11. **[SHOW IF H2=11]** Chiller
12. **[SHOW IF H2=12]** Cooling Tower
13. **[SHOW IF H2=13]** Variable Air Volume (VAV) box
00. **[INSERT RESPONSE** FROM H1=00]
15. Other **[OPEN ENDED RESPONSE]**
14. I received no rebates for the above listed equipment

[ASK IF ANY H16a = 1 THROUGH 00]

H16b. Please identify the organization(s) from which your municipality received rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. [Show if EBEW_FL or FEW_FL] Pacific Gas and Electric Company (PG&E)
2. [Show if EBEW_FL] Bay Area Regional Energy Network (BayREN)
3. [Show if EBEW_FL] Marin Clean Energy (MCE)
4. [Show if WSide_FL or SGab_FL] Southern California Edison (SCE)
5. [Show if WSide_FL or SGab_FL or FEW_FL] Southern California Gas (SCG)
6. [Show if WSide_FL or SGab_FL] Southern California Regional Energy Network (SoCalREN)
7. [Show if SAND_FL] San Diego Gas & Electric (SDG&E)
8. Other municipal utility, please specify **[OPEN END]**
9. Propane delivery company, please specify **[OPEN END]**
00. Another organization, please specify **[OPEN END]**
12. Not sure

[ASK IF H16=2]

H16c. Please identify the main reason why your municipality did not receive rebates or incentives?

1. Equipment did not qualify
2. Was in a hurry to purchase new equipment
3. Too much of a hassle to apply for the rebate
4. Did not know if one existed
0. Something else, please specify **[OPEN END]**

[ASK IF H16=1]

H17. Using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", If your municipality hadn't received a rebate, what is the likelihood that your municipality would have installed EXACTLY the same ENERGY SAVING equipment without the rebates they received?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF EE1_SHOWN = 3]

CONSUMER ELECTRONICS SECTION

HE1. Which of the following **consumer electronic equipment** has your municipality installed to reduce your property's energy use? Remember, we are interested in the consumer electronics you purchased to replace old equipment since you interacted with **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program . **[MULTIPLE RESPONSE, UP TO THREE]**

1. Advanced power strips
2. Computer power management software
3. Energy saving desktop or laptop computers
4. ENERGY STAR rated printer(s)
5. ENERGY STAR rated copier(s)
6. ENERGY STAR rated computer monitor(s)

00. Something else, please specify [OPEN END]

98. Not sure **[SKIP TO WH1]**

HE1a. How many of each type of consumer electronic equipment did your municipality install? **[NUMERIC OPEN END, 0-99, CHECKBOX FOR NOT SURE FOR EACH ROW]**

Consumer Electronic Equipment	Quantity	Not sure
1. **[SHOW IF HE1=1]** Advanced power strips		☐
2. **[SHOW IF HE1=1]** Computer power management software		☐
3. **[SHOW IF HE1=1]** Energy saving desktop or laptop computers		☐
4. **[SHOW IF HE1=1]** ENERGY STAR rated printer(s)		☐
5. **[SHOW IF HE1=1]** ENERGY STAR rated copier(s)		☐
6. **[SHOW IF HE1=1]** ENERGY STAR rated computer monitor(s)		☐
7. **[SHOW IF HE1=1]** [INSERT RESPONSE TO HE1=00]		☐

[ASK IF ANY HE1 = 1 THROUGH 00]

HE2. Did your municipality receive any rebates or incentives for the consumer electronics you installed?

1. Yes
2. No
98. Not sure

[ASK IF HE2=1]

HE2a. For which consumer electronic equipment did your municipality receive rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. [SHOW IF HE1=1] Advanced power strips
2. [SHOW IF HE1=2] Computer power management software
3. [SHOW IF HE1=3] Purchased energy saving desktop or laptop computers
4. [SHOW IF HE1=4] ENERGY STAR rated printer(s)
5. [SHOW IF HE1=5] ENERGY STAR rated copier(s)
6. [SHOW IF HE1=6] ENERGY STAR rated computer monitor(s)
00. [SHOW IF HE1=00] [INSERT RESPONSE TO HE1_00]
8. Other **[OPEN ENDED RESPONSE]**
7. I received no rebates for the above listed equipment

[ASK IF HE2a=1 THROUGH 00]

HE2b. Please identify the organization(s) from which your municipality received rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. [Show if EBEW_FL or FEW_FL] Pacific Gas and Electric Company (PG&E)
2. [Show if EBEW_FL] Bay Area Regional Energy Network (BayREN)
3. [Show if EBEW_FL] Marin Clean Energy (MCE)
4. [Show if WSide_FL or SGab_FL] Southern California Edison (SCE)
5. [Show if WSide_FL or SGab_FL or FEW_FL] Southern California Gas (SCG)
6. [Show if WSide_FL or SGab_FL] Southern California Regional Energy Network (SoCalREN)
7. [Show if SAND_FL] San Diego Gas & Electric (SDG&E)
8. Other municipal utility, please specify **[OPEN END]**
9. Propane delivery company, please specify **[OPEN END]**
00. Another organization, please specify **[OPEN END]**
12. Not sure

[ASK IF HE2=2]

HE2c. Please identify the main reason why your municipality did not receive rebates or incentives?

1. Equipment did not qualify
2. Was in a hurry to purchase new equipment
3. Too much of a hassle to apply for the rebate
4. Did not know if one existed
0. Something else, please specify **[OPEN END]**

[ASK IF HE2=1]

HE3. Using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", If your municipality hadn't received a rebate, what is the likelihood that your municipality would have installed EXACTLY the same ENERGY SAVING equipment without the rebates they received?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF EE1_SHOWN = 4]

WATER HEATING SECTION

WH1. Which of the following energy related upgrades has your municipality made to reduce their facilities' **hot water** energy use? Please select all that. **[MULTIPLE RESPONSE] [RANDOMIZE 1 THROUGH 8]**

1. Installed pre-rinse spray valve(s)
2. Installed new ENERGY STAR rated water heater(s)
3. Installed demand control recirculation pump(s)
4. Performed boiler tune-up(s)
5. Set water heater temperature to 120F degrees
6. Insulated hot water pipes with pipe insulation
7. Installed insulating blanket around water heater tank(s)
8. Installed new high efficiency boiler

00. Something else, specify **[OPEN END] [ANCHOR]**

98. Not sure **[SKIP TO R1] [ANCHOR]**

[ASK IF WH1 = 2 OR 8 OR 00]

WH1a. For each hot water upgrade your muncipality made to their facilities, please specify the capacity (Btu/hr) of each equipment type installed. **[NUMERIC OPEN END 0-99, CHECKBOX FOR NOT SURE FOR EACH ROW]**

Equipment Type	Total Capacity (Btu/hr)	Installed equipment but not sure of capacity
1. **[SHOW IF WH1=2]** ENERGY STAR rated water heater(s)		☐
2. **[SHOW IF WH1=8]** Installed new high efficiency boiler		☐
3. **[SHOW IF WH1=00]** [INSERT RESPONSE TO WH1=00]		☐

[ASK IF WH1=6]

WH2. Approximately how many linear feet of pipe insulation did you install? **[NUMERIC OPEN END, CHECKBOX FOR NOT SURE]**

98. Not Sure **[CHECKBOX]**

[ASK IF WH1=2]

WH3. What type of energy saving water heater was installed? **[MULTIPLE RESPONSE]**

1. Storage tank water heater
2. Tankless water heater (also referred to as instantaneous or on-demand)
3. Heat pump water heater
4. Solar water heating

00. Something else, please specify **[OPEN END]**

[ASK IF ANY WH1 = 1 THROUGH 00]

WH4. Did your municipality receive rebates or incentives for any of the hot water equipment you installed or upgraded?

0. Yes
1. No
8. Not sure

[ASK IF WH4=1]

WH4a. For which hot water equipment or equipment modifications did your municipality receive rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. **[SHOW IF WH1=1]** Installed pre-rinse spray valve(s)
2. **[SHOW IF WH1=2]** Installed new ENERGY STAR rated water heater(s)
3. **[SHOW IF WH1=3]** Installed demand control recirculation pump(s)
4. **[SHOW IF WH1=4]** Performed boiler tune-up(s)
5. **[SHOW IF WH1=5]** Set water heater temperature to 120F degrees
6. **[SHOW IF WH1=6]** Insulated hot water pipes with pipe insulation
7. **[SHOW IF WH1=7]** Installed insulating blanket around water heater tank(s)
8. **[SHOW IF WH1=8]** Installed new high efficiency boiler

00. **[SHOW IF WH1=00]** [INSERT RESPONSE TO WH1_00]

10. Other [OPEN ENDED RESPONSE]

9. I received no rebates for the above listed equipment

[ASK IF WH4a=1 Through 00]

WH4b. Please identify the organization(s) from which your municipality received rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. [Show if EBEW_FL or FEW_FL] Pacific Gas and Electric Company (PG&E)
2. [Show if EBEW_FL] Bay Area Regional Energy Network (BayREN)
3. [Show if EBEW_FL] Marin Clean Energy (MCE)
4. [Show if WSide_FL or SGab_FL] Southern California Edison (SCE)
5. [Show if WSide_FL or SGab_FL or FEW_FL] Southern California Gas (SCG)
6. [Show if WSide_FL or SGab_FL] Southern California Regional Energy Network (SoCalREN)
7. [Show if SAND_FL] San Diego Gas & Electric (SDG&E)
8. Other municipal utility, please specify **[OPEN END]**
9. Propane delivery company, please specify **[OPEN END]**

00. Another organization, please specify **[OPEN END]**

12. Not sure

[ASK IF WH4=2]

WH4c. Please identify the main reason why your municipality did not receive rebates or incentives?

1. Equipment did not qualify
2. Was in a hurry to purchase new equipment
3. Too much of a hassle to apply for the rebate
4. Did not know if one existed
0. Something else, please specify **[OPEN END]**

[ASK IF WH4=1]

WH5. Using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", If your municipality hadn't received a rebate, what is the likelihood that your municipality would have installed EXACTLY the same ENERGY SAVING equipment without the rebates they received?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF EE1_SHOWN =5]

REFRIGERATION SECTION

R1. Which of the following **refrigeration** equipment has your municipality installed to save on their facilities' energy usage? Please select all that apply. **[MULTIPLE RESPONSE]**

1. Controls for coolers and/or freezers
2. Refrigerated beverage or snack machine controls
3. ENERGY STAR refrigerated vending machine
4. ECM for walk-in and reach-in coolers and/or freezers
5. Strip curtain for walk-in coolers and/or freezers
6. Refrigeration economizers
7. Night covers for open refrigeration cases

00. Something else, please specify **[OPEN END]**

98. Not sure **[SKIP TO CA1]**

[ASK IF R1=1]

R3. What type(s) of refrigeration controls did your municipality install? Please select all that apply. **[MULTIPLE RESPONSE**

1. Automatic door closers
2. Door heater controls
3. Electrically Commutated Motor (ECM) controls

00. Something else, please specify **[OPEN END]**

98. Not sure

[ASK IF ANY R3 = 1 THROUGH 00]

R3a. How many of each type of refrigeration control were installed? **[NUMERIC OPEN END, CHECKBOX FOR NOT SURE]**

Refrigeration Control	Quantity	Not Sure
1. **[SHOW IF R3=1]** Automatic door closers		☐
2. **[SHOW IF R3=2]** Door heater controls		☐
3. **[SHOW IF R3=3]** Electrically Commutated Motor (ECM) controls		☐
4. **[SHOW IF R3=00]** [INSERT RESPONSE FROM R3_00]		☐

[ASK IF R1=1]

R3b. For which equipment types were refrigeration controls installed?

a. **[SHOW IF R3=1]** Automatic door closers

1. Cooler
2. Freezer
8. Not sure

b. **[SHOW IF R3=2]** Door heater controls

1. Cooler
2. Freezer
8. Not sure

c. **[SHOW IF R3=3]** Electrically Commutated Motor (ECM) controls

1. Cooler
2. Freezer
8. Not sure

d. **[SHOW IF R3=00]** [INSERT RESPONSE FROM R3_00]

1. Cooler
2. Freezer
8. Not sure

[ASK IF R1 = 2 THROUGH 00]

R4. Please identify the number of refrigeration equipment installed at your municipality's facilities. Your best estimate is fine. **[NUMERIC OPEN END, CHECKBOX FOR NOT SURE FOR EACH ROW]**

Refrigeration Control	Quantity	Not Sure
1. **[SHOW IF R1=2]** Refrigerated beverage or snack machine controls		☐
2. **[SHOW IF R1=3]** ENERGY STAR refrigerated vending machine		☐
3. **[SHOW IF R1=4]** ECM for walk-in and reach-in coolers and/or freezers		☐
4. **[SHOW IF R1=5]** Strip curtain for walk-in coolers and/or freezers		☐
5. **[SHOW IF R1=6]** Refrigeration economizers		☐
6. **[SHOW IF R1=7]** Night covers for open refrigeration cases		☐

Refrigeration Control	Quantity	Not Sure
7. [SHOW IF R1=00] [INSERT RESPONSE FROM R1_00]		☐

[ASK IF R1=7]

R5. For how many linear feet of refrigerated cases did you install night covers? **[NUMERIC OPEN END, CHECKBOX FOR NOT SURE]**

[ASK IF ANY R1 = 1 THROUGH 00]

R6. Did your municipality receive a rebate from any of the refrigeration equipment you installed?

1. Yes
2. No
8. Not sure

[ASK IF R6=1]

R6a. For which refrigeration equipment did your municipality receive rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. **[SHOW IF R1=1]** Controls for coolers and/or freezers
2. **[SHOW IF R1=2]** Refrigerated beverage or snack machine controls
3. **[SHOW IF R1=3]** ENERGY STAR refrigerated vending machine
4. **[SHOW IF R1=4]** ECM for walk-in and reach-in coolers and/or freezers
5. **[SHOW IF R1=5]** Strip curtain for walk-in coolers and/or freezers
6. **[SHOW IF R1=6]** Refrigeration economizers
7. **[SHOW IF R1=7]** Night covers for open refrigeration cases

00. **[SHOW IF R1=00]** [INSERT RESPONSE TO R1_00]

9. Other **[OPEN ENDED RESPONSE]**

8. I received no rebates for the above listed equipment

[ASK IF R6a = 1 THROUGH 00]

R6b. Please identify the organization(s) from which your municipality received rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. [Show if EBEW_FL or FEW_FL] Pacific Gas and Electric Company (PG&E)
2. [Show if EBEW_FL] Bay Area Regional Energy Network (BayREN)
3. [Show if EBEW_FL] Marin Clean Energy (MCE)
4. [Show if WSide_FL or SGab_FL] Southern California Edison (SCE)
5. [Show if WSide_FL or SGab_FL or FEW_FL] Southern California Gas (SCG)
6. [Show if WSide_FL or SGab_FL] Southern California Regional Energy Network (SoCalREN)
7. [Show if SAND_FL] San Diego Gas & Electric (SDG&E)
8. Other municipal utility, please specify **[OPEN END]**
9. Propane delivery company, please specify **[OPEN END]**

00. Another organization, please specify **[OPEN END]**

12. Not sure

[ASK IF R6=2]

R6c. Please identify the main reason why your municipality did not receive rebates or incentives?

1. Equipment did not qualify
2. Was in a hurry to purchase new equipment
3. Too much of a hassle to apply for the rebate
4. Did not know if one existed
0. Something else, please specify **[OPEN END]**

[ASK IF R6=1]

R7. Using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", If your municipality hadn't received a rebate, what is the likelihood that your municipality would have installed EXACTLY the same ENERGY SAVING equipment without the rebates they received?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF EE1_SHOWN = 6]

COMPRESSED AIR SECTION

CA1. Which of the following equipment has your municipality installed or upgraded to reduce your property's **compressed air** energy usage? Please select all that apply. **[MULTIPLE RESPONSE]**

1. Air compressor with a variable frequency drive
2. High efficiency air dryer
3. Low-pressure drop filters
4. No-loss condensate drains
5. High efficiency air nozzles

00. Something else, please specify **[OPEN END]**

98. Not sure **[SKIP TO SOL1]**

[ASK IF ANY CA1 = 1 THROUGH 00]

CA1a. How many of each type of compressed air equipment did your municipality install or upgrade? **[NUMERIC OPEN END 0-99, CHECKBOX FOR NOT SURE FOR EACH ROW]**

Compressed Air Equipment	Quantity	Not Sure
1. **[SHOW IF CA1=1]** Air compressor with a variable frequency drive		☐
2. **[SHOW IF CA1=2]** High efficiency air dryer		☐
3. **[SHOW IF CA1=3]** Low-pressure drop filters		☐
4. **[SHOW IF CA1=4]** No-loss condensate drains		☐
5. **[SHOW IF CA1=5]** High efficiency air nozzles		☐

6. **[SHOW IF CA1=00]** [INSERT RESPONSE TO CA1_00]		☐

[ASK IF CA1 = 1 THROUGH 00]

CA2. How often does your property use compressed air? Your best estimate is fine.

1. Less than 8 hours per day; 5 days a week
2. 8 hours per day; 5 days a week
3. 16 hours per day; 5 days a week
4. 24 hours per day; 5 days a week
5. 24 hours per day; 7 days a week

00. Something else, specify **[OPEN END]**

98. Not sure

[ASK IF CA1 = 1 THROUGH 00]

CA3. Please identify the air compressor type at your property.

1. Reciprocating
2. Screw

00. Something else, specify **[OPEN END]**

98. Not sure

[ASK IF CA1 = 1 THROUGH 00]

CA4. Did your municipality receive rebates or incentives for upgrading your compressed air equipment?

1. Yes
2. No

98. Not sure

[ASK IF CA4 = 1]

CA4a. For which compressed air equipment upgrades or installations did your municipality receive rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. **[SHOW IF CA1=1]** Air compressor with a variable frequency drive
2. **[SHOW IF CA1=2]** High efficiency air dryer
3. **[SHOW IF CA1=3]** Low-pressure drop filters
4. **[SHOW IF CA1=4]** No-loss condensate drains
5. **[SHOW IF CA1=5]** High efficiency air nozzles

00. **[SHOW IF CA1=00]** [INSERT RESPONSE TO CA1_00]

7. Other **[OPEN ENDED RESPONSE]**

6. I received no rebates for the above listed equipment

[ASK IF CA4a THROUGH 00=1]

CA4b. Please identify the organization(s) from which your municipality received rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. [Show if EBEW_FL or FEW_FL] Pacific Gas and Electric Company (PG&E)
2. [Show if EBEW_FL] Bay Area Regional Energy Network (BayREN)
3. [Show if EBEW_FL] Marin Clean Energy (MCE)
4. [Show if WSide_FL or SGab_FL] Southern California Edison (SCE)

5. [Show if WSide_FL or SGab_FL or FEW_FL] Southern California Gas (SCG)
6. [Show if WSide_FL or SGab_FL] Southern California Regional Energy Network (SoCalREN)
7. [Show if SAND_FL] San Diego Gas & Electric (SDG&E)
8. Other municipal utility, please specify **[OPEN END]**
9. Propane delivery company, please specify **[OPEN END]**
00. Another organization, please specify **[OPEN END]**
12. Not sure

[ASK IF CA4=2]

CA4c. Please identify the main reason why your municipality did not receive rebates or incentives?

1. Equipment did not qualify
2. Was in a hurry to purchase new equipment
3. Too much of a hassle to apply for the rebate
4. Did not know if one existed
0. Something else, please specify **[OPEN END]**

[ASK IF CA4=1]

CA5. Using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", If your municipality hadn't received a rebate, what is the likelihood that your municipality would have installed EXACTLY the same ENERGY SAVING equipment without the rebates they received?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF EE1_SHOWN = 7]

SOLAR SECTION

SOL1. How much solar capacity did your municipality install? Please estimate how many kilowatts (kW) of capacity was installed. Your best estimate is fine. **[NUMERIC OPEN END]**

98. Not Sure **[CHECKBOX]**

[ASK IF SOL1 > 0]

SOL2. Did your municipality receive a rebate or incentive for solar panels you installed in your property?

1. Yes
2. No
8. Not sure

[ASK IF SOL2=1]

SOL2a. Please identify the organization(s) from which your municipality received rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. [Show if EBEW_FL or FEW_FL] Pacific Gas and Electric Company (PG&E)
2. [Show if EBEW_FL] Bay Area Regional Energy Network (BayREN)
3. [Show if EBEW_FL] Marin Clean Energy (MCE)

4. [Show if WSide_FL or SGab_FL] Southern California Edison (SCE)
5. [Show if WSide_FL or SGab_FL or FEW_FL] Southern California Gas (SCG)
6. [Show if WSide_FL or SGab_FL] Southern California Regional Energy Network (SoCalREN)
7. [Show if SAND_FL] San Diego Gas & Electric (SDG&E)
8. Other municipal utility, please specify **[OPEN END]**
9. Propane delivery company, please specify **[OPEN END]**
00. Another organization, please specify **[OPEN END]**
12. Not sure

[ASK IF SOL2 =2]

SOL2b. Please identify the main reason why your municipality did not receive rebates.

1. Equipment did not qualify
2. Was in a hurry to purchase new equipment
3. Too much of a hassle to apply for the rebate
4. Did not know if one existed
00. Something else, please specify **[OPEN END]**

[ASK IF SOL2=1]

SOL3. Using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", <u>If your municipality hadn't received a rebate</u>, what is the likelihood that your municipality would have installed EXACTLY the same ENERGY SAVING equipment without the rebates they received?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF EE1_SHOWN = 00]

OTHER EQUIPMENT SECTION

OT1. Previously in the survey, when asked what energy saving equipment was upgraded or installed to reduce your municipal facilities' energy usage since 2016, you specified that **[INSERT EE_1=0 RESPONSE]** was upgraded or installed**.** How many units of this equipment type, or alternatively, how much sq. ft. of space is covered by the installed equipment type?

Equipment	Quantity	Total Space Installed (sq. ft)	Installed equipment but not sure of quantity or sq. ft. impacted	Not Applicable
[INSERT EE_1=0 RESPONSE]			☐	☐

[ASK IF EE1_SHOWN = 00]

OT3. Did your municipality receive a rebate or incentive for these other changes you made to reduce energy use?

1. Yes
2. No
8. Not sure

[ASK IF OT3=1]

OT3a. Please identify the organization(s) from which your municipality received rebates or incentives? Please select all that apply. **[MULTIPLE RESPONSE]**

1. [Show if EBEW_FL or FEW_FL] Pacific Gas and Electric Company (PG&E)
2. [Show if EBEW_FL] Bay Area Regional Energy Network (BayREN)
3. [Show if EBEW_FL] Marin Clean Energy (MCE)
4. [Show if WSide_FL or SGab_FL] Southern California Edison (SCE)
5. [Show if WSide_FL or SGab_FL or FEW_FL] Southern California Gas (SCG)
6. [Show if WSide_FL or SGab_FL] Southern California Regional Energy Network (SoCalREN)
7. [Show if SAND_FL] San Diego Gas & Electric (SDG&E)
8. Other municipal utility, please specify **[OPEN END]**
9. Propane delivery company, please specify **[OPEN END]**
00. Another organization, please specify **[OPEN END]**
12. Not sure

[ASK IF OT3=2]

OT3c. Please identify the main reason why your municipality did not receive rebates or incentives?

1. Equipment did not qualify
2. Was in a hurry to purchase new equipment
3. Too much of a hassle to apply for the rebate
8. Did not know if one existed
0. Something else, please specify **[OPEN END]**

[ASK IF OT3=1]

OT4. Using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", If your municipality hadn't received a rebate, what is the likelihood that your municipality would have installed EXACTLY the same ENERGY SAVING equipment without the rebates they received?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF ANY EE1 = 1 THROUGH 00]

Level of Influence of Non-Resource Activity on Installation of EE Equipment

The following questions are about the level of influence of the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader**

Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"] program on your decision to install or upgrade your equipment. First, we're going to ask about specific types of interactions that the program offered and how influential these were in your decisions, then we're going to ask about the overall level of influence the program had on your decisions.

IN1a. On a scale of 0 to 10, where 0 is "Not at All Influential" and 10 is "Extremely Influential", how influential was the EE related **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]** in your decision to install energy saving equipment?

Energy-Efficiency Related Activity	Not at All Influential 0	1	2	3	4	5	6	7	8	9	Extremely Influential 10	Not Sure
1. [ASK IF Community event FL=1] Community Event	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
2. [ASK IF Canvasing FL=1] Canvasing	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
3. [ASK IF Mail FL=1] Mailing Materials	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
4. [ASK IF Email FL=1] Email Messaging	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
5. [ASK IF Social media FL=1] Social Media Messaging	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
6. [ASK IF WOM FL=1] Word Of Mouth Communication	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
7. [ASK IF Rebate FL=1] Rebate or Discount Coupon	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
8. [ASK IF Previous FL=1] Previous Program You Participated In	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
9. [ASK IF Meetings FL=1] Recurring Local Government Partnership Meeting	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
10. [ASK IF Audit FL=1] Audit or	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

Energy-Efficiency Related Activity	Not at All Influential 0	1	2	3	4	5	6	7	8	9	Extremely Influential 10	Not Sure
Benchmarking Services												
11. [ASK IF Strategies FL=1] Energy/Climate Action Plans and Municipal Strategy	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
12. [ASK IF Certification FL=1] Training and Certification	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
13. [ASK IF TA FL=1] Project Technical Assistance and Program Communication	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
14. [ASK IF Other FL=1] Other Activity You Mentioned	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF ANY EE1 = 1 THROUGH 00]

IN2a. Now we would like to ask you about the importance of **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program in your decision to install energy saving equipment compared to other factors that may have influenced your decision.

If you were given a TOTAL of 10 points to rate the importance of the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program in your decision to **[SHOW "install energy saving equipment" if EE1≠ 98 OR 99]**, and you had to divide those 10 points between all your overall interactions with (1) the **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]** , and (2) any OTHER factors, how many points would you give to the importance of your interaction with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership"**

ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"] program? Your best estimate is fine.

Influencing Factors	Influence Score
1. All your interactions with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** Program.	
2. Other Influencing Factors	

[ASK IF IN2a-2 > 2]

IN3a. Please list up to three other factors that influenced your decision to install energy saving equipment. **[OPEN END – ALLOW FOR UP TO THREE RESPONSES]**

[ASK IF ANY EE1 = 1 THROUGH 00]

IN4a. Now please think about the actions you would have taken with regard to installing energy saving equipment if you hadn't interacted with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program.

Using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", <u>if you had not interacted with</u> the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** Program, including the **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]** , what is the likelihood that you would have installed EXACTLY the same ENERGY SAVING equipment either at the same time or later?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF IN4a>0]

IN5. Using the same scale from 0 to 10, if you had NOT interacted with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side**

Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"] program including the [SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1] , what is the likelihood that you would have installed exactly the same energy saving equipment **within 12 months of when you did it**?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF IN5>0]

IN5a. When do you think you would have installed the energy saving equipment had you not interacted with the [IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"] Program? Please answer relative to the date that you **actually** installed the energy saving equipment:

0. At the same time
1. Within 6 months
2. More than 6 months up to 1 year later
3. More than 1 year up to 2 years later
4. More than 2 years up to 3 years later
5. More than 3 years up to 4 years later
6. More than 4 years later
8. Not sure

[ASK IF IN5a=6]

IN6a. Why do you think it would have been over 4 years later? [OPEN END]

[Ask IN7a if any response in IN1a = 9 or 10 and IN4a = 9 or 10]

IN7a. Some of your answers suggest that the [IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"] Program was very important in your decision to purchase energy efficient equipment while others suggest that it was not. When asked how influential the program was in your decision to install energy efficient equipment, you indicated it was very influential. However, when asked how likely you would have been to install the energy efficient equipment without your interaction with the program, you said you would have been very likely to.

Can you clarify? On a scale of 0 to 10, where 0 is "Not at All Influential" and 10 is "Extremely Influential", how influential was the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program including the **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]** in your decision to install energy saving equipment?

Energy-Efficiency Related Activity	Not at All Influential 0	1	2	3	4	5	6	7	8	9	Extremely Influential 10	Not Sure
1. [ASK IF Community event FL=1] Community Event	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
2. [ASK IF Canvasing FL=1] Canvasing	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
3. [ASK IF Mail FL=1] Mailing Materials	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
4. [ASK IF Email FL=1] Email Messaging	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
5. [ASK IF Social media FL=1] Social Media Messaging	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
6. [ASK IF WOM FL=1] Word Of Mouth Communication	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
7. [ASK IF Rebate FL=1] Rebate or Discount Coupon	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
8. [ASK IF Previous FL=1] Previous Program You Participated In	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
9. [ASK IF Meetings FL=1] Recurring Local Government Partnership Meeting	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

Energy-Efficiency Related Activity	Not at All Influential 0	1	2	3	4	5	6	7	8	9	Extremely Influential 10	Not Sure
10. [ASK IF Audit FL=1] Audit or Benchmarking Services	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
11. [ASK IF Strategies FL=1] Energy/Climate Action Plans and Municipal Strategy	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
12. [ASK IF Certification FL=1] Training and Certification	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
13. [ASK IF TA FL=1] Project Technical Assistance and Program Communication	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
14. [ASK IF Other FL=1] Other Activity You Mentioned	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[Ask IN8a if any response in IN1a = 9 or 10 and IN4a = 9 or 10]

IN8a. Again, using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", if you hadn't interacted with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program including the **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]**, what is the likelihood that you would have installed EXACTLY the same ENERGY SAVING equipment either at the same time or later?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[Ask IN9a if any response in IN1a = 0,1, or 2 and IN4a = 0,1, or 2]

IN9a. Some of your answers suggest that the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** was very important in your decision to purchase energy efficient equipment while others suggest that it was not. When asked how influential the program was in your decision to install energy efficient equipment, you indicated it was NOT very influential. However, when asked how likely you would have been to install the energy efficient equipment without your interaction with the program, you said you would NOT have been very likely to.

Can you clarify? On a scale of 0 to 10, where 0 is "Not at All Influential" and 10 is "Extremely Influential", how influential was the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** including the **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]** in your decision to install energy saving equipment?

Energy-Efficiency Related Activity	Not at All Influential 0	1	2	3	4	5	6	7	8	9	Extremely Influential 10	Not Sure
1. [ASK IF Community event FL=1] Community Event	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
2. [ASK IF Canvasing FL=1] Canvasing	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
3. [ASK IF Mail FL=1] Mailing Materials	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
4. [ASK IF Email FL=1] Email Messaging	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
5. [ASK IF Social media FL=1] Social Media Messaging	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

Energy-Efficiency Related Activity	Not at All Influential 0	1	2	3	4	5	6	7	8	9	Extremely Influential 10	Not Sure
6. [ASK IF WOM FL=1] Word Of Mouth Communication	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
7. [ASK IF Rebate FL=1] Rebate or Discount Coupon	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
8. [ASK IF Previous FL=1] Previous Program You Participated In	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
9. [ASK IF Meetings FL=1] Recurring Local Government Partnership Meeting	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
10. [ASK IF Audit FL=1] Audit or Benchmarking Services	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
11. [ASK IF Strategies FL=1] Energy/Climate Action Plans and Municipal Strategy	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
12. [ASK IF Certification FL=1] Training and Certification	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
13. [ASK IF TA FL=1] Project Technical Assistance and Program Communication	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
14. [ASK IF Other FL=1] Other Activity You Mentioned	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[Ask IN10a if any response in IN1a = 0,1, or 2 and IN4a = 0,1, or 2]

IN10a. Again, using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", if you hadn't interacted with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program including **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if**

Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1] what is the likelihood that you would have installed EXACTLY the same ENERGY SAVING equipment either at the same time or later?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

BEHAVIORAL ACTIONS

Next, we would like to learn about any **Behavioral Actions** you or your municipality's staff may have taken toward saving energy, either on your own or by participating in an energy saving programs. Our definition of 'behaviors' are changes in how existing equipment is operated, not decisions to replace with more efficient equipment. This includes, for example, changing the run hours for lighting systems, dimming lights to make use of ambient lighting, or adjusting temperature set points for HVAC systems to better match comfort needs, etc.

B1. For the municipal facilities you're engaged with, have there been any **Behavioral Actions** taken to change the way equipment operates in order to save energy, AFTER your engagement with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** Program?

1. Yes
2. No [SKIP TO Next]

[GENERATE REB_FL=1 IF ANY L7=1, H16=1, HE2=1, WH4=1, R6=1, CA4=1, SOL2=1, OT3=1, ELSE REB_FL=0]

[ASK IF B1=1]

B2. In your opinion, how would you characterize the energy savings as a result of **Behavioral Changes or Enhancements** your municipality has made AFTER engaging with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program? In general, would you say these are…?

1. Significant energy savings
2. Moderate energy savings
3. Measurable but insignificant energy savings
4. Not measurable

[ASK IF B1=1]

B3 A list of potential **Behavioral Energy-saving Actions** is provided below. For the facilities where these actions were taken to change the way equipment operates in order to save energy, please indicate if this action was taken BEFORE and/or AFTER your engagement with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** Program. **Please select at least one answer for each item below. [RANDOMIZE]**

Action Type	Action Taken Before Engaging with the Program	Action Taken After Engaging with the Program	Action not taken	Don't Know
1. Boiler/Hot Water/ Steam System Changes	☐	☐	☐	☐
2. Chiller / Chilled Water System Changes	☐	☐	☐	☐
3. Cooling tower optimization	☐	☐	☐	☐
4. Domestic Hot Water changes such as new faucets, showerheads or water heaters	☐	☐	☐	☐
5. Economizer and Ventilation control changes	☐	☐	☐	☐
6. HVAC Equipment Scheduling or Space Temperature changes	☐	☐	☐	☐
7. Fan optimization/Air Distribution upgrades	☐	☐	☐	☐
8. Optimize lighting system run hours	☐	☐	☐	☐
9. Water Pump optimization changes	☐	☐	☐	☐
10. Package/Split-System HVAC Changes	☐	☐	☐	☐
11. **OTHER changes not mentioned above**	☐	☐	☐	☐

[ASK IF B3-11<>Action not taken OR Don't Know]

B4. You indicated that you had taken **Behavioral Actions** to save energy that were not described on the previous list. Please tell us briefly what actions those were. [OPEN END]

[Skip to AW1a if B1 != 1]

Level of Influence of Non-Resource Activity on EE Actions

[DISPLAY SENTENCE BELOW ON SAME PAGE AS IN1a]

The following questions are about the level of influence of the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego**

Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"] Program on your municipality's decision to change staff behavior to reduce their energy use. Our definition of 'behaviors' are changes in how existing equipment is operated, not decisions to replace with more efficient equipment. This includes, for example, changing the run hours for lighting systems, dimming lights to make use of ambient lighting, or adjusting temperature set points for HVAC systems to better match comfort needs, etc.

First, we're going to ask about specific types of interactions that the program offered and how influential these were in your municipality's behavioral changes, then we're going to ask about the overall level of influence the program had on your municipality's behaviors.

[ASK IN1a – IN6a IF SF_FL = 1]

IN1b. On a scale of 0 to 10, where 0 is "Not at All Influential" and 10 is "Extremely Influential", how influential was the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program including the **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]** in your municipality's decision to carry out energy savings actions".

Energy-Efficiency Related Activity	Not at All Influential 0	1	2	3	4	5	6	7	8	9	Extremely Influential 10	Not Sure
1. [ASK IF Community event FL=1] Community Event	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
2. [ASK IF Canvasing FL=1] Canvasing	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
3. [ASK IF Mail FL=1] Mailing Materials	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
4. [ASK IF Email FL=1] Email Messaging	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
5. [ASK IF Social media FL=1] Social Media Messaging	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

Energy-Efficiency Related Activity	Not at All Influential 0	1	2	3	4	5	6	7	8	9	Extremely Influential 10	Not Sure
6. [ASK IF WOM FL=1] Word Of Mouth Communication	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
7. [ASK IF Rebate FL=1] Rebate or Discount Coupon	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
8. [ASK IF Previous FL=1] Previous Program You Participated In	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
9. [ASK IF Meetings FL=1] Recurring Local Government Partnership Meeting	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
10. [ASK IF Audit FL=1] Audit or Benchmarking Services	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
11. [ASK IF Strategies FL=1] Energy/Climate Action Plans and Municipal Strategy	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
12. [ASK IF Certification FL=1] Training and Certification	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
13. [ASK IF TA FL=1] Project Technical Assistance and Program Communication	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
14. [ASK IF Other FL=1] Other Activity You Mentioned	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF ANY B1 = 1 THROUGH 11 OR 00]

IN2b. Now we would like to ask you about the importance of the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program

including the **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]** in your municipality's decision to carry out energy saving actions compared to other factors that may have influenced your decision.

If you were given a TOTAL of 10 points to reflect the importance of the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program's energy saving related activity in your municipality's decision to carry out energy saving actions, and you had to divide those 10 points between (1) all your overall interactions with **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]** , and (2) any OTHER factors, how many points would you give to the importance of your interaction with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program? Your best estimate is fine.

Influencing Factors	Influence Score
1. All your municipality's interactions with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** Program.	
2. Other Influencing Factors	

[ASK IF IN2b-2 > 2]

IN3b. Please list up to three other influencing factors on your decision to take energy saving actions. **[OPEN END – ALLOW FOR UP TO THREE RESPONSES]**

[ASK IF ANY B1 = 1 THROUGH 00]

IN4b. Now please think about the energy saving action(s) your municipality would have taken if you had not interacted with **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** Program**.**

Using a scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", if your municipality had not interacted with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program including the **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]** , what is the likelihood that you would have taken the exact same energy saving action(s) either at the same time or later?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF IN4b>0]

IN5b. Using the same scale from 0 to 10, if you had NOT interacted with the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program including the **[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]** , what is the likelihood that your municipality would have taken the same energy saving action(s) **within 12 months of when you did it**?

Not at All Likely 0	1	2	3	4	5	6	7	8	9	Extremely Likely 10	Not applicable	Not sure
❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF IN5b>0]

IN5c. When do you think your municipality would have taken the energy saving action(s) had you not interacted with **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program including including the **[[SHOW "community events" if Community event FL=1, ELSE SHOW "canvasing" if Canvasing_FL=1, ELSE SHOW "mailing materials" if Mail_FL=1, ELSE SHOW "email messaging" if Email_FL=1, ELSE SHOW "social media messaging" if Social_Media_FL=1, ELSE SHOW "word of mouth communication" if WOM_FL=1, ELSE SHOW, "rebate or discount coupon" if Rebate_FL=1, ELSE SHOW "program you previously participated in", ELSE SHOW "recurring local government partnership meetings" if Meetings_FL=1, ELSE SHOW "audit or benchmarking services you received" if Audit_FL=1, ELSE SHOW "Energy/Climate Action Plans and municipal strategy support" if Strategies_FL=1, ELSE SHOW "training and certification" if Certification_FL=1, ELSE SHOW "project technical assistance and program communication" if TA_FL=1, ELSE SHOW [INSERT RESPONSE FROM S1=14] if Other_FL=1]** ? Please answer relative to the date that you **started taking the energy saving action(s)**:

0. At the same time
1. Within 6 months
2. More than 6 months up to 1 year later
3. More than 1 year up to 2 years later
4. More than 2 years up to 3 years later
5. More than 3 years up to 4 years later
6. More than 4 years later
8. Not sure

[ASK IF IN5b=6]

IN6b. Why do you think it would have been over 4 years later? **[OPEN END]**

Awareness of EE PA Resource Programs

[ASK IF REB_FL=0]

AW1a. Prior to this study, were you aware of any energy saving program(s) offered by California energy service providers and other energy-related organizations (like the **[IF FLAG = EBEW_FL show "East Bay Energy Watch", ELSE IF FLAG = FEW_FL show "Fresno Energy Watch" ELSE IF FLAG = SAND_FL show "San Diego Association of Governments Partnership" ELSE IF FLAG = WSide_FL show "West Side Energy Leader Partnership" ELSE IF FLAG = SGab_FL show "San Gabriel Valley Energy Leader Partnership"]** program) that offer rebates or incentives for installation of equipment such as energy saving lighting, heating or cooling equipment, water saving equipment, or insulation and air sealing?

1. Yes
2. No

[ASK IF REB_FL=1]

AW1b. You mentioned that your municipality received rebates and/or incentives from California energy service providers or other energy related organizations for some of the energy equipment you had installed.

Are you aware of any <u>other</u> energy saving program(s) offered by California energy service providers or other energy related organizations that offer rebates or incentives for installation of energy efficient equipment?

1. Yes
2. No

[ASK IF AW1a OR AW1b=1]

AW2. What energy saving program(s) have you heard of? **[OPEN END] [ADD CHECKBOX FOR PREFER NOT TO ANSWER]**

❑ Prefer not to answer

[ASK IF AW1a OR AW1b=1]

AW2a. Where did you first hear about the energy saving program(s)?

1. eNewsletter
2. Energy Bill
3. Word-of-Mouth (i.e. Colleague)
4. Contractor
5. Social Media (e.g., Facebook, Twitter, Instagram)
6. Energy Provider or Utility Website
7. Local government
8. Community group
9. Community event
10. Local Government Partnership meeting
11. Training or certification
0. Something else, please specify **[OPEN END] [Anchor]**
12. Not sure **[Anchor]**

[ASK IF REB_FL=1]

AW3. Thinking about the energy saving upgrades you completed, how did you learn about the rebates or incentives offered for upgrading or installing equipment at the municipality facilities you're engaged with? **[OPEN END] [ADD CHECKBOX FOR PREFER NOT TO ANSWER]**

❑ Prefer not to answer

Drivers and Barriers to Participation in PA EE Resource Programs

[DISPLAY SENTENCE BELOW ON SAME PAGE AS BD1]

Next, we'd like to learn about what drivers would motivate the municipality facilities you're engaged with to install energy saving equipment as well as any challenges that may have been encountered.

[ASK IF REB_FL=0]

BD1. What would encourage your municipality to install or upgrade energy saving equipment through your utility or energy service provider? **[OPEN END, CHECKBOX FOR NOT SURE]**

BD1a Using a scale from 0 to 10, where 0 is "Not at all important" and 10 is "Extremely important", please rate the following actions that would encourage your municipality to install or upgrade energy saving equipment through your utility or energy service provider?

	Not at All Important	1	2	3	4	5	6	7	8	9	Extremely Important 10	Not applicable	Not sure
1. Understanding the potential for EE across all of the facilities we operate	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
2. Expanded access to low cost financing for EE equipment replacements	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
3. Assistance in identifying which utility programs can be used for EE equipment replacements	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
4. OTHER changes not mentioned above	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

[ASK IF BD1a_4 = 1 to 10]

BD1b. You indicated that OTHER changes not mentioned above would encourage you to install or upgrade energy saving equipment through your utility or energy service provider. Please tell us briefly these other changes might be. [OPEN END]

98. Prefer not to answer

[ASK ALL]
Firmographics

D1. Which utilities or EE service providers currently provide your municipal property's electric service?

1. [Show if EBEW_FL or FEW_FL] Pacific Gas and Electric Company (PG&E)
2. [Show if EBEW_FL or FEW_FL] Marin Clean Energy (MCE)
3. [Show if WSide_FL or SGab_FL] Southern California Edison (SCE)
4. [Show if SAND_FL] San Diego Gas & Electric (SDG&E)
5. Municipal utility, please specify [OPEN END]
6. Electric Cooperative, please specify [OPEN END]
7. Another organization, please specify [OPEN END]

98. Not sure

D14. Which utilities or EE service providers currently provide your property's natural gas service?

1. [Show if EBEW_FL or FEW_FL] Pacific Gas and Electric Company (PG&E)
2. Show if WSide_FL or SGab_FL or FEW_FL] Southern California Gas (SCG)
3. [Show if SAND_FL] San Diego Gas & Electric (SDG&E)
4. Municipal utility, please specify [OPEN END]
5. Propane delivery company, please specify [OPEN END]
6. Another organization, please specify [OPEN END]
7. No gas service

99. Not sure

Closing

C1. Should we have any questions or need clarification regarding any of your responses in this survey, would it be okay to contact you again in the future?

1. Yes
2. I am not the best person to contact, please specify the full name of the person to contact **[OPEN END]**
3. No

[ASK IF C1 = 1 or 2]

C3. What is the best phone number and email address to contact you, please specify in the text box below.
[FORCE AT LEAST ONE ANSWER TO PHONE NUMBER

Phone Number:	
Email:	

Those are all of our questions. We appreciate your time and participation. On behalf of the California Public Utilities Commission, Thank you!

Appendix C. Survey Response Rate Methodology

The survey response rate is the number of completed interviews divided by the total number of potentially eligible respondents. We calculated RR3 using the standards and formulas set forth by the AAPOR. The formulas used to calculate RR3 are presented below. The definitions of the letters used in the formulas are displayed in the Survey Disposition tables (Table 8 and Table 9). The RR for this survey was 8%.

Equation 2. Response Rate Formula

$$RR3 = \frac{I}{\left(I + N + e1(U1 + e2 * U2)\right)}$$

Where:

$$e1 = \frac{(I + N)}{(I + N + X1)}$$

$$e2 = \frac{(I + N + X1 + U1)}{(I + N + X1 + U1 + X2)}$$

Appendix D. Summary of CEDARS Analysis

The evaluation team completed a review of claims for the commercial market segment in the CPUC's CEDARS database for program years 2016 and 2017 for each of the LGPs included in year one of this evaluation. This review allowed us to assess the response to our participant survey on non-resource activities in relation with the claims data available in CEDARS. This review was undertaken for observational purposes only, and is not intended to define the impact of non-resource activity beyond the conclusions presented in section 8, Engineering Analysis Results, and section 9, Attribution Analysis Results, of the report. Table 34 through Table 43 provide a summary of gross first year kWh and Therms savings results from this analysis for the combined 2016 and 2017 years for each program. Each table incudes columns summarizing the following analysis:

- Measure Category. This is the general category of measure for which the bulk of savings are being claimed. An 'Other' category was used to aggregate savings from large numbers of different measures which could not be easily categorized.
- Total Program Services Area Savings. This represents all claims across the service area being served by the LGP. For some programs these will be total savings accruing within the county covered by the program, while in other cases this will represent the total savings occurring for all cities covered by a program.
- Total Program Savings. This represents the total of all claims associated with an LGP. These claims were identified in CEDARS using a CEDARS database flag titled "LGPFlag", indicating if a specific claim is associated with the LGP.
- Total Program Direct Install (DI) Savings. CEDARS data includes a field titled "DeliveryType" that allows claims to be identified by type of program delivery mechanism. The table column titled "Total Program DI Savings" shows the savings by measure category that were installed through direct installation (DI) delivery mechanisms, where the claim was also associated with the LGP though the "LGPFlag" previously discussed. These values therefore define the DI savings directly associated with an LGP.
- Program % of Service Area. This column represents the percent of total savings within an LGP program area that can be associated with an LGP via the "LGPFlag".
- Program Direct Install (DI) % of Service Area. This column represents the percent of total savings within an LGP program area that can be associated with an LGP DI activity via the "LGPFlag" and "DeliveryType".
- Program Non-Direct Install (DI) % of Service Area. This column represents the difference between the 'Program % of Service Area' and the 'Program DI % of Service Area'. This may serve as a proxy indicator of the percent of program service area savings that are not associated with DI activities, but are associated with an LGP, and are therefore likely to be savings associated with public sector buildings.

The following provides an overview of the CEDARS analysis methodology and summary observations by IOU and program.

PG&E

The PG&E East Bay Energy Watch and Fresno Energy Watch programs are defined at the county level. CEDARS claims for the participating counties were extracted and summarized at the measure category level as shown in Table 34 through Table 37.

In general, EBEW had significant electricity savings in all measure categories except for HVAC. As shown in Table 34, the program accounted for 15% of all commercial segment savings in Alameda and Contra Costa counties, with the bulk of these savings associated with direct installation. Table 35 indicates that EBEW is associated with about 2% of total combined county gas savings, split nearly evenly between DI and non-DI activities.

As shown in Table 36, DI activities associated with FEW accounted for 25% of all electricity savings in Fresno county. Most savings are associated with lighting and refrigeration measures and the program did not result in savings from HVAC measures. Table 37 indicates that FEW is associated with 1% of total county gas savings, all of which is associated with HVAC measures. There were no gas savings associated with DI activities.

Table 34. PG&E East Bay Energy Watch (kWh)

Measure Category	Total EBEW Services Area Savings	Total EBEW Savings	Total EBEW DI Savings	EBEW % of Service Area	EBEW DI % of Service Area	EBEW Non-DI % of Service Area
Indoor Lighting	29,465,550	6,616,994	5,522,791	22%	19%	4%
Outdoor lighting	6,842,371	1,179,473	811,174	17%	12%	5%
Refrigeration lighting	791,100	317,735	44,432	40%	6%	35%
HVAC	20,184,673	11,537	444	0%	0%	0%
Refrigeration	5,062,266	1,795,775	910,285	35%	18%	17%
Water Heating	-11,179	0	0	0%	0%	0%
Other	7,405,705	804,688	11,099	11%	0%	11%
Total	69,740,485	10,726,202	7,300,226	15%	10%	5%

Table 35. PG&E East Bay Energy Watch (Therms)

Measure Category	Total EBEW Services Area Savings	Total EBEW Savings	Total EBEW DI Savings	EBEW % of Service Area	EBEW DI % of Service Area	EBEW Non-DI % of Service Area
HVAC	435,989	6,048	3,027	1%	1%	1%
Refrigeration	141,968	-7,009	-1,476	-5%	-1%	-4%
Water Heating	334,003	14,454	11,880	4%	4%	1%
Other	885,179	15,459	0	2%	0%	2%
Total	1,797,139	28,953	13,431	2%	1%	1%

Table 36. PG&E Fresno Energy Watch (kWh)

Measure Category	Total FEW Services Area Savings	Total FEW Savings	Total FEW DI Savings	FEW % of Service Area	FEW DI % of Service Area	FEW Non-DI % of Service Area
Indoor Lighting	11,829,298	3,245,784	3,207,542	27%	27%	0%
Outdoor lighting	5,036,790	2,080,509	2,071,577	41%	41%	0%
Refrigeration lighting	1,640,687	1,547,923	1,324,393	94%	81%	14%
HVAC	4,572,167	266,679	0	6%	0%	6%
Refrigeration	1,465,121	166,602	146,925	11%	10%	1%
Water Heating	-1,150	0	0	0%	0%	0%
Other	2,230,621	117,452	13,083	5%	1%	5%
Total	26,773,534	7,424,948	6,763,520	28%	25%	2%

Table 37. PG&E Fresno Energy Watch (Therm)

Measure Category	Total FEW Services Area Savings	Total FEW Savings	Total FEW DI Savings	FEW % of Service Area	FEW DI % of Service Area	FEW Non-DI % of Service Area
HVAC	106,560	2,117	0	2%	0%	2%
Refrigeration	9,540	-52	-52	-1%	-1%	0%
Water Heating	40,650	0	0	0%	0%	0%
Other	116,732	22	0	0%	0%	0%
Total	273,482	2,087	-52	1%	0%	1%

SCE and SCG

The SCE San Gabriel Valley Energy Leader and West Side Energy Leader programs and SCG San Gabriel Valley COG Partnership and West Side Cities Partnership represent collections of cities. CEDARS claims for the LGP participating cities were extracted at the zip code level and summarized at the measure category level as shown in Table 38 through Table 41s.

Claims data indicates that the SCE SGVP had significant electricity savings associated with outdoor lighting but minimal or no impact for other measure categories as shown in Table 38. By design the program does not participate in direct install activities and virtually none were reported.

Table 39 shows that the SCG San Gabriel Valley COG Partnership accounted for all HVAC retro-commissioning therm savings in the program's service area, which also accounted for 1% of all SCG therm savings claims within the participating cities.

Table 40 shows that the SCE West Side Energy Leader program accounted for 2.3% of all SCE commercial segment savings claimed within the cities participating in the program and these savings are associated with indoor lighting that was likely installed in public buildings. Similar to SCE's San Gabriel Valley Energy Leader, the West Side program does not participate in DI activities. Table 41 provides natural gas savings for the SCG West Side Cities Partnership and shows that 23% of total savings in the commercial market for the cities participating in the program are associated with the LGP and are most likely from HVAC and HVAC retro-commissioning projects at public facilities.

Table 38. SCE San Gabriel Valley Energy Leader (kWh)

Measure Category	Total SGVP Services Area Savings	Total SGVP Savings	Total SGVP DI Savings	SGVP % of Service Area	SGVP DI % of Service Area	SGVP Non-DI % of Service Area
Indoor Lighting	26,591,922	377,692	46,988	1%	0.2%	1.2%
Outdoor Lighting	1,582,207	452,389	0	29%	0.0%	28.6%
Refrigeration Lighting	226,903	0	0	0%	0.0%	0.0%
HVAC	7,765,638	0	0	0%	0.0%	0.0%
Refrigeration	1,251,144	0	0	0%	0.0%	0.0%
Water Heating	901,972	0	0	0%	0.0%	0.0%
Other	1,186,764	0	0	0%	0.0%	0.0%
Total	39,506,551	830,081	46,988	2%	0.1%	2.0%

Table 39. SCG San Gabriel Valley COG Partnership (Therm)

Measure Category	Total SGVP Services Area Savings	Total SGVP Savings	Total SGVP DI Savings	SCG % of Service Area	SCG DI % of Service Area	SGVP Non-DI % of Service Area
Appliance	9,507	0	0	0%	0.0%	0.0%
HVAC	119,784	0	0	0%	0.0%	0.0%
HVAC Retro-commissioning	4,861	4,861	0	100%	0.0%	100.0%
Process	369,736	0	0	0%	0.0%	0.0%
Shell	5,596	0	0	0%	0.0%	0.0%
Hot Water Heating	18,412	0	0	0%	0.0%	0.0%
Other	327,579	0	0	0%	0.0%	0.0%
Total	855,475	4,861	0	1%	0.0%	0.6%

Table 40. SCE West Side Energy Leader (kWh)

Measure Category	Total WSP Services Area Savings	Total WSP Savings	Total WSP DI Savings	WSP % of Service Area	WSP DI % of Service Area	WSP Non-DI % of Service Area
Indoor Lighting	2,038,459	95,943	7,905	5%	0.4%	4.3%
Outdoor lighting	118,040	0	0	0%	0.0%	0.0%
Refrigeration lighting	6,183	0	0	0%	0.0%	0.0%
HVAC	1,463,188	0	0	0%	0.0%	0.0%
Refrigeration	7,803	0	0	0%	0.0%	0.0%
Water Heating	0	0	0	0%	0.0%	0.0%
Other	147,982	0	0	0%	0.0%	0.0%
Total	3,781,655	95,943	7,905	3%	0.2%	2.3%

Table 41. SCG West Side Cities Partnership (Therm)

Measure Category	Total WSP Services Area Savings	Total WSP Savings	Total WSP DI Savings	WSP % of Service Area	WSP DI % of Service Area	WSP Non-DI % of Service Area
Appliance	0	0	0	0%	0.0%	0.0%
HVAC	25,423	6,036	0	24%	0.0%	23.7%
HVAC Retro-commissioning	3,621	3,621	0	100%	0.0%	100.0%
Process	0	0	0	0%	0.0%	0.0%
Shell	441	0	0	0%	0.0%	0.0%
Hot Water Heating	7,441	3,998	0	0%	0.0%	0.0%
Food Service	22,431	0	0	0%	0.0%	0.0%
Total	59,356	13,655	0	23%	0.0%	23.0%

SDG&E

The SANDAG Partnership represent a collection of cities in San Diego county. CEDARS claims for the LGP participating cities were extracted at the zip code level and summarized at the measure category level. As shown in Table 42 the program accounted for about 2% of all commercial sector electricity savings for the cities included in the program, with savings from both lighting and HVAC measures. Table 43 shows that the program accounted for about 3% of all commercial sector natural gas savings for the cities included in the program and that these savings are associated with the broad 'Other' category. Negative gas savings are typically associated with interactive effects related to the installation of electric measures.

Table 42. SANDAG Partnership (kWh)

Measure Category	Total SANDAG Services Area Savings (kWh)	Total SANDAG Savings (kWh)	Total SANDAG DI Savings (kWh)	SANDAG % of Service Area	SANDAG DI % of Service Area	SANDAG Non-DI % of Service Area
Lighting	38,644,956	860,674	104,352	2%	0.3%	2%
HVAC	3,686,736	122,012	0	3%	0.0%	3%
Refrigeration	1,710,040	0	0	0%	0.0%	0%
Water Heating	0	0	0	0%	0.0%	0%
Other	4,466,606	0	0	0%	0.0%	0%
Total	48,508,337	982,686	104,352	2%	0.2%	2%

Table 43. SANDAG Partnership (Therm)

Measure Category	Total SANDAG Services Area Savings (Therm)	Total SANDAG Savings (Therm)	Total SANDAG DI Savings (Therm)	SANDAG % of Service Area	SANDAG DI % of Service Area	SANDAG Non-DI % of Service Area
Bldg. Envelope	126,708	-484	-186	0%	-0.1%	0%
HVAC	8,903	-1,454	0	-16%	0.0%	-16%
Refrigeration	6,226	0	0	0%	0.0%	0%
Water Heating	13,924	49	49	0%	0.0%	0%
Other	142,701	9,498	0	7%	0.0%	7%
Total	298,462	7,610	-137	3%	0.0%	3%

Appendix E. Response to Public Comments

Table 44 on the following page presents the public comments received on the Year 1 Assessment of LGPs report and the evaluation team's response

Table 44. Public Comments on Year 1 LGP Report and Responses

Comment #	Commenter	Page in Report	Comment/Feedback	Response
1	SCG/PG&E	Overarching	Unfortunately, the report contains general conclusions that are not supported by the data or by the small sample. It is not enough for the evaluators to simply acknowledge lack of statistical significance; evaluators must also refrain from making general or conclusive statements. We hope it is not too late for the Year 2 studies to make specific and helpful recommendations to the 5 LGPs being evaluated.	The report contains findings from qualitative research through depth interviews and quantitative research through an analysis of survey responses and analysis of ex-ante savings as reported through CEDARS. The qualitative findings convey insights gathered from interviewees and may contain general conclusions where a majority of respondents provided a similar response or point of view. The quantitative analysis of survey responses suffers from small samples for any single LGP, however it is useful when viewed in aggregate across programs when comparing the value of LGP non-resource activities such as comparing the influence of climate action planning to canvassing activities, as discussed at Figure 10. The analysis of CEDARs data provides a context to which the analysis of survey responses can be compared. Regarding sample size, for the year 2 study the evaluator is working with the IOUs to improve response rates to the participation survey which will allow us to provide more targeted recommendations in year 2 as discussed at comment 6.
2	SCG/PG&E	69	1) The timing adjustment used in the Attribution Ratio algorithm seems to be giving the most “credit” when the “months expedited” value is low, and the least credit for the most months expedited; it should be the other way around. Likewise, for the “not sure” responses, the timing adjustment is inverted, and should be assigned using a sliding scale rather than a binary adjustment.	That is not an accurate representation of our approach, as the example below illustrates. The timing adjustment is [1 – deferred NTG] where deferred NTG = [(# months expedited from IN5a – 6)/42]. The evaluation team derived the timing adjustment from the excerpt of the “Methodological Framework for Using the Self-Report Approach to Estimating Net-to-Gross Ratios for Non-Residential Customers” by the NTR Working Group prepared for the CPUC Energy Division back in 2009. Page 9 of this document describes an approximation of what we have in the

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				attribution methodology section of our reports (the exception is we are using ratios so the "No Program score" is "1 minus" in our case instead of "10 minus" because we used scores from 0 to 10 instead of 0 to 100. Let's take an example: • If someone answered IN4a = 1 (likelihood of installing equipment without interaction with the NR activity), the NR activity was pretty important. • Then the person is asked IN5 (If you had NOT engaged in NR activity, what is the likelihood that you would have installed equipment within 12 months of when you did). Let's just say they gave a response of 2 out 10, which means the NR activity was pretty important and without interaction with the NR activity, chances are low the person would have installed the equipment in a year. As long as this is not equal to 0 they move onto IN5a. • IN5a is as follows: When do you think you would have installed the energy saving equipment had you not interacted with LGP program? Please answer relative to the date that you actually installed the energy saving equipment: 0. At the same time 1. Within 6 months 2. More than 6 months up to 1 year later 3. More than 1 year up to 2 years later 4. More than 2 years up to 3 years later 5. More than 3 years up to 4 years later 6. More than 4 years later 8. Not sure The respondent would have done it 3-4 years later, that means the NR activity was important in motivating activity. Let's say they answered 5 (3-4 years later). The deferred NTG value would be 0.142857 and the

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				timing adjustment would therefore equal [1 – 0.142857] = 0.857143. We would multiply this by the likelihood of installing equipment without interaction with the NR activity (in this case, it is equal to IN3/10 or 2/10]. Our program score is: 1 - (IN4a score/10) * Timing adjustment 1-[(2/10)*.857143] = 0.8285714, which is a high attribution score.
3	SCG/PG&E	69	2) The average attribution ratios in Table 26 are different from what was presented in the webinar. Which ratios are correct?	As noted by the evaluation team during the webinar, the attribution ratios in the webinar accidently included values from the assessment of CCAs slide deck, and the correct attribution ratios are found in the LGP report on page 69 in table 26.
4	SCG/PG&E	69	3) How are the attribution ratios (averaging .31 across customers) applied, so as to result in the gross and net savings numbers in Table 27? A quick division of the "Net" savings numbers by the "Gross" savings numbers yields ratios ranging from .60-.68 for kWh and .31-.40 for Therms. Can you please provide the calculation that supports these numbers?	This is not an accurate representation of our approach. The attribution ratios in table 26 on page 69 are not applied to the engineering results. In the report on page 69 under section 9.1 we note that for this table "the evaluation team chose to provide simple averages for the attribution ratios rather than weighted ratios". The methodology for how we applied attribution ratios to the engineering analysis can be found on page 69 under section 9.2 of the report. It states that "To estimate the electric and gas 1st year savings attributable to the non-resource activities, the evaluation team applied customer-level attribution ratios to their 1st year savings calculated from the engineering analysis. We then summed the savings for customers who participated in the different non-resource activities to arrive at the electric and gas savings attributable to each of the non-resource activities." Please reference our response to comment #2 above for an example of how a customer's attribution was calculated.
5	SCG/PG&E	69	4) If the evaluation team is indeed attributing the majority of LGP-level	As noted above in our response to comment #3, this was not how

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			kWh savings (60%- 68%) to non-resource activities, this begs the question of what the evaluation team considers to be *resource* activities to which minority of the savings would be attributed? We suggest that the evaluators may have defined "non-resource" too broadly, leading to this logical inconsistency. At the webinar, the evaluators said "making a claim in the savings database" is what they consider to be an LGP resource activity. Did we understand that example correctly? More examples of resource activities would be helpful.	attribution ratios were applied and the evaluation team did not attribute 60%-68% of LGP level kWh savings to non-resource activities. On Page 1 under the LGP Overview and Study Purpose section of the report we define resource and non-resource citing the CPUC EE Shareholder Incentive Mechanism. In short, we define non-resource activities as those that, in and of themselves, do not produce energy savings, but may do so indirectly. A resource activity would be those that do directly produce energy savings (e.g. installing EE equipment through a rebate program, resulting in a claim in the CPUC savings database).
6	SCG/PG&E	4	Finding 1: Inconsistent data. The IOUs warned the evaluation team that an evaluation of non- resource activities was unlikely to be fruitful given that the PY2006-2008 LGP non-resource evaluation (CALMAC ID # CPU0022.01) suffered from lack of contact information.	The comment that "The IOUs warned the evaluation team" is not true and is a generalization based on the opinions of some of the participants in the Program Contract Group meetings which the evaluator concluded was not a consensus view. The reference to 2006/2008 evaluation of LGP non-resource activities reflects finding EFS2 of that study, with stated: "Although program leads were helpful in the evaluation process by providing what information they could about the programs and related elements, determining energy savings from the 2006-2008 program cycle's non-resource elements was difficult. Much of this difficulty results from a distinct lack of adequate program tracking systems and processes, particularly in the referral and audit elements. Examples of missing data include name, contact information, measure or action recommended, etc. This single condition prohibited the evaluation of over 80% of indirect energy impact evaluation efforts originally planned for this evaluation. Recommended database inputs are presented, in detail, in Appendix M, Program Database Tracking System Recommendations."

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				The evaluator did not pre-suppose at the beginning of the year 1 study that this situation had not changed in the intervening 10 years and used a methodology that required reasonable contact tracking. We will continue to work with the IOUs on this in the year 2 and 3 studies, and are encouraged by indications that the LGPs to continuing to refine data tracking such as the Energy Insight Platform which may be available LGPs in PG&Es service territory in 2021 and forward. Energy Insight Platform seeks to better serve customers by: (1) streamlining processes (2) connecting stakeholders (3) empowering users by putting all relevant information at their fingertips
7	SCG/PG&E	4	Finding 1: The IOUs are ready to collaborate on ways to improve collection of contact information, whenever ED would like. However, with only 33 responses from a list of 1104 contacts, we wonder if ODC/TRC's survey respondent acquisition strategy could also be improved. We hope they were able to do so for the Year 2 evaluation. The evaluators did not seem to take any actions to mitigate the resulting non-response bias, further increasing the questionability of their findings.	We agree that data acquisition could be improved by the evaluator, IOUs and PAs. We are taking steps to resolve this for the year 2 study but are as yet uncertain how this will fully resolve.
8	SCG/PG&E	5	Finding 2: Non-resource participants are often not the applicants for a project incentive. The fact that municipal retrofit decisions are made with input of multiple people in multiple roles is not a new finding. We hope the evaluators were able to address this issue in the Year 2 evaluation. It would be helpful for the evaluators to provide specific feedback to each of the Year 2 LGPs on their current tracking performance, and a clear statement of the benefits and costs of implementing tracking recommendations, given that non-	While not a new finding, it is important and broadly applicable and the implications warrant ongoing analysis and refinement of evaluation methodologies as data availability evolves. The evaluator will work to further define the nuances of projects in the public sector in the year 2 and 3 report, including decision processes as well as project development timing concerns (i.e. the longer timeline required for public agencies to develop projects when compared to other commercial segments).

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			resource indirect impact evaluations are not required evaluations.	
9	SCG/PG&E	5	Finding 3: Non-resource activities are generally more successful than "other factors". This is a very broad statement, and the survey methodology is questionable. Because ODC/TRC pre- defined a set of non-resource activities without giving IOUs an opportunity for input, it would be more accurate for evaluators to conclude that the evaluator-defined non-resource activities were attributed with more influence than respondents' self-defined factors.	These were not "evaluator-defined non-resource activities". The evaluator reviewed non-resource activities that were defined through program design, funded and implemented as verified by program data in interviews with IOU and PA staff.
10	SCG/PG&E	5	Finding 3: Evaluators found that one frequently self-reported influence was "Climate or Energy Action Plans"; these are key non-resource activities that have been funded through LGPs for over a decade under "Strategic Plan Support". Evaluators also found 38% therm and 63% electric spillover across the 5 LGPs, despite only having 33 respondents. Such generalizations should not be made, particularly since this generalization includes Fresno Energy Watch, for which there were zero respondents. It would be more useful for the Year 2 study to break out responses by LGP, without trying to generalize.	Regarding climate action plans (CAPs), this finding is relaying that the survey respondents indicated that LGP funding helped fund this work. Regarding low participation rates, this is noted in the finding and also elsewhere in the report, including the intent of the evaluator to work to increase participation rates in the year 2 study. Regarding Fresno, the intent of the study to focus on public facilities was made early in the design of the evaluation, and the evaluator was unaware of public sector activities at any of the five LGPs selected and did not choose to prejudge if any of the selected LGPs was active or not. The report does report responses by LGP (e.g. Figure 12, Average Influence Scores of LGP Non-Resource Activities versus Other Factors on EE Upgrades). In the year 2 study, the evaluator will provide more granular results by LGP where response rates allow.
11	SCG/PG&E	6	Finding 5: Uncertainty about EE potential in public sector buildings. In our March 20th email, the IOUs asked if, in light of the rapid changes in the Rolling portfolio, that ED would be open to discussing new evaluation needs that are more valuable to the IOUs. A key suggestion is for ED to conduct a public sector market study to understand the EE potential in the newly defined public market sector,	This finding is relaying that the in-depth interview participants indicated that 1) the amount of technical and economic potential in the public sector is not understood and that 2) the expansion of building code requirements and industry standard practices makes it more difficult to achieve savings. The finding it is supportive of CPUC initiatives to assess the potential in the public

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			instead of preparing a Year 2 non-resource activity evaluation.	market sector through various actions, such as the potential and goals model or related efforts such as high-level strategic guidance via a 'policy track' (D.15-10-028). Rather than an either/or funding decision, we view this as an opportunity to collaborate across various CPUC efforts to inform those initiatives and help clarify potential and strategy for the public sector. We view it as key research topic for the year 2 and 3 studies.
12	SCG/PG&E	7	Finding 7: Use a per-capita metric. The "per capita" metric may be misleading to the public and potential bidders in current open 3P solicitations. Energy Division has reviewed this report and its recommendation to use a cost per capita metric when offering programs. We urge Energy Division to explain to the public that there are already numerous approved metrics in use (see the annual reporting of sector-level metrics in each utility's Annual Budget Advice Letters), as well as TRC. We are concerned that that equity issues cannot be addressed by so simplistic a metric as "cost per capita compared to benefits per capita". We are concerned that while larger implementation firms can discern that the recommendation to use this cost-per-capita metric is not in compliance with the California regulatory framework, smaller and newer bidders may be misled, particularly since cost per capita is easy to calculate and metrics such as TRC is not. Following this recommendation may disproportionately disadvantage those smaller and newer bidders. Members of the current evaluation team attempted to use a cost-per-capita metric in an LGP evaluation 10 years ago (Navigant, 2010, CALMAC ID# CPU0049.01), but other than that instance, cost-per-capita is not used in EE program evaluations, and the IOUs continue to recommend against using it.	The report is stating that during sample design the evaluator noticed considerable variations in per capita funding for locally focused programs, including large differences between coastal and inland climate zones which tend to have higher concentration of disadvantaged communities. It is not implying that this should be a metric that replaces approved metrics currently in use, nor that a single metric can address all equity issues. It is suggesting that, insofar as the LGPs remain important in addressing the low income and disadvantaged community markets, a more consistent approach to funding IOU administered LG programs might be beneficial and this could be considered when assessing equity issues.

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1	SoCalREN	Overarching	Commission program data used in the analysis covered 2016 through 2018, as the team recognized that "engaging in a non-resource activity during the 2016–2017 timeframe may lead to delayed participation in a Public Agency (PA) resource program." The limitations of the study period likely led to a significant undercounting of influence through the channeling analysis. The SoCalREN Public Agency Project Delivery Program has supported more than 500 energy efficiency (EE) projects in public agency facilities through Investor Owned Utility (IOU) resource programs with an average timeline of nearly two years from project identification to closeout. Since the non-resource activities offered through these programs often occur well before a specific project is identified, project closeout is expected to occur between two to five years from when a customer participated in a non-resource activity. This would mean that resource savings with public agencies are realized several years after a non-resource intervention/activity. SoCalREN recommends that the evaluation team consider public sector-specific project timelines in their channeling analysis and extend the data analysis period to five years from the non-resource program activity	The evaluation team agrees with SoCalREN's assessment that public sector projects have a long development timeline that tend to result in a 2 to 5-year gap between non-resource activity and project close-out. We will not be able to incorporate this into the year 2 LGP study's channeling analysis as it has already been completed. The year 2 study examines the non-resource activities that occurred in 2017 and 2018, but the channeling analysis did include projects completed and recorded in CEDARS through 2019. We will however consider this in any future evaluations of public sector programs and strive to find a balance between not evaluating previously evaluated program cycles and providing sector-specific timelines for channeling analysis. Another option in future data requests is to consider asking for program tracking data showing projects in the program pipeline and their status towards completion. This would allow evaluators to potentially quantify projects that may be completed in the future but fall outside of currently available CEDARS data due to long public sector timelines.
2	SoCalREN	7	Finding 6. of the Draft Study raised concerns around the effectiveness of third parties to effectively coordinate with local government staff for participation in EE programs as LGPs are defunded. It should be acknowledged that the IOU LGPs are not the only programs offering these crucial activities to local governments. SoCalREN has developed considerable energy savings through non-resource activities in the Public Sector and has effectively coordinated with local governments and other public agencies since 2013. In 2019,	The evaluation team acknowledges that the LGPs are not the only programs offering these types of non-resource activities to local governments. Future evaluations of non-LGP public sector programs should consider examining the effectiveness of third parties' coordination with local government staff and may provide beneficial insight for LGPs as they continue to undergo significant program changes.

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			the SoCalREN Public Agency Program delivered non-resource activities contributing to 48 percent of Southern California Edison's (SCE's) entire public sector portfolio kWh savings.	
3	SoCalREN	7	Although the EE potential in the public sector is not defined, Pacific Gas and Electric (PG&E) was targeted to complete a statewide public sector market study by December 31, 2020. It is SoCalREN's understanding, however, that this study has not yet been initiated. Understanding the full energy efficiency potential in this unique sector will be an important driver in future non-resource and resource program activity. SoCalREN encourages that the LGP report notes this delay and encourages that it is moved forward or taken up by another study lead.	We have adjusted the final report on pages 6 and 73 to include a footnote about the ongoing PG&E Public sector market study. We also concur that it is an important study for the public sector that should be completed as soon as possible.
4	SoCalREN	6	Finding 5. In addition, SoCalREN agrees that there are significant opportunities for energy savings through comprehensive whole building retrofits in local governments. However, SoCalREN has found that limiting program efforts to this subset of project opportunities will leave stranded savings with non-building assets such as water pumping, wastewater plants, and streetlighting if they are ignored. SoCalREN has observed that these "non-building" assets can often account for more than 50 percent of the energy use within a local government. Specifically, "Energy consumption by public drinking water and wastewater utilities, which are primarily owned and operated by local governments, can represent 30%-40% of a municipality's energy bill" and "Street lighting is often the first or second largest local government energy use, typically accounting for 25–50% of a municipal energy bill". SoCalREN recommends that the Finding #5 Recommendation includes a recommendation to address non-	We agree with this statement and will revise the finding and recommendation to reflect this view.

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			building assets which are not directly impacted by codes and standards. Otherwise, considerable energy saving opportunities are likely to be left unaddressed.	

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