Draft Report

Targeted Process Evaluation of the Local Government Partnership Program

October 25, 2016

Draft Report

Targeted Process Evaluation of the Local Government Partnership Program

October 25, 2016

Project Sponsors:

Pacific Gas & Electric
Southern California Edison
Southern California Gas Company
San Diego Gas & Electric

Prepared By:

Research Into Action, Inc.
with Oversight by the Energy Division

Funded by the Ratepayers of California

research into action inc

www.researchintoaction.com

PO Box 12312
Portland, OR 97212

3934 NE Martin Luther King Jr. Blvd., Suite 300
Portland, OR 97212

Phone: 503.287.9136
Fax: 503.281.7375

Contact:
Jane S. Peters, President
Jane.Peters@researchintoaction.com

Table of Contents

List of Tables

List of Figures

Glossary

FULL NAME	DESCRIPTION
Association of Governments (AOG)	A collection of public authorities, such as local governments or utility districts, that may jointly exercise any power(s) they share.
Baseline	Energy consumption conditions that exist prior to energy efficiency interventions.
Benchmarking	A process that compares the energy usage of a building to the energy usage of other similar buildings or industry best practices. It can also include documentation of building energy usage compared to a baseline.
Best Practices Coordinator	A position funded by the California IOUs and overseen by ICLEI Local Governments for Sustainability, the Institute for Local Government and the Local Government Commission that shares resources to promote best practice adoption across California's local governments and tracks statewide progress on the local government chapter of the California Long-Term Energy Efficiency Strategic Plan.
Building and Maintenance Fund	A special purpose fund used to finance the repair and maintenance of municipal facilities.
California Long-Term Energy Efficiency Strategic Plan (SP)	California's statewide plan for generating energy savings for all sectors, including local governments. The SP was first adopted by the CPUC in 2008.
California Public Utilities Commission (CPUC)	A California state agency that regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies.
Capital Improvement Fund	A fund used to pay for municipal projects that involve the acquisition or improvement of infrastructure like buildings, water facilities, sewers, streets, or parks.
Climate Action Plan (CAP)	A plan developed by municipalities that includes a set of goals and strategies for how the municipality will mitigate climate change. This can include plans to reduce energy demand, develop sustainable infrastructure, reduce greenhouse gas emissions, or use less water.
Core Program	IOU-offered energy efficiency programs, many of which are offered statewide.
Council of Governments (COG)	A regional governing body comprised of governmental entities, such as cities and counties, within its service territory.
Demand response (DR)	A program where customers are encouraged to reduce their energy usage during times of peak demand.
Energy Action Plan (EAP)	A plan developed by municipalities that includes a set a goals and strategies for how the municipality will use energy more efficiently and, to the extent possible, reduce energy consumption. EAPs are often a component of CAPs, but can be developed without an associated CAP.
Energy Division (ED)	A division of the CPUC that provides objective analyses to guide the CPUC, administers energy policy, and works in the public interest to promote safe and environmentally-friendly energy services.
Energy Leader Partnership (ELP)	SCE's term for its Local Government Partnerships.

FULL NAME	DESCRIPTION
Energy Management System (EMS)	A computer-based system that helps monitor and control a building's energy-using services. It provides the tools and information for a building manager to control and improve the building's energy performance.
Energy Watch (EW)	PG&E's term for its Local Government Partnerships.
General Fund	A local government fund that pays for any administrative and operating expenses that are not paid for out of a special purpose fund.
Greenhouse Gas (GHG)	Gases that trap heat in the atmosphere and contribute to the greenhouse effect, causing global warming.
Job Order Contracting (JOC)	JOC is a procurement process that enables municipalities to select from a list of pre-approved contractors with the goal of expediting the procurement of construction services.
Joint Powers Authority (JPA)	An entity whereby two or more public authorities may jointly exercise any power(s) they share.
Local Government (LG)	A city, county, or special district.
LG Decision-Makers	Individuals or groups who hold leadership positions within the local government and make resource allocation decisions. These may include the city council, city manager, mayor, or a municipality's financing director.
Local Government Partnership (LGP)	LGPs are agreements between one or more IOUs and one or more LGs to engage in demand side management. The LGPs are tasked with addressing the three program goals of municipal retrofits, supporting the California Long-Term Energy Efficiency SP, and engaging in outreach in their communities to connect customers with core IOU programs.
Member LG	A local government participating in a multi-LG Local Government Partnership.
Spreadsheet Reports	The spreadsheet-based reports LGs and LGPs use to share their SP activity with IOUs and the CPUC. Typically, these reports are updated semi-annually by either LGs or LGP representatives.
Municipal Retrofit	An energy efficiency upgrade to any structure or energy-using device owned and operated by a participating local government, which might include a city, a county, or a special district.
Non-Energy Benefits (NEBs)	Benefits that customers incur from saving energy that go beyond energy savings and their associated financial savings. Common NEBs include aesthetic enhancements, increased comfort, or improved air quality.
Non-Resource	Program activities that do not generate claimed energy savings, though they may contribute to energy savings in the future.
On-bill Financing (OBF)	A financing mechanism, provided by the IOUs, where the municipalities receive a zero percent loan to cover their upfront retrofit costs and pay back the loan through savings on the energy bill.
Partnership Implementer	The contract holder for an LGP. Commonly the partnership implementer is a county, AOG/COG/JPA, or third-party organization like a chamber of commerce, a sustainability-focused organization, or an energy-focused organization. In some instances, a partnership with multiple LGs does not include an outside organization acting as a partnership implementer and, in those situations, the cities work among themselves and with their IOU program manager to organize partnership activities.

FULL NAME	DESCRIPTION
Procurement Process	The process of obtaining contractor services or energy efficient equipment, subject to local government regulatory constraints.
Regional Direct Install Contractor	Contractors from organizations hired by PG&E to implement its Regional Direct Install Program. They may contribute to municipal retrofit project tracking and reporting as well as core program coordination.
Request for Proposals (RFP)	Issued as part of a procurement process, RFPs solicit competitive bids from contractors detailing the estimated time and cost to complete a project.
Resource	Resource activities are those in which energy savings are claimed, either by the partnership or by core IOU programs.
Revolving Energy Loan Fund	A fund from which loans can be made for energy efficiency projects and, as the loans are repaid, the fund is replenished which allows the money to be loaned again for future energy efficiency projects.
Rural Hard-to-Reach (RHTR)	A term to describe LGPs with low populations that are distant from urban areas. This term can be used generally and is also included in the name of a working group encompassing such LGPs in the northern part of the state.
Strategic Plan (SP) Menu item	Strategies listed in the California Long-Term Energy Efficiency Strategic Plan that LGs conduct in order to meet the goals identified in the plan. See Appendix E for a full list of SP menu items.
Technical Assistance Contractor	Utility-contracted organizations that provide technical assistance to LGs and LGPs to support partnership activities.

Executive Summary

This report provides findings and recommendations from Research Into Action's targeted process evaluation of the Local Government Partnership (LGP) program. Through the LGP program, California's four investor-owned utilities (IOUs), Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), Southern California Gas Company (SCG), and San Diego Gas and Electric (SDG&E), partner with local governments (LGs) to help constituents save energy through energy efficiency. Local governments that are members of an LGP are expected to:

- Support the five goals of California's Long-Term Energy Efficiency SP, which we refer to as SP activities throughout the report. Appendix E provides California's SP goals.
- Retrofit municipal buildings to become more energy efficient, which we refer to as municipal retrofits or municipal retrofit projects throughout the report.
- Perform core program coordination/implementation by engaging constituents in energy efficiency activities and encouraging participation in existing IOU programs, including direct install programs.[1]

This evaluation targets the SP support and municipal retrofit components of the LGP. While we limit the focus of this evaluation, a broader aim of this evaluation is to help the IOUs develop effective support capabilities and metrics appropriate to the diverse types of LGPs. In addition, prior evaluations noted the considerable diversity across partnerships and we examined whether LGPs can be categorized to facilitate tailored lessons learned, good practices, and recommendations, with the objective of helping the IOUs serve the LGPs more appropriately and consistently.

Our targeted process evaluation made use of interviews with key IOU program staff, the former California Statewide Local Government Energy Efficiency Best Practices Coordinator (former Best Practices Coordinator), and LGP representatives as well as a review of IOU-provided SP project data. Our exploration of factors to use for categorization of partnerships incorporated these sources as well as a review relevant industry literature and prior LGP evaluations.

[1] Pacific Gas and Electric Company 2013-2014 Energy Efficiency Portfolio Local Program Implementation Plan: Government Partnerships Master. PGE211005-1, PGE211005-2; SCE Customer Energy Efficiency and Solar Division Program Implementation Plans, Exhibit 4C 2013-2104; San Diego Gas and Electric Master Program Implementation Plan: Partnerships Programs (*https://www.sdge.com/sites/default/files/regulatory/SDGE%20PIPs%20Vol%204%20of%205%20Partnerships.pdf*); Southern California Gas Company Pogram Implementation Plan: Local Government Partnership Program (http://eestats.cpuc.ca.gov/EEGA2010Files/SCG/PIP/2013/Clean/2%20-%20SCG%20LGP%20PIP%205_29_13.pdf).

Key Findings

Below we present key findings from our categorization efforts, SP process findings, municipal retrofit process findings, and overall programmatic findings. We use the term "LGP representatives" to describe the program participant contacts we interviewed.

Categorization Findings

We explored 24 potential categorization factors (see Table 3-1 for full list), which we narrowed down to three factors that we implemented in our analyses: partnering IOU, geographically isolated partnerships, and single-city partnerships. Our analyses indicated that any efforts to evaluate the relative success of partnerships should separate partnerships into categories as a function of their partnering IOU(s) due to the considerable diversity in the IOUs' program objectives and implementation models/approaches. We employed partnering IOU(s) as our first category.

As demonstrated in Chapters 4 through 6, however, many of the process challenges and opportunities faced by partnerships occur regardless of these factors. Further, the partnerships are so diverse in their objectives, processes, and activities, that categorization based on one factor would cloud important differences between partnerships grouped into the same category. Thus, we do not believe that the IOUs would benefit from efforts to separate partnerships into any additional categories for the purpose of adapting program processes and support to those categories. Nonetheless, our analyses did reveal three groups of partnerships with unique program experiences compared with other partnerships which may warrant some tailoring of specific program elements: geographically isolated partnerships and single-LG partnerships. Our key findings for each group are described below.

- **Partnering IOU(s):** Each IOU assigns resource or non-resource distinctions to the three program areas differently, which, along with other factors, results in varied emphases in their program models. PG&E's implementation model emphasizes the Direct Install activities, SCE and SCG's program model emphasizes municipal retrofits, and we observe greater dedication to regional planning among SDG&E's partnerships. Additionally, PG&E's Strategic Energy Resources funding component allows greater flexibility in the partnership's choice of activities contributing to the California SP. SCE offers its partnerships a tiered incentive structure that rewards greater achievements with enhanced incentive payments for each kWh saved.

- **Geographically isolated partnerships:** Our findings suggest that partnerships with low population density and far from urban centers experience marketplace barriers that make municipal retrofits challenging. These partnerships are found within PG&E, SCE, and SCG territories. Some of the ten partnerships we identified through independent analyses as belonging to this group experienced a lack of trained local contractors available within their communities to perform energy efficiency retrofit work, difficulty attracting out-of-area contractors, and a lack of energy efficient equipment available locally for comprehensive retrofits. We note that an existing working group (the Rural

Hard-to-Reach [RHTR]Working Group) serves some, but not all, of the partnerships we identified as geographically isolated.[2]

- **Single-LG partnerships**: We found that single-LG partnerships, which occur in SCE, SCG, and SDG&E territory, benefit from greater assistance from their IOU program staff due to the absence of a partnership implementer liaison. Partnerships with SDG&E reported benefitting from having staff time to work on partnership activities paid through partnership funds. SCE/SCG single-LG partnerships report challenges in meeting the program's administrative requirements and conducting project management. They also reportedly do not collaborate with other partnerships as often as partnerships in other IOU territories.[3]

Strategic Plan Findings

- LGP representative express pride in their SP activities and reported that the LGP program enabled LGs to conduct work SP work that would not have been conducted otherwise. Representatives also noted the benefits of relationships developed among key stakeholders while conducting SP work.
- There is considerable variability in partnerships' selection of SP activities, SP goal setting, and in the tracking and reporting of SP activities. While this flexibility allows for tailoring of approaches to meet local needs, it precludes comparison of achievements across partnerships.
- There is opportunity for educational efforts around energy management systems (EMS). Half of the partnerships' member LGs are using EMS, yet these systems are not the most sophisticated systems available and LG staff have difficulty using existing capabilities.

Municipal Retrofit Findings

- Most partnerships were proud of their high-visibility or high energy saving municipal retrofit projects as well as projects that established long-term relationships.
- IOU-provided technical assistance enabled LGs to overcome municipal retrofit barriers and is highly valued by all partnerships that reported using it. Partnership representatives especially valued the advanced engineering support and assistance with processing rebate application forms.

---

2 The RHTR Working Group is a coalition of similar LGs and their implementing organizations that organized to learn from one another and advocate best practices for serving rural communities. Hard to reach residential customers are degined by the 2013 California Energy Efficiency Policy Manual (page 54) as: "Those customers who do not have easy access to program information or generally do not participate in energy efficiency programs due to a language, income, housing type, geographic, or home ownership (split incentives) barrier."

3 Comments offered in September 2016 by the IOUs on a draft version of this report suggest that SCE and SCG are migrating their single city LGPs into regional partnerships that have implementing vendors or partners. These actions have occurred subsequent to the program period covered by our data collection and so are not documented in this report.

- On-bill financing (OBF), offered by the IOUs and separate from LGP budgets, has been an integral source of funding that allows LGs to conduct municipal retrofit projects in the face of limited LG funds. Still, some partnerships have an incomplete understanding of OBF (how it works, its benefits and implications) and explaining it to their LG decision-makers.
- LGP representatives noted a number of challenges to budgeting and planning for municipal retrofits projects, including delays caused by procurement process, competition for LG general fund dollars, frequent changes to incentive amounts and eligible measures, and difficulty navigating the rebate application process.
- Many LGP representatives reported difficulty calculating ongoing energy savings for projects involving multiple service accounts, necessitating complicated mathematical calculations, or affected by rate changes.
- Limited access to energy-usage data made it difficult to track partnerships' progress toward meeting energy savings goals and to engage in informed decision-making. Third-party partnership implementers in particular reported limited access to data for their member LGs' facilities, which made it harder to serve their member LGs. The IOUs, in turn, face regulatory requirements that govern their provision of energy data.
- A lack of a municipal retrofit project history also impeded partnership-level decision-making. Records of LGP-supported municipal retrofit projects are often lost when there is turnover among LG or IOU staff. The absence of a record of retrofitted facilities makes it challenging for partnerships staff to prioritize future projects.

Programmatic Findings

- A steep program learning curve, spontaneously discussed by 14 LGP representatives, was described as a barrier that slowed partnership activities because individuals new to the program must invest substantial effort to understand the requirements and details of the program. The learning curve could be daunting, and provides one plausible explanation as to why some LG departmental staff push aside partnership activities in favor of their other municipal duties. In addition, both partnership representatives and IOU program staff reported that it is challenging for them to explain the details of the program to new staff, slowing their integration and ability to start working on partnership activities.
- Staff changes at the IOUs impeded partnership progress and highlight the importance of partnership implementers. When staff turnover and reorganization occurs at the IOUs, it results in delays in responding to requests from partnership representatives, which then delays their ability to move forward with partnership activities. The turnover among IOU partnership managers also heightens the importance of the role of the partnership implementer. The LGP implementer can serve as an extension of IOU staff, serving as a trusted source of information for member LGs and motivating member LGs to continue their partnership efforts.

- LGPs partnering with more than one IOU experience increased administrative complexity necessitating increased administrative activity. Each IOU funds different program activities and available measures, has different reporting requirements, and interprets LG applications to address the SP menu items differently. Partnership implementers at LGPs with more than one IOU must pay careful attention to how requirements vary between their IOU partners and communicate carefully to their member LGs about what activities they can take advantage of.
- Administrative complexities can be discouraging when they result in re-submission of completed invoices or denial of SP and retrofit invoice payment. SCE partnership representatives described invoicing challenges and frustrations more often than representatives of partnerships with other IOUs.

Conclusions and Recommendations

The findings from our targeted process evaluation of the SP support and municipal retrofits elements of the LGP program yield a number of recommendations. We sought to identify practical recommendations that the IOUs and others could realistically pursue with available resources. While these recommendations apply to all IOUs (with the exception of Recommendations 7 and 8), each IOU may take their own approach to addressing the recommendations. Our SP and municipal retrofits findings yielded a number of program-level conclusions and recommendations, which we discuss in the next section. We then present findings unique to the SP element of the program and municipal retrofits element of the program. We end with conclusions and recommendations regarding geographically isolated and single-LG partnerships.

Programmatic Recommendations

Conclusion 1: The LGP program presents a steep learning curve for LGs, implementers, and program staff alike, and partnership representatives report complex administrative barriers to completing LGP work.

Recommendation 1: The IOUs should develop Quick Start guides for their program implementers and LGs. The Quick Start guides should outline the goals of the IOU's LGP program, the role that LG and LGP staff play in meeting those goals, the activities eligible and ineligible for funding, instructions for invoicing and rebate applications, and timelines for progress reporting. The guides could also include information about collaborative networks in the local government energy efficiency community that LGs or LGPs may find useful. Over time, the IOUs might collaborate to create a single LGP Quick Start guide that ensures LGPs partnering with multiple IOUs do not face inconsistent requirements.

Scope of effort: We anticipate that each IOU could develop an initial Quick Start guide with about 100 hours of staff time, including drafting and internal review. The IOUs might revise these guides at six month intervals for the first two years in response to LGP feedback. Thereafter, the guides should be updated annually.

Conclusion 2: LGPs value the technical assistance currently available through the LGP program and would benefit from additional technical assistance to support calculation of ongoing energy savings, implementing energy management systems (EMS), and Job Order Contracting (JOC).

> **Recommendation 2: The IOUs should explore the feasibility of expanding technical assistance offerings to support: 1) calculation of ongoing energy savings, 2) EMS implementation, and 3) JOC.**
>
> **Scope of effort:** We anticipate this recommendation could be implemented at little cost as the IOUs continually assess and refine their program support activities.

Conclusion 3: LGPs benefit from cross-partnership collaboration such as the SEEC Forum, the CPUC-led Stakeholder Advisory Group, and other regional collaborative networks and forums.

> **Recommendation 3: The IOUs and California Public Utilities Commission (CPUC) should facilitate integration of non-collaborating member LGs or LGPs into existing collaborations.** The IOUs and CPUC have a high-level view of partnership needs and activities and may be able to recognize opportunities for LGs and LGPs that are not currently collaborating with others to join existing collaborative networks. IOU program managers should encourage increased partnering and establish the necessary connections among LGPs. The LGPs should be allowed to decide what networks they participate in, selecting the most pertinent networks.
>
> **Scope of effort:** We anticipate this recommendation could be implemented at little cost as the IOUs continually work with their LGPs and member LGs.

Strategic Plan Support Recommendations

Conclusion 4: Diversity in partnerships' SP activities and the current reporting approach enable flexibility but preclude comparison across partnerships.

> **Recommendation 4: The CPUC and IOUs should adapt the SP tracking tool and metrics we developed to provide data essential to understanding project status and accomplishments in support of decision-making** – decisions ranging from those regarding program elements to those regarding the program's future scope and funding**.**
>
> **Scope of effort:** We anticipate this recommendation could be implemented assisted by a database consultant charging less than $20,000. We anticipate that the IOU planning and coordination associated with this recommendation at little cost as the IOUs continually assess and refine their program implementation activities.

Municipal Retrofits Recommendations

Conclusion 5: OBF helps LGs overcome the financial barriers to completing municipal retrofits, the IOUs are actively discussing OBF with LGs, yet challenges remain for some partnerships.

> **Recommendation 5: The IOUs can facilitate the use of OBF through one-on-one outreach to partnerships and LGs not currently using the financing and supporting LG program staff as they present the financing option to municipal decision makers.** IOUs might also consider drafting "boiler plate" language that allows partnership staff to effectively explain the OBF mechanisms to LG financial teams.
>
> **Scope of effort:** We anticipate this recommendation could be implemented at little cost as the IOUs continually work with their LGPs and member LGs.

Conclusion 6: Partnership needs may not have been fully met through the established energy data access procedures, as suggested by the considerable variability in the degree partnerships are able to access LG energy usage data. Limited data access impedes partnership-level planning and action. The IOUs, in turn, need to craft and implement data access policies that meet regulatory requirements.

> **Recommendation 6: The IOU program managers should investigate through one-one-one discussions with each LGP its specific limitations in accessing and making use of LG energy data.** This investigation should guide the IOUs' work with the Energy Data Access Committee to facilitate LGPs ready access and use of energy data, as well as possibly lead to the identification of additional support that would benefit LGPs.
>
> **Scope of effort:** We anticipate this recommendation could be implemented at little cost as the IOUs continually work with their LGPs and member LGs.

Recommendation for Geographically Isolated LGPs

Conclusion 7: Partnerships in geographically-isolated areas continue to experience marketplace barriers to partnership activities, especially but not solely related to municipal retrofits, in spite of ongoing awareness of the issues faced by geographically isolated LGPs in the northern part of the state**.**

> **Recommendation 7: The IOUs that serve geographically-isolated partnerships should increase their efforts to better serve these communities.** Through one-on-one conversations, the IOUs should identify specific support that would benefit these geographically isolated partnerships. Study findings suggest these partnerships might benefit from funding for contractor trainings to spur the availability of local contractors knowledgeable about energy efficiency.
>
> **Scope of effort:** We anticipate this recommendation could be implemented at little cost as the IOUs continually assess and refine their program implementation activities.

1. Introduction

This report provides findings and recommendations from Research Into Action's targeted process evaluation of the Local Government Partnership (LGP) program. Through the LGP program, California's four investor-owned utilities (IOUs), Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), Southern California Gas Company (SCG), and San Diego Gas and Electric (SDG&E), partner with local governments (LGs) to help their constituents save energy through energy efficiency. Specifically, the LGP program is designed to:

- Generate energy and demand savings through retrofits of municipal facilities,
- Support municipal actions that meet the California Long-Term Energy Efficiency Strategic Plan's (SP's) objectives, and
- Provide demand side management outreach in the community.[4]

This evaluation is "targeted" because we did not conduct full a process evaluation of the LGP program as defined by *The California Evaluation Framework*.[5] Instead, our evaluation focuses on the SP support and municipal retrofit components of the program. Using data from in-depth interviews with IOU program staff and key representatives at 40 LGPs, we conducted process evaluations of the SP and municipal retrofit components to:

- Document typical partnership processes,
- Identify processes in need of improvement, particularly as they relate to tracking metrics and milestones, and
- Highlight successful partnership activities.

We also sought to capture the "whole picture" of LGPs' achievements, challenges, and experiences on a programmatic level. While the focus of this evaluation is the SP and municipal retrofits program areas, a broader aim of this evaluation is to help the IOUs develop effective support capabilities and metrics appropriate to the diverse types of LGPs.

Finally, because prior evaluations have noted the considerable diversity across partnerships, we examined whether LGPs can be categorized to facilitate tailored lessons learned, good practices, and recommendations, with the objective of helping the IOUs serve the LGPs more appropriately and consistently.

---

4 R.09-11-014. Energy Efficiency Policy Manual V5. July 2013. Page 7. *http://www.cpuc.ca.gov/NR/rdonlyres/7E3A4773-6D35-4D21-A7A2-9895C1E04A01/0/EEPolicyManualV5forPDF.pdf*

5 TecMarket Works. 2004. "The California Evaluation Framework." Prepared for the California Public Utilities Commission (CPUC) and the Project Advisory Group. *http://www.cpuc.ca.gov/NR/rdonlyres/F14E59AF-25B9-45CE-8B3C-D010C761BE8D/0/CAEvaluationFramework.pdf*

1.1. The Local Government Partnership Program

The LGP program has been the subject of multiple evaluations in recent years. A 2010-2012 Program Assessment provides a detailed description of program processes, and a 2013-2014 Value and Effectiveness study provides an in-depth exploration of the SP support element of the program. In an effort to avoid redundancy with these prior evaluations, we do not repeat those descriptions here and instead provide a brief, high-level description of program elements most relevant to our research objectives and findings.

LGPs are agreements between one or more IOUs and one or more LGs to engage in demand side management. The LGs in the partnership may be limited to a single city, single county, or a special district; in these cases, the IOU(s) partners directly with the LG. When the partnership comprises multiple LGs, the partnership may include another entity acting as a "partnership implementer" who holds the contract for the partnership. In a few instances, a partnership with multiple LGs does not include an outside organization acting as a partnership implementer and, in those situations, the cities work among themselves and with their IOU program manager to organize partnership activities.

Partnership implementers are commonly counties, Associations of Governments/Councils of Governments/Joint Power Authorities (AOG/COG/JPA), or third-party organizations, which may be energy-focused organizations, sustainability-focused organizations, or chambers of commerce. Partnership implementers typically manage administrative aspects of the partnership, which involves arranging partnership meetings and agendas; setting partnership goals with LGs; managing partnership budgets; guiding LG implementation of SP activities; managing LG municipal retrofit projects; and supporting IOU required tracking and reporting.

The IOU program managers play an important role in guiding the partnerships and serving as a liaison between the partnerships and the IOUs. The IOU program managers work with the partnerships to set annual partnership goals and set the partnership budget. The IOU program managers meet with partnerships once a month to assess partnership progress, address barriers that are hindering progress, discuss funding options like on-bill financing (OBF) or rebate opportunities, assist with outreach events, and relay upcoming IOU program opportunities that may be beneficial for the partnership. The partnerships occasionally turn to their IOU account executives or business customer division representatives for advice on matters that relate to their LGP activities.

In addition to the IOU program staff, the LGs, and partnership implementers, other actors are involved in conducting and supporting LGP program activities. PG&E's partnerships coordinate with a Regional Direct Install Contractor to conduct direct install activities through the LGP program. SCE and SCG provide their partnerships with technical assistance contractors to help with engineering calculations or technical audits. SDG&E also makes technical resources available on an as-needed basis. In some cases, LGs in any IOU territory may issue a request for proposals (RFP) to solicit bids from independent contractors to perform retrofits or assist with greenhouse gas reduction plans and inventories.

The partnership budgets are set by the IOU program managers and the funding comes from the utility partners. In multi-LG partnerships, the partnership implementer may control and disburse

funds to member LGs. Partnership funds are used to pay for SP and core program coordination activities and support, including independent consultants. Some funds may also be used for technical assistance, such as audits performed in advance of municipal retrofits. In PG&E and SDG&E territory, partnership funds can pay for LG staff time to work on the partnership in support of the California Long Term Energy Efficiency Strategic Plan Goal 5, building LG EE expertise.; SCE and SCG do not do this at the request of the Energy Division according to program staff. All four IOUs pay for staff time at implementation organizations such as the AOG/COG/JPAs and third party implementers.

LGPs and their member LGs are tasked with meeting three objectives:

1. Support the five goals of California's Long-Term Energy Efficiency SP, which we refer to as SP activities throughout the report. Appendix E provides California's SP goals.
2. Retrofit municipal buildings to become more energy efficient, which we refer to as municipal retrofits or municipal retrofit projects throughout the report.
3. Perform core program coordination/implementation by engaging constituents in energy efficiency activities and encouraging participation in existing IOU programs, including direct install programs.

Each of California's four IOUs support the participating LGs in their territories as they engage in the three core program areas listed above. Despite these shared objectives, there is considerable diversity in the IOUs' program emphases and implementation approaches.

SCG and SDG&E implement entirely non-resource LGP models, meaning that their partnerships do not directly claim any energy savings; all energy savings are claimed by core IOU programs to which the partnerships direct customers. In PG&E's LGP model, partnerships claim energy savings for municipal retrofits and direct install activities. PG&E's SP activities are non-resource, as are all of the IOU's SP activities. SCE's partnerships claim only the savings resulting from municipal retrofits. At SCE, savings from core program coordination activities are claimed by the core programs to which customers are referred. Regardless of whether they label their efforts as resource or non-resource activities, all the IOUs track, manage, and prioritize all municipal retrofits savings.

Each IOU's program model emphasizes one or more of the three core program activities, which is partially a result of the resource versus non-resource distinctions. Since PG&E's partnerships claim the energy savings resulting from its direct install activities, its partnerships dedicate substantial effort to this program area. Since SCE's partnerships claim energy savings primarily from municipal retrofit projects[6], and since 88% (16 of 18) of SCG's partnerships are offered jointly with SCE, we observed a greater focus on municipal retrofit projects in SCE and SCG's partnerships compared to PG&E's. SDG&E's partnerships seem to address all three program areas equally, but may confer more focus on SP activities given the LGPs' dedication to regional planning efforts.

[6] SCE's LGP also conducts a limited number of direct installs for municipal buildings (<200 kW), and claims savings for these direct installs.

Each of the IOUs also offers unique program delivery elements to support LGPs and LGs:

- **PG&E** has supported the development of new partnerships in rural communities in the Central Valley through its Local Government Energy Action Resources (LGEAR) partnerships. PG&E has also supported what program staff describe as "creative approaches to energy efficiency" through its Strategic Energy Resources funding.
- **SCE** uses a tiered incentive structure to motivate LG performance. SCE rewards LGs for achieving past energy savings, developing Energy Action Plans (EAPs) and Climate Action Plans (CAPs), and conducting core program coordination. As LGs advance through the four tiers (valued, silver, gold, and platinum), they receive larger incentive payments for each kWh saved.
- **SCG's** partnerships exhibit significant overlap with SCE partnerships and SCG works closely with SCE to provide technical assistance and coordinate audits so that the synergies between gas and electric energy savings opportunities can be obtained.
- **SDG&E** established the Emerging Cities Program in 2013-2014, which provides energy efficiency support to local governments in southern Orange County and non-LGP participants in San Diego Association of Government's (SANDAG's) Energy Roadmap Program. In addition, the five LGPs in SDG&E territory formed the San Diego Regional Energy Partnership to institutionalize their collaboration by pooling resources and meeting regularly to exchange ideas about how to best support strategic planning.

The contract terms for the partnerships have changed over time. Partnerships used to be approved for a two-year contract; however, the uncertainty in the partnership's future made long-term projects and planning challenging. The partnerships now operate with "rolling portfolios."

1.2. Research Questions

This evaluation sought to document, at a high level, LGPs' primary achievements and challenges and explore whether IOU program management would benefit from the development of standard LGP categories.[7] We also explored research questions tailored to the SP and municipal retrofits program components, listed in Table 1-1 below. For each of these research questions, we explored whether categorizing LGPs would provide useful comparisons across groups of partnerships.

[7] A recent LGP evaluation provides limited documentation LGP SP activity, and an impact evaluation of LGP is currently underway. PY 2013-14 Local Government Partnerships Value and Effectiveness Study Final Report. Energy Division, California Public Utilities Commission. Submitted by Opinion Dynamics Corporation, January 2016.

Table 1-1: Research Objectives

FOCUS	RESEARCH QUESTION
Strategic Plan (SP)	What SP menu items is each LGP pursuing, and toward what objective? How is progress tracked and reported?
	For each SP menu item, what improvements in the metrics and milestones might be of use in demonstrating progress toward the stated objectives? Do the individual IOUs need customized metrics and milestones?
	How can IOUs improve and streamline SP reporting so they can easily benchmark and measure progress?
	How many local governments have some type of Energy Management System (EMS)? How have they been using their EMS? What types of data can LGPs report easily, and what types of data would require additional resources to track effectively?
	Are significant LGP-to-LGP knowledge transfer lines of communication established? How have the LGs shared resources across areas and regions?
	To what extent do ratepayer dollars fund local government staff positions? Where are staff positions funded with ratepayer dollars situated?
Municipal Retrofits	What are common LGP program processes?
	What processes appear most effective? What are lessons learned and good practices?
	What are opportunities for the IOUs to improve program outcomes?
	What improvements in the metrics and milestones might be of use in demonstrating progress toward the stated objectives? Do the individual IOUs need customized metrics and milestones?

1.3. Reading This Report

In the following sections, we present our study methodology (Chapter 2) and describe our LGP categorization findings (Chapter 3), SP findings (Chapter 4), municipal retrofits findings (Chapter 5), and program-wide findings (Chapter 6). We end with conclusions and recommendations for enhancing the effectiveness of the LGP program (Chapter 7).

Throughout the findings chapters, we call out Partnership Innovations and Success, which are examples of partnership successes, unique solutions to challenges, or examples of partnerships going "above and beyond" to conduct program work. We provide these examples to highlight partnership successes and provide readers with ideas for how to encourage partnership accomplishments.

2. Study Methodology

This chapter describes the research methodology we used to conduct the targeted process evaluation of the SP and municipal retrofits components of the LGP program and to explore the usefulness of potential LGP categories.

2.1. Data Sources

2.1.1. Secondary Data

As part of our efforts to explore the benefit of categorizing LGPs, we reviewed relevant industry literature and prior evaluations of the LGP program to identify organizational, political, economic, and social factors that may explain variability in LGPs' and their LGs' program experiences and progress toward completing SP and municipal retrofit projects. Relevant industry literature included academic journal articles, conference proceedings, and best practices cases studies available on the Best Practices Coordinator website.[8] We also reviewed IOU-provided program documents and data, LGP websites, and other relevant sources to determine the extent to which reliable, up-to-date, and complete data are available for each categorization factor we considered.

Our evaluation of SP processes also involved a review of IOU-provided SP activity progress reports.

2.1.2. In-depth Interviews with Program Staff and the Former California Statewide Local Government Energy Efficiency Best Practices Coordinator

We conducted in-depth interviews with IOU program staff and the former California Statewide Local Government Energy Efficiency Best Practices Coordinator (former Best Practices Coordinator) to gather their opinions on which LGP categories we identified would be most useful and to collect information relevant to our SP support and municipal retrofit process evaluations.[9] Specifically, these interviews addressed:

- Efforts to provide LGP support
- Appropriate expectations for LGP performance
- Steps taken to assess and encourage LGP performance

8 *http://eecoordinator.info/best-practices/*

9 At the time that we conducted these interviews, the former Best Practices Coordinator had left the role and a new Coordinator had not yet been selected. Thus, we interviewed the former Best Practices Coordinator. Since then, a new Coordinator has been selected and has been provided the opportunity to review our emerging findings prior to this report.

- Efforts to coordinate program delivery across the IOUs
- Program successes and challenges
- Benefits and weaknesses of the LGP program approach

See Appendix F for interview guides.

We sought to interview IOU program staff who had a program-level view, and we used the IOUs' internal organizational charts to select staff to interview. In some cases, we added staff who were recommended by their interviewed co-workers. Table 2-1 shows the number of staff we spoke with from each organization.

Table 2-1: Number of Interviewed Program Staff from Each Organization

ORGANIZATION & ROLE	NUMBER INTERVIEWED
PG&E LGP Program Staff	3
SCE LGP Program Staff	2
SCG LGP Program Staff	2
SDG&E LGP Program Staff	1
Former Local Government Best Practices Coordinator	1
Total	**9**

2.1.3. In-depth Interviews with Partnership Representatives

Our interviews with LGP representatives addressed:

- Partnership characteristics, including structure and number of member LGs
- Implementers' efforts to provide support to member LGs
- Support received from IOU partner(s)
- Collaboration among member LGs and across partnerships
- SP processes, challenges, and accomplishments
- Tracking and reporting activities for SP projects and feedback on the reporting process
- Funding for SP projects
- Municipal retrofits processes, challenges, and accomplishments
- Tracking and reporting activities for municipal retrofits projects and feedback on the reporting process
- Funding for municipal retrofit projects

- Information related to potential LGP categorization factors, including involvement in stakeholder networks, staff dedicated to energy efficiency, and proportion of member LGs drafting or implementing CAPs and EAPs

See Appendix F for the interview guide.

Our partnership sample included 43 LGPs. We excluded institutional partnerships and partnerships that formed after 2015.[10] We were not able to schedule interviews with key representatives from three partnerships despite multiple attempts, and, in the end, conducted interviews with one or more key representatives from 40 of those partnerships (a 93% partnership response rate).

We started by calling the IOUs' key contact(s) at each partnership and asked those contacts to nominate potential respondents within their partnership who were most knowledgeable about our topics of interest (SP activities, municipal retrofit activities, partnership characteristics, and member LG characteristics). We spoke with up to three representatives at each partnership to capture the full breadth of information we sought, for a total of 58 respondents.

Interviewed representatives held diverse roles, both within their organizations and within the LGP program. Representatives had been in their current role at their organization for an average 4.6 years, and tenures ranged from six months to 14 years. As shown in Table 2-2, we spoke with representatives working at LGP implementing organizations, representatives working at member LGs whose partnerships are implemented by a third party, and representatives from single-LG partnerships that serve as their own contractor holders. Table 2-2 provides the number of representatives we spoke to from each group.

Table 2-2: LGP Respondent Organizations

RESPONDENT ORGANIZATION	COUNT	PROPORTION
LGP Implementer	32	55%
Member LG	11	19%
Single-LG Partnership	15	26%
Total	**58**	**100%**

2.2. Conducting Targeted Process Evaluations of the SP Support and Municipal Retrofit Business Lines

To capture themes within and across topic areas, we conducted systematic qualitative coding of interviews with program staff and LGP representatives using *NVivo* software. Using *NVivo*, the we assigned content-specific "codes" to responses based on both a priori considerations (as identified by the interview guide topics and the categorization variables under consideration) and emerging themes (themes the team identified as common to multiple LGPs).

[10] The sample did include partnerships that had undergone structural changes in 2015, such as adding new member LGs.

Our analysis occurred at the partnership level. When we interviewed more than one representative within a partnership, we grouped data from those interviews together in *NVivo* to create one overall data set per partnership.

2.3. Developing an LGP Categorization Approach

A primary objective of this evaluation was to explore whether "variables exist that allow for the categorization and ultimately comparison of the LGPs…allowing the consultant to make valid comparisons between the programs."[11] Prior evaluations noted considerable diversity across the IOUs' partnerships and attempted to categorize partnerships in an effort to account for this diversity in their assessment of LGP activities and accomplishments. One of the conclusions from the 2010-2012 LGP Program Assessment was, "The LGP model does not lend itself easily to evaluation metrics of most kinds, including best practices. Paradoxically, it is precisely the attributes that create complexity in measurement that also give LGPs their unique and irreplaceable value."[12] Our evaluation sought to build on these prior evaluations to understand how best to assess LGP experiences and accomplishments.

Evaluation stakeholders from the IOUs and California Public Utilities Commission (CPUC) Energy Division expressed a number of goals for the outcome of this categorization analysis, including:

- The analysis should determine if it is possible and useful to categorize LGPs,
- LGP categories should help the IOUs serve the diverse IOUs more appropriately and consistently,
- LGP categories should enable fair, apples-to-apples comparisons of similar LGPs,
- LGP categories should enable an exploration of what factors predict partnership success, and
- LGP categories should establish continuity between LGP evaluations, providing a jumping off point from which future evaluators can begin to understand and assess the diverse partnerships.

We were able to evaluate the degree to which categorizing LGPs would meet each of these goals with the exception of predicting partnership success. Due to the diversity of the LGPs' program models and methods for measuring LGP success, as well as inconsistent performance data provided by the four IOUs, we were unable to evaluate the relative success of each partnership as a function of category in our sample. To be clear, this point relates to the categorization analysis only; our evaluation does document successful partnership approaches to conducting SP and municipal retrofits work.

---

11 Southern California Edison, Proposal Request #104-061401.

12 Evergreen Economics and Navigant Consulting. 2013. *Program Assessment Study: Local Government Partnership Programs – Final Report.*

2.3.1. Definition of Categorization

In qualitative research, **categorization** is an analytical approach whereby entities (in this case, partnerships) are separated into different groups based on key characteristics, or **factors**, to enable identification of outcomes that differ between groups. For example, some studies have shown that residential customers that have participated in their utilities' energy efficiency programs rate themselves more satisfied overall with their utilities than do customers that have not participated any utility energy efficiency offerings. In this example, participant and nonparticipant are the categories and participation status is the categorization factor.

Multiple analytical approaches can be used to identify categories from qualitative data. Researchers can begin the data collection process with meaningful categories in mind and collect data with the goal of exploring differences between groups. Or, researchers can take an exploratory approach once data are collected to assess whether any meaningful differences emerge to indicate that entities should be categorized. We pursued both of these approaches in our research.

For this evaluation, we sought to identify LGP categories that:

- Can be assessed at the LGP level (rather than the member LG or IOU level),
- Are associated with meaningful differences in LGP processes, challenges, or achievements,
- Are based on objective criteria that program stakeholders and future evaluators could replicate,
- Can be created using data that are readily available to the IOUs,
- Yield large enough groups of LGPs to allow for "apples-to-apples" comparisons,
- Are useful to program managers' design and management needs, and
- Will enable the IOUs to serve LGPs more appropriately and consistently.

2.3.2. Analytical Approach

We began our efforts to develop an LGP categorization approach by reviewing relevant industry literature and prior LGP evaluations to document factors that may explain variability in LGPs' and their LGs' program experiences and progress toward completing SP and municipal retrofit projects. Next, we solicited input from IOU program staff and the former Best Practices Coordinator on the factors we had identified in our literature search and to collect any other factors they thought would be useful. These efforts yielded a list of 14 potential categorization factors, only two of which met the criteria listed above (see Section 3.1 for a full list of categorization factors explored).

Next, we conducted a facilitated discussion of our preliminary categorization findings with IOU and CPUC ED representatives. The group concluded that adequate data were not yet available to determine the categorization scheme most useful for IOU program managers' design and

management needs. Stakeholders requested we complete project data collection and pursue categorization as one of the analytical objectives. Meeting participants also suggested new LGP categorization factors that we should document and explore in our interviews with LGP representatives.

During interviews with LGP representatives, we documented information potentially useful to a categorization schema (for example, LGP organizational structure) and collected information that we later analyzed. Our analysis searched for any patterns in reported processes, challenges, or accomplishments that suggested the existence of meaningful LGP categories that we had not yet considered, and explored patterns related to previously hypothesized categorization factors. We then conducted systematic analysis of the LGP interview data using *NVivo* software to assess the extent to which each identified categorization variable reliably met the above criteria, such as yielding meaningful differences among LGPs.

Our analysis suggested three categorization factors which we proposed during a second facilitated discussion with IOU and CPUC ED stakeholders.[13] Based on feedback we received during the meeting, we conducted additional analysis at the conclusion of primary data collection. This analysis resulted in the three categorization factors we present in Chapter 3: partnering IOU, whether the partnership is geographically isolated, and whether the partnership is comprised of a single LG.

2.4. Limitations of the Study

We interviewed 40 of 43 partnerships, and thus our sample approaches a census. However, there was some variation across interview questions in the number of partnerships responding, as representatives at times indicated either that the question was not relevant to their partnership. On other occasions, none of the representatives we interviewed within a partnership were able to provide an informed answer to a question. In addition, answers varied in the amount of detail included in the response.

As typical with the administration of lengthy interview guides to contacts with competing demands on their time and no direct incentive to participate in the interview, we occasionally omitted questions to accommodate an LGP representative's time limitations.

For these reasons, the number of LGP representatives providing answers to a given question varies slightly. Our presentation of findings throughout this report include the number of respondents who provided an answer to each relevant question.

Finally, although we provide counts of representatives providing a given response, seldom can these counts be assumed to approximate frequency tabulations from closed-ended surveys. A very few interview questions directly asked yes/no questions, and the frequency of yes responses can be interpreted as our best estimate of the tally had the question been posed in a

[13] The three categorization factors we proposed during the second facilitated discussion with IOU and CPUC ED stakeholders were: partnering IOU, rural hard-to-reach partnerships, and partnerships whose implementers appear to lack dedicated staff resources.

survey. A large majority of the interview questions elicited, as intended, open-ended responses in which each representative provided what are essentially top-of-mind responses. Representatives varied in how much they reflected on the question and endeavored to provide all relevant thoughts.

As a consequence of the open-ended nature of interview questions, the counts of representatives providing a given response reflects the *minimum* number of LGPs for which the data are true. Were we to obtain closed-ended survey responses, we would expect the frequency of yes responses to be considerably higher. For example, when we report that about one-quarter of representatives reported a certain experience, we believe this finding warrants the same level of attention from the IOUs that they give to survey items yielding a larger number of responses (such as, perhaps, half of respondents).

In short, with interview data, the absence of a finding does not confirm a finding of its absence. The actual, unobserved incidence is a number at least as high as the incidence we report, and possibly considerably higher.

3. Partnership Categorization Findings

3.1. Categorization Factors Explored

We explored 24 different potential categorization factors in the course of this evaluation. These potential factors emerged from a number of different sources, including prior LGP evaluations, relevant industry literature, and recommendations made by IOU program staff, the former Best Practices Coordinator, and evaluation stakeholders from the IOUs and CPUC ED. In addition, some new factors emerged during our analysis of in-depth interview data. Table 3-1 provides each of the 24 factors we considered along with the source(s) of each factor.

Table 3-1: Source(s) of Categorization Factors Explored as Part of this Evaluation

	Categorization Factor	Factor Source				
		Prior Evaluation	Industry Literature	Staff/Best Practices Coordinator Interviews	Stakeholder Input	Interview Data
1	Primary IOU in the partnership	✓		✓		
2	Level of support provided by IOU		✓			
3	LGP organization type or structure (single LG, multiple LGs, AOG/COG/JPA)	✓		✓		
4	LGP implementer type (city, county, AOG/COG/JPA, or for-profit/non-profit)	✓		✓		
5	Whether the LGP has full-time staff dedicated to energy efficiency (EE)	✓	✓			
6	Level of knowledge and years of experience of involved staff	✓	✓	✓		
7	Clarity of LGP's goals and objectives	✓	✓			
8	Whether LG has adopted a CAP or EAP		✓	✓	✓	
9	Whether the LG is actively implementing a CAP or EAP				✓	
10	Sociodemographic characteristics of the population (e.g., income, political affiliation)		✓	✓	✓	
11	Community concern about climate change		✓	✓	✓	
12	Degree of support for EE from political leadership	✓	✓	✓		

Continued…

	Categorization Factor	Factor Source				
		Prior Evaluation	Industry Literature	Staff/Best Practices Coordinator Interviews	Stakeholder Input	Interview Data
13	LG use of a tracking system to develop, track, and report energy metrics	✓	✓	✓	✓	
14	Presence of an "energy champion" within the LG	✓	✓	✓	✓	
15	Ability to secure funding for efficiency projects	✓	✓			
16	LG's ability to commit financial resources to efficiency projects	✓			✓	
17	LG population size			✓		
18	Distance from IOU headquarters	✓				
19	LGP level of engagement in the LG EE community	✓			✓	
20	LGP leadership structure (single LG, collection of LGs with no central leadership, or a collection of LGs with central leadership)				✓	
21	Use of non-ratepayer funding sources	✓			✓	
22	Geographically isolated partnerships					✓
23	Implementers lacking dedicated staff resources					✓
24	Advanced versus foundational LGP	✓				

We evaluated whether each of the 24 factors would provide value to our assessment of LGP accomplishments and would benefit the IOUs' program management needs. In Table 3-2, we provide our assessment of the usefulness of each factor. Our assessments are categorized in the table as follows:

- **Not an LGP-level factor.** Some LGPs have large service territories and many member LGs, and LG-level factors that would require aggregation to the partnership level may mask considerable diversity within the partnership. Thus, we do not believe these LG-level factors are appropriate for creating partnership-level categories.
- **Not an objective, quantifiable factor.** These factors are too subjective to provide meaningful structure to the evaluation. These are factors for which different individuals may come up with different LGP category memberships based on their personal perspective.

- **Not associated with differences in LGP outcomes.** Our systematic qualitative analysis revealed no differences in LGP challenges or accomplishments between the categories that would be created by implementing these factors.
- **Used as a categorization factor.** These factors are associated with meaningful differences across categories and were used to group partnerships in this report. We provide more detail on each of these factors in Section 4.2.
- **Topic addressed elsewhere in this report.** In many instances, we found that, while proposed factors would not benefit the evaluation if implemented to create LGP categories, there are interesting and useful process findings related to those factors. (Appendix A lists these topics and identifies where each is discussed in this report.)

Table 3-2: Assessment of Potential LGP Categorization Factors

	Categorization Factor	Not an LGP-Level Factor	Not An Objective, Quantifiable Factor	Not Associated with Differences in LGP Outcomes	Data Are Not Readily Available	Used as a Categorization Factor	Topic Addressed Elsewhere in this Report
1	Primary IOU in the partnership					✓	
2	Level of support provided by IOU		✓	✓	✓		✓
3	LGP organization type or structure (single LG, multiple LGs, AOG/COG/JPA)					✓	
4	LGP implementer type (city, county, AOG/COG/JPA, or for-profit/non-profit)			✓			✓
5	Whether the LGP has full-time staff dedicated to energy efficiency (EE)						✓
6	Level of knowledge and years of experience of involved staff		✓		✓		✓
7	Clarity of LGP's goals and objectives		✓				
8	Whether LG has adopted a CAP or EAP	✓					✓
9	Whether the LG is actively implementing their CAP or EAP	✓					✓
10	Sociodemographic characteristics of the population (e.g., income, political affiliation)	✓					✓
11	Community concern about climate change	✓			✓		
12	Degree of support for EE from political leadership	✓					✓
13	LG use of a tracking system to develop, track, and report energy metrics	✓			✓		
14	Presence of an "energy champion" within the LG	✓	✓		✓		

Continued…

	Categorization Factor	Not an LGP-Level Factor	Not An Objective, Quantifiable Factor	Not Associated with Differences in LGP Outcomes	Data Are Not Readily Available	Used as a Categorization Factor	Topic Addressed Elsewhere in this Report
15	Ability to secure funding for efficiency projects				✓		✓
16	LG's ability to commit financial resources to efficiency projects	✓			✓		✓
17	LG population size						✓
18	Distance from IOU headquarters			✓			
19	LGP level of engagement in the LG EE community			✓			
20	LGP leadership structure (single LG, collection of LGs with no central leadership, or a collection of LGs with central leadership)			✓			
21	Use of non-ratepayer funding sources						✓
22	Geographically isolated partnerships					✓	
23	Implementers lacking dedicated staff resources						✓
24	Advanced versus foundational classification scheme developed by Evergreen Economics			✓			

3.2. Categorization Approach and Meaningful Partnership Categories

Our systematic analysis of interviews with IOU program staff, the former Best Practices Coordinator, and LGP representatives examined whether IOU program management would benefit from standard, statewide LGP categories. Our findings indicate that such an approach would not be useful or efficient, with the exception of efforts to track and compare partnership successes within each IOU's territory rather than across the IOUs' territories.

As demonstrated in Chapters 4 through 6, many of the process challenges and opportunities faced by partnerships occur regardless of partnership factors. Further, the partnerships are so diverse in their objectives, processes, and activities, that categorization based on one factor would cloud important differences between partnerships grouped into the same category. Thus, we do not believe that the IOUs would benefit from efforts to separate partnerships into categories for the purpose of adapting program processes and support to those categories.

Nonetheless, our analyses did reveal two groups of partnerships with unique program experiences compared with other partnerships: geographically isolated partnerships and single-LG partnerships. Our findings provide evidence that some program elements could be tailored to meet the needs of these unique partnerships, without going as far as to separate partnerships into distinct categories.

In sum, this report documents findings related to three categorization factors, each of which yield different recommendations for how the IOUs can serve the LGPs more appropriately. Specifically, as we describe in greater detail in the subsequent sections, we narrowed the list of 24 potential categorization factors down to:

- Partnering IOU(s)
- Geographically isolated partnerships
- Single-LG partnerships

3.2.1. Partnering IOU(s)

As we describe in Section 1.1, there is considerable diversity in the IOU's program objectives and implementation approaches. These differences influence LGPs' program activities and primary accomplishments and, in some cases, are associated with unique barriers. For example, the IOUs emphasize different activities, offer the program with varying levels of flexibility, and support different levels of collaboration among their partnerships. Thus, this report to explores and documents differences across the IOUs' partnerships. We believe this approach provides the greatest value to all stakeholders.

Categorizing the partnerships by IOU partner(s) yields six permutations (Table 3-3).

Table 3-3: Breakdown of Partnerships by Partnering IOU(s) Category

PARTNERING IOU(S)	NUMBER OF PARTNERSHIPS
PG&E	15
PG&E + SCG	2
SCE	3
SCE + SCG	13
PG&E + SCE+ SCG	2
SDG&E	5
Total	**40**

The small *n* for some groups precludes a comparison across all six categories of IOU partner. When we compared findings across IOUs, we grouped partnerships according to each IOU partner they had and we noted where a partnership is included in more than one IOU group.

Throughout the findings sections of this report, we call out any meaningful differences we observed between partnerships in each IOU's territory. Where we do not report that a finding differs across IOUs, we did not find evidence of a meaningful difference. As the reader will discover, relative to the many findings our research generated, we identified few differences by IOU. Nonetheless, given the variations across IOU programs, we think the noted differences are meaningful and appropriate as a categorization factor.

3.2.2. Geographically Isolated Partnerships

In the course of our interviews with LGP representatives, it became apparent that geographically isolated partnerships experience unique challenges to conducting LGP work, particularly as it relates to municipal retrofits projects (see Chapter 5). Further, some partnerships far from urban centers consider LGPs to be the "main channel" through which their community can access energy efficiency resources.

Once these patterns began to emerge from the data analysis, we sought to define geographically isolated partnerships in a manner that was objective and could be replicated by the IOUs, CPUC, or future evaluators. We first identified the partnerships that faced barriers associated with their distance from urban centers, then used data from the American Community Survey to document the population density of each partnership in our sample. This analysis indicated that a population density lower than 150 people per square mile appears to be a reasonable cutoff for geographically isolated partnerships. As shown in Table 3-4, geographically isolated partnerships had a much smaller average population density than other partnerships.[14] All of the

[14] We calculated population density for each partnership's service territory. In PG&E territory, where many partnerships serve counties, we assessed population density at the county level. In SCE territory, on the other hand, we calculated total population density across each partnership's distinct city members. One partnership was excluded from this analysis because it services a special district port and no population data available for this area.

geographically isolated LGPs we identified partner with PG&E, SCE, and/or SCG (see Appendix C). None are in SDG&E territory.

Table 3-4: Average Population Density by Partnership Type

GROUP	POPULATION DENSITY (PEOPLE PER SQUARE MILE)
All partnerships (n = 39)	2,346
Rural Hard-to-Reach (RHTR) partnerships (n = 10)	66
Non-RHTR partnerships (n = 29)	3,132

We recognize that the CPUC and IOUs are already aware of and looking for opportunities to better serve partnerships that consider themselves to be "rural hard-to-reach" (RHTR). While the needs of RHTR communities extend beyond the findings we have captured in relation to geographically isolated communities, we intend for our findings to contribute to the ongoing discussion in California about how the CPUC and IOUs can best serve these unique partnerships. Of note, some of the geographically isolated partnerships we identified participate in a network called the RHTR Working Group, which "has a primary goal of advancing local, regional, and state policy and regulatory decisions in rural California." [15] The working group reportedly formed when the CPUC became aware of common concerns expressed by rural partnerships in PG&E's territory and established regular conference calls for members of these rural groups to discuss barriers and solutions. The group has since decided to formally organize among themselves. The group reportedly confers multiple advantages to its participants and can assist program staff in understanding RHTR partnerships' needs and opportunities.

In the following paragraphs, we summarize our findings on what is unique about geographically isolated partnerships. We also detail the barriers that geographically isolated LGPs face to conducting municipal retrofits work in Chapter 5. Despite the evidence that geographically isolated partnerships face challenges and opportunities distinct from other partnerships, we found that many of our other process findings applied to geographically isolated and non-isolated partnerships alike; if we do not report that a finding differs across these groups, then we did not find evidence of a meaningful difference.

The marketplace barriers present in geographically isolated partnerships increases the importance of the partnership in these areas. Five of the ten partnerships we identified as geographically isolated indicated that the partnership is the "main channel" through which their community can access energy efficiency resources. Representatives from these partnerships reported that none of their member LGs had staff focused on sustainability or energy efficiency, in contrast to some of the larger cities in California.

Given the unique constraints experienced by geographically isolated partnerships, three of the ten partnerships indicated that resources available for LGPs and LGs, like the annual Statewide Energy Efficiency Collaborative (SEEC) meeting, are not applicable to their partnership

15 *http://media.wix.com/ugd/0c9650_4df643f7dfdf4c71aa37bbd2a364d753.pdf*

experiences. One representative indicated that the SEEC meetings tend to highlight "big presenters from the big partnerships" and that the challenges experienced by low-density partnerships like his are not as eye-catching. Representatives also mentioned that the meetings discuss "big picture" topics like the CPUC, Regional Energy Networks (REN), and larger jurisdictions. Topics that representatives from geographically isolated partnerships would like to see discussed at events included challenges related to "drive times" and how to encourage energy efficiency action in light of the how their constituents view climate change.

3.2.3. Single-LG Partnerships

[Note to the reader: Subsequent to our data collection period, SCE and SCG migrated their single-LG partnerships into regional networks. Our findings in this section are thus dated, but support the view that the single-LG partnerships needed more support than the other partnerships, a need that presumably the regional networks are able to meet.]

Our interviews with partnership representatives and program staff also revealed that the program experiences of the nine single-LG partnerships differ from those of the 31 multi-LG partnerships.[16] Single-LG partnerships occur in SCE/SCG and SDG&E territory. We found nuances in single-LGs' program experiences between SCE/SCG's LGPs on the one hand and SDG&E's on the other.[17] As we discuss in more detail below, SCE/SCG and SDG&E single-LG partnerships established close relationships with their IOU program representatives. However, the IOUs differed in the reported amount of collaboration. We also found the degree to which partnership funds can pay for LG staff time to work on partnership activities varied between SCE/SCG's model compared to that of SDG&E's, which we discuss in greater detail in Section 6.4.3. Despite these differences, the majority of our process findings applied to single- and multi-LG partnerships; if we do not report that a finding differs between single- and multi-LG partnerships, then we did not find evidence of a meaningful difference.

SCE/SCG and SDG&E's single-LG LGPs partner directly with the IOU without an outside organization assisting with program implementation.[18] This enables IOU program staff to develop close communication and relationships with municipal leaders and other stakeholders because IOU program staff meet directly with LG staff rather meeting primarily with the staff of implementing organizations like an AOG/COG/JPA.

---

16 There was one partnership in our sample that is technically a single-LG partnership, yet functionally acts as a multi-LG partnership; they are not included in the analysis of single-LG partnerships. The single LG works very closely with a multi-LG partnership and considers themselves part of the multi-LG partnership. The third party implementer for the multi-LG partnership also considers the single LG part of its larger group of member LGs, so we feel confident including them in the multi-LG partnership analyses.

17 Our findings related to SCE partnerships draw on our interviews with LGP representatives conducted as part of this evaluation as well as interviews conducted with SCE program staff as part of our concurrent evaluation of SCE's Energy Leader Partnership (ELP) program.

18 We recognize that technical assistance contractors assist single-LG partnerships with program implementation for municipal retrofit activities, such as audits. Here, we are referring to the fact that the LG holds the partnership contract instead of an AOG/COG/JPA or a third party organization.

For example, according to interviews with program staff, SCE program staff meet with LG staff at single-LG partnerships on a monthly basis but meet with LG-staff at multi-LG partnerships on a quarterly basis because they meet monthly with the implementing partner. In addition to the more frequent contact, the LG staff that attend meetings with SCE/SCG program staff differ between single-LG partnerships and multi-LG partnerships. Single-LG partnerships often send representatives from multiple departments, including public works, parks and recreation, facilities, and the water departments to meet with IOU staff. This ensures direct lines of communication between the IOU and the LG staff working on a project. One SCE program staff person noted that when many LG staff are at partnership meetings "all these people understand what they're doing and what their part is to contribute to moving up the tier." In contrast, each city within multi-LG partnerships typically sends one representative to meetings with SCE staff. If the topics discussed at the meeting do not relate directly to that representative's department, the IOU program staff must rely on that LG staff person to communicate relevant information back to the appropriate contact. This is challenging for the IOU program staff because critical communication is out of their hands and it is hard for the IOU staff to know if what they want communicated was faithfully explained.

The close relationships developed between SCE program managers and single-LG partnerships also allow for a more tailored program delivery approach that more directly addresses each city's unique needs. One representative at a single-LG partnership, when asked how her SCE program representative made a difference in her partnership's program experience, said, "[My IOU program manager is] someone who really understands our priorities and limitations and someone who tries to fill the gap and provide education and assistance to us. I know that at any given moment, some new program comes up and if [my IOU program manager] thinks it's valuable to us, he's right there helping us navigate it and how to do it. I feel well-supported and that I can trust him. And he's so responsive."

Like SCE/SCG's single-LG partnerships, SDG&E program staff also spoke of the close relationships formed with their participating LGs due to opportunities for direct interactions. SDG&E program staff believed this benefitted their LGs because institutional capacity for energy efficiency was being developed at the LGs instead of third-party organizations. There is also regular contact between the IOU program staff and the partnerships as all of SDG&E's partnerships reportedly meet once a quarter to share best practices and stay up to date on regional activities.

While not all of SCE/SCG's single-LGs reported collaborating with other partnerships, SDG&E's partnerships welcomed a regional approach and sought to replicate activities done by their peers in other SDG&E partnerships. The interviewed representatives at SDG&E's single-LG partnerships were proud of their regional collaboration efforts, which ensure both uniformity and that each partnership is contributing to the region's goals. SDG&E's single-LG partnerships said that the regular collaboration among them confers benefits, allowing them to learn about new technologies more quickly and how to improve their performance in the LGP program's core activities. In the end, both SCE and SDG&E's single-LG partnerships work closely with their IOU program managers; SCE/SCG's LGPs see this as a way to have their unique needs addressed, while SDG&E's partnerships collaborate to achieve some degree of regional uniformity.

3.3. Framework for Understanding LG Program Activity

Some stakeholders requested that this evaluation uncover partnership characteristics that predict success. We found that each of the IOUs measure and evaluate partnership success using different metrics, precluding an analysis of factors that predict partnership success across the state. For example, PG&E and SCE evaluate partnership Total Resource Cost (TRC), while SCG and SDG&E do not, consistent with their designation of program elements as an efficiency resource or non-resource. Program staff from the four IOUs also noted a number of qualitative means of assessing partnership success that were not consistent across IOUs, including number of projects completed, development of "longstanding relationships" with local governments, and evidence of increased energy efficiency knowledge among LG staff. Further, as we discuss in Chapters 4 and 5, partnerships themselves report varied and diverse goals, particularly for SP work. Given that the IOUs have neither a common outcome metric nor partnership-specific outcome values, our evaluation did not reveal any existing data that would enable an assessment of successful partnership *outcomes*.

However, our research identified two factors that we believe will help IOU program staff to better understand the extent to which an LG is positioned for program success and thus to better tailor their support to facilitate LG success. Specifically, we believe that two factors may interact to drive or limit LG success: 1) barriers to LG energy efficiency activity, and 2) partnership implementer capacity.

While we cannot demonstrate that these factors do, in fact, predict partnership success with the data that are currently available on partnership outcomes, we believe the framework created by these two factors provide context for understanding LG program activity and may be useful in informing the work of IOU program staff.

A number of well-documented sociopolitical characteristics, which are acknowledged by the CPUC's definition of hard-to-reach populations, can impede LG energy efficiency activity. Further, as many of our evaluation findings suggest and Partnership Innovations and Successes highlight, having a savvy implementer (or partnership contract holder) who is willing and able to go the extra mile to complete partnership work appears to be associated with greater partnership accomplishments. Thus, we hypothesize that any partnerships with lower barriers and partnerships with higher barriers and higher implementer capacity can achieve relatively high success, while partnerships with higher barriers and lower-capacity implementers may struggle to achieve success through the LGP program.

We quantified these two factors through methods we describe subsequently. Once quantified, our analysis of these variables indicated that partnerships fall into four, roughly equal-size groups:

- Those with relatively lower barriers and relatively higher implementer capacity
- Those with relatively lower barriers and relatively lower implementer capacity
- Those with relatively higher barriers and relatively higher implementer capacity
- Those with relatively higher barriers and relatively lower implementer capacity

3.3.1. Barriers to LG Energy Efficiency Activity

We first sought to quantify barriers to LG energy efficiency activity. California already recognize specific groups of hard-to-reach constituents, so we determined the proportion of residents or households in each partnership's service territory that meets each hard-to-reach definition. The 2013 California Energy Efficiency Policy Manual (page 54) defines hard-to-reach residential customers as:

"Those customers who do not have easy access to program information or generally do not participate in energy efficiency programs due to a language, income, housing type, geographic, or home ownership (split incentives) barrier. These barriers are defined as:

- *Language – Primary language spoken is other than English, and/or Income – Those customers who fall into the moderate-income level (income levels less than 400% of the federal poverty guidelines and/or*
- *Housing Type – Multi-family and Mobile Home Tenants, and/or*
- *Geographic – Businesses in areas other than the San Francisco Bay Area, San Diego area, Greater Los Angeles Area (Los Angeles, Orange, San Bernardino, Riverside and Ventura counties) or Sacramento, and/or*
- *Home Ownership – Renters".*

We compiled the variables listed in Table 3-5 for each LGP's service territory.[19] Rather than simply identifying partnerships that operate outside of urban centers, we used the population density data we had compiled for exploration of geographically isolated communities (see Section 4.2.2) to operationalize the geographic barrier.[20]

Table 3-5: Variables Used to Operationalize Barriers to Energy Efficiency Activity

DATA	HOW CALCULATED	SOURCE
Proportion of population that do not speak English well	The sum of residents who speak English less than very well/Total population	2014 ACS Census data
Proportion of households earning less than $75,000	The sum of households with income less than $75,000/Total households	2014 ACS Census data
Proportion of households living in multifamily units	The sum of multifamily households/Total households	2014 ACS Census data
Proportion of households renting	The sum of renter households/Total households	2014 ACS Census data
Population density	Total population/Square mile	2014 ACS Census data

19 A given partnership thus received a score for barriers to LG energy efficiency activity based on the average characteristics of the municipalities served by the partnership.

20 One partnership was excluded from this analysis because it services a special district port and no population data are available for this area.

Once we compiled these data for each partnership, we created z-scores for each variable. Z-scores indicate how many standard deviations each data point is away from the mean for that variable, which allowed us to put each variable on the same scale. We then averaged partnerships' z-scores for each barrier variable, creating one overall barrier score.[21]

3.3.2. Implementer Capacity

To create the implementer capacity variable, the evaluation team member who was most familiar with a given LGP from our in-depth interviews with LGP representatives rated the partnership's implementer (or contract holder) along two dimensions:

- Implementer's ability to dedicate time to the partnership, and
- Implementer's knowledge of the energy efficiency industry and familiarity with resources outside of the LGP program that could further partnerships' work.

The team member gave the partnership a rating on a three-point scale for both variables, with higher numbers indicating more capacity. We then averaged the ratings to yield a single value for partnership implementer capacity for each partnership.

3.3.3. Distribution of LGPs across Barriers and Capacity Variables

We explored the relationship between the variables of barriers to LG energy efficiency activity and implementer capacity. If we found, for example, that the barrier and implementer capacity variables were highly correlated, that would suggest that these variables likely do not *interact* to predict partnership success.

Instead, we found that partnerships fall into four, roughly equal-size groups, as illustrated in the quadrants presented in Figure 3-1:

- Upper left quadrant (green box) – Those LGPs with relatively *lower barriers* and relatively *higher capacity* (the context suggesting the highest potential to succeed)
- Lower left quadrant (grey box) – Those LGPs with relatively *lower barriers* and relatively *lower capacity*
- Upper right quadrant (yellow box) – Those LGPs with relatively *higher barriers* and relatively *higher capacity*
- Lower right quadrant (red box) – Those LGPs with relatively *higher barriers* and relatively *lower capacity* (the context suggesting the lowest potential to succeed)

[21] Greater values indicated greater barriers for each variable except population density, so we reverse scored the z-scores for population density before creating overall barrier averages.

Figure 3-1: Graphical Representation of Partnerships' Barriers by their Implementer Capacity

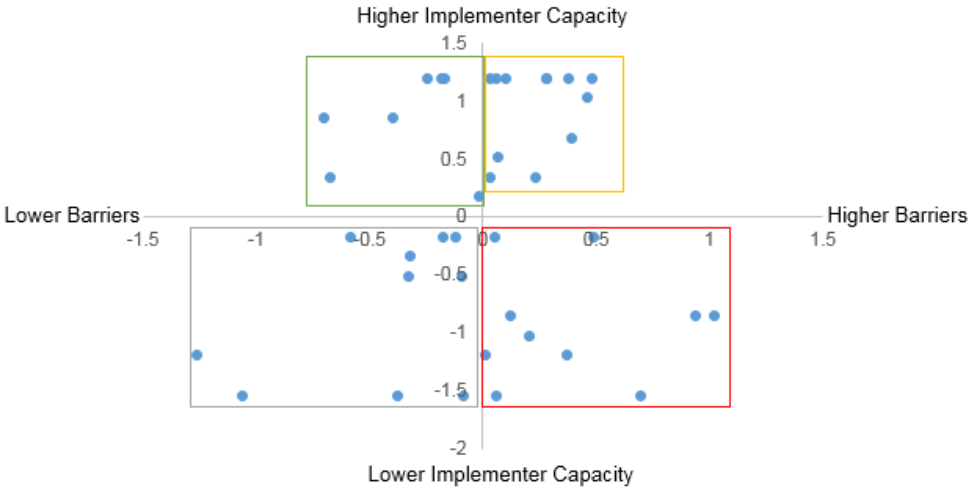


Table 3-6 shows each quadrant's average value for the barrier and implementer capacity metrics.

Table 3-6: Average Partnership Characteristics (Barriers and Implementer Capacity) by Quadrant

	Barriers to Energy Efficiency Action					
LGP Category	**Percent of residents that speak English "less than very well"**	**Percent of households with incomes less than $75,000**	**Percent of Multifamily residents**	**Percent of rental units**	**Population Density (People per Square Mile)**	**Average Implementer Capacity (1 to 3)**
Higher capacity implementer, lower barriers (green box)	11%	55%	20%	37%	1,677	2.81
Lower capacity implementer, lower barriers (gray box)	13%	52%	20%	38%	2,646	1.63
Higher capacity implementer, higher barriers (yellow box)	15%	62%	27%	45%	2,239	2.81
Lower capacity implementer, higher barriers (red box)	18%	66%	26%	46%	2,545	1.44

3.3.4. Support for the Barriers/Capacity Framework from the Literature

The evaluation team discussed its analysis and findings regarding the barriers/capacity framework with Research Into Action's President, who noted the similarity between our framework and previous published research conducted for the California Energy Commission: *What Organizations Did (and Didn't) Do: Three Factors that Shaped Conservation Responses to*

California's 2001 "Crisis" (Janda, Payne, Kunkle, and Lutzenhiser, 2002).[22] The study examined the responses of municipal and commercial organizations to three CEC programs[23] and described three factors that shaped the responses:

1. *Concern* about energy problems – such as concerns about impacts on budgets (municipal sector) or profits (private sector) due to uncertainty in energy prices or the potential for sustained high prices.

2. Operational *conditions* – opportunities for conservation and technical challenges, such as whether the entity owned its facilities, whether the facilities had EMS, diversity of the building stock (vintage, efficiency of construction), ability to change operating hours, and ability to curtail end uses during those operating hours.

3. Institutional *capacity* for action – ability to act on opportunities; includes number of staff available to address energy issues and the experience and knowledge/expertise organizations drew on to identify how to respond, such as whether they had existing energy policies, procedures, or plans they could "dust off" or ramp up.

Our two-item barriers/capacity framework is very similar to Janda et al.'s conditions/capacity framework. Janda et al.'s barriers factor includes building stock characteristics and ownership; our barriers factor includes housing type and ownership, as well as the socio-demographic and economic characteristics of language and geographic density. Janda et al.'s capacity factor (which refers to the end-user entity) includes staff availability and knowledge/expertise; our capacity factor (which refers to the implementing partners) includes staff availability and knowledge of energy efficiency industry and resources.

Janda et al. conclude that the possible combinations of concern, conditions, and capacity "offer a heuristic for use in exploring how to best tailor and target policy interventions to the circumstances of particular subgroups of organizations." We discuss the implications of applying this framework to our analysis of the LGP program below.

3.3.5. Implications

We believe our analysis and findings on barriers and capacity result in an improved understanding of the context in which partnerships operate. However, this investigation falls short of yielding a categorization scheme because the capacity metric value was developed from team judgment and cannot be independently derived from publicly available statistics. Thus, the framework violates one of the criteria we established in Section 2.3.1 *Definition of Categorization* for categories suitable to performance analyses.

---

22 *2002 Summer Study on Energy Efficiency in Buildings*, Volume 8, pages 8.117-8.128. American Council for an Energy-Efficient Economy: Washington, DC. The paper "presents selected results from a more detailed report to the CEC (Lutzenhiser et al. 2002) focusing on conservation responses of public and private organizations." The referenced study is: Luzenhiser L., Janda, K., Kunkle, R., & Payne, C. (2002). *Understanding the Response of Commercial and Institutional Organizations to the California Energy Crisis. A report to the California Energy Commission – Sylvia Bender, Project Manager. Report Number: LBNL-50987.*

23 The study sampled and conducted in-depth interviews with institutional and commercial participants and nonparticipants in the CEC programs Public Sector Loan, Cool Roofs, and Innovative Peak Load.

Nonetheless, our team investigated partnership responses to the LGP program. Similar to – *and independent of* – the prior Janda et al. 2002 study, we concluded that the combinations of barriers and capacity provide a potentially useful heuristic for understanding LGP and LG program activity and informing IOU program staff work.

We suggest that IOU program staff consider LG barriers and implementer capacity when working with the partnerships to attain program goals. Table 3-7 builds on an analogous table developed by Janda et al. to provide IOU program staff with an example of types of program support that may be most applicable to the barriers and capacity profiles of LGPs and most likely to encourage continued advancement toward program goals. The symbol "P" in the table cells indicate that this type of program support is likely to be most effective in encouraging energy efficiency activity (hence, a Primary support activity); the symbol "S" in the lightly shaded table cells indicate this type of program support is likely to play a secondary role in motivating activity.

Table 3-7: Example of a Systematic Approach to Providing Program Support by Partnership Barriers/Capacity Profile

Suggested Approaches	Relative Factors			
	Lower Barriers & Higher Capacity (Most Likely to Succeed)	Lower Barriers & Lower Capacity	Higher Barriers & Higher Capacity	Higher Barriers & Lower Capacity (Least Likely to Succeed)
Incentives	**P**	**P**	S	S
Encourage EE	**P**	S	S	S
Technical assistance	S	**P**	S	**P**
Peer support	S	**P**	S	**P**
Education	S	**P**	S	**P**
Identify non-energy benefits	S	S	**P**	S
Support continuous improvement	S	S	**P**	S
Recognize past EE	S	S	**P**	S

A strength of the LGP program is the diversity of program services it offers and its tailored approach to local needs. As the table suggests, because partnerships have differing relative barriers and capacity, they may differentially benefit from the various program services. We further strongly recommend that the CPUC and the IOUs take to heart our finding that some partnership implementers are limited by the amount of time they can devote to partnership activities, consistent with Janda et al.'s 2002 findings that capacity to act – including staffing resources available – drive program accomplishments.

Our findings strongly suggest that LGP program accomplishments are constrained by limited partnership resources, and from this it follows that program monies can appropriately be deployed to fund staff positions. Based on this inference, we recommend that the CPUC and the

IOUs revisit the issue of funding staff positions. However, our study did not examine policies and precedents for partnerships using program monies to fund staff positions; our investigation of this issue was limited to an interview question as to whether the partnership used program monies that way. Because our study did not investigate this issue fully, this is the one recommendation that we offer that we do not include in the concluding chapter or executive summary.[24]

[24] The CPUC and the IOUs may want to consider in their deliberation of this issue the Resource Conservation Manager Program offered by Puget Sound Energy (PSE) to its municipal, institutional, commercial, and industrial customers. According to a 2016 RFP issued by PSE to evaluate this program, "the program funds an RCM customer to employ, contract, or designate existing staff to implement RCM responsibilities, including accounting for resource consumption, assessing facilities, recommending actions, monitoring progress, calculating savings and communicating program information to organization stakeholders."

4. California Long-Term Energy Efficiency SP Support Findings

This chapter explores LGPs' efforts to complete work addressing California's Long-Term Energy Efficiency SP as well as the IOUs' efforts to support this work. The first section provides a description the SP activities occurring as part of the LGP program as reported by LGP representatives (see Section 1.1 for a description of the IOUs' approaches to delivering SP support). The subsequent sections provide the findings from interviews with IOU program staff, the former Best Practices Coordinator, and LGP representatives, as well as findings from our analysis of SP activities reported to the CPUC through the LGP program's spreadsheet-based reporting tool (hereafter referred to as "*spreadsheet* reports").

This chapter provides an analysis of findings from in-depth interviews with key representatives of 40 LGPs, 8 IOU staff, and the former Best Practices Coordinator. For reasons discussed in Chapter 2.4 *Limitations of the Study*, the number of LGP representatives providing answers to a given question varies slightly; we provide the number of respondents who provided an answer to each relevant question throughout the chapter. We describe the observed patterns for findings that differ by IOU; in the absence of such description, the reader should understand that the findings do not differ by IOU.

4.1. Program Activities

LGPs and their member LGs support the California SP by undertaking planning activities such as creating CAPs, benchmarking public buildings, and implementing high efficiency building codes. These activities provide a roadmap for communities to plan and prioritize efficiency work, monitor and measure their energy use and, over time, improve the energy efficiency of their communities.

The SP sets forth the following five goals for LG activities:

Goal 1. Local governments lead adoption and implementation of "reach" codes stronger than Title 24 on both mandatory and voluntary bases.

Goal 2. Strong support from local governments for energy code compliance enforcement.

Goal 3. Local governments lead by example with their own facilities and energy usage practices. This includes developing benchmarking activities such as greenhouse gas (GHG) inventories and EAPs.

Goal 4. Local governments lead their communities with innovative programs for energy efficiency, sustainability and climate change.

Goal 5. Local government energy efficiency expertise becomes widespread and typical.[25]

Program data in the spreadsheet reports indicates that communities within the 43 LGPs in our sample completed 399 SP activities between January 2013 and May 2015. The 40 partnerships we interviewed completed 361 activities. This chapter addresses the interviewed LGPs and their 361 activities.

4.2. SP successes highlight community leadership and relationship development

LGP representatives easily identified their partnership's biggest SP accomplishments and expressed pride in their work, indicating that the LGP program created momentum within participating LGs to plan for and achieve sustainability objectives. Representatives also reported that LGP funds enabled the completing of SP activities that could not have been conducted otherwise.

4.2.1. Partnership pride is most evident for projects associated with SP Goal 4

Representatives from most (21 of 33) partnerships pointed to individual projects as the highlight of their SP activities.[26] Nineteen (of 21) representatives reported projects associated with SP Goal 4 (LGs lead their communities with innovative programs for energy efficiency, sustainability and climate change):

- Developing CAPs (8),
- Developing EAPs (6),
- Conducting GHG inventories (2),
- Do it yourself (DIY) Kits offered at schools and library's (1),
- Conducting code compliance training (1), and
- Piloting water-energy programs (1).

Partnership Innovations and Successes

One representative from a multi-LG partnership reported that the SP funding provided support and structure for their 29 jurisdictions to come together for a regional summit that resulted in a regional energy efficiency roadmap.

A representative from a single-LG partnership recalled how SP funding allowed her city to complete an EAP with assistance from a regional sustainability leader that they looked up to as a "big sister." This representative was particularly proud that her city was able to complete their EAP before her "big sister" completed hers.

[25] California Energy Efficiency Strategic Plan. January 2011 Update. Produced by Engage 360. *http://www.energy.ca.gov/ab758/documents/CAEnergyEfficiencyStrategicPlan_Jan2011.pdf* (Accessed July 1, 2016).

[26] Three representatives were not familiar enough with their partnership's SP activities to provide an answer, three had not completed any SP projects at the time of the interview, and one was not asked due to time limitations. Of the 21 respondents who discussed specific projects, five provided multiple responses. Our analyses revealed no differences among the IOUs on this topic.

Three representatives noted installing an EMS system (Goal 3), and three others reported that benchmarking was a key accomplishment (SP Goal 3). As one representative stated, "We've benchmarked and enrolled over 3,000 accounts for our region and we've done training programs on how to use it [the automated benchmarking system]." Two representatives said they were most proud of installing variable frequency drives (VFDs) and street lighting (SP Goal 5). One representative stated, "The well-site with VFDs has really done us well. We've saved large amounts of money." No representatives discussed projects associated with SP Goal 1, suggesting that, despite the potential benefits of such activities, reach codes were not a point of pride for partnerships.

Several LGP representatives reported that conducting one SP activity helps them achieve other efficiency or planning goals. As one representative reflected, working with LGs to develop new building codes through the SP also helps them move forward with their CAP goals. In addition, a few LGPs reflected that the SP platform allows them to advance local workforce objectives, which contributes to the momentum needed to persuade public officials to push CAPs forward. As one LGP representative said, "We're creating the recognition for the cities so the elected officials see it. [This recognition] makes the work we do more important to them, so they will provide more resources and cities can do more."

4.2.2. Relationship building is an important accomplishment for some

About one third of partnership representatives (12 of 33) characterized developing relationships within and between partnerships as a key accomplishment.[27] These representatives noted that building relationships is central to the SP element of the LGP program and that it supports LGs' efforts to achieve sustainability objectives. In particular, relationship development supports long-term capacity building within LGPs and the associated LGs. One representative reflected that their biggest SP accomplishment was, "Coming together as a partnership…We're all individual, we all have our own strategic plans, but just being a group, being a partnership is an accomplishment."

Partnership Innovations and Successes

To better serve their respective communities, a group of LGPs developed a formal association that facilitates the exchange of ideas and resources between partnerships, as well as provides administrative services in territories with limited resources. Representatives reported that this collaboration enabled a partnership that was successful with one facet of their program to easily share their successes with neighboring communities that faced challenges providing a similar service.

4.3. Partnerships collaborate on statewide issues and regional circumstances

Partnerships often reported assisting one another by sharing resources to further their collective agendas of supporting the SP. This collaboration enables LGs to reduce their individual costs,

[27] Our analyses revealed no differences among the IOUs on this topic.

employ proven techniques for project implementation, and collectively lobby IOUs and the CPUC to make changes that help LGPs better serve their communities. There is also some evidence that collaboration helps build the capacity of partnerships and LGs to implement efficiency and related projects.

The majority of partnership representatives (29 of 40) reported collaborating with other partnerships across the state both formally (24) or informally (5).[28] Cross-partnership collaboration included the following:

- Twenty-seven representatives reported exchanging resources and sharing best practices with one another. For example, one representative reported that a neighboring partnership provided her partnership with resources and advice about how to draft a CAP. Another partnership representative met regularly with neighboring partnerships to network and exchange ideas about what was working well for their respective partnerships and what needed improvement.
- Ten partnership representatives reported conducting joint events with other partnerships. For example, two partnerships shared resources to conduct a workshop regarding demand response for a city bordered by the two partnerships. Another representative reported conducting joint GHG inventory workshops with staff from a neighboring partnership.

Interviews with LGP representatives also revealed that collaboration is occurring within specific regions to address the unique circumstances the region faces. Three region-level collaborative efforts are described below:

- To better serve rural communities, eight partnerships formed the RHTR working group. This group originally formed under the direction of the CPUC, although it now operates independently. The working group meets regularly to identify ways to use partnership resources to better serve rural communities' specific needs and challenges. This group advocates to the CPUC about the specific needs of rural municipalities in an effort to gain program support specific to serving rural communities.
- All five of SDG&E's partnerships pool money to support region-wide efficiency efforts such as Energy Upgrade California and the development of a Green Multiple Listing Service (MLS) for realtors. This "partnership of partnerships" originated as a collaborative effort between SDG&E and its Local Government Partners, the partnerships coordinated and successfully lobbied the IOUs and the CPUC to increase partnership contract terms from a two-year arrangement to a five-year arrangement. All SDG&E partnership representatives valued this collaboration.
- Five LGPs across seven counties in the San Joaquin Valley (mostly in PG&E territory, with some in SCE and SCG territory) came together to form a collaborative organization

[28] Our analyses revealed no differences among the IOUs on this topic. These collaborations may include the Statewide Energy Efficiency Collaborative (SEEC) meeting, peer-to-peer meetings, the central California all partners meeting, or other IOU all partner meetings, as representatives did not always specify the forum(s) in which they participated.

that meets monthly to share best practices.[29] This collaborative allows partnerships to provide their specific services to communities in any of the five LGP territories with limited administrative burden. For example, one city offers its home energy tune-up program to any communities in the eight counties without having to seek permission from the "home" LGP for every project.

4.4. Partnerships strive to do more sustainability work than is currently funded by the LGP program

Half (16 of 32) of the LGP representatives reported that they had activities they had wanted to conduct but were not funded through the LGP program, either because they did not align with SP menu items or due to restrictions on what activities the IOUs can fund.[30] Due to CPUC regulations, the IOUs do not fund renewables or transportation-related activities as part of the SP activities. Further, as described in the 2013-2014 LGP Program evaluation, all SP activities must adhere to the following general criteria to receive IOU funding:

Partnership Innovations and Successes

A representative from a multi-LG partnership reported that his organization "packages" different sources of funding, including SP money, for LGs to plan and implement projects. In this case, LGs are able to complete projects that they would not have been able to complete with SP funds alone and they are not burdened with the responsibility of seeking out multiple funding sources.

- Activities must fit within the SP menu item list,
- Activities must meet all CPUC guidelines (for example, "projects cannot include direct CAP or EAP implementation activities"), and
- The SP budget must fit into the overall IOU budget.[31]

In addition to the criteria above, all funded SP trainings must be directed at local government officials and stakeholders.

Some representatives (9 of 16) who reported not receiving LGP funding for desired activities completed these activities with other funding sources, such as general funds, when available, or grants. Of the LGP representatives who noted completing activities outside SP funding, two reported pursuing renewables, one noted following up on "something with the water energy nexus," one mentioned pursing a zero-net energy (ZNE) activity, and the remaining five did not provide specific activity details.

---

29 The San Joaquin Valley collaborative referenced here consists of the following counties: Fresno, Tulare, San Joaquin, Stanislaus, Merced, Madera, and King.

30 Four respondents were not familiar enough to provide an answer, three had not completed any SP projects at the time of the interview, and one was not asked due to limited time.

31 PY 2013-14 Local Government Partnerships Value and Effectiveness Study Final Report. Energy Division, California Public Utilities Commission. Submitted by Opinion Dynamics Corporation, January 2016. p. 28-29.

The seven partnership representatives who said they were unable to complete their desired activities had requested funding for the following activities:

- Renewables (2),
- Bringing buildings up to code (1), and
- Support a community Property Assessed Clean Energy (PACE) program (1).

In addition to the specific activities noted above, one representative expressed frustration with the lack of funding for implementation in general, one stated that they had "exhausted everything our cities wanted to do," and one did not provide specific feedback on desired but unfunded projects.

Based on our somewhat limited review of SP reporting documents, it appears two of the identified activities (getting buildings up to code and supporting a community PACE program) might be viewed as aligning with SP Goals 4 or 5. However, as discussed in Section 5.7, the alignment between SP Goals and SP activities is not consistent across partnerships.

4.5. Substantial variation in strategic planning

We found substantial variety in participants' engagement with SP activities. First, representatives described varied activity selection processes. Second, program data revealed a range of project types reported across the utilities.

4.5.1. Selection Process

Interviews with partnership representatives revealed no clear, codified SP activity selection process. Many representatives spoke of reviewing the menu items while considering the needs of their member LGs to identify relevant, fundable opportunities. The degree to which the various partnering entities (LGs, IOUs) were involved in the selection process differed across partnerships, however.

Most (23 of 32) LGP representatives reported working collaboratively with the partnering LGs to select SP activities.[32] This collaboration took different forms but typically included the following steps: identifying fundable opportunities, presenting the opportunities to LG

Partnership Innovations and Successes

Some multi-LG partnerships provide comprehensive support to their LGs during the SP activity selection process. For example, one representative reported that his team worked collaboratively with member LGs to present all relevant SP information to city councils, boards of directors, and at local community events. In addition, LGP staff gathered data needed to help inform LGs in their decision to go forward with an SP activity. This level of support reduces the amount of time LG staff need to spend on the SP activity selection process.

[32] Five respondents were not familiar enough with the process to provide an answer and three had not completed any SP projects at the time of the interview.

core staff, and working with LGs to prioritize potential SP activities. In some cases, LGs may rely more heavily on direction from their partnership implementer due to staff turnover or competing priorities for staff time. In these cases, the implementers provide institutional stability for the partnership.

Roughly one third (10 of 32) of the LGP representatives reported that they worked closely with their partner IOU(s) to select SP activities. Five of the ten also noted they work with their LGs. The remaining representatives (4) described how the partnership led the selection process without much input from the partnering LGs or IOUs. IOU program staff indicated they work with all LGPs to identify and support SP activities through multiple channels, such as planned monthly check-ins, review of SP activity proposals, and impromptu communication. Thus, it appears that all LGPs engaged with the IOUs to select SP activities but did so to varying degrees.

Our interviews with program staff indicated some differences in the selection of SP menu items between multi-LG partnerships and single-LG partnerships. SCE program staff noted that multi-LG partnerships tend to pursue SP menu items that will serve the region and may not be a top priority for individual member LGs, causing some LGs to feel as if they are "lost in a group." An SCE program manager said that multi-LG partnership meetings can be "high-level" and result in a "blanket approach" that requires each city to do the same activities to meet partnership goals. When this program manager meets with LG staff directly, as with single-LG partnerships, she reportedly can communicate in language that resonates with that particular city, speak more directly about the individual city's goals, and select SP activities that fit with that city's goals.

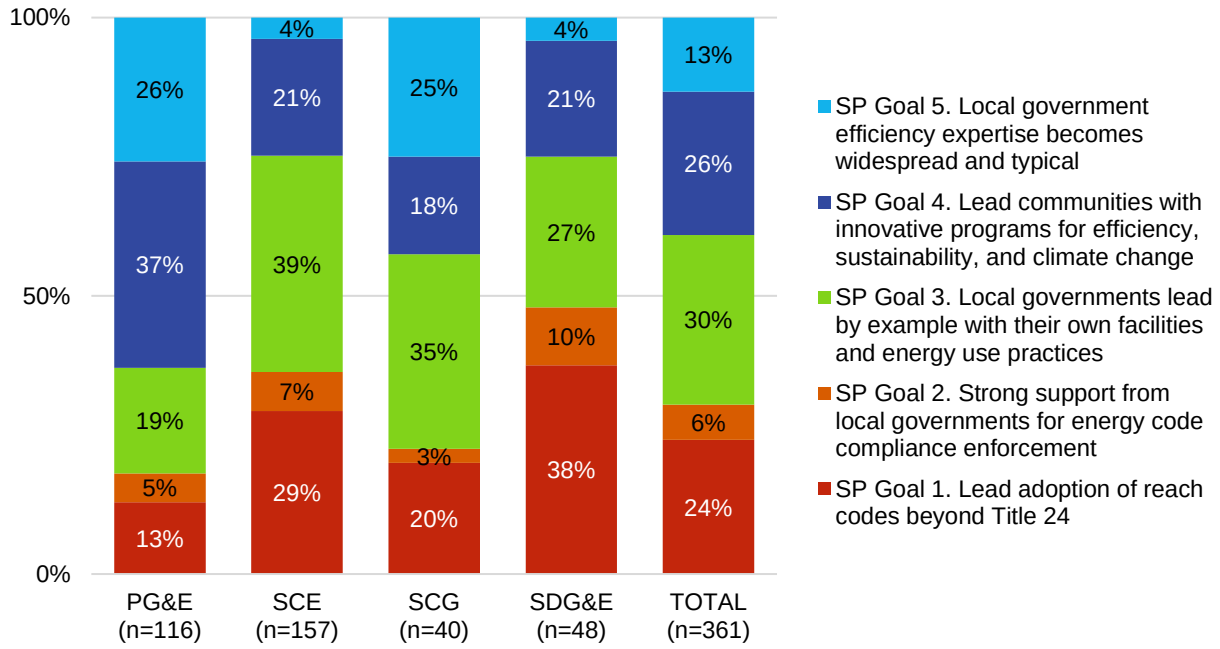
We found that partnership-level SP goals did not drive the SP activity selection process. When asked about goal-setting for SP activities, representatives gave a variety of goals such as kWh savings goals (6), tier advancement for SCE partnerships (2), and LG engagement on the development of CAPs and EAPs (4). This apparent lack of clarity and specificity in some partnerships' objectives indicates an opportunity for partnership implementers and IOU program staff to more effectively encourage SP action by setting more concrete objectives and timelines of LGP-funded SP work.

4.5.2. Reported Activities

Data from the IOUs' SP activities listed in the spreadsheet reports show that each IOU's partnerships tended to emphasize different SP Goals. As seen in Figure 4-1, SDG&E partnerships conducted the most reach code adoption activities (SP Goal 1), PG&E partnerships most commonly conducted projects that involved innovative community-focused efficiency programs (SP Goal 4), and SCG and SCE activities focused on the efficiency of LG buildings and practices (SP Goal 3). Furthermore, about one quarter of PG&E and SCG projects focused on building the efficiency expertise of LGs (SP Goal 5), whereas very few (less than 5%) SDG&E and SCE projects addressed this goal. Across all four IOUs, few projects focused on support for energy code compliance (SP Goal 2). As one might expect, due to the large overlap in service territories for SCE and SCG, the proportion of projects by goal is similar for each utility except for building the efficiency expertise of LGs (SP Goal 5). The distribution of

projects by goal and IOU roughly match the findings from the 2013-2014 LGP Program evaluation.[33]

Figure 4-1: Number of Projects Done by IOU Region and Overall Strategic Plan Goal*



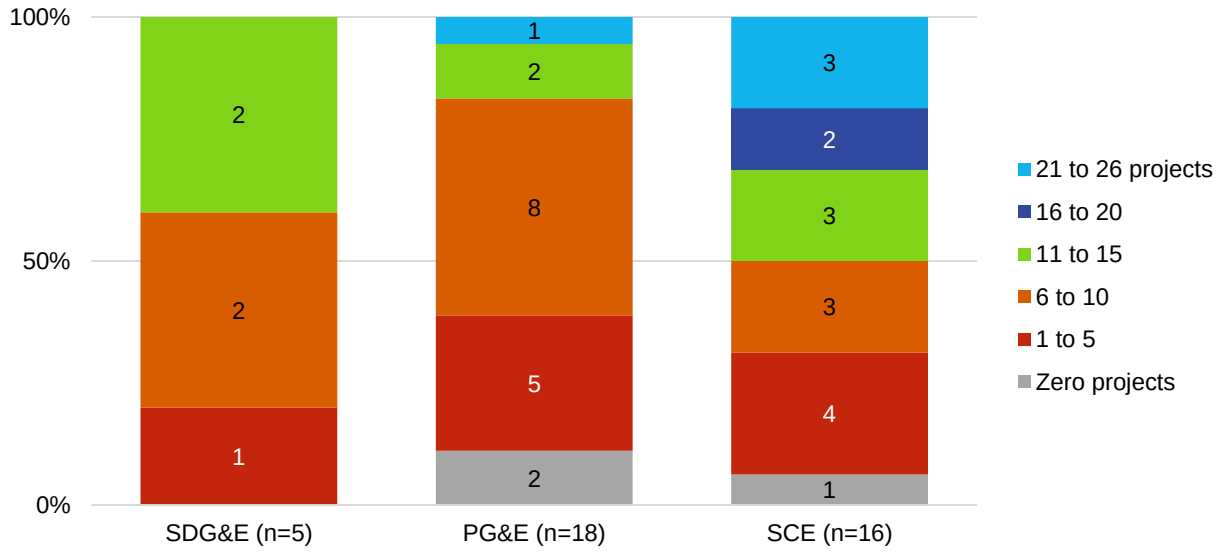
* Projects conducted by LGPs served by multiple IOUs may be duplicated in these counts. This is particularly likely for SCE and SCG.

PG&E and SCEs' SP activity reports show that the number of projects LGPs and LGs pursue differs by IOU territory. Despite the fact that SCE LGPs, on average, serve fewer people than PG&E, LGPs in SCE territory undertook the largest number of SP projects.[34] Almost one-third (5 of 16) of SCE LGPs completed more than 15 projects, compared with one PG&E LGP (Figure 4-2). IOU program staff suggested this finding likely owes to a CPUC directive that SCE spend $32 million on SP activities. It may be that SCE's tiered incentive structure encourages LGs to conduct more projects, however additional research is needed to confirm or refute this hypothesis. SCG was excluded from this analysis because gas projects make up a small minority of all projects and often overlap with SCE projects.

33 PY 2013-14 Local Government Partnerships Value and Effectiveness Study Final Report. Energy Division, California Public Utilities Commission. Submitted by Opinion Dynamics Corporation, January 2016. p. 35.

34 SCE LGPs serve 476,194 people on average, while PG&E LGPs serve an average of 619,602. The population data for the service territory of each LGP came from the 2010 decennial Census data and then the sum of that data was divided by the number of partnerships in each IOU territory. In cases where an LGP was served by more than one electric IOU, we selected the IOU that covered the majority of the LGP service territory.

Figure 4-2: Count of LGPs by Number of Activities by IOU



4.6. Currently reported tracking data makes cross-LGP comparisons difficult

The spreadsheet file used to track SP activities demonstrates an intention on the part of the CPUC and IOUs to provide the partnerships with a uniform approach to tracking and reporting. Partnerships record one SP activity per row and record primarily qualitative metrics for each activity that are provided in the worksheet columns. (Appendix E provides a list of metrics included in SP reports at the time of this evaluation. According to program staff, the SP tracking spreadsheet changes frequently, often from one reporting period to the next.)

There are advantages and disadvantages to this primarily qualitative reporting format. Relying largely on qualitative metrics allows for greater flexibility for those completing the reports and allows for some in-depth understanding of specific activities. SP activities, such as developing an EAP, do not lend themselves to easily quantifiable metrics. However, relying on qualitative reporting makes it difficult to understand the breadth of SP activities, including how many LGPs or LGs are in certain phases of SP activities.

Despite the consistent structure provided by the spreadsheet reporting template, a previous LGP evaluator described the data provided in the spreadsheet reports as "cryptic and difficult to analyze" and reported that the metrics "seem primarily focused on activity tracking, rather than metrics that measure value."[35] We agree with the prior evaluator's assessment and, further,

[35] PY 2013-14 Local Government Partnerships Value and Effectiveness Study Final Report. Energy Division, California Public Utilities Commission. Submitted by Opinion Dynamics Corporation, January 2016. p. 38.

conclude that the activity tracking in the current spreadsheet reports are not adequate because it is hard to distinguish how long activities take or what phase an activity is in.[36]

Further, although the reporting structure is uniform across the SP goals, the data collected are not. To illustrate the difficulty of assigning menu items to SP work, one LGP representative pointed out that due to "the way that [an SP activity is] written and how [the IOU] interprets it, it's hard to say that something aligns or doesn't align." Indeed, a review of the SP activities reported in the spreadsheet reports shows that LGs do not categorize activities similarly. For example, five partnerships categorized an EMS-related activity under an SP menu item other than the menu item most obviously connected to EMS work, namely Menu item 3.1.2. Table 4-1 provides a summary of menu items partnerships associated with EMS projects and the description of each menu item.[37]

Table 4-1: Differences in Strategic Plan Menu Item Selection for EMS Activity

PARTNERSHIP	IOU	SELECTED MENU ITEM	MENU ITEM DESCRIPTION
Partnership 1	SCE	3.2.4	Develop commissioning/retro-commissioning policies for municipal facilities.
Partnership 2	SCE/SCG	5	Local government energy efficiency expertise becomes widespread and typical.
Partnership 3	SDG&E	3.1.2; 3.2.1	Set up a 'utility manager' computer program to track municipal usage. Identify need for sub-metering to plan, budget and manage bills & Develop/adopt an energy chapter for City/ County CAP or EAP.
Partnership 4	PG&E	4.1.4; 2.1.2	Conduct the energy efficiency savings analysis for an annual GHG inventory for the City/ County & Redesign enforcement, compliance, plan review processes; introduce new forms and templates.
Partnership 5	PG&E	5	Local government energy efficiency expertise becomes widespread and typical.

* California Energy Efficiency Strategic Plan. January 2011 Update. Produced by Engage 360. *http://www.energy.ca.gov/ab758/documents/CAEnergyEfficiencyStrategicPlan_Jan2011.pdf* (Accessed July 1, 2016).

Similarly, the six partnerships conducting streetlight activities listed them in the spreadsheet reports under different SP Goals and menu items (Table 4-2).

36 In addition, we conclude that one of the metrics does not correlate with project success.

37 California Energy Efficiency Strategic Plan. January 2011 Update. Produced by Engage 360. *http://www.energy.ca.gov/ab758/documents/CAEnergyEfficiencyStrategicPlan_Jan2011.pdf* (Accessed July 1, 2016).

Table 4-2: Differences in Strategic Plan Menu Item Selection for Streetlight Activity

PARTNERSHIP	IOU	SELECTED MENU ITEM	MENU ITEM DESCRIPTION
Partnership 3	SDG&E	5	Local government energy efficiency expertise becomes widespread and typical.
Partnership 6	SDG&E	3.1	Develop a program to track municipal energy usage, such as through energy management software and benchmarking of municipal facilities.
Partnership 7	SDG&E	3.2.1; 1.1.5; 1.1.6	Develop/adopt an energy chapter for City/ County CAP or EAP. & Develop and adopt programs to encourage energy efficiency such as one-stop permitting, on-line permitting, separate Zero Net Energy permit processes, density bonuses, or a recognition program. & Develop educational programs for local elected officials, building officials, commissioners, and stakeholders to improve adoption of energy efficiency codes, ordinances, standards, guidelines and programs.
Partnership 8	SCE/SCG	5	Local government energy efficiency expertise becomes widespread and typical.
Partnership 9	SCE/SCG	2.1.1	Local government staff and contract staff attend code compliance workshops offered by the California Energy Commission (CEC), utility codes & standards staff, or other local governments with strong compliance records.
Partnership 10	SCE/SCG	3.2.1; 4.1.1	Develop/adopt an energy chapter for City/ County CAP or EAP. & Develop a regional template for CAPs or EAPs.

As these examples illustrate, discrepancies exist across, and even within, IOU territories in terms of how similar activities are captured and defined in the spreadsheet reports. This approach may have advantages for LGPs. Under the current reporting system, LGPs have flexibility to choose an activity most pertinent to their community, and they can classify that activity in the way that best meets their needs. The downside to this approach, as noted above and by the 2013-2014 LGP Value and Effectiveness study, is that the inconsistent reporting makes it difficult to determine how the overall program is meeting its goals at the statewide or even IOU level.[38]

Furthermore, it is not always clear from the spreadsheet reports whether activities conducted by LGPs that partners with more than one utility are listed in the spreadsheet report multiple times (one time per each partnering IOU). An LG served by two or more utilities may receive funding from multiple utilities for the same SP activity and that activity may appear multiple times in a report that comprises each IOU's spreadsheet report. For this reason, it may difficult to tease out how many actual activities, like CAP creation, are being conducted in the state as part of the LGP program because of the risk of double or triple counting activities. To answer that question with the current reporting mechanism would require hours of analysis to get at a reasonable estimate.

[38] PY 2013-14 Local Government Partnerships Value and Effectiveness Study Final Report. Energy Division, California Public Utilities Commission. Submitted by Opinion Dynamics Corporation, January 2016. p. 38.

Many representatives often found the workbook to be a source of frustration. One representative stated, "The spreadsheet reporting tool we were supposed to use was almost impossible." The representative also noted the current format does not enable partnerships to use the reports for their own use, such as promoting their SP activity work to their LG leaders and communities. As one representative said, "I really don't like the reporting structure at all... I'd love to be able to show the correlation between work now and energy savings later…[but] I don't feel like I can show that in the [Excel reports]."

Several partnership representatives noted that the current reporting system allows them to provide narrative data in some cells, thereby offering them a chance to provide nuanced information about their activities that can serve as mini progress reports. However, representatives did not uniformly value this aspect of the workbook.

4.7. Responsibility and audiences for tracking reports vary across partnerships

Most (23 of 35) LGP representatives reported that SP activity tracking occurs exclusively at the partnership level.[39] Among the 12 partnerships that do not exclusively track SP activity at the partnership level, seven representatives said that individual LGs work with the LGPs to track SP progress and five reported that individual LGs track SP activities on their own (Table 4-3). An IOU program staff person noted variability among LGPs as to who within the partnerships handles reporting, saying the spreadsheet file "was intended to be filled out by LGs but that was not clearly communicated and there is variation in how they fill it out."

Table 4-3: Tracking and Reporting Lead by IOU

IOU	LGP-Level Reporting		LG-Level Reporting	Both LGP & LG-Level Reporting	Total by IOU
	Single LG Partnerships	Multiple LG Partnerships			
SDG&E	4	1	N/A	0	5
PG&E	0	9	3	2	14
SCE	6	5	2	5	18
Total	**10**	**15***	**5**	**7**	**37**

* Kern County and Valley Innovative Energy Watch (VIEW) partnership appear in both SCE and PG&E counts.

Some partnership representatives discussed their member LGs' limited resources and staff turnover and the associated impact on tracking and reporting, which highlighted the importance of having an implementer to assist the LGs with SP tracking and reporting. As one LGP representative put it, "reporting SP activities is important because all our LGs think of us as an extension of their staff."

[39] Three respondents were not familiar enough with the process to provide an answer, two had not completed any SP projects at the time of the interview, and one was not asked due to limited time.

When discussing tracking and reporting, the majority (24 of 34) of interviewed partnership representatives referenced the entity they view as the intended audience of SP reporting, as well as the frequency of reporting.[40] The majority (20 of 24) of these LGP representatives said they submit the spreadsheet reports to the IOUs and 10 said they "assumed" that the IOUs passed on the reports to the CPUC. It was unclear to representatives, however, how the CPUC used the information provided. In addition, more than half (14 of 24) of the representatives noted they use their tracking efforts to self-monitor SP activities.

LGP representatives across all four IOUs provided diverse and inconsistent information on how frequently they report on SP progress. Responses included: monthly, quarterly, bi-annually, and annually. Interviews with IOU program staff indicated that the IOUs facilitate biannual reporting to the CPUC on partnership progress. We infer from these findings that the lack of consistency across partnerships' reporting requirements may reflect differences in the frequency with which each IOU requests reports from their partnerships. These discrepancies may be particularly challenging for LGPs that partner with more than one IOU, although only two of the 17 with multiple IOU partners noted any challenges. One representative whose LGP partners with two IOUs stated "requirements are interpreted and implemented differently across the IOUs. PG&E put together a template [and] asked the utilities to do it, but I haven't heard anything about it from SCG." According to this representative, both IOUs required the use of the spreadsheet reports, and one IOU also required a monthly narrative.

4.8. Opportunity exists for further education about EMS

The CPUC ED expressed interest in how LGs used EMS, because EMS provide a foundation of energy use data that LGs can use to prioritize energy efficiency projects and quickly identify energy usage problems, such as faulty or improperly operated equipment. Few partnership representatives could provide details about their member municipalities' EMS, however; representatives from only nine of 40 LGPs were able to answer questions about the capability or functionality of municipally owned EMS.

An examination of the SP activity spreadsheet reports shows that half of all interviewed partnerships (20) activities pertained to the menu item most closely aligned with EMS (menu item 3.1.2), and the majority of those (12) were in SCE territory. Seventy-one percent of all SCE partnerships had cities that pursued an EMS over the past few years, whereas about one-quarter (26%) of PG&E partnerships pursued an EMS (Table 4-4).

[40] Two additional respondents were not familiar enough with the process to provide an answer, three had not completed any SP projects at the time of the interview, and one was not asked due to limited time.

Table 4-4: Evidence of EMS Work by Utility

	Total Partnerships	Partnerships Reporting EMS in Program Data	Percent of Partnerships Reporting EMS
SCE	17	12	71%
SDG&E	5	3	60%
PG&E	19	5	26%
Total	**41***	**20**	**50%**

* One partnership that serves both SCE and PG&E reported EMS in both utility areas.

Most partnership representatives provided an estimate of how many local governments use some type of EMS, but few could comment about the scale and functionality of EMS in their partnerships, suggesting that partnership-level staff representatives are not the best source of data on municipalities. To get a more complete understanding of municipal adoption of EMS, future evaluations should discuss EMS-related questions with LG representatives.

Despite the fact that LGP representative are not the best source of EMS activity at the LG level, we did learn that a small number of representatives knew some details about EMS use and that most of these systems were relatively less sophisticated than the best systems on the market. Of the 37 partnerships that provided some information about municipalities' EMS, seven were aware of an EMS serving multiple buildings, and two noted an EMS serving single buildings. Furthermore, six representatives noted that existing EMS enabled energy use monitoring but did not allow for an operator to take action to control building systems. One representative reported the EMS allowed an operator to control energy usage from a central facility. Of all partnerships, one single-municipality partnership possessed an enterprise-level EMS that allowed a centralized operator to monitor and control energy usage across multiple buildings.

Seven partnership representatives reported that many of their municipalities struggle to employ the EMS they do possess. For example, one single-LG partnership representative noted having an outdated EMS that does not connect well to the municipality's information technology apparatus makes it difficult to use. A second representative reported municipalities in his partnership struggle with the maintenance and upkeep of their EMS. A third representative from a single-LG partnership described his municipality's EMS as "unevenly effective."

Partnership Innovations and Successes

One single-LG partnership reported using a sophisticated EMS that enabled it to monitor and manage energy across multiple buildings. This system was not funded with LGP money. Nonetheless, it demonstrates effective EMS implementation. This system enabled operators to diagnose spikes in energy use and dispatch people to fix any problems that arose. The EMS provided facilities staff with tools to control their demand better than they could in the past. This representative suggested in the context of municipal retrofit work that the more support they could get developing the infrastructure that supports EMS, such as sub-metering facilities, the more likely they would be save energy using an EMS.

5. Municipal Retrofits Findings

This section explores LGP activities as they relate to partnerships' efforts to complete municipal retrofits projects as well as the IOUs' efforts to support this work. The first section provides a description the municipal retrofits activities occurring as part of the LGP program as reported by LGP representatives (see Section 1.1 for a description of the IOUs' approaches to delivering SP support).

This chapter provides an analysis of findings from in-depth interviews with key representatives of 40 LGPs, 8 IOU staff, and the former Best Practices Coordinator. For reasons discussed in Chapter 2.4 *Limitations of the Study*, the number of LGP representatives providing answers to a given question varies slightly; we provide the number of respondents who provided an answer to each relevant question throughout the chapter. We describe the observed patterns for findings that differ by IOU; in the absence of such description, the reader should understand that the findings do not differ by IOU.

5.1. Most partnerships conduct municipal retrofits, but projects and processes are varied

Many types of municipal facilities are eligible for retrofits through the LGP program. Facilities upgraded by partnerships in our sample include parking garages, libraries, city halls, civic centers, maintenance facilities, wastewater treatment plants, police facilities, jails, community pools, and ball fields. Project scopes were also quite varied; some projects were limited to lighting upgrades in one city building, while others involved retrofitting an entire city's streetlights.

5.1.1. The municipal retrofit process and involved personnel are fairly consistent across partnerships

Most municipal retrofit projects conducted through the LGP program begin with IOU program staff and/or partnership implementers discussing which facilities to retrofit with LG representatives. These conversations may address equipment nearing the end of its useful life or opportunities identified through benchmarking reports of energy-intensive facilities. IOU program staff and partnership implementers decide whether the partnership can identify prescriptive measures using internal partnership resources or whether third-party engineering technical assistance is needed to do a site assessment for more comprehensive retrofits.

Once opportunities are identified, IOU program staff and partnership implementers check which measures are on the partner IOU's eligible rebate list, along with their associated incentive amounts, and identify potential funding sources. Depending on the project cost and the upfront funding sources available, the project may need to be approved by the LG's decision makers, such as the city council, in order to allocate taxpayer funds to the project. Once the LG decision makers approve the project, the incentive application is submitted. The IOU does not pay the

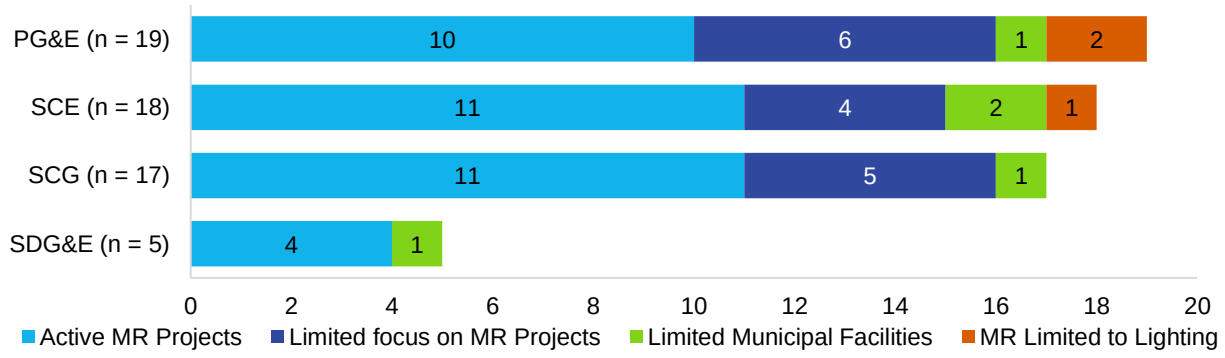
incentive to the LG until invoices have been submitted and approved and, if required, the post-inspection has been conducted.

Simpler projects, such as installing covers on community pools to retain heat, can usually be completed by LG staff. More expensive or complicated projects that require an outside contractor to perform the upgrade must follow municipalities' procurement processes, which involves solicitation of competitive bids from multiple contractors. In PG&E territory, contractors from organizations hired by PG&E to implement its Regional Direct Install Program sometimes performed municipal retrofit upgrades; these contractors are called "Regional Direct Install Contractors," though their role can include responsibilities beyond the installation of prescriptive measures, such as project tracking and outreach. Once the contractor has been selected, he or she is usually responsible for obtaining the equipment and performing the installation work according to the specifications required to qualify the project for rebates. LGs pay for the upfront costs associated with municipal retrofits, including the contractor's services. An installation inspection occurs and an invoice is submitted to the IOU to signal incentive payment or OBF. Partnerships or member LGs track information related to the progress of municipal retrofit projects and report on the energy savings to their IOUs, except for those PG&E partnerships where the Regional Direct Install Contractor tracks and reports the information.

5.1.2. Level of municipal retrofit activity varies

Partnerships exhibited a range of municipal retrofit activity (Figure 5-1). Representatives from 24 of 40 interviewed partnerships indicated their member LGs were actively working from a pipeline of projects, while the remaining 16 partnership representatives reported limited municipal retrofit activity. Representatives from nine partnerships reported that municipal retrofit projects were not a main focus of their partnerships or that they had no municipal retrofit projects in the pipeline. Four partnership representatives stated that their municipal retrofit activity was limited due to the small number of municipal facilities in the area due to LGs' small population, an issue also recognized by program staff. An additional three partnership representatives said that they had only conducted smaller-scale lighting retrofits through the LGP program.

Figure 5-1: Level of Municipal Retrofit Activity among Partnerships by IOU Territory (n = 40)*



* Multi-IOU partnerships appear in all relevant partner-IOU categories.

5.2. Municipal retrofit successes are often highly visible to the community or involve relationship building

All LGP representatives (36 of 36) expressed pride in municipal retrofits projects that achieved their goals or positively impacted the municipalities.[41] LGP representatives revealed that successful municipal retrofit projects were often highly visible to the community or generated a considerable energy savings for the community. Relationship building is also seen as an important accomplishment for some LGPs.

5.2.1. Partnership pride is most evident for highly visible or large-savings projects

LGP representatives generally considered highly visible energy efficiency retrofit projects to be among their most successful. One-third (12 of 36) of LGP representatives discussed a specific public facility project and "high profile buildings" as their greater municipal retrofit accomplishment. These projects included: wastewater treatment plants (4), City Hall (2), jail (2), municipal pools (2), schools (1), police department (1), and maintenance facility (1).

LGP representatives expressed pride in projects in municipal buildings where they were able to replace old or inefficient equipment, or exchange one older piece of equipment for a newer more efficient one. Highly visible projects were again a point of pride. Representatives who replaced high-pressure sodium lamps with light-emitting diode (LED) technology (10 of 36), for example, noted both the improved aesthetics of the LED streetlights and increased perceived safety for pedestrians. Streetlight retrofit projects, in particular, appear to have non-energy benefits that other municipalities may be able to promote to garner community support for retrofit projects.

LGP representatives also described pride in large projects that resulted in a great deal of energy and cost savings for the community. Usually, these projects involved several facilities or a large number of measures, as with streetlight replacements. One LGP representative attested to his project's success, stating, "When we replaced

Partnership Innovations and Successes

One LGP representative from an urban partnership found that the municipal retrofit conversion from high-pressure sodium streetlights to LED streetlights did more than save energy. The LGP received police department feedback that the new LED lighting was improving working conditions for its officers because the new lamps better lit the sidewalks, creating greater visibility for police officers walking the neighborhoods at night and contributing to a greater sense of safety. The LGP representative reported that crime had dropped in the neighborhoods with the new streetlights, perhaps due to increased foot patrols by police.

[41] Representatives from four partnerships did not answer this question due to time constraints or unfamiliarity with their partnership's municipal retrofits activities. Of those 36, five described two separate and distinct projects as their main success, so in total there were 41 success stories for 36 LGPs.

the blower motors at the plant, we got a huge incentive check for that. We saved hundreds of thousands of kilowatt hours for that. It was a big deal."

The high number of streetlights in municipalities has allowed them to achieve substantial energy savings. One LGP explained the large scope of their streetlight project as follows: "We've been retrofitting all the streetlights in the region…Six-thousand belong to [our city]. We're ecstatic."

IOU program staff also noted the benefits of large-volume purchasing options, with two PG&E representatives referencing PG&E's LED Street Light Turnkey Replacement Service in particular. This program helps to coordinate large-volume purchases, and ensures that the lights selected align with PG&E's program requirements. The volume-purchasing option also can help municipalities mitigate the expense associated with using city subcontractor labor.[42]

5.2.2. Relationship building is an important accomplishment for some

Relationship building with local governments was another theme that emerged from the success stories we heard. Four representatives considered establishing long-term relationships their biggest success. Relationship building occurred between staff at partnership implementing organizations and staff at member governments, particularly with LG contacts at city hall or at public works departments. As one LGP representative described, "The increased outreach we have done – the face to face, the building relationships, that's been really successful, although time-consuming."

Another representative described the enhanced level of support the partnership is able to provide to their member governments as being their main achievement. Similarly, a third LGP representative described how the varied support services they provided to their member LGs allowed the partnership implementer to become a trusted advisor and establish a reliable relationship. She described the myriad services she provides her member LGs: "We support the city with the audit and identify projects and identify funding, we support the city through the application process, and we find them the right resources." The member LGs in her partnership have a strong relationship with their partnership implementer and know that their partnership implementer is there to assist them with key steps in the municipal retrofit process.

A fourth key partnership representative described the success he experienced bringing two cities to the table to arrange financing, saying, "The project took years to get done. There was a multitude of stakeholders, everyone came to the table and participated, and we delivered an amazing project to both cities." Another LGP representative discussed the successes their streetlight project experienced in bringing multiple stakeholders to the table. In some instances, several municipalities did the streetlight projects concurrently, saving both municipalities money.

These findings on the importance of relationship-building echo findings for SP activities (Chapter 4), where we found that some LGPs count their relationship-building as among the SP accomplishments they value most.

---

42 PG&E. "LED Street Light Turnkey Replacement Service." Accessed June 7, 2016 at http://www.pge.com/en/mybusiness/save/rebates/lighting/led/turnkey/index.page

5.3. All LGPs use and value technical assistance offered through the program

All of the 35 LGP representatives that discussed technical assistance reported they are happy with the support that they receive through the program.[43] Representative found engineering support to be particularly valuable, largely because most LGPs do not have the capacity to do engineering calculations or technical audits in-house. In addition to this engineering support, LGPs also indicated they receive IOU account representative support with rebate processing, benchmarking assistance, demand response assistance, and assistance with data.

Only two LGP representatives reported having difficulty accessing technical assistance. Of those two LGPs, one representative explained, "A lot of times we were offered technical support, but it came with so many conditions, we didn't use it," and suggested a clearer pathway to using it.

Partnership Innovations and Successes

One multi-LG partnership found that none of its member LGs were willing to pay for technical audits, despite the necessity of a technical audit to identify possible municipal retrofits projects. To overcome this barrier, an LGP representative persuaded local engineering firms to do pro bono audit work on municipal facilities. While jobs still needed to be bid out via an RFP process, conducting pro bono audits allowed engineering firms to develop relationships with potential municipal clients, an audience they may not have reached otherwise.

The 35 representatives that reported using technical assistance described the type of support their LGPs received and its contribution to their pursuit of program goals. Their responses are represented by the following five categories:

- **Engineering support.** This type of assistance includes help with engineering calculations, consultation, and on-site audit support. All 35 LGP representatives reported that their member governments are using engineering support. Engineering support stood out among all the types of technical assistance as being necessary to the success of municipal retrofit projects, yet something none of the LGPs had capacity to do in-house. LGPs receive engineering support from several parties, including utility staff and technical assistance contractors.[44] The on-site audit support for municipal retrofits was the most common type of engineering support discussed by LGP representatives. LGP representatives identified comprehensive audits and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Level 3 audit support as being of great value to their member governments.[45]

[43] LGP representatives were either unable to answer questions about municipal retrofit technical assistance, or were not asked these questions due to time constraints.

[44] "Technical assistance contractors" is a broad term for this group.

[45] This is the third level of the ASHRAE audit system, and involves obtaining field data and sub-metering major energy consuming systems. For more information, see, "Procedures for Commercial Building Energy Audits," 2nd Edition. ASHRAE. 2011. *https://www.ashrae.org/resources--publications/bookstore/procedures-for-commercial-building-energy-audits*

Engineering calculation assistance is a related piece of support, and LGPs are able to use the calculation assistance to support the RFP process. One LGP explained that, "In the past [the utility] has certainly provided us with some engineering support. Certain technology sets are beyond our scope or understanding, and they've [the utility] helped us to perform the calculations to substantiate the projects and move the projects forward, and they've helped on the public bidding side. They'll help do a design-build, so we're not designing the system out of scope, but the energy calculations are locked in to offer an incentive. That's been helpful."

- **IOU staff support with rebate processing, rebate forms, and program requirements.** Thirteen of the LGPs mentioned finding the support they received from their program staff and account representatives for the rebate process useful.[46] This includes assistance with filling out rebate forms correctly, or having IOU staff explain the technical program requirements for obtaining potential incentives and rebates. One LGP representative said that having a utility staff member come to meetings and support the partnership by fielding audience questions was especially helpful.

- **Benchmarking assistance and training.** Some (7 of 35) LGPs appreciated and used benchmarking assistance and trainings.[47] One LGP representative noted that the benchmarking classes helped his staff understand and explain benchmarking to the LGs in his partnership, which was especially important because some of the LGs in his partnership were not interested in benchmarking. Another noted that this service had helped to establish baseline energy data for member government buildings. Another LGP explained that after learning about benchmarking from the utilities, they are able to lead the way and guide local government benchmarking.

- **Demand response.** Four LGPs discussed using demand response assistance. This type of assistance helps LGPs to determine the demand response potential of municipal facilities, and may refer the LGP to a utility demand response program or identify opportunities for on-site generation. One LGP explained that having support during the demand response application process, which

Partnership Innovations and Successes

PG&E's demand response program requires a minimum standalone 500kW load per single customer account. One rural partnership found that none of his member partners had a large enough load to qualify; however, they were able to get PG&E to accept a group of smaller customers as a single qualifying customer by aggregating their loads. The partnership volunteered to do the background work: recruiting the smaller customers, communicating the requirements, and organizing the meetings. This reduced the burden on PG&E, yet made the demand response program available for this rural partnership.

46 Our analyses revealed no differences among the IOUs on this topic.

47 Our analyses revealed no differences among the IOUs on this topic.

involved getting the authority to be a demand response aggregator, was useful to their organization.

- **Data access.** Another form of technical assistance for some (4 of 35) LGPs is access to utility bills and energy savings data. While data access is not officially identified as technical assistance in program documents, some partnerships see access to this type of building level data and energy savings data as a form of technical assistance. This also emerged as an item that some LGP key representatives wanted to ensure continued. One stated, "My partners find value in being able to communicate with their counterparts in other LGs. Any time my partners can have access to their data in a usable format is great for them."

5.4. LGPs have successfully used OBF to facilitate municipal retrofit projects, although some barriers remain

IOU program staff report promoting OBF at partnership meetings and at the SEEC conference. Their efforts appear to have enhanced awareness and understanding of OBF as three-quarters of (27 of 34) LGP representatives reported at least one of their member LGs used OBF to fund at least one municipal retrofit project.[48] While the LGs use OBF, the partnerships are tasked with explaining OBF and supporting their LGs in its use. Partnership representatives reported that OBF helps LGs overcome financial barriers and complete municipal retrofit projects.

OBF is a utility-sponsored program that provides financing for qualifying energy efficiency projects. The loan is repaid in installments as an item on customers' – in this case municipalities' – monthly electricity bills. OBF offers zero percent interest and no fees. Municipalities can leverage this funding source to pay the costs of facility retrofits while also qualifying for financial incentives from the utility for installing qualifying energy-efficient equipment. One IOU program manager reported that a major barrier to using OBF is that LGs must pay for the upfront costs of the municipal retrofit and are only reimbursed by OBF once the project is complete (see section 5.5.1 for more on using LG funds to cover the upfront costs).

All four IOUs allow and encourage OBF. We found no differences in the proportion of LGPs using OBF in each IOU's territory nor in key contacts' experiences using OBF.

5.4.1. OBF helps LGs overcome financial barriers and complete municipal retrofit projects

OBF is working well for the partnerships and helping them to achieve their municipal retrofit goals. Several LGP representatives explained that they had used their maximum allowable OBF allocation and reached the cap on OBF for their accounts, indicating the popularity of OBF. LGP

[48] Six LGP representatives stated they did not know if OBF was being used by their members or were not asked these questions due to time constraints. Note that our analysis was at the partnership level, yet OBF usage is a LG-level activity. We did not ask partnership representatives to report on the *proportion* of their LGs using OBF, only if it had been used by at least one of their member LGs. Hence, within the partnerships reporting OBF usage, it is likely multiple member LGs are not taking advantage of OBF.

representatives expressed gratitude for the program, as illustrated by the following comment: "OBF has been the best thing since sliced bread. We have not had money, so we wouldn't have done any projects without the OBF except for a few water projects. OBF was key."

In their responses to whether projects had used OBF, some LGP representatives (10 of 34) volunteered that OBF helped make a project possible or overcome a significant financial barrier. The representatives explained that because their member LGs had a difficult time accessing funds consistently for municipal retrofit projects, OBF had become a significant part of their funding as it was reliable and consistent. "OBF was what made the big LED streetlight replacement possible," said one representative. "When it came time to figure out how to do the streetlight project and a new round of OBF opened up, the two things connected and that's what made the whole thing possible." Another responded reported, "If we had to fund the project through city funds entirely, that would be a bigger issue. The projects wouldn't happen."

5.4.2. Obstacles to using OBF remain

LGP representatives whose members used OBF reported some dissatisfaction with the financing, although their dissatisfaction was minor in relationship to what they characterized as OBF's value. Of the minority of partnerships not using OBF (7), four representatives did not know why. The three other representatives discussed two related obstacles - obstacles also reported by some LGPs using OBF as pertinent to their LGs:

1. A lack of understanding about the OBF program among LG financial decision-makers, which leads to mistrust of the offering (5 LGPs total; 2 of the 5 were not using OBF), and

2. Difficulty getting OBF to fit into cities' budget planning processes and requirements for debt repayment. (3 LGPs total; 1 of 3 were not using OBF).[49]

Illustrating the first obstacle, one representative whose member LGs did not use OBF explained that LG staff distrust the program due to a lack of understanding about how the process works. Another LGP representative who just recently had begun encouraging member LGs to use OBF noted, "We have found a strange reluctance in all of our political bodies, councils, boards, and supervisors, to sign those contracts for OBF, even though we say it's all funded through the savings and all that. They just don't want to have the incremental debt… I thought it'd be a slam dunk, but it's been very hard."

The second, and related, obstacle many LGPs confront is getting OBF to mesh with normal budget planning processes. One representative stated, "OBF is not the way [city finance managers] normally plan for and budget things. Because it's different, that kind of stalls it for a while until it gets explained and signed off by the city manager." Another LGP representative described a city law that stated no official could take on debt that continued past his or her term in office. City officials serve four-year terms, and OBF financing would have continued past that four-year term. The LGP representative explained that this law made it impossible for his city officials to pursue OBF financing.

[49] LGPs reporting obstacles to OBF usage came from all four IOU territories.

Several of the LGP representatives emphasized that gaining city council approval on OBF projects can take longer than other steps of a municipal retrofit process. The LGP representatives who were able to complete OBF projects noted the importance of speaking with city finance officials, explaining the full OBF process, and having patience and time. These findings also highlight the important role LGP implementers play in encouraging OBF among member LGs. When implementers are able to clearly explain how OBF works to the financial decision-makers and get the decision-maker to support the use of OBF, then the member government officials can realize the benefits of OBF.

Partnership Innovations and Successes

One LG was able to leverage ARRA funding to upgrade a parking garage ventilation system by installing efficient motors and a carbon dioxide (CO_2) monitoring system. After conducting this upgrade, the city realized that CO_2 was not a serious problem in the garage since it was partially open to the outside and that the garage fans, which had been running 24 hours a day, seven days a week, only needed to be used periodically to maintain healthy air in the parking garage. This project reportedly generated "massive energy savings" because the CO_2 monitoring system substantially reduced the amount of time the fans were blowing.

5.5. Decision-making and planning is complicated in the municipal environment

The many competing demands for LG funds makes planning and budgeting for retrofits in the municipal environment challenging. Furthermore, municipal retrofit projects often span more than one fiscal year budget. Further, incentives often change over that time, posing risks for the financial planning process for municipal retrofit projects.

5.5.1. Many LGs use their own funds and funds external to the LGP program for municipal retrofits projects

Most (31 of 37) participating LGs allocate funds from their general fund, capital improvement fund, and building and maintenance fund to cover the upfront costs associated with LGP program municipal retrofits.[50] Most LGs do not have funds dedicated to energy efficiency. Indeed, only one local government was reported to have a line item for energy efficiency in their municipal budget

Partnership Innovations and Successes

One LGP representative was able to help one of her largest cities use OBF to fund a large streetlight project, retrofitting thousands of streetlights with LED lamps. The availability of OBF made the large streetlight retrofit project a reality for that member government, which went from lagging behind other cities in their partnership for a 10-year period to becoming an energy-efficiency leader within that partnership.

[50] Representatives from three partnerships did not comment on the budgeting of municipal retrofit projects because they reported that municipal retrofits were not a main component of their partnerships and had not conducted municipal retrofits.

and another seven had revolving energy loan funds (Table 5-1).

In addition to internal LG funds, at least half of interviewed LGP representatives (20 of 37) reported they and their members had used funds external to the partnership to cover the upfront costs of energy efficiency municipal retrofit projects. Eleven partnerships used no-longer-available American Reinvestment and Recovery Act (ARRA) stimulus funds to pay for municipal retrofit projects. Of the 10 partnerships using loans to conduct energy efficiency work, seven specified that they received 1% interest loans from the CEC. In addition, of the nine partnerships using grants, representatives from four partnerships specified they received Energy Efficiency Conservation Block Grant Funds (EECBG) from the Department of Energy (DOE). Table 5-1 identifies the funding sources used by LGPs and their member LGs, according to our LGP interviews.

Table 5-1: Reported Funding Sources for Energy Efficiency Municipal Retrofits

FUNDING SOURCES (MULTIPLE RESPONSES ALLOWED)	LGPS (N = 37)	PROPORTION
On-Bill Financing (OBF)	27	73%
LG General Funds	23	62%
LG Capital Improvement Fund	12	32%
LG Building & Maintenance Funds	11	30%
ARRA Stimulus Funds	11	30%
Loans	10	27%
Grants	9	24%
Revolving Energy Loan Fund	7	19%
City Bond	3	8%
Other State or Federal Funds (unspecified)	3	8%
Energy Service Companies (ESCOs)	2	5%
LG Sustainability Fund	2	5%
LG Energy Efficiency Line Item	1	3%

5.5.2. Some LGs face challenges to funding to municipal retrofit projects

Most (31 of 37) LGP representatives cited financial barriers within their member LGs as a challenge to completing municipal retrofit projects. Multiple factors impede LG decision-makers' ability to allocate funds for municipal retrofit projects. First, LGs face many competing demands for the funding sources typically used to cover the upfront costs of municipal retrofit projects. Further, municipal retrofit projects often span multiple years and, as a consequence, multiple LG budget cycles. Finally, LG decision-makers' planning is further challenged by unstable incentives and measures. We explore each of these topics in greater detail in the following sections.

5.5.2.1. Competing demands for limited LG funds impede municipal retrofit projects

Most (31 of 37) LGP representatives reported that their member LGs allocate money from their general fund, maintenance fund, and capital improvement fund to cover the upfront costs of municipal retrofit projects. The six that did not rely on LG funds used OBF for their municipal retrofits and four of those six also used loans and ARRA funds. Of those relying on LG funds, 90% of representatives (36 of 40) volunteered that the competition for limited LG funds has caused energy efficiency, broadly, to fall to the bottom of the priority list for many member LGs. Four representatives reported that when discretionary funding was available, LG leaders preferred high-visibility projects. Examples given of high-visibility projects included a new community center building, additional open space, or new solar arrays. Energy bill savings have been less compelling as a constituent benefit and have not garnered the attention of decision-makers as much as higher-visibility projects.

IOU program staff also reported the challenge of making municipal retrofit projects attractive to decision-makers. SCG staff in particular noted that when LGs have limited resources, decision-makers tend to pursue electricity projects with shorter paybacks than gas projects with longer paybacks.

About one-third (14 of 40) of LGP representatives volunteered that it has been especially difficult to secure funding for municipal retrofit projects in recent years because the recession led to declining tax revenues, which have caused LG leaders to reduce staff and run their governments in a fiscally-conservative way. Many LGs have had to prioritize spending the limited budget on key services like health, safety, schools, pension obligations, and meeting operational needs, and they are unable to set funds aside for efficiency projects.

5.5.2.2. Timeline misalignment hampers planning

According to LGP representatives, budgeting for municipal retrofit projects is further hampered by misalignment between LGP contracts and LG budget timeframes. LG budgeting occurs on a fiscal year (July 1st to June 30th) basis, while LGP contracts align with the calendar year (January 1st to December 31st). Two LGP representatives reported that, on the release of the new fiscal budget in July, they try to fit in as many projects as possible before December in order to reach partnership goals. Further, if a project is not included in one fiscal-year budget, the implementers must wait and try to get the project included in the subsequent budget, delaying an LG's ability to start the project. One LGP representative described the municipal retrofit timeline from his perspective as follows: "It can take six months for a staff member to be ready to approach city council. Tack on 12 months for the budget. Tack on eight months for procurement. We're looking at a decision-making horizon of 18-32 months."

LGP representatives and IOU program staff both discussed how municipal retrofit projects do not neatly fit within one calendar or fiscal year because they often take more than a year to complete. Five representatives reported that a typical municipal retrofit timeline, from project identification to approval, is two and a half to three years.

LGP representatives also cited LG decision-makers' short-term thinking as a barrier to municipal retrofit projects because decision-makers view energy efficiency as a capital expense instead of

an investment. A year-to-year LG budget does not have a mechanism to demonstrate how an energy efficiency investment in one year will lead to a long-term return on investment. As one partnership implementer expressed, "It makes the standard argument of saving money in the long-run hard." Representatives believed that being able to show a history of demonstrated savings from prior municipal retrofits would help demonstrate the case for energy efficiency to city leaders.

As a related point, two partnership representatives reported that annual goals are not suitable in a municipal context because the protracted nature of municipal retrofit projects means that that they are not able to complete many projects in the same year that they are initiated. In some years, partnerships may not reach their goal if projects are not completed, while in other years they may exceed the goals if multiple long-term projects are completed.

One partnership representative reported that her LGP was going to meet 200% of their goal for that year. She explained, "Because of the swing in municipal projects, you just don't know [what percent of your energy-saving goal you will achieve]. That's why it's so hard to say in a year period."

5.5.2.3. The contractor procurement process requires significant time and resource investment

LGP representatives and IOU program staff recognized that the procurement process required of public agencies also contributes to lengthy municipal retrofit timelines. Representatives from 11 partnerships volunteered information about how the time and resources dedicated to the procurement process is a challenge to completing municipal retrofit projects in a timely manner. In particular, a few LGP representatives noted that the technical language needed for an RFP was beyond the expertise of LG staff, and LGs needed to acquire outside assistance to complete the RFP.

Representatives from four partnerships identified Job Order Contracting (JOC) as a potential solution to reduce the time and resources dedicated to procurement for municipal retrofit projects. LGs with JOC would be provided a list of pre-approved contractors from their IOU or other organization without going through an individualized RFP process. Two SCE partnerships, each using a third-party partnership implementer, have used the National Joint Powers Alliance through The Energy Network (the Southern California REN) to do JOC on their behalf,

Partnership Innovations and Successes

One third-party partnership implementer was able to provide a service analogous to JOC to its member LGs. The implementing organization managed the procurement process for its member LGs by issuing RFPs to hire local installers and ensuring that the contractors meet the public agencies' procurement requirements. The partnership implementer identifies every item, such as the number of light bulbs, number of fixtures, and the staff time required per unit. This allows the team to estimate a cost the project, giving a much more accurate cost. The service reduces the time and resources that LGs must dedicate to the public procurement process.

which they report has "expedited the process" of hiring a contractor.[51] PG&E program staff reported they are exploring how JOC can help shorten the timeline of municipal retrofit projects.

5.5.2.4. Changing incentive amounts and eligible measures limit municipal retrofit activity

The long timelines of municipal retrofit projects are particularly challenging in light of frequent changes to incentive levels and eligible measures. The incentive level is the monetary amount the LG will receive for installing an eligible measure, and eligible measures are the individual products on an approved list that qualify for an incentive. Representatives from 19 partnerships discussed how the rate at which incentive levels and eligible measures change introduces risk into LG decision-making and planning.

Because LGs are resource-constrained, the IOU incentives play an important role in LGs' willingness to pursue projects. When an LG wants to account for a project in its budget, the incentives it relies on to cover a portion of the project cost may change by the time the project budget is ready to be approved. This uncertainty increases the perceived financial risk of the project, making LGs less likely to approve the municipal retrofit project because "the incentive is a significant driver and it's not stable."

Representatives also reported that the list of eligible measures for municipal retrofits is "constantly changing." There is reportedly no notification process when measures are added to or removed from the eligibility list, leading one representative to say "it's a complicated game trying to make sure that we're putting forward a fixture that's rebate-eligible for the customer." LGP representatives disliked paying for advice from engineers and auditors to identify cost-effective measures, to later learn the measure was no longer eligible for rebates. When incentives and rebates change after an LG has submitted a rebate application form, the uncertainty and lack of communication has, in more than one case, led to a "a frustrating and unpleasant experience for the city."

Another LGP representative discussed how a mid-program incentive change created ill will between the partnering IOU and the LGP program. In this case, the LGP was applying incentives to offset the costs of required testing for efficient agricultural water pumps. Reportedly, in the middle of the program, their utility informed them that the amount they could allocate to pump testing was cut in half. In describing this issue, the LPG representative stated: "That put us in a situation of having to tell people that we were going to do $400 [worth of testing], but we can only do $200 now. All that generated, instead of pump efficiency, was a lot of ill-will and skepticism from farmers that, 'There's the government, going again, telling you one thing and doing another.'"

Changes to incentive amounts and eligible measures are part of the energy efficiency landscape. The interviewed representatives, however, believe that more stability in the offerings or advanced communication about planned changes would enhance their and LG decision makers'

[51] http://www.njpacoop.org/national-cooperative-contract-solutions/

ability to plan municipal retrofit projects with confidence that the rebates will still be available at the time the project is completed.

5.6. The rebate application process leads to missed program savings

Representatives from 20 partnerships reported frustration with the rebate application process' strict parameters and sequence, particularly when LG staff lack understanding of the program's requirements. As discussed below, some partnership representatives also indicated they or their member LGs perceived the incentives as "not worth" the time needed to complete paperwork and opted to forego the incentive process for some upgrades, suggesting that member LGs are achieving energy saving for municipal retrofit projects that are not being captured by the partnership.

5.6.1. Keeping the rebate application in sequence requires LG staff awareness

The rebate application process comprises a sequence of steps, including filing the application when the municipal retrofit opportunity is identified, allowing for a pre-inspection before the removal of the old equipment, recording documentation of the installation, submitting of invoices, and a post-inspection.

Representatives from 14 LGPs across all IOU territories expressed the understanding that all activities had to be conducted "in sequence" and that applications must be submitted prior to purchasing the equipment for a municipal retrofit project, including applications for "express measures." [52] This sequential process requires that people from multiple governmental departments and levels, including the "boots on the ground" facilities maintenance staff, be aware of the LGP program benefits and to understand the importance of contacting the program representatives when *considering* replacing equipment so that the LGP can follow the rebate application sequence. Staying in sequence is particularly difficult in light of LG staff turnover and LG staff being stretched thin and focusing on many tasks.

Program staff commented on the importance of having awareness and commitment to energy efficiency among LG facilities staff *and* decision-makers, each of whom may identify municipal retrofit projects but require the other to ensure the projects are realized. Facilities staff can identify opportunities for municipal retrofit projects; however, this work must be approved by decision-makers. Decision-makers, on the other hand, may drive municipal retrofit projects by setting energy savings goals, but facilities staff must take advantage of opportunities to conduct this work through the partnership.

[52] Contacts from two partnerships reported that it is possible to retroactively apply for an incentive after a project has been completed, with one specifying this was allowable for "express measures." The prevailing sentiment among the remaining partnerships was that the application must always be done prior to purchasing the equipment, however.

To ameliorate the challenge of staying in sequence with rebate applications, representatives from partnership implementing organizations (like counties, COGs, or third parties) felt it was their job to increase LG staff awareness of the program and to have good relationships with their LGs so the LGs will *want* to conduct qualifying upgrades, rather than replace equipment with standard efficiency models.

Partnership Innovations and Successes

A partnership implementer from a COG said she has had success enhancing program awareness and getting her LGs to contact her by making the message as simple as possible. To convey the benefits of engaging the partnership she commented, "My joke is that you have to let the city know, 'If you can plug it in, call us! Contact the COG to see if it qualifies for an incentive.' It's literally that simple, 'If you can plug it in, call us.'"

One LGP representative who was relatively new to her partnership at the time of the interview reflected, "I need to do a better job of getting the LGs to reach out to the partnership when they have a project." Other more-experienced partnership implementers described their efforts to increase awareness at the LGs as "cheerleading," "selling the idea," and having become an "energy efficiency evangelist."

These efforts to increase awareness of energy efficiency and of the partnership among member LGs are stymied by resource-strained LG staff and LG staff turnover. Seven key partnership representatives noted that for many LG staff, energy efficiency is something "extra" and not part of their core responsibilities or tied to their performance evaluations. Since LG staff have many responsibilities, IOU program staff and LGP representatives reported that LG staff tend to focus on their required work and push aside partnership activities. To overcome this challenge, partnership implementers and IOU program staff expend effort to educate LG staff and can sometimes get staff members enthusiastic about energy efficiency. When those staff members leave, however, they must re-start their education efforts, setting back the partnership in terms of program awareness.

Two partnership implementers, both situated at third-party implementing organizations, noted that staying in sequence improves as the partnership ages because they have been able to encourage LG staff awareness and support of the LGP program. They stated that there were many missed opportunities with nascent partnerships but as time went on and they increased awareness of the partnership and its benefits to the LGs, LG staff began reaching out to them more often to keep the rebate application process in sequence. Partnership implementers with sufficient time to dedicate to the partnership are a valued supplemental resource to LG and IOU program staff because they encourage LG staff to contact the partnership so that the program can encourage qualifying equipment retrofits.

In short, the LGs understand that they are only eligible for a rebate if they go through the enrollment process and submit the rebate application before purchasing the needed equipment. Adhering to these sequences requires staff from member LGs to be aware of the program and to know to contact the program before purchasing new equipment or removing old equipment, which in turn can lead to missed opportunities for energy efficiency upgrades. Accordingly, partnership implementers recognize that it is their job to enhance awareness among LG staff

about the partnership program so that LGs do not miss opportunities to increase the energy efficiency of their equipment replacements and facility retrofits.

5.6.2. Some LGs feel that the time-consuming rebate application process and high upfront costs outweigh program incentives

Representatives from six partnerships expressed that they (2) or their member LGs (4) perceived available rebate benefits as "not worth" following through with the application process because of the delays associated with it or the perception that the incentive amount is too low. Representatives from three partnerships said that it is not uncommon to have approvals take three to four months. Although representatives reported that some of these LGs proceeded with the energy efficiency upgrade but did not apply for incentives due to long wait-times, the long wait-times serve to discourage LGs from selecting energy efficient equipment, especially when they view the incentives as small. Two representatives said that rebates valued at $1,500 were not worth the effort. They described previous payouts of $1-$3 million as worthy of following through with the process. Another representative reported that the incentive amounts would need to be close to 100% of project costs to interest his LGs in specifying energy efficient equipment, as energy efficiency is not a priority for them.

One representative saw the approval delays and the incentive amount as being intertwined, saying, "If a water department needs a new pump, they're not going to wait three to four months to get the pump just because [the utility] will give them $1,500. That's why it's so difficult for the partnership to get projects, because you have to wait for [the utility] to approve your incentive. Cities might not work as fast as the private sector, but we work faster than [the utility] does!"

5.6.3. Contractor missteps can result in missed rebates

Representatives from five partnerships and one program staff person noted that contractors hired by LGs sometimes perform work that disqualifies a city from receiving a rebate. Two of these representatives had experienced projects where contractors had changed project specifications, causing the city to lose the planned rebate and savings. One representative stated, "The contractors can do the work, but they don't really understand the rebate process, so they start the project thinking they'll get the incentives and they don't follow the process correctly and the city doesn't get the rebate."

While contractor errors were not a commonly reported problem, it has the potential to affect partnerships' progress toward their goals and may contribute to LG staff mistrust of the program when it occurs. Our interview findings suggest that JOC, discussed in greater detail in Section 5.5.2.3, may help partnerships access pre-approved contractors who understand energy efficiency and are familiar with the rebate application parameters and can ensure that cities achieve the expected energy savings and receive the associated rebates.

5.7. Tracking of municipal retrofit project data demonstrates the impact of municipal retrofit activities although it is hampered by data access limitations

This section provides a summary of our findings regarding municipal retrofit project tracking and reporting. The tracking process for municipal retrofit projects appears fairly consistent across LGPs, although interviews with LGP representatives revealed some differences across the IOUs regarding which partnering entity is responsible for tracking and with whom tracked information is shared.

Representatives identified challenges related to calculating the ongoing energy savings from municipal retrofit projects and to tracking project stage data. Partnership representatives believe that they could better track progress toward goals, demonstrate the impact of a municipal retrofit to LG decision-makers, and decide which facilities to target for future retrofits if they had improved access to energy savings and project stage data.

5.7.1. Municipal retrofit tracking processes are similar across partnerships, although some share these data more broadly

Representatives from most partnerships reported tracking project stages and the energy savings resulting from municipal retrofit projects. Some representatives also reported tracking project costs and funding sources, such as loans or OBF, and the status of the IOU rebate application. Table 5-2 identifies the number of representatives who reported tracking each aspect.

Table 5-2: Tracking of Municipal Retrofit Projects

Aspect of Municipal Retrofit Project	LGPs Tracking (N = 34)*	Proportion
Project Stages	26	76%
Energy Savings	25	74%
Project Costs and Funding or Financing Sources	15	44%
IOU Rebate Application	12	35%

* Some representatives were too new to their partnerships to discuss tracking and reporting of municipal retrofits or their partnerships had not completed municipal retrofits during their time at the partnership.

While some representatives cautioned that "every project is unique," most reported keeping track of a similar progression of project stages. These stages included the identification of the project (sometimes through an audit), pre-inspection, estimation of expected energy savings, identification of available funding, presentation of the project for approval (often to a city council), project approval, submittal of rebate application, initiation of contractor bid process (sometimes involving an RFP), selection of contractor, initiation of installation, completion of key stages in larger projects, completion of project, completion of post-inspection, project reported to IOU, and receipt of incentive payment.

Most partnerships (26 of 33) used realized energy savings to evaluate the performance of municipal retrofit projects, and some partnerships (10 of 33) also looked at the associated cost savings.[53] Representatives from seven partnerships also reported keeping track of the project pipeline, what projects were coming up, and the estimated close date of current projects. Six LGP representatives reported tracking municipal retrofit projects to assess their standing in relation to energy-savings goals or project goals.

Analyses revealed some differences in who is responsible for tracking the progress of municipal retrofit projects across the four IOUs (Table 5-3). All tracking is done at the LG-level in SDG&E territory, even though one partnership comprises multiple member LGs. There is a mix of tracking at the LG- and LGP-level within SCE, SCG, and PG&E partnerships. Some partnership representatives in PG&E territory (5 of 17 LGPs) also reported that Regional Direct Install Contractors are involved in tracking municipal retrofit information, with three PG&E LGPs reporting that a Regional Direct Install Contractor handles all municipal retrofit project tracking for the partnership.

Table 5-3: Tracking of Municipal Retrofit Project Information by IOU (n = 38)*

IOU	LGP-Level Reporting		LG level reporting	Both LGP- and LG-Level Reporting	Reporting by Regional Direct Install Contractor	Total
	Single LG	Multiple LG				
PG&E (n=17)	N/A	8	3	3	3	17
SCE (n=18)	6	5	4	3	N/A	18
SCG	5	6	3	2	0	16
SDG&E (n=5)	4	0	1	0	N/A	5

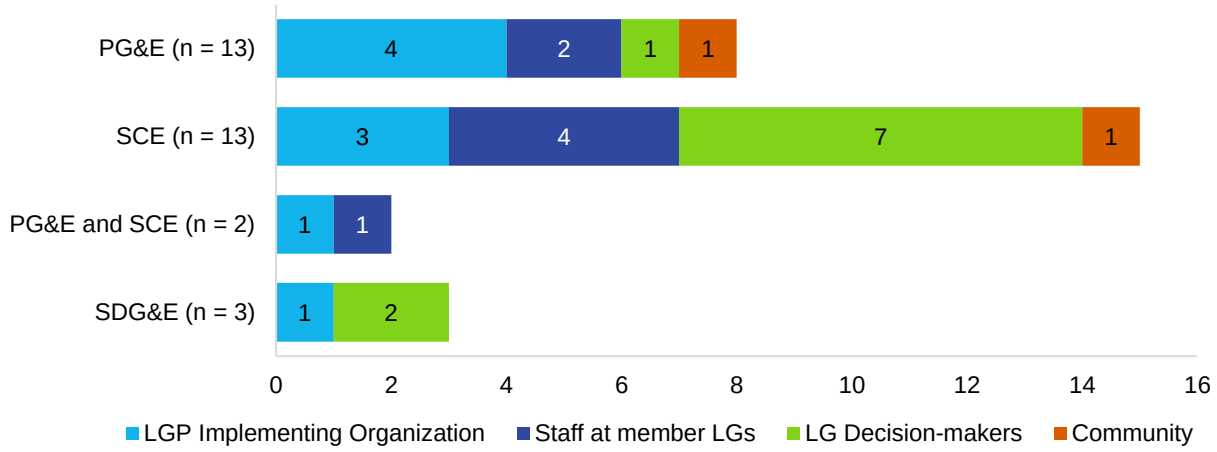
* Multi-IOU partnerships appear in all relevant categories.

Representatives from nine partnerships reported using data on project status and energy savings to make budget allocation decisions. As one representative stated, “we need that information because we don’t want to throw money at a program if it’s not working.” Seven partnership representatives, five of which are implemented by a AOG/COG/JPA, reported sharing municipal retrofit tracking data with staff at the individual LGs. Perhaps a reflection of SCE’s greater emphasis on municipal retrofits, SCE partnerships seem to be more involved in collecting municipal retrofit information and sharing that information with key parties than do partnerships in other territories. SCE partnership implementers share and discuss municipal retrofit information with their member LGs more than was reported in other territories, and reported they more frequently share the benefits of municipal retrofit projects with decision-makers to help them understand the benefits of investing in energy efficiency.

[53] The n = 33 because some contacts were not asked the question due to time limitations in the interview (4) and others said that municipal retrofits were not a main component of their partnership and had not tracked or reported municipal retrofit projects (3).

Even though municipal retrofit projects may be hard to prioritize at the LG level, the improvements on municipal buildings are relevant to LG staff and citizens. In addition to reporting to the IOUs, 12 partnerships share municipal retrofit project information with people outside the LGP program (Figure 5-2). Ten partnership representatives shared municipal retrofit information with decision-makers at their LG, such as city council members, and two reported that they share achievements from municipal retrofit projects with the wider community via websites.

Figure 5-2: Recipients of Municipal Retrofit Project Information Sharing (n = 31)*



* Multiple responses allowed

Twenty-nine key partnership representatives provided feedback on whether the program's municipal retrofit project tracking and reporting process accurately reflects their accomplishments. Representatives were divided, as about half of the representatives (15 of 29 LGPs) felt the reporting process accurately captured their partnership's accomplishments, while the other half thought the metrics missed something (14 of 29 LGPs). Five representatives who felt the metrics were not accurately capturing actions said that the reporting process was too focused on demonstrating when projects had been completed and did not accurately capture project stages. Six representatives wanted fewer reporting requirements or "simpler" reporting requirements. Three other representatives offered comments not germane to this analysis.[54]

[54] One representative desired to have customer satisfaction data tracked, another said that the metrics were missing their renewable energy projects, and the last contact thought LGP performance should be measured by GHG reductions instead of kWh reductions.

5.7.2. Limited access to energy and project stage data impedes partnership tracking of energy savings

As we describe in the following sections, representatives reported challenges accessing up-to-date energy-usage data, with the activity requiring an investment of time and resources. Some partnerships struggle to document ongoing savings in the face of rate changes and from municipal retrofits that involve multiple service accounts. Others reported limited project stage that hampers accurate tracking of partnership goals and does not demonstrate the many steps involved in a municipal retrofit project. Having this information would facilitate informed decision-making, help partnerships quantify the impact of their program efforts, and demonstrate to city leaders that energy efficiency produces cost savings.[55]

5.7.2.1. Accessing up-to-date energy-usage data takes time and resources

Representatives from 27 partnerships said they had difficulty accessing timely and accurate energy-usage data for their jurisdictions, and 28 representatives requested improved access to customer data to inform their decision-making and to understand the impacts of prior municipal retrofit projects. Implementers at AOG/COG/JPAs described being in a "middle-man" position that limits their access to energy usage data. Multiple state and federal regulations prevent the IOUs from sharing confidential customer data, so AOG/COG/JPAs and third-party implementers are not able to access their member LGs' accounts without legal agreements and are dependent upon their member LGs or utility partner for access to savings information. As one representative at a third-party implementer stated, "We don't hold the pieces of information. It's all with the city partners or utility partners. We're at their mercy to be given the data."

Some partnership implementers described how data requests to the utility must come from the LGs instead of their implementing organization and the requests go through a lengthy approval process. Other partnership implementers

Partnership Innovations and Successes

One single-LG partnership was able to overcome the data access barrier, but its solution is likely not an option for municipalities with limited resources. Over a period of six months, relying on the help of a college intern, the city established an internal spreadsheet that tracked the electric bills of each department, such as Parks and Recreation, the police department, the engineering department, and the library. The spreadsheet was distributed to a key contact at each department quarterly, and the contact enters the electricity expenses for that department. This coordinated spreadsheet enables the city to know how much they are spending on electricity in a given month, which this representative said will be especially helpful "when a council member wants to know what we spend on electricity, which happens."

[55] Not all partnership representatives were able to comment on challenges related to tracking and reporting either because they were uninvolved in the tracking and reporting or because municipal retrofits are not a main component of their partnership. A greater number were able to report *who* tracked municipal retrofit information, but because others did the tracking the respondents could not provide details on challenges relating to it.

described arduous back-and-forth endeavors with the IOUs to obtain energy usage information about their LGs. Further, ten representatives reported that ad hoc data requests yield inconsistent data and that they would prefer "constant, steady, and reliable" communication about data. One representative stated, "We shouldn't be dependent on asking for the data and getting a response or not."

Representatives from 11 of the 27 partnerships that have experienced challenges related to data access had the same recommendation for how the IOUs could facilitate systematic access to data: an IOU-provided energy data dashboard. Representatives from single-LG partnerships desired a dashboard that linked all of their service accounts in one place and contained up-to-date information. Implementers from multi-LG partnerships desired a "centralized information system" displaying data on building-level LG projects to enhance transparency of LGP activity and inform their partnership-level decision-making. Three representatives reported that their program representatives provide "limited" monthly summaries at their regular meetings. They desired the ability to access up-to-date data for the sake of expediency and accuracy.[56]

5.7.2.2. Some partnerships struggle to document ongoing savings from municipal retrofits that involve multiple service accounts or rate changes

Representatives from a majority of partnerships (27 of 34; 79%) reported difficulty calculating the ongoing energy savings resulting from their municipal retrofit projects. Representatives from 23 partnerships said they struggled to calculate their energy savings by looking at past utility bills because this requires technical mathematical calculations, which were further confounded by rate increases. Two representatives from different IOU territories explained similar challenges to calculating ongoing energy savings following a municipal retrofit project. One these representatives stated, "We've had to do it through utility bills, but we have so many accounts it's a lot of math and double-checking. It's not easy." The other representative noted, "When a rate changes for a facility, it impacts the cost, and changes in cost savings. [The utility] changes them so often we can barely keep up."

Four partnership representatives reported their calculation difficulties were due to difficulty accessing data through multiple service accounts. In some cases, cities with hundreds or thousands of service accounts had difficulty determining the city's overall energy usage. Further, representatives noted that calculating energy savings from service account data can be particularly challenging where there are multiple service accounts for one facility.

Three larger cities (all single-LG partnerships in SCE/SCG or SDG&E territory) noted that they have in excess of 2,000 service accounts with their IOUs. Each city agency reportedly pays its own electricity and gas bills, and while all bills go through accounts payable, there is no tracking device for the city to be able to know how much it spent on electricity and gas in a given month. Not having a precise understanding of city energy expenses hampers partnership implementers'

[56] In comments provided by IOU program staff in response to draft versions of this report, they indicated that most municipal customers should be able to access energy usage data online, but thought there might be limited awareness of how do it. In addition, they suggested the use of Green Button Connect My Data as a way of securely sharing energy usage data with third parties and acknowledged they could better promote that as a solution to data sharing challenges.

ability to plan and demonstrate the impact of municipal retrofit projects. Benchmarking is one way for cities to understand their municipal energy usage across multiple buildings and accounts, an activity that is promoted more in PG&E territory than SCE territory, according to a representative from a multi-IOU partnership.

LGP representatives also reported challenges associated with calculating energy savings for municipal retrofit projects when there are multiple meters at one facility/complex because linking together data from multiple meters to calculate the total energy savings for the project is difficult. Program staff indicated they were aware of the challenge presented by multiple meters for a single facility and how that makes it difficult to demonstrate the impact of a municipal retrofit project. One program staff representative said the utility was working to improve the naming of the accounts so that one facility can be listed instead of several individual meters.

5.7.2.3. Improved access to project stage data and project inventories may facilitate tracking of goals and establish partnership history

Two program staff and 11 LGP representatives described difficulty accessing information on the current stage of individual municipal retrofit projects, which impedes their ability to track progress toward partnership goals. This difficulty occurs because of the numerous stages involved in completing each municipal retrofit project and the considerable variability in how long each of those stages can take. Partnership representatives reported having to continually follow up with LG staff to learn about the current stage of a project. One single-LG representative stated, “It’d be nice if all the agencies in the city had one place to go where everything’s in one location so everyone knows what’s going on.” One IOU program staff representative discussed his limited access to municipal retrofit project stage information, saying, “We get the application and they proceed with the work, but sometimes it’s difficult to understand where they’re at in the actual installation of that project.”

Representatives from three LGPs in SCE and PG&E territories discussed the importance of tracking the lifecycle of projects because the energy savings resulting from those projects are linked to partnership goals, particularly in SCE territory where energy savings are required for tier advancement. Better tracking of project timelines and progress will provide partnership implementers a sense of how long different municipal retrofit projects take and help them set more “realistic” energy savings goals based on an improved estimation of when the project will close. Long project timelines complicate goal setting and ensuring goal attainment. LGP program staff acknowledged the challenge for LGs to complete their municipal retrofits in the time anticipated and are reportedly looking into including pipeline development as a performance indicator.

Representatives from five partnerships identified the lack of a municipal retrofit project history as a challenge, particularly when institutional knowledge is lost with staff turnover. The lack of a IOU- or program-wide project archive makes it difficult for current partnership representative staff to know what facilities have been retrofitted so that they can identify gaps and prioritize future municipal retrofit projects. Two representatives reported receiving rebate checks for municipal retrofit projects without being able to determine which building was retrofitted or what measures were installed.

One LGP representative described another partnership's efforts to enhance the transparency of project data and wished she could implement a similar solution within her own partnership. The problem-solving partnership worked with their LGs, IOU program staff, and IOU account managers to establish a system where the partnership received a monthly report exported from the IOU's Customer Relationship Management (CRM) database of active and completed projects. If such a monthly report was a standard component of the LGP program, it would enable IOU program staff, partnership implementers, and LGs to communicate more effectively. A regularly updated project inventory would be particularly helpful for staff who have recently begun working with a partnership, whether they be at a member LG, LGP, or IOU.

Partnership Innovations and Successes

One AOG-led partnership noted that there was no institutional tracking of the projects each member LG conducted. In order to create a history of what each member government has done through the partnership, the LGP hired an intern to sit down individually with each city to document its achievements. The representative said this effort is creating the only documentation that exists tracking the project history of each LG. The LGP hopes to maintain the project inventory by capturing project information in real-time going forward.

5.8. Geographically isolated partnerships face unique challenges to completing municipal retrofits projects

Our interviews with LGP representatives indicated that geographically isolated partnerships with low population densities faced unique marketplace challenges to completing municipal retrofit projects (see Section 3.2.2 for our definition of geographically isolated partnerships). Representatives from geographically isolated partnerships report difficulty accessing trained energy efficiency contractors and obtaining equipment to complete whole-building retrofits. Their distance from metropolitan areas and smaller average project sizes reportedly deter PG&E's Regional Direct Install Contractors from traveling to the area, hampering their partnerships' ability to provide energy efficiency services to rural ratepayers.

5.8.1. Geographically isolated partnerships have difficulty accessing contractors, although some have developed strategies to overcome this barrier

Seven of the ten geographically isolated partnerships (70%), compared to nine of the 30 (30%) metropolitan partnerships, noted difficulties accessing contractors that could implement municipal retrofit projects. This was related to two issues: 1) a dearth of local contractors with the skills and certifications needed to complete the municipal retrofit project, and 2) difficulty attracting out-of-area contractors due to high travel costs.

Six representatives from geographically isolated partnerships reported that there are not enough contractors in the area to perform energy efficiency upgrades on existing buildings. Three representatives specified that local contractors were not knowledgeable enough or licensed to

perform lighting retrofits, while two others specifically reported difficulty accessing contractors to retrofit water pumps.

Most of these partnership representatives (6 of 7) reported having to attract contractors from outside the area in order to complete municipal retrofit projects, but described difficulty doing so. Two program staff noted that partnerships in less densely populated areas tend to have smaller facilities with lower energy use, which translates into less municipal retrofit opportunities for contractors to address. The travel costs associated with accessing remote areas and traveling between customers, coupled with less energy-intensive facilities, results in greater expense with fewer energy savings. Contractors and consultants do not want to accept jobs that generate relatively little income and incur high costs, and LGPs do not want to cover the travel costs and thus pay more for relatively small savings.

Representatives from three partnerships noted that they had had some success attracting out-of-area contractors when they were able to bundle multiple projects together. The representatives would compile lists of projects, which individually would not be enough to justify contractors traveling to their areas. With several projects bundled together, the project cost and savings made it sufficiently attractive to the contractors to travel to the area.

Two geographically isolated partnership representatives reported a different strategy to increase the supply of qualified workers – offering training to increase the skills of local labor. One representative reported success with a pilot program that developed capacity among the LGP staff to perform site assessments and audits. As a result of training, the number of audits increased, which in turn created more work for local contractors. As an additional benefit, an area that previously had to rely on attracting out-of-area contractors to conduct site assessments now had local talent that could do so.

Partnership Innovations and Successes

One representative from a geographically isolated partnership described the strategy his partnership used to attract contractors from the Los Angeles area to his geographically isolated. The LGP sought to line up several jobs that could be tackled by a single contractor. The representative reported getting "hundreds" of people to sign up for a direct install program, which made it sufficiently cost-effective for the contractors to travel there. He added, "we've been very effective in making it worthwhile to get contractors to come, but not effective in getting local contractors to change their ways and learn about new technologies."

Partnership Innovations and Successes

One geographically isolated partnership helped an LG put out an RFP for an oxygen control measure on a wastewater treatment facility project and received no bids from local contractors. The LGP representative asked her contacts in urban areas for recommendations, then called the Chief Executive Officer (CEO) of each recommended company and explained the project, the funding levels, and the OBF requirements. The LGP representative explained to each CEO that his or her company was invited to submit a bid based on the recommendation of a member government. The LGP representative then re-issued the RFP and received multiple bids.

The second representative who reported efforts to train local contractors expressed concern that those efforts hurt his partnership's cost effectiveness. Reportedly, the LGP's IOU did not provide partnership funding to conduct contractor training, which made it challenging to identify and dedicate funds. This representative believed he was in a tough situation. Local contractors need training to do quality work on partnership projects, yet the trainings do not directly produce kWh savings, and any contractor trainings he conducts distract from the projects that do produce energy savings for the partnership.

5.8.2. Challenges sourcing equipment needed for comprehensive retrofits

Two of the ten geographically isolated partnership representatives, compared to none of the thirty metropolitan partnerships, reported difficulty accessing the necessary equipment and supplies for comprehensive retrofits. Of the eight isolated partnership representatives who did not report challenges sourcing equipment, one representative said that his partnership focused on lighting retrofits and did not have trouble obtaining the lighting they needed. Another representative explained that he ordered equipment from online retailers instead of relying on local distributors.

The two representatives with equipment challenges reported some success in their efforts to source LED lighting and to convince local distributors to stock LED lights. One described needing to "build the market" for efficient lighting in his area. He said that distributors were not willing to take the risk to shelve LED lights because they were unsure about the level of local demand. The LGP bought LED lights and placed the lights in their "resource center" so that both contractors and the public could gain familiarity with them. The representative credited this lighting demonstration with stimulating demand and reported that distributors now stock and sell LED lights in his area.

Even with these successes, the two representatives expressed that they would like to be able to encourage comprehensive retrofits (beyond lighting) that could generate deeper energy savings in their communities. They reported that many of the necessary products were not available locally, including efficient water heaters, windows, and insulation. They said it was a challenge to demonstrate to local distributors that a market exists for energy efficient products and that they would find it worthwhile to stock such products.

One representative said that he was exploring a loss recovery program for distributors. If implemented, this program would enable the LGP to encourage local distributors to stock efficient products needed for comprehensive retrofits. If the products were to sit on the shelf too long, the LGP would help cover the distributor's losses. This representative said there is still a lot of work to be done before he could start such an initiative; however, it would be one way to encourage distributors to stock the efficient products and services that are currently unavailable.

6. Program-Wide Findings

While this evaluation sought to document findings specific to the SP support and municipal retrofit elements of the LGP program, our interviews with program staff and key partnership contacts yielded a number of findings that cross program elements and have the potential to affect any work occurring through the program. For reasons discussed in Chapter 2.4 *Limitations of the Study,* the number of LGP representatives providing answers to a given question varies slightly; we provide the number of respondents who provided an answer to each relevant question throughout the chapter. We describe the observed patterns for findings that differ by IOU; in the absence of such description, the reader should understand that the findings do not differ by IOU.

6.1. A steep program learning curve may slow LGP and LG activity

Representatives from 14 partnerships reported that they experienced a steep learning curve when they first became involved with the LGP program. Interviews with partnership representatives indicate that both partnership implementer staff and staff from individual LGs must invest a great deal of time and energy into understanding the LGP program's processes and objectives. For example, one LGP representative said that when she and her colleague were assigned to work on their single-LG partnership, it took them eight to ten months to understand the program.

Taking time to learn the ins and outs of the program can delay or limit partnerships' and LGs' efforts to implement projects, engage in long-term planning, and conduct outreach to their communities. One LGP representative reported focusing her efforts to engage LGs on one or two utility programs instead of trying to understand the breadth of utility programs available to her partnership. Another representative discussed how much she had to learn to understand how "we as an implementer, the program administrators, and the municipal customers all work to meet one another's needs," which resulted in an experience she described as "learning to fly the airplane while building it." A third representative reported that the steep learning curve has discouraged staff at his member LGs from prioritizing partnership activities. "For a lay person to learn how the partnership operates, I think that it becomes challenging to a point where they'll prioritize the other work they have to get done and push aside the 'extra' partnership stuff. It pushes them away because no one is there to help them and it becomes challenging."

Another LGP representative felt it was not appropriate to ask LGs themselves to educate their internal staff on program rules and regulations. He felt that the CPUC or IOUs should fill this role given LG staff's limited time to focus on the partnership and the challenges associated with staying abreast of regulatory changes and changes in the IOUs' incentive and rebate offerings.

Some representatives described how the LGP program's complexity makes it difficult to explain the program to new staff members. Partnership representatives felt that the CPUC or IOUs should draft "a manual, toolkit, or training materials" for new staff, which would reduce the initial barriers new members face to becoming engaged with the program and allow them to take

action more quickly. One representative said, “I would like to see a flow chart of how this actually works. It’s a maze of regulatory and organizational hierarchy. I don’t know how to explain that to someone new to the program. A flow chart would be helpful to understand the processes.”

A manual or training materials could outline, in clear language, the goals of the LGP program, the role that LG and LGP staff play in meeting those goals, key program limitations, and important details related to invoicing and rebate applications. New partnership staff would likely be able to get up to speed faster by reading a manual rather than learning by experience or learning piecemeal from other staff.

6.2. IOU staff changes can impede partnership progress and highlight the importance of LGPs

A key benefit of the LGP program is the relationships the IOUs develop with their local government customers that support mutually beneficial activities. However, this asset is weakened by frequent restructuring at the IOUs. Representatives from 13 partnerships mentioned challenges stemming from the turnover among IOU program staff.

Three LGP representatives discussed frustrations related to losing established relationships when their IOU program staff representative changed. One LGP representative described how this played out in his community, saying, “The utility restructures staffing frequently, so it’s frustrating to not know who you’re working with. We'll develop a relationship with someone, and the community gets to know them, and then that person gets transferred to a different job. You don’t get that sense of partnership with the community when staff is always changing. The people you work with at [the IOU] are great, it's just that they move around a lot.” LGP representatives also reported that they have invested valuable time and effort to educate new IOU representatives on their partnership, its history, and its goals.

Four partnership representatives and the former Best Practices Coordinator said that IOU restructuring negatively impacts the amount of time that IOU program staff can dedicate to partnership activities. Partnership representatives reported delays subsequent to restructuring in obtaining the data they need to conduct LGP activities. As one LGP representative stated, the “shuffling [of program staff] makes it hard for the utility representatives to be adequately responsive and provide us with what need to serve the cities.” This may be due, in part, to the fact that new IOU program staff also experience a learning curve to the LGP program; they may not know how to provide the requested information and may have less time available to field information requests.

Partnership implementers provide continuity to member LGs while IOU program staff are in flux. The implementing organization can act as a consistent point of contact and source of information the LGs can go to when they have questions regarding energy efficiency program requirements and partnership goals. In fact, two LGP representatives felt that the role their implementing organization plays has grown in importance given the frequent staff changes at the IOUs. One LGP representative noted that his third party implementing organization, which has maintained the same staff for five years, was the “stake in the ground” that provided stability to

the partnership and to which member LGs could reliably turn. He felt that their role as implementer had helped to keep the partnership intact. Similarly, another LGP representative, also situated at a third party implementing organization, said that because his organization has had no staff turnover, they have been able to deliver continuity to and develop close relationships with member jurisdictions. In essence, the implementing organizations serve as an extension of IOU program staff, helping to guide and encourage their member LGs to conduct partnership activities when IOU program staff may be in transition.

6.3. Inconsistencies between IOU program offerings may increase administrative complexity for some LGPs

Four of the 17 partnership representatives that work with multiple IOUs reported challenges associated with their utility partners' different program offerings and implementation approaches. While these findings represent a small subset of partnerships in our sample, they nonetheless highlight the different approaches each IOU takes to implementing the LGP program and shed light on instances where the unique implementation approaches can, in a minority of cases, increase the administrative demands of the program for LGPs that partner with multiple IOUs.

LGP representatives noted that their partner IOUs had different interpretations of which activities fall under which SP menu item and, further, that some activities were funded by one IOU partner and not another. Two partnership representatives wondered why there was not more uniformity among the IOUs' program implementation approaches, given that all of their program activities are under the auspices of the CPUC.

One representative of an LGP that partners with PG&E, SCE, and SCG described her efforts to provide clarity to her member LGs regarding program offerings. LGs that are members of the same partnership yet are served by different IOUs may not all be able to conduct the same activities if only one of the partner IOUs offers that activity. For instance, this representative noted that PG&E funds benchmarking activities while SCE does not. When she discusses the benefits of benchmarking with her member LGs, she feels she is "only talking to half of my partnership because only half can take advantage of it."

Two partnership representatives and two program staff also noted that the invoicing and reporting requirements differed between the IOUs. One LGP representative said that completing separate reporting forms for his multiple utility partners took time away from implementation. Program staff noted that SCE and SCG used the same invoice template; however, rates and required backup documentation differed between the two IOUs, which had caused confusion for the LGPs. SCE program staff said the IOUs are looking into ways "to communicate to the partners in a similar and cohesive way to avoid confusion and enable everybody to understand what we're trying to achieve more easily."

6.4. Administrative complexities may take time away from implementation and reduce interest in projects

Representatives from 17 partnerships discussed frustrations related to delayed IOU response times or re-submission of paperwork.[57] Although LGP representatives across all IOU territories discussed administrative challenges, representatives in SCE territory in particular cited issues with the IOU's invoicing approval process that led to their partnership having to re-submit paperwork, increasing their administrative burden. Complications related to invoicing cause delays in incentive payments reportedly have discouraged some LGs from completing subsequent LGP projects.

6.4.1. Waiting for project approval can be discouraging

Representatives from three partnerships described a lack of communication from the IOU while waiting for approval to start a project. Representatives said that they would submit an application for a municipal retrofit project, for example, but would not receive any updates before receiving the final approval from their IOU partner, which made it difficult to plan project work. Specifically, representatives said that the project approval process took up to three months, all the while cities were left wondering when they could start their project. Three representatives indicated that such delays discourage some LGs from going through the LGP process for their retrofits, especially when there is a need to get the project done quickly for equipment failures, safety or damage mitigation reasons.

6.4.2. Project invoicing details cause snags, delaying payment and causing frustration

Fifty percent (9 of 18) of SCE's LGP representatives that discussed administrative challenges reported that they had experienced frequent requests to re-do invoicing paperwork in order to receive the utility incentive. In describing why their paperwork had been sent back with requests for additional information, some representatives described these administrative hindrances as "blips," or "glitches." One representative said, "administratively, it was extremely difficult to get them to accept our reporting and invoicing." Other representatives described the invoicing process as labor intensive and reported that the SCE legal team was "completely inflexible."

Representatives described situations where they submitted invoices and the associated documentation and subsequently received requests to change the wording, provide supplemental information, and re-submit the invoice due to administrative nuances or changes in requirements.

[57] As our work scope focused on SP and municipal retrofit activities, we did not ask LGP representatives directly about their marketing and outreach (M&O) activities. Nonetheless, two representatives spontaneously mentioned bureaucratic delays associated with obtaining approval for M&O materials. For both LGPs, the IOU approval process took so long that they were unable to get the outreach materials approved in time for the event they were promoting. The representatives viewed this situation as particularly unfortunate because the LGs provide the IOUs with a low-cost channel for disseminating information about utility programs and other energy saving behavioral tips. Indeed, conducting such outreach is one of the primary components of the LGP program.

One representative estimated that it took 20 to 30% of the partnership budget to re-do reporting.[58] What's more, she said "they still haven't paid two of their invoices [apparently] because they just can't figure it out. We've given them every piece of documentation that they need and they still haven't paid us."

Other representatives described it as "irritating" to be asked for re-submissions. Two representatives specified that they had submitted all the required documentation for an invoice, but received a call six months later requesting the documentation again. For the LGP, "trying to recreate these things is a challenge" because it requires them to spend time relocating and resubmitting old documents, which takes valuable time and effort away from partnership projects. Another representative said that he understood that SCE was trying to be responsive to CPUC requirements, but that the IOU went overboard asking for more detail on multiple invoices.

One LG that installed three units of the same measure as part of one project provides another example of the invoicing process's inflexibility. The partnership representative said the LG had bought the three items at the same time and had a single receipt, yet the incentive process required that an incentive application be submitted for each measure intending to be rebated. The representative described attempting to comply with the requirement by submitting three separate invoices with a copy of the receipt attached to each one. The representative characterized SCE's response as "stalling" the application because there was not a separate receipt for each measure. She reported having worked for more than four months to resolve the issue and having yet to receive the incentive payment.

It appears that when invoicing setbacks occur, the relationship that both the LGP and LGs have worked hard to build can sour. The LGs experiencing this reportedly become more hesitant to move forward with additional projects through the LGP program because, in their minds, they complied with invoicing instructions and yet did not receive the incentive in a timely manner.

6.4.3. SCE/SCG and SDG&E implement different models to engage single-LG partnerships

We found that differences in the implementation approach between SDG&E and SCE/SCG yield different experiences for their single-LG partnerships as they meet the program's administrative requirements. For both, single-LG partnerships see benefits to the IOUs' approach; however, SDG&E's model, which allows partnership funds to cover LG staff time, ameliorates a challenge experienced by SCE/SCG's single-LG partnerships. SDG&E's program model allows for partnership funds to cover some staff time to work on the partnership, which all four of SDG&E's single-LG partnerships received. This funding gives the LGs more ability to spend time on partnership activities and stay on top of administrative demands which builds their

[58] As a point of comparison, our evaluation of the Department of Energy's Better Building Neighborhood (BBNP) program found that it was not uncommon for local governments receiving BBNP grants to devote 20% of their team's time to reporting. However, these local governments also characterized the BBNP required reporting as much more extensive and time-consuming than their typical grant reporting requirements.
http://energy.gov/sites/prod/files/2015/08/f25/bbnp_volume_4_process_evaluation_072215_0.pdf

internal capacity to do EE projects, in line with Goal 5 of the California Long Term Energy Efficiency SP. One of these partnerships characterized funding for staff time as a significant benefit of the partnership because her special district does not receive tax-based funding. The partnership funds ensure staff longevity, which she found valuable.

SCE/SCG has adopted a different strategy than SDG&E and supports single-LG partnerships with additional SCE/SCG program staff time, rather than partnership funding for city staff. While SCE/SCG will fund partnership implementers' time at AOG/COG/JPAs or third-party organizations, it does not pay for LG staff time spent on partnership activities. As a consequence, SCE program staff working with single-LG partnerships often take on tasks that are handled by the implementer of multi-LG partnerships. One SCE program staff contact who manages both single- and multi-LG partnerships described how at multi-LG partnerships "a lot of the administrative tasks are taken care of at the COG, like setting agendas, meeting coordination, and the administrative work to get everyone at the meeting." The staff member suggested that these partnership implementing organizations act as an "extension of LG staff," assisting with partnership activities like obtaining necessary information and providing project management support. He noted that those responsibilities fall on IOU program staff for single-LG partnerships.

Another SCE program staff member, based on his experience working with both single-LG and multi-LG partnerships, he said, "Single-LG partnerships don't get paid to be sitting in the meetings or to do the work. It's city staff, so on top of their regular duties, they're taking on these additional things to do, without the program paying them. It can be challenging because they have a lot to focus on besides the program. The multi-city ones have an implementer who is getting paid to do everything. They're charging you as soon as you get on the phone. So it's a very different dynamic."

Any time that LG staff spend on the partnership (whether they are members of single- or multi-LG partnerships) is covered in their salaried position. As a result, single-LG partnership representatives describe LG staff as "being stretched thin" or "wearing many hats," which is to say they often have many duties other than the partnership. Whether reflecting the lack of funds for staff time or the small size of the partnership funding in relation to other city activities, none of SCE/SCG's six single-LG partnerships had a staff person fully dedicated to partnership activities.

Because SCE/SCG staff working with single-LG partnerships take on some of the tasks typically conducted by multi-LG partnership implementers, two SCE program staff voiced the opinion that it was not efficient to have single-LG partnerships. With multi-LG partnerships, staff can achieve economies of scale that they cannot attain when managing LGs individually. These program staff also sensed that cities in multi-LG partnerships were able to exchange lessons learned and best practices more quickly than cities who were not meeting regularly with other cities participating in the program.

7. Suggested Metrics

The IOUs requested that Research Into Action develop program metrics for their consideration that demonstrate partnership progress toward municipal retrofit and SP objectives. For both municipal retrofits and SP projects, we briefly summarize the inadequacy of current program tracking. We identify the objectives and purpose of our suggested metrics. We detail the data tracking necessary to support metric calculation and conclude with a presentation of metrics we believe would more useful to the staffs of the IOUs, LGPs, and LGs in understanding program activity status and accomplishments. The section concludes with guidance for adapting the suggested tracking and metrics to meet the IOU's needs.

7.1. Municipal Retrofit Metrics

Our suggestions for municipal retrofit metrics are based on our analysis of interview data with IOU program staff and LGP representatives as described in Section 5.7. Two program staff and 11 partnership representatives reported difficulty accessing data related to municipal retrofit project stages. Not knowing the current stage of an LG's retrofit impeded IOU program staffs' ability to address barriers and provide appropriate support. Partnership representatives said that having project stage information was important so that they could develop a firm understanding of expected project duration and more accurately track progress toward meeting energy-savings goals.

Many partnerships are already tracking project stages internally at the LG or at the partnership implementing organization (26 of 34 who discussed tracking and reporting; 76%). We recommend formalizing regular reporting of project stage updates from the LGs to the partnerships to IOU program staff.

Such suggested tracking of project status would yield a database providing project inventory, the lack of which was another challenge reported by five partnership representatives (Section 5.7.2.3). Interviewed program staff and partnership representatives described somewhat frequent staff turnover at the IOUs, LGPs, and LGs. Documentation of building upgrades would provide a definitive record of municipal retrofit activities occurring through the partnership. In the absence of such documentation, interviewed contacts reported they were unable to accurately determine which buildings have been retrofitted in which ways.

7.1.1. Objectives and Purpose of Suggested metrics

Our suggestions generate municipal retrofit metrics satisfying the following objectives (Table 7-1).

Table 7-1: Objectives and Purpose of Suggested Municipal Retrofit Metrics

OBJECTIVE	PURPOSE
To identify and demonstrate the LGP program municipal retrofit work underway	Enables IOUs and partnerships to track progress in meeting MR objectives
To facilitate communication about the current stage of a municipal retrofit project	Enables IOUs and partnerships to better understand and support LGs in their retrofit activities
To provide data on typical time by project stage and overall	Enables IOUs and partnerships to inform LGs of typical experiences, to facilitate LG planning
To document when LGs received information on project incentives	Enables IOUs to better address any misunderstanding by LGs and partnerships regarding program incentives
To provide increased ability to identify and troubleshoot project delays, including delays in incentive processing	Provides a benchmark (typical practice) by which project delays might be identified and an intervention made to facilitate project completion
To improve forecasting by IOUs and partnerships of when energy savings will be counted	Based on typical time frames and knowledge of project stage, project completion dates can be estimated with greater confidence
To identify and demonstrate use of program-provided technical assistance	Enables IOUs to better understand the types of projects using program-provided technical assistance
To create a cumulative inventory of LGP municipal retrofit projects	Enables IOUs, partnerships, and LGs to know cumulative retrofit accomplishments of LGP program; facilitates LGs to make the case to municipal decision makers about value of municipal upgrades; enables partnerships and LGs to more readily identify outstanding opportunities

Table 7-2 presents municipal retrofit project identifiers and stages that we recommend tracking. The IOUs will need to verify and possibly refine this list, which we based on the steps related to core program participation as we gleaned them from one IOU's program website; an investigation of core program processes was outside the scope of our evaluation.[59] By "date," we intend month and day (when year is clearly understood); for some stages, month alone is sufficient.[60]

[59] *https://www.pge.com/en_US/business/save-energy-money/business-solutions-and-rebates/product-rebates/product-rebates* and *https://www.pge.com/en_US/business/save-energy-money/facility-improvements/custom-retrofit/custom-retrofit.page*

[60] Generally speaking, we specify "date" when the completion of the activity is marked by a specific event, such as an email, an appointment, or a contract. We specify "month" for activities that are less well defined as concluding on a specific day.

Table 7-2: Tracking Data Suggested to Support Determination of Municipal Retrofit Metrics

PROJECT STAGE/ IDENTIFIERS	DEFINITION
LG for project	The LG for which the project has been initiated or completed
LGP of LG	The partnership comprising the LG
Project title of MR project	The phrase used by the LG to identify the project
Building name and address	The building name and address familiar to the LG. May include name of a complex if multiple buildings.
Building type	[We recommend that the IOUs define building type consistent with their core program planning]
Identification of project/opportunity	Month potential project first discussed by LGP
Prescriptive components included in project?	Yes/No - Identified project has prescriptive components
Custom components included in project?	Yes/No - Identified project has custom components
[If prescriptive components] LGP verified measure eligibility and reported current incentives to LG	Date LGP communicated eligibility and incentive amounts to LG
[If custom components] *Customized Incentives for Energy Efficiency and Automated Demand Response Program Application* submitted	Date customized incentive application submitted to IOU
[If custom components] Pre-installation inspection scheduled	Date of pre-installation inspection appointment
[If custom components] Pre-installation inspection completed	Date pre-installation inspection conducted
[If custom components] Approval from IOU to proceed	Date IOU authorized custom project
Estimated project cost	Estimated total cost (equipment, installation labor, required design services)
Identification of supplemental funding sources	Yes/No - Assessment of need for additional funding sources has been completed and, if needed, their sources have been identified (e.g, LG funds or OBF)*
Presentation of project for approval (often to a city council)	Month project first formally presented to municipal decision-makers
Project approved (often by city council)	Month all necessary municipal approvals secured to move forward with the project
[If using outside contractor and RFP process] RFP under development	Month work initiated on RFP to hire contractor. This may involve use of technical assistance contractors to provide technical details required for the RFP
[If using outside contractor and RFP process] RFP issued for contractor	Date RFP issued to hire outside contractor
[If using outside contractor] Contractor selected	Date contractor informed of selection
[If required] Construction permit(s) secured	Month all necessary permits have been received
Program-provided technical assistance	Yes/No – A program-provided technical assistance contractor contributed to project identification or specification, or to the estimation of incentives

Continued…

PROJECT STAGE/ IDENTIFIERS	DEFINITION
Equipment procured	Month all retrofit equipment has been obtained
Installation started	Month on-site construction and installation work begun
Installation completed	Month equipment has been installed and contractor or LG staff have completed on-site work
[If custom components] Post-installation inspection scheduled	Date of post-installation inspection appointment
[If custom components] Post-installation inspection completed	Date post-installation inspection conducted
Submission of completed incentive application	Date rebate application submitted to IOU
Receipt of incentive	Month LG received incentive check

* Should it interest the IOUs, a metric could be added to indicate whether the project received OBF.

7.1.2. Suggested Municipal Retrofit Metrics

Table 7-3 provides the metrics we recommend for assessing municipal retrofit activity and accomplishments. We describe these a "possible" metrics to illustrate that these are just some of the many metrics that could be calculated from the suggested data tracking.

Table 7-3: Suggested Municipal Retrofit Metrics

DATA REPORTING ELEMENT	POSSIBLE METRICS
Project title of active MR projects	Count of active MR projects
LGs, LGPs with active MR project	Number of LGs/LGPs with active MR projects Average number of active MR projects per LG/LGP
Prescriptive/ custom components, building type	Number of active prescriptive MR projects (total, by building type) Number of active custom MR projects (total, by building type)
Month project/opportunity identified	Statistics on MR projects initiated during reporting period
Date installation completed	Statistics on MR projects completed during reporting period Statistics on MR projects completed since tracking commenced
Estimated project cost	Dollar total Min, max, and average budget Statistics by prescriptive/custom, by building type
Dates of various project stages	Min, max, and average number of months between stages
Identification of supplemental funding	[If added to metrics] Number of projects using OBF
RFP issued for contractor	Proportion of projects involving contractor RFPs Average elapsed time between RFP issuance and initiation of work
Program-provided technical assistance	Number, types, costs of projects using program-provided technical assistance contractors
Receipt of incentive	Number of projects with incentives paid during reporting period. Incentive amounts received by LGP during reporting period.

7.2. Strategic Plan Support Metrics

We base our suggested metrics on our key finding from our review of the spreadsheet reporting tool (see Section 4.6), which we summarize here. The current reporting tool:

1. Does not support a determination of the extent to which the SP component of LGP is meeting its objectives.
2. Gathers primarily qualitative data, which do not support calculation of performance metrics.
3. Does not support a systematic understanding of the breadth of SP activities.
4. Does not support an unambiguous assignment of SP project activity to SP menu items.
5. Does not support an understanding of the phases of SP activity underway.
6. Includes an item that has a tenuous connection to demonstrating SP success.
7. Precludes cross-LGP comparisons.
8. May result in double-counting of activities for partnerships that partner with multiple IOUs.

We recommend simple tracking metrics that resolve these issues. In addition to developing the metrics, presented in Table 7-5, we have developed a straight-forward workbook reporting tool for collecting the data needed to support the metrics.[61] We estimate that reporting entities (LGPs and, in some cases, LGs) will need as little as five minutes per SP project to complete the twice-annual reporting to a maximum of 30 minutes per SP projects. We estimate per-project reporting will take five minutes for those SP projects addressing a single menu item and involving solely the implementing partner or a single LG. We estimate per-project reporting will take no more than 30 minutes for those SP projects addressing multiple menu items and multiple actors (LGs and implementing partners).

61 We have submitted the metric reporting tool as a separate deliverable.

7.2.1. Objectives and Purpose of Suggested metrics and Reporting Tool

Our suggestions generate SP metrics satisfying the following objectives (Table 7-4):

Table 7-4: Objectives and Purpose of Suggested SP Metrics

OBJECTIVE	PURPOSE
To learn when SP project objectives pertinent to each menu item have been met, and for which municipalities they were met	Enables IOUs to track progress in meeting SP project objectives
To learn which elements of the menu items are addressed by projects*	Enables IOUs to identify menu items addressed, analyze for time trends and patterns, identify seldom-addressed menu items, and assess whether additional program support might be needed to increase projects that address infrequent items
To learn how many SP projects are underway during the reporting period, and which menu items and sub-items they address	Enables IOUs to understand scope of project activity underway during reporting period
To bring greater consistency between project activities and menu items**	Provides IOUs with the information necessary to guide projects to greater consistency, as well as facilitating insight into any apparently ambiguous SP menu items that are prone to repeatedly inconsistent interpretations
To learn how many SP projects have steps (activities) planned for the coming reporting period	Enables IOUs to identify any situations where some activity was planned for the period but none occurred, and to follow up
To learn how many SP projects have analytical components (which we define as engineering, economic, and other "technical" investigations), and to learn status of any analytical steps underway during the reporting period	Enables IOUs to identify analytical trouble spots in SP projects, analyze for time trends and patterns, and intervene or design additional program support
To learn how many SP projects have political/social components (ex: connecting, persuading, motivating, educating), and to learn status of any such components underway during the reporting period	Enables IOUs to identify political/social trouble spots in SP projects, analyze for time trends and patterns, and intervene or design additional program support

* Menu items can include multiple elements such as tier 1/tier 2 (item 1.1.1), residential/nonresidential (multiple items), permitting/recognition (item 1.1.5).

** Greater consistency is facilitated by data reporting that includes both a yes/no indication of menu item addressed and a brief description of project activities driving menu item accomplishments.

The specific tracking data, detailed in the associated reporting tool (delivered separately), addresses the following objectives in support of the suggested metrics:

1. Simplifies complex strategic plan projects so that reporting entities can readily, unambiguously, and quickly provide information useful to IOUs.
2. Generates data that can be tabulated, thus producing metrics (example: number of projects, percent of projects).
3. Generates data in a consistent format across successive reporting periods, enabling IOUs to identify time trends.

4. Generate data both consistent across the menu items and sufficiently tailored to fit the diverse menu items, enabling IOUs to identify patterns across menu items.

7.2.2. Suggested Strategic Plan Metrics

Table 7-5 provides our suggested SP metrics. We describe these a "possible" metrics to illustrate that these are just some of the many metrics that could be calculated from the suggested data tracking.

Table 7-5: Suggested Strategic Plan Metrics

DATA REPORTING ELEMENT	POSSIBLE METRICS
Project title of active SP project	Count of active SP projects
LGP with active SP project	Number of LGPs with active SP projects Average number of active SP projects per LGP
Date budget authorized	Statistics on SP projects initiated during reporting period
Date project closed out	Statistics on SP projects closed out during reporting period
Project budget	Dollar total of SP projects Min, max, and average budget for SP projects
Number of LGs conducting each type of project activity	Min, max, and average number of LGs across SP project activity types
Menu item number (3-digit) included in project	Count of SP projects addressing menu item Min, max, and average number of menu items in SP projects
Menu item elements included in project	Count of SP projects addressing menu element
Any analytical steps identified	For each menu item, typical proportion of SP projects that have analytical steps
Any steps planned for next period, and status of past period planned steps	Percentage of SP projects for which steps planned for the next period did not occur (analytical and political/social)
Menu item objective achieved	Count by menu items of objective achieved during reporting period Cumulative SP accomplishments of LGP program
Municipalities achieving menu item objective	Municipality-specific cumulative SP accomplishments of LGP program

7.3. Guidance for Adapting the Suggested Data Tracking and Metrics to IOU Needs

We encourage the IOUs to adapt our suggested data tracking elements and metrics to meet their program design, management, and implementation needs. We anticipate that IOU needs range from relatively small implementation decisions such as whether to investigate reasons that a project appears to be stalled to the largest of decisions regarding amount and allocation of funding. Before providing guidance, we discuss the scope of effort associated with our suggestions.

7.3.1. Scope of Effort

We encourage the IOUs to recognize that the large number of suggested data tracking elements is simply an artefact of the very broad and diverse scope of the LGP program. During any given reporting period, LGPs and LGs will have taken action relating to only a few of the elements. Reporting needs to occur only for those elements; all other elements in the tracker can be left blank, with the understanding that a blank response indicates no activity or progress on that element.

Thus, the ongoing reporting burden on the LGPs and LGs is very light. The initial reporting of municipal retrofit projects underway would require the most effort as they need to provide information on all projects for all stages up to and including the current stage. Thereafter, they would be providing only updates, and only for those projects that advanced to subsequent stages. As stated in the SP section, we anticipate the reporting of SP activities (both the initial and ongoing reporting) would take as little as 5 minutes and no more than 30 minutes for each LGP's SP project. For bi-annual reporting, this is indeed a very low burden.

The cost to the IOUs is fairly minimal as well. A simple Excel data reporting tool could be quickly created for municipal retrofit projects using the information provided above, with separate tabs for each project. We have provided an SP Excel data reporting tool that would need to be modified by adding additional tabs, so that the LGPs would have a tab for each project.

Before distributing the tools, the IOUs would need to create software that loads the data collected on the separate project-specific tabs into a database that houses all of the data for all projects. The database would need to collate all updated project information for each reporting period. The IOUs would need to develop the reports the database would provide. We anticipate that creating a database and reports would be the most resource intensive facet of implementing our suggestions. Our very rough estimate suggests these activities could be conducted at consultant rates for under $20,000, a cost that would be shared by the four IOUs and is very small in relationship to total program spending.

The IOUs would need to distribute the tools to the LGPs and orient their staffs to the tools. We suggest it would be important to emphasize that blank responses, used appropriately, are desired; as a consequence, users will be entering few data, especially after the initial use; the few data are minimal in light of partnership funding levels; the collected data will provide numerous benefits as identified in the purposes and objectives; and that the collected data will better support program design, management, and implementation.

Finally, the IOUs would need to collect the reported data, load it into the database, and generate reports.

7.3.2. Adaptation Guidance

We suggested the above data tracking elements and metrics to meet the objectives and purposes described above in Table 7-1 and Table 7-4. We recommend the IOUs start the process of adapting our suggestions by carefully considering the relevance of the identified objectives and purposes to their program needs. If one or more of these objectives and purposes are not germane

to their program management, then they should not pursue any data tracking elements or metrics pertinent solely to those irrelevant objectives.

Next, the IOUs should carefully consider the possible metrics identified in Table 7-3 and Table 7-5. We suggest adding columns to the tables to list questions that might be answered by these metrics and decisions that might be informed by these answers. The suggested metrics could be used to support questions spanning current program status, time trends, comparisons across LGPs, comparisons across SP elements or municipal retrofit building types, and so on. If this process yields a data element row associated with no questions of interest to the IOU program or portfolio managers, then that data element seems unlikely to offer value and should not be tracked. The IOUs should note that our tables provide only suggestions of the many metrics that could be developed from the suggested tracking data. Before determining that a data element row has no associated questions of interest, we encourage the IOUs to consider whether the data element might be needed in the calculation of a useful metric we did not list. Relatedly, data elements that enable the IOUs to provide targeted program support for lagging activities may have value even if those data are not used in a metric calculation.

We recognize that the IOUs may have a number of disagreements with our suggested data tracking and metrics. In that event, we suggest that the IOUs focus on the methodical approach that we employed. First, nearly all of the suggested tracking data are both closed-ended and their meanings are unambiguous. Second, the suggested data correspond with and reflect the large diversity of LGP program activity, thus enabling the IOUs to get a firm grasp of specific program accomplishments. Third, the suggested data correspond with the multiple steps encompassed by each activity, to enable the IOUs to understand and facilitate progress over time. Fourth, the data tracking objectives are clear and clearly met. Fifth, metrics are defined that are to be calculated from the data. We welcome the IOUs to adopt our methodical approach and develop an alternative tracking and metric schema, in the event they find the proposed schema unsatisfactory.

8. Conclusions and Recommendations

The findings from our targeted process evaluation of the SP support and municipal retrofits elements of the LGP program yield a number of recommendations for improving program delivery and implementation. Because our analyses were conducted at the partnership level, our recommendations pertain to improvements that can be made to program implementation from the point of view of individuals at partnerships, as opposed to individuals at member LGs. We sought to identify practical recommendations that the IOUs and others could realistically pursue with available resources. Our recommendations apply to each IOU (with the exception of recommendations 7 and 8), yet given their varied program implementation models, we anticipate that each IOU would take its own approach to addressing each recommendation. While all of these recommendations address the IOUs, some are of interest to the CPUC and partnership implementation teams. Indeed, many of our findings highlight the important role that partnership implementers play in the LGP program and we hope that the IOUs will continue to ensure that partnership implementers have the resources they need to be successful in serving their LGPs.

Our conclusions and recommendations are based on findings from in-depth interviews with representatives 40 of 43 LGPs, a near-census. However, as we note in Chapter 2.4 *Limitations*, interview data are subject to variations across respondents in the amount of detail provided. Further, the absence of a finding does not confirm a finding of its absence. We believe the counts of responses that we provide here represent the *minimum* number of LGPs for which the data are true.

8.1. Programmatic Recommendations

Conclusion 1: The LGP program presents a steep learning curve for LGs, implementers, and program staff alike, and partnership representatives report complex administrative barriers to completing LGP work. Fourteen LGP representatives, without prompting, reported a steep learning curve to understanding how the partnerships operate, their obligations as implementer or partnership participants, and the administrative requirements to which they must adhere. For new partnership staff, the time spent learning the ins and outs of the program distracts from project work, delaying partnership activities. The challenges associated with getting up-to-speed on partnership requirements also leads some LGs to deprioritize partnership work. Further, there is evidence that new IOU program staff also experience a learning curve with the LGP program; they may not know how to provide information or support requested by partnerships and may have less time available to field information requests as they get up to speed.

In addition to the steep program learning curve, 20 partnership representatives reported administrative challenges associated with the rebate application sequence and project invoicing, particularly the time required to re-do paperwork. Thus, it appears that a lack of clarity about the rebate application sequence invoicing expectations leads to inefficiencies within partnerships.

Recommendation 1: The IOUs should develop Quick Start guides for their program implementers and LGs. The Quick Start guides should outline, in clear language, the goals of the IOU's LGP program, the role that LG and LGP staff play in meeting those goals, the activities eligible and ineligible for funding instructions for invoicing and rebate applications, and timelines for progress reporting. The guides could also include preapproved M&O materials.

A Quick Start guide would enable new partnership staff to get up to speed on the program more quickly, and it could serve as a resource for IOU program staff. We recommend that the IOUs update this annual manually so that it includes up-to-date program information. Or, if the Quick Start guides are provided online, the IOUs could make ongoing updates as program changes occur. An online guide could also serve as a platform for the IOUs to communicate changes in incentives and rebates. Over time, the IOUs might collaborate to create a single LGP Quick Start guide that ensures LGPs partnering with multiple IOUs do not face inconsistent requirements.

Other information that would be prudent to include in the Quick Start guides includes clear guidelines about how renewable energy or water conservation activities cannot be funded through the partnership. We recommend providing a short list of links to resources where partnerships can access funding or support for activities that are not funded by the LGP program. In addition, the Quick Start guides would be a practical place to list the collaborative networks in the local government energy efficiency community in which LGs or LGPs may participate. Finally, the Partnership Innovations and Successes identified in this report may provide ideas for additional actions that partnerships can take to augment their partnership efforts that could be useful to include in the guides.

Scope of effort: We anticipate that each IOU could develop an initial Quick Start guide with about 100 hours of staff time, including drafting and internal review. The IOUs might revise these guides at six month intervals for the first two years in response to LGP feedback. Thereafter, the guides might be updated annually.

Conclusion 2: LGPs value the technical assistance currently available through the LGP program and would benefit from additional technical assistance to support calculation of ongoing energy savings, implementing EMS, and JOC. Partnership representatives note the benefits of the technical assistance they receive through the LGP program and believe it enables them to conduct work that they would not be able to conduct solely with partnership staff and resources. In particular, partnership representatives noted the benefits of engineering support. Our findings suggest that partnerships would benefit from additional technical assistance in three areas, however.

First, calculating ongoing savings is key to helping partnerships manage progress toward goals and to demonstrating the benefits of LGP work to key LG stakeholders. Representatives from 23 partnerships said they struggled to calculate their energy savings by looking at past utility bills because this requires technical mathematical calculations, which were further confounded by rate increases. Calculating savings can be particularly challenging where there are multiple service accounts for one facility because linking together data from multiple meters to calculate the total energy savings for the project is difficult.

Second, EMS facilitate benchmarking and help LGs and LGPs identify and prioritize upgrade opportunities and conduct troubleshooting. Findings indicate that many LGs do not have an EMS in place and those that do report that the system is outdated or that staff do not know how to use it. Partnerships and LGs would benefit from technical support encouraging the installation of EMS and helping to increase the functioning and utilization of existing systems.

Third, some projects require an RFP process for municipal retrofit contractors and, for some partnerships, this task is beyond the expertise of LG staff. Indeed, some LGs acquired outside assistance to support the RFP process for municipal retrofits. These challenges can delay retrofits. Some partnerships have benefitted from JOC made available through organizations such as the National Joint Powers Alliance that provide LGs with a list of pre-approved contractors. Were the IOUs to provide JOC, it would expedite the process of selecting a qualified contractor for retrofit projects, helping to shorten the project timelines.

> **Recommendation 2: The IOUs should explore the feasibility of expanding technical assistance offerings to support: 1) calculation of ongoing energy savings, 2) EMS implementation, and 3) JOC.**
>
> **Scope of effort:** We anticipate this recommendation could be implemented at little cost as the IOUs continually assess and refine their program support activities.

Conclusion 3: LGPs benefit from cross-partnership collaboration such as the SEEC Forum, the CPUC-led Stakeholder Advisory Group, and other regional collaborative networks and forums. Many partnership representatives cited the benefits of collaboration across partnerships. Indeed, representatives cited relationships they developed through the program as among their most significant program accomplishments. Collaboration can support capacity building, reduce individual partnership costs, and enable partnerships to transfer proven techniques for project implementation. Further, LGPs have worked together to effectively lobby the IOUs and the CPUC to make changes that help the program better serve California communities. Cross-partnership collaboration can take many forms, including formalized regional partnerships, informal partnerships to address specific needs, or opportunities to exchange ideas at meetings such as the annual SEEC forum.

> **Recommendation 3: The IOUs and CPUC should facilitate the integration of non-collaborating member LGs or LGPs into existing collaborations**. The IOUs and CPUC have a high-level view of partnership needs and activities and may be able to recognize opportunities for LGs and LGPs that are not currently collaborating with others to join existing collaborative networks. IOU program managers should encourage increased partnering and establish the necessary connections among LGPs that would benefit from collaboration. The LGPs should be allowed to decide what networks they participate in, selecting the most pertinent networks.
>
> **Scope of effort:** We anticipate this recommendation could be implemented at little cost as the IOUs continually work with their LGPs and member LGs.

8.2. Strategic Plan Support Recommendations

Conclusion 4: Diversity in partnerships' SP activities and the current reporting approach enable flexibility but preclude comparison across partnerships. Interviews with LGP representatives revealed considerable variability in partnerships' SP goal setting, SP activity selection processes, and tracking and reporting processes. While this flexibility may enable partnerships to tailor SP activities to LGs' unique needs and goals, this diversity precludes comparison across partnerships that are conducting SP activities under the same SP menu item. The apparent lack of clarity and specificity in some partnerships' objectives also indicates an opportunity for partnership implementers and IOU program staff to more effectively encourage SP action by setting more concrete objectives and timelines of LGP-funded SP work.

The spreadsheet file used to track SP activities demonstrates an intention on the part of the CPUC and IOUs to provide the partnerships with a uniform approach to tracking and reporting. However, our review of these data reveal inconsistencies in the depth and type of information reported across partnerships as well as discrepancies in which SP menu items are used to label similar SP activities. Further, the metrics tracked in this document have a tenuous connection to demonstration LGP success.

> **Recommendation 4: The CPUC and IOUs should adapt the SP tracking tool and metrics we developed to provide data essential to understanding project status and accomplishments in support of decision-making** – decisions ranging from those regarding program elements to those regarding the program's future scope and funding.
>
> **Scope of effort:** We anticipate this recommendation could be implemented assisted by a database consultant charging less than $20,000. We anticipate that the IOU planning and coordination associated with this recommendation at little cost as the IOUs continually assess and refine their program implementation activities.

8.3. Municipal Retrofits Recommendations

Conclusion 5: OBF helps LGs overcome the financial barriers to completing municipal retrofits, the IOUs are actively discussing OBF with LGs, yet challenges remain for some partnerships. Many partnerships have used OBF to fund municipal retrofits projects and report that this offering helps them overcome financial barriers to municipal retrofits work. Indeed, several LGP representatives explained that they had used their maximum allowable OBF allocation and reached the cap on OBF for their accounts, indicating the popularity of OBF. Despite the active use of OBF in some partnerships, others reported challenges associated with a lack of understanding about OBF among LG financial decision-makers and difficulty getting OBF to fit into cities' budget planning processes and requirements for debt repayment. Partnership representative reported that some LG decision-makers distrust the IOUs' OBF offerings and others are unwilling to take on additional debt.

Recommendation 5: The IOUs can facilitate the use of OBF through one-on-one outreach to partnerships and LGs not currently using the financing and supporting LG program staff as they present the financing option to municipal decision makers. IOUs might also consider drafting "boiler plate" language that allows partnership staff to effectively explain the OBF mechanisms to LG financial teams.

Scope of effort: We anticipate this recommendation could be implemented at little cost as the IOUs continually work with their LGPs and member LGs.

Conclusion 6: Partnership needs may have not been fully met through the established energy data access procedures, as suggested by the considerable variability in the degree partnerships are able to access LG energy usage data. The IOUs need to craft and implement data access policies that meet regulatory constraints.

Limited access to energy usage data impedes partnership planning and action. Some partnerships have had difficulty accessing timely and accurate energy-usage data for their jurisdictions, and LGP representatives requested improved access to customer data to inform their decision-making and to understand the impacts of prior municipal retrofit projects. This barrier is particularly great for implementers that operate outside of the LG structure, such as AOG/COG/JPAs, who described being in a "middle-man" position that limits their access to energy usage data. Multiple state and federal regulations prevent the IOUs from sharing confidential customer data, so third-party implementers are not able to access their member LGs' accounts without legal agreements and are dependent upon their member LGs or utility partner for access to savings information.

Recommendation 6: The IOU program managers should investigate through one-one-one discussions with each LGP its specific limitations in accessing and making use of LG energy data. This investigation should guide the IOUs' work with the Energy Data Access Committee to facilitate LGPs ready access and use of energy data, as well as possibly lead to the identification of additional support that would benefit LGPs.

Scope of effort: We anticipate this recommendation could be implemented at little cost as the IOUs continually work with their LGPs and member LGs.

8.4. Recommendation for Geographically Isolated LGPs

Conclusion 7: Partnerships in geographically isolated areas continue to experience marketplace barriers to partnership activities, especially but not solely related to municipal retrofits, in spite of ongoing awareness of the issues faced by geographically isolated LGPs in the northern part of the state. Our findings documented that geographically isolated partnerships with low population density experienced difficulty accessing contractors trained on energy efficiency and, for some, a lack of energy efficient equipment available locally. We recognize that these issues are part of ongoing conversations occurring among IOUs, the CPUC, and LGPs and see value in those conversations. Despite these ongoing efforts to address energy efficiency marketplace barriers in these communities, there is still room for improvement.

Recommendation 7: The IOUs that serve geographically isolated partnerships should increase their efforts to better serve these communities. Through one-on-one conversations, the IOUs should identify specific support that would benefit these geographically isolated partnerships. Study findings suggest these partnerships might benefit from funding for contractor trainings to spur the availability of local contractors knowledgeable about energy efficiency.

Scope of effort: We anticipate this recommendation could be implemented at little cost as the IOUs continually assess and refine their program implementation activities.

Appendix A. Categorization Topics Menu

A number of the categorization factors we explored as part of this evaluation did not appear to create meaningful LGP categories. Nonetheless, we did identify process findings related to these topics. The table below provides a guide for where each factor is addressed in the report.

Table A-1: Guide to Process Findings Related to Proposed Categorization Factors

	Categorization Factors Addressed in Process Findings	Report Section Where Topic is Addressed
2	Level of support provided by IOU	5.3
4	LGP implementer type (city, county, AOG/COG/JPA, or for-profit/non-profit)	3.2.3; 5.7.2.1
5	Whether the LGP has full-time staff dedicated to energy efficiency (EE)	3.2.3; 3.3
6	Level of knowledge and years of experience of involved staff	3.3; 6.1
8	Whether LG has adopted a Climate Action Plan or Energy Action Plan (CAP/EAP)	4.2
9	Whether the LG is actively implementing their CAP or EAP	4.2
10	Sociodemographic characteristics of the population (e.g., income, political affiliation)	5.1.2; 3.3
12	Degree of support for EE from political leadership	5.5.2.1; 5.5.2.2
15	Ability to secure funding for efficiency projects	5.4; 5.5
16	LG's ability to commit financial resources to efficiency projects	5.5
17	LG population size	3.2.2; 5.1.2
21	Use of non-ratepayer funding sources	4.4; 5.5.1
23	Implementers lacking dedicated staff resources	3.2.3; 3.3; 6.4.3

Appendix B. Secondary Data Sources for Categorization Task

B.1. Academic Journal Articles

Wang, Rui. 2012. "Leaders, Followers and Laggards: Committing to Local Climate Actions in California." *Environment and Planning C: Government and Policy*. 30(6):1116-1128

B.2. Academic Papers

DeShazo, J.R. and Juan Matute. 2012. "Progress Report: Climate Action Planning in Southern California." *UCLA Luskin Center for Innovation*. *http://innovation.luskin.ucla.edu/sites/default/files/Luskin%20Climate%20Report.pdf*. Accessed August 2016.

Matute, Juan and J.R. DeShazo. 2010. "Southern California Climate Action Progress Report: Early Steps toward Climate Action Planning in Southern California." *UCLA Luskin Center for Innovation*. *http://innovation.luskin.ucla.edu/sites/default/files/Early%20Steps%20toward%20Climate%20Action%20Planning%20in%20Southern%20California%20-%20UCLA%20Luskin%20Center_0.pdf*. Accessed August 2016.

B.3. Best Practices Case Studies

Alameda County's Revolving Energy Fund. https://gpstoner.files.wordpress.com/2011/12/ac_fund2.pdf. Accessed August 2015.

Association of Monterey Bay Area Governments' Regional Greenhouse Gas Inventory Collaborative. https://gpstoner.files.wordpress.com/2011/12/ambag_interns1.pdf. Accessed August 2015.

Berkeley's Financing Initiative for Renewable and Solar Technology. http://eecoordinator.info/wp-content/uploads/2012/01/Berkeley-First.pdf. Accessed August 2015.

Chula Vista's Free Resource and Energy Business Evaluations. https://gpstoner.files.wordpress.com/2011/12/frebe-cv1.pdf. Accessed August 2015.

Chula Vista's Sustainable Communities Program. http://eecoordinator.info/wp-content/uploads/2012/01/CV-SCP.pdf. Accessed August 2015.

Energy Managers. https://gpstoner.files.wordpress.com/2011/12/energymanagers.pdf. Accessed August 2015.

Experiences Successfully Engaging Elected Officials. http://eecoordinator.info/wp-content/uploads/2012/01/elected-officials.pdf. Accessed August 2015.

Huntington Beach's Integrated Demand Side Management. http://eecoordinator.info/wp-content/uploads/2012/01/IDSM.pdf. Accessed August 2015.

Local Ordinances Exceeding State Building Energy Efficiency Standards. http://eecoordinator.info/wp-content/uploads/2012/01/ReachCodes3.pdf. Accessed August 2015.

North Park Main Street Energy Makeover. http://eecoordinator.info/wp-content/uploads/2012/01/NorthPark.pdf. Accessed August 2015.

Regionally Integrated Climate Action Planning Suite. http://eecoordinator.info/wp-content/uploads/2012/01/RICAPS-21.pdf. Accessed August 2015.

San Diego Regional Street Lighting Working Group. http://eecoordinator.info/wp-content/uploads/2012/01/san_diego_street_lighting.pdf. Accessed August 2015.

San Jose's Energy Fund. http://eecoordinator.info/wp-content/uploads/2012/01/SanJose_EnergyFund-Rev20131.pdf. Accessed August 2015.

San Rafael's Green Building Ordinance. https://gpstoner.files.wordpress.com/2011/12/sr_greenbuilding1.pdf. Accessed August 2015.

Sierra Nevada Green Jobs. https://gpstoner.files.wordpress.com/2011/12/snew_greenjobs.pdf. Accessed August 2015.

Sonoma County Energy Independence Program. http://eecoordinator.info/wp-content/uploads/2012/01/sonoma-county-EIP-rev.pdf. Accessed August 2015.

Using Community Energy Data to Drive Program Success. http://eecoordinator.info/wp-content/uploads/2012/01/using-community-energy-data.pdf. Accessed August 2015.

Valley Innovative Energy Watch Benchmarking. https://gpstoner.files.wordpress.com/2011/12/view-benchmark3.pdf. Accessed August 2015.

West Covina Energy Action Plan. *http://eecoordinator.info/wp-content/uploads/2012/01/WestCovinaEAP.pdf. Accessed August 2015*.

B.4. Conference Proceedings

Boroski, John, Tami Rasmussen, and Rafael Friedmann. 2013. "Howdy Partner! Lessons Learned from an Assessment of Local Government Partnerships." *International Energy Program Evaluation Conference*. Chicago. *http://www.iepec.org/conf-docs/conf-by-year/2013-Chicago/159.pdf#page=1*. Accessed August 2016

B.5. Prior Evaluations

Evergreen Economics and Navigant Consulting. 2013. *Program Assessment Study: Local Government Partnership Programs – Final Report*. San Francisco: CPUC. http://www.calmac.org/publications/LGP_Program_Assessment_Report_-_final.pdf

Opinion Dynamics Corporation. 2016. *PY 2013-14 Local Government Partnerships Value and Effectiveness Study Final Report*. Energy Division: California Public Utilities Commission. http://www.calmac.org/publications/2013-2014_Local_Government_Partnerships_Study_Report_Final_2016_1_29.pdf

Appendix C. LGPs Interviewed

Table C-2: Characteristics of Partnerships under Investigation

PARTNERSHIP	IOU PARTNER(S)	GEOGRAPHICALLY ISOLATED?	SINGLE-LG PARTNERSHIP?
AMBAG EW (Association of Monterey Bay Area Governments)	PG&E	Yes	No
City of Beaumont ELP	SCE + SCG	No	Yes
City of Chula Vista	SDG&E	No	Yes
City of Long Beach ELP	SCE	No	Yes
City of Redlands ELP	SCE + SCG	No	Yes
City of San Diego	SDG&E	No	Yes
City of Santa Ana ELP	SCE + SCG	No	Yes
City of Simi Valley ELP	SCE + SCG	No	Yes
Community ELP	SCE + SCG	No	No
Desert Cities ELP	SCE + SCG	No	No
East Bay EW	PG&E	No	No
Eastern Sierra ELP	SCE	Yes	No
Fresno EW	PG&E	No	No
Gateway Cities ELP	SCE + SCG	No	No
High Desert Regional ELP	SCE	Yes*	No
Kern County	SCE + PG&E + SCG	Yes*	No
Madera EW	PG&E	No	No
Marin County EW	PG&E	No	No
Mendocino County EW	PG&E	Yes	No
Napa EW	PG&E	No	No
North Valley EW	PG&E	Yes	No
Orange County Cities ELP	SCE + SCG	No	No
Port of San Diego	SDG&E	No	Yes
Redwood Coast EW	PG&E	Yes	No
San Diego County	SDG&E	No	Yes
San Gabriel Valley ELP	SCE + SCG	No	No
San Joaquin Valley (also called VIEW: Valley Innovative EW)	SCE + PG&E + SCG	Yes	No
San Luis Obispo EW	PG&E + SCG	Yes	No

Continued…

PARTNERSHIP	IOU PARTNER(S)	GEOGRAPHICALLY ISOLATED?	SINGLE-LG PARTNERSHIP?
San Mateo County EW	PG&E	No	No
SANDAG (San Diego Association of Governments)	SDG&E	No	No
Santa Barbara EW	PG&E + SCG	No	No
Sierra Nevada EW	PG&E	Yes	No
Silicon Valley EW	PG&E	No	No
Solano EW	PG&E	No	No
Sonoma County EW	PG&E	No	No
South Bay ELP	SCE + SCG	No	No
Ventura County ELP	SCE + SCG	No	No
West Side ELP	SCE + SCG	No	No**
Western Riverside ELP	SCE + SCG	No	No
Yolo EW	PG&E	No	No

EW = Energy Watch and ELP = Energy Leader Partnership

* These geographically isolated LGPs are not members of the RHTR Working Group

** This is a single-LG partnership that functionally operates as a multi-LG partnership because they work very closely with a multi-LG partnership.

Appendix D. Variables Included in Strategic Plan Activity Reports

- Project name
- Project description (max 600 characters)
- Project budget
- Associated Strategic Plan (SP) menu item (drop down menu, with the full list provided in a separate tab within the same workbook)
- Completion date (if project completed)
- Project deliverable/metric
- Project goal
- Description of accomplishments to date
- Number of local government (LG) officials engaged[62]
  - Elected/Appointed
  - Department Directors/City Mangers
  - Other LG staff
  - Non-government staff

[62] The workbook defines "Engaged" as: 1) SP workshop or meeting attendee, 2) SP document reviewer or approver, or 3) a primary developer of an SP activity. Each of the four types of officials have a comment box listing examples for staff to include.

Appendix E. Strategic Plan Menu Items

Strategic Plan Goal 1: Local governments lead adoption and implementation of "reach" codes stronger than Title 24 on both mandatory and voluntary bases.		
Strategy	1.1	Adopt codes, ordinances, standards, guidelines or programs that encourage or require building performance that exceeds state requirements. The focus should be on using existing models, or if there is something new and unique that it be replicable.
Menu Options	1.1.1	Adopt building energy codes more stringent than Title 24's requirements, using cost-effectiveness studies by Climate Zone done by the utilities; adopt one or two additional tiers of increasing stringency.
	1.1.2	Adopt a Green Building policy for municipal development, commercial development and/or residential development.
	1.1.3	Develop/adopt point of sale programs such as a Residential or Commercial Energy Conservation Ordinance. Focus on whole building performance.
	1.1.4	Change local codes to allow and encourage integration of energy efficiency, demand response, and on-site generation.
	1.1.5	Develop and adopt programs to encourage energy efficiency such as one-stop permitting, on-line permitting, separate Zero Net Energy permit processes, density bonuses, or a recognition program.
	1.1.6	Develop educational programs for local elected officials, building officials, commissioners, and stakeholders to improve adoption of energy efficiency codes, ordinances, standards, guidelines and programs.
Strategy	1.2	Implement codes, ordinances, standards, guidelines or programs that encourage building performance that exceeds state standards.
Menu Option	1.2.1	Implement any of the strategies in Section 1.1 through a process involving internal and external stakeholders, etc.
Strategic Plan Goal 2: Strong support from local governments for energy code compliance enforcement.		
Strategy	2.1	Improve processes resulting in increased code compliance through education, training, and enforcement practices.
Menu Options	2.1.1	Local government staff and contract staff attend code compliance workshops offered by the California Energy Commission (CEC), utility codes & standards staff, or other local governments with strong compliance records.
	2.1.2	Redesign enforcement, compliance, plan review processes; introduce new forms and templates.
Strategic Plan Goal 3: Local governments lead by example with their own facilities and energy usage practices.		
Strategy	3.1	Develop a program to track municipal energy usage, such as through energy management software and benchmarking of municipal facilities.
Menu Options	3.1.1	Develop energy benchmarking policies and procedures to enable ongoing benchmarking of all local government facilities.
	3.1.2	Set up a 'utility manager' computer program to track municipal usage. Identify need for sub-metering to plan, budget and manage bills.

Strategy	3.2	Adopt an Energy Action Plan (EAP) or Climate Action Plan (CAP) for municipal operations. The plan could include setting energy efficiency standards for new and existing facilities, developing a revolving loan fund for energy efficiency projects, and so on.
Menu Options	3.2.1	Develop/adopt an energy chapter for City/ County CAP or EAP.
	3.2.2	Adopt a policy to require Leadership in Energy and Environmental Design (LEED), Energy Star Ratings, or other program standard for municipal facilities.
	3.2.3	Develop policy for a revolving energy efficiency fund for City/County facilities.
	3.2.4	Develop commissioning/retro-commissioning policies for municipal facilities.
Strategic Plan Goal 4: Local governments lead their communities with innovative programs for energy efficiency, sustainability and climate change.		
Strategy	4.1	Adopt a CAP, EAP or adopt energy efficiency language into another policy document, such as a General Plan, to reduce community greenhouse gas (GHG) emissions with a focus on energy efficiency.
Menu Options	4.1.1	Develop a regional template for CAP or EAP.
	4.1.2	Customize CAP with energy efficiency language and data.
	4.1.3	Update General Plan/Conservation Element with Climate policies. Provide energy efficiency framework and data for other people doing planning.
	4.1.4	Conduct the energy efficiency savings analysis for an annual GHG inventory for the City/ County.

Strategic Plan Goal 5: Local government energy efficiency expertise becomes widespread and typical.

– By 2020, 100% of local governments have in-house capabilities devoted to achieving all cost-effective energy efficiency in their facilities and stimulating the same throughout their communities.

Local governments participating in activities under Goals 1 – 4 will be increasing their expertise. The activities under Goal 5 are more directly related to the programs operated by the statewide local government associations (International Council for Local Environmental Initiatives [ICLEI], Institute for Local Government [ILG] and Local Government Commission [LGC]), by regional local government agencies such as the Association of Bay Area Governments and Great Valley Center, and by the Statewide Local Government Energy Efficiency Best Practices Coordinator.

Appendix F. Interview Guides

F.1. Best Practices Coordinator Interview Questions

F.1.1. Involvement in the LGP Program

The first questions relate to your role and responsibilities.

Q1. Please describe your roles and responsibilities as they related to the statewide Local Government Partnership program.

Q2. [IF NOT DISCUSSED] Did you work with both LGP staff and LG staff? [IF NO] Which group did you work with?

Q3. To what degree did you coordinate with the utilities to support the LGP program?

Q4. [IF ANY COORDINATION] Which of those collaborations were more effective? What made them effective?

Q5. Which of those collaborations was less effective? What made them challenging?

Q6. [IF ANY COORDINATION, IF ANY CHALLENGES] What do you think can be done to overcome those challenges?

Q7. Were there any major differences in how the IOUs delivered Strategic Plan support to LGPs? [IF YES] In your opinion, what were the most important differences in how the IOUs delivered strategic plan support?

Q8. Were there any major differences in how the IOUs delivered the municipal retrofits element of the program? [IF YES] In your opinion, what were the most important differences in how the IOUs delivered the municipal retrofits element of the program?

Q9. Did you provide any support to local governments or local government partnerships that was not available through the IOUs? [Probe specifically for Strategic Plan support and municipal retrofits]

Q10. In your experience, to what degree does the amount of time utility staff spend working directly with the local governments vary by partnership? [IF VARIATION] What factors contribute to this variation? [Probe for: IOU, account managers]

Q11. What are they key benefits to the LGP program's approach?

Q12. What are the key weaknesses to the LGP program's approach?

Q13. What was most challenging about working with the LGP program?

Q14. How did you address those challenges?

Q15. What were the biggest successes you had in working with the LGP program?

F.1.2. Progress Tracking

Now I'd like to talk about how LGP performance is tracked.

Q16. What did you do, if anything, to support LGPs in tracking performance?

Q17. What did you do, if anything, to track and LGP performance as part of your role as Best Practices Coordinator?

Q18. Are you aware of any challenges the LGPs have faced in tracking their progress toward Strategic Planning goals? On municipal retrofits projects?

Q19. [IF NOT ADDRESSED] Are there any data points in particular that are difficult for local governments or implementers to provide? Why is it difficult for them to provide those data?

Q20. What solutions would help local governments improve their tracking and reporting?

Q21. To your knowledge, what are the consequences, if any, for poor performance by local governments or LGPs?

Q22. To your knowledge, do local governments receive any rewards for good performance on municipal retrofit projects? On Strategic Plan goals?

F.1.3. Categorization of Local Governments

In the next set of questions, I'd like to talk about the diversity of local governments and local government partnerships [Utility] works with.

Q23. Can you identify any distinguishing LG or LGP characteristics that bear on LGPs' progress on municipal retrofits projects? How about on Strategic Planning? [IF NO, SKIP Q24. IF YES ASK Q24]

Q24. What are those characteristics? [IF NOT CLEAR] How do these characteristics influence the ability of the LG to achieve the Strategic Plan goals or municipal retrofits?

Q25. Do you think it would be beneficial for the IOUs or ED to categorize LGs or LGPs in any way that affects the way the LGP program is delivered?

Thank you. As part of our evaluation, we're trying to classify local governments into categories. We have identified some factors that may be influential in LGPs' ability to complete municipal retrofit projects and meet Strategic Plan goals. We would like to get your feedback on these categories and find out whether you think these categories are meaningful for distinguishing between LGPs, particularly as they influence progress toward municipal retrofits and Strategic Plan goals.

Q26. First, LGPs differ in how they are organized. Some LGPs are an existing council of governments, some are a collection of municipalities working together for the first time,

and some are an individual city or county. Have I missed any types? [IF YES, NOTE ADDITIONAL TYPES]

Q27. Do you have a sense that some organizational types are more able to take action than others? [IF YES] Why do you think that is? [IF NO] What makes you say that?

Q28. And the converse – do some organizational types seem to be less able to take action?

Q29. It also seems that some of the pre-existing collections of municipalities focused on energy efficiency while others had a more general focus. How does this prior energy efficiency focus affect the LGP's performance in the program, if at all?

Q30. We've also noted different types of implementers. Implementers can be a council of governments, a joint power authority, a single city or county, or a non-profit or for-profit organization. Am I missing any types? [IF YES NOTE ADDITIONAL TYPES]

Q31. Do you find that the type of implementer affects the LGPs' performance in the program? [If YES] How? [IF NO] What makes you say that?

Q32. Do you notice differences in performance based on whether there are any full-time staff at the LGP dedicated to energy efficiency activities?

Q33. Do you notice any meaningful differences between LG partners with and without Climate Action Plans (CAPs)? [IF NEEDED] Does the drafting and adoption of a CAP coincide with more progress toward SP goals and municipal retrofits?

Q34. Do you notice any trends in performance related to geographic location, such as coastal versus inland or northern versus southern?

Q35. Does performance in the program seem to correlate with any community characteristics such as community size, wealth, degree of urbanization, or political climate?

Q36. Are there any other influential LGP characteristics that have come to mind over the course of our conversation?

Q37. Thank you. Of the factors that we just discussed, LGP organizational structure, history of collaboration or lack thereof, type of implementer, CAP adoption, geography, community characteristics, [other factor(s) if provided by respondent], which ones seem the most important to you?

F.1.4. General/Closing

Before we end today's conversation, I have a few more questions about the LGP program.

Q38. Looking back to when you began working with Local Government Partnerships, what do you know now that you would have liked to know then?

Q39. Is there anything else you'd like to add about the Local Government Partnership program that we haven't talked about?

F.2. LGP Key Staff Interview Questions

F.2.1. Program Management Structure and Roles

The first questions relate to your role and responsibilities.

Q1. Please describe [Utility]'s approach to supporting or advising its local government partnerships.

Q2. Now I'd like to ask about some specific elements of the LGP program. How does [Utility] support local government partners as they complete municipal retrofits?

Q3. How does [Utility] deliver Strategic Plan support to local government partnerships?

Q4. To what degree does the amount of time [Utility] staff spend working directly with the local governments vary by partnership? [IF VARIATION] What factors contribute to this variation?

Q5. Please describe the role of the LGP account manager – let me know if you have a different term for the staff who work directly with LGPs.

Q6. Are there differences among account managers in how they fill these roles?

Q7. What has been the most challenging about managing the LGP program?

Q8. How are you addressing those challenges?

Q9. What has been the biggest successes you've had in managing the LGP program?

Q10. What are they key benefits to the LGP program's approach?

Q11. What are the key weaknesses to the LGP program's approach?

F.2.2. Interactions

In the next set of questions, we'll talk about your involvement with other utility organizations in administering or delivering the LGP program.

Q12. To what degree do you coordinate with other utilities to deliver the LGP program?

Q13. [IF ANY COORDINATION] Which of those collaborations are more effective? What makes them effective?

Q14. Which of those collaborations are less effective? What makes them challenging?

Q15. [IF ANY COORDINATION, IF ANY CHALLENGES] What do you think can be done to overcome those challenges?

Q16. Please describe the collaboration, if any, between [Utility] and the CPUC in delivering the LGP program.

F.2.3. Data Tracking

Now I'd like to talk about how you track the performance and progress made by your LGPs.

Q17. What information, if any, do you track regarding LGPs' progress on municipal retrofit projects? [IF ANY] What procedures are in place to track this information?

Q18. [IF ANY INFORMATION TRACKED] May I see a copy of the tracking spreadsheet or a tracking report? This information will be kept confidential – we will not identify any individual LGs, LGPs, or projects in our report.

Q19. What information, if any, do you track regarding LGPs' strategic planning activities? [IF ANY] What procedures are in place to track this information?

Q20. [IF ANY] May I see a copy of the tracking spreadsheet or a tracking report?

Q21. What challenges have you faced in tracking local governments' activities and the outcomes of those activities?

Q22. [IF NOT ADDRESSED] Are there any data points in particular that are difficult for local governments or implementers to provide? Why is it difficult for them to provide those data?

Q23. What solutions, if any, have you found to help local governments improve their tracking and reporting?

Q24. How many local governments involved in [Utility's] LGPs have some sort of energy management system?

Q25. To what degree does using an energy management system enable achievements among local governments?

Q26. [IF NOT ADDRESSED] Do account managers discuss progress on municipal retrofits projects with local government participants? How about progress toward meeting Strategic Plan goals?

Q27. [IF Q28 = YES] What consequences, if any, do poorly performing local governments face?

Q28. [IF Q28 = YES] What rewards, if any, do local governments receive for good performance on municipal retrofit projects? On Strategic Plan goals?

F.2.4. Categorization of Local Governments

In the next set of questions, I'd like to talk about the diversity of local governments and local government partnerships [Utility] works with.

Q29. Can you identify any distinguishing LG or LGP characteristics that bear on LGPs' progress on municipal retrofits projects? How about on strategic planning? [IF NO, SKIP Q32. IF YES ASK Q32]

Q30. What are those characteristics?

1. [IF NOT CLEAR] How do these characteristics influence LGs' ability to achieve the Strategic Plan goals? Municipal retrofits?

Thank you. As part of our evaluation, we're trying to classify local governments into categories. We have identified some factors that may be influential in LGPs' ability to complete municipal retrofit projects and meet Strategic Plan goals. We would like to get your feedback on these categories and find out whether you think these categories are meaningful for distinguishing between LGPs, particularly as they influence progress toward municipal retrofits and Strategic Plan goals.

Q31. First, LGPs differ in how they are organized. Some LGPs are an existing council of governments, some are a collection of municipalities working together for the first time, and some are an individual city or county. Have I missed any types? [IF YES, NOTE ADDITIONAL TYPES]

Q32. Do you have a sense that some organizational types are more able to take action than others? [IF YES] Why do you think that is? [IF NO] What makes you say that?

Q33. And the converse – do some organizational types seem to be less able to take action?

Q34. It also seems that some of the pre-existing collections of municipalities focused on energy efficiency while others had a more general focus. Do your partnerships have both of these types? [IF YES] How does this prior energy efficiency focus affect the LGP's performance in the program?

Q35. We've also noted different types of implementers. Implementers can be a pre-existing council of governments, a group of municipalities working together for the first time, a single city or county, a joint power authority, or a non-profit. Am I missing any types? [IF YES: NOTE ADDITIONAL TYPES]

Q36. Do you find that the type of implementer affects the LGPs' performance in the program? [IF YES] How? [IF NO] What makes you say that?

Q37. Do you notice differences in performance based on whether there are any full-time staff at the LGP dedicated to energy efficiency activities? [IF AN IMPORTANT FACTOR] Is there information available on whether an LGP has full-time energy efficiency staff?

Q38. Do you notice any meaningful differences between LG partners with and without Climate Action Plans? [IF NEEDED] Does the drafting and adoption of a CAP coincide with more progress toward SP goals and municipal retrofits?

Q39. Do you notice any trends in performance related to geographic location, such as coastal versus inland or northern versus southern?

Q40. Does performance in the program seem to correlate with any community characteristics such as community size, wealth, degree of urbanization, or political climate?

Q41. Are there any other influential LGP characteristics that have come to mind over the course of our conversation?

Q42. Thank you. Of the factors that we just discussed, LGP organizational structure, history of collaboration or lack thereof, type of implementer, CAP adoption, geography, community characteristics, [other factor(s) if provided by respondent], which ones seem the most important to you?

F.2.5. General/Closing

Before we end today's conversation, I have a few more questions about the LGP program.

Q43. Looking back to when you began managing the program, what do you know now that you would have liked to know then?

Q44. [IF WE HAVE NOT ALREADY RECEIVED LGP CONTACT INFORMATION] In the next phase of our evaluation, we will be talking with representatives from the local governments involved in the LGP program. Can you provide us with the contact information for the key contact at each Local Government Partnership you work with? We can do this part over email if it's easier. Please also provide the contact information for the facility manager(s) at the LG, as we may want to talk with them as well.

Q45. Is there anything else you'd like to add about the Local Government Partnership program that we haven't talked about?

F.3. LGP Key Contacts Interview Guide

F.3.1. Respondent Background [ASK ALL]

First I'd like to talk about your role and responsibilities as they related to the LGP program.

Q1. What is your title within [organization that employs him/her]?

Q2. How would you describe your role in the LGP program?

Q3. How long have you been in that role?

Q4. It sounds like you're familiar with _____ and _____. Just to confirm, have you been involved in any of the following? [Read those not mentioned above and mark all respondent is familiar with]

[1] partnership characteristics

[2] municipal retrofits

[3] strategic plan activities

[4] local government characteristics

[5] anything else?

F.3.2. Partnership Characteristics [ASK ALL]

The next set of questions is about the structure of your local government partnership and how it operates.

Q5. In what year was your partnership established?

Q6. How many local governments are part of your partnership? [If needed: Please include all member cities and counties, including cities served within a member county.]

Q7. Who is the implementer for your partnership and how were they chosen? [If not clear] Is the implementer a member government, an entity like an Association of Governments, Council of Governments, or a Joint Power Authority, or a for- or non-profit organization?

SKIP Q8-Q14 if single LG partnership is own implementer

[For implementers: Ask Q8-Q11, then go to Q15. For non-implementers: Skip to Q12]

Q8. What support or assistance do you provide to your partnership?

Q9. What has worked well for you as you implement projects for this partnership?

Q10. What challenges have you faced working with this partnership?

Q11. What do you recommend be done to address these challenges?

[For non-implementers: Ask Q12-end of section.]

Q12. What support or assistance do you receive from your implementer?

Q13. What are the strengths of your implementer?

Q14. What challenges have you faced working with this implementer, if any? [If needed: Familiarity with local conditions, cost, sufficient knowledge.]

[Ask all]

Q15. [Multi-LG LGPs] Are there any local governments, (other than the implementer), that provide support or technical assistance to other member governments? [**If yes**:] Which governments, and what do they offer?

Q16. [Multi-LG LGPs] Which of the following best describes the degree to which LGs in your partnership collaborated before joining the LGP program?

1. No collaboration
2. Limited collaboration
3. Moderate collaboration; or
4. Substantial collaboration

[If needed: it could be sharing of resources like the police and fire departments, or regional coordination for things like transportation]

Q17. [Multi-LG LGPs] What makes you say that? **Add, if prior collaboration:** What are some examples of your collaboration?

Q18. Okay, I just want to make sure I understand the structure of your partnership. It sounds like your partnership is [*select: a single-LG; headed by a AOG/COG/JPA; or a group of local governments without a shared governing body*]. Is that right? [*Interviewer: Note partnership type*]

Q19. [Multi-LG LGPs] At the risk of simplifying complexity, how would you describe the process by which decisions are made within your partnership – would you say one local government typically makes partnership-level decision, that member LGs share decision-making responsibility, or that an organization representing all LGs, like a Council of Governments, makes most decisions?

Now I'd like to know how involved representatives from your partnership are in the local government energy efficiency community.

Q20. Have representatives from your partnership presented at the annual Statewide Energy Efficiency Collaborative (SEEC) meetings in the last three years?

Q21. Is your partnership represented on the bimonthly Stakeholder Advisory Group (StAG)? [IF YES:] How often does a representative from your partnership attend those meetings?

Q22. Is your partnership coordinating with any other partnerships to conduct work through the LGP program? [If needed: In general, sharing resources, best practices, equipment] [IF YES:] Please describe.

Q23. Does your partnership have staff dedicated to energy efficiency? [If so] Where does funding for those staff come from? Can you estimate the full-time equivalency, or FTE, of the staff dedicated to energy efficiency?

F.3.3. Municipal Retrofits [IF INVOLVED]

Now I'll ask questions related to municipal retrofit projects, including partnership progress and how the work is funded and tracked.

Q24. Please walk me through the process through which a municipal retrofit project occurs, from project conception through completion. [If needed: What steps does a local government go through in order to do a municipal retrofit project?]

Q25. Are any of those steps more challenging to complete than others? [IF YES:] What makes those more challenging?

Q26. How has [*utility or utilities*] supported the governments in your partnership as they complete municipal retrofits? [Probe: If more than one utility partner, probe for support from each] What types of support and expertise has your partnership found valuable?

Q27. [*Utility*] wants to know what's working well for your partnership in terms of its support for your municipal retrofit projects. In its quest for continual improvement, what program support should they be sure to maintain or even expand?

Q28. What challenges, if any, have you faced working with [*utility*] as you complete municipal retrofits? **If challenges:** What do you think can be done to overcome those challenges?

Q29. I'd like to know if any of the following have been challenging as you complete municipal retrofits. If they have been, please give me an example or two.

1. How about funding, has that ever been a challenge?
2. How about accessing staff or third parties with the technical expertise needed to complete a municipal retrofit?
3. Have you ever had trouble identifying or accessing properly-trained contractors?
4. How about sourcing the necessary energy-efficient equipment needed for your project?
5. What about communication issues among the parties involved in a municipal retrofit project – has that ever been a challenge?
6. Have you faced any other challenges I haven't mentioned? If so, please explain.

Q30. One goal of the LGP program is to provide support and technical expertise to local governments. What kinds of IOU support have your member local governments made use of? [IF NEEDED: knowledge around benchmarking, audits, demand- programs, identifying funding sources] [IF YES:] To what end?

Q31. Let's talk about tracking and reporting. Are municipal retrofit projects tracked at the partnership level? **If yes:** Who – by title and organization has responsibility for tracking partnership projects? [Probe for each: at LG or LGP?]

1. What project milestones are tracked?
2. What summary statistics or metrics are used to track progress on municipal retrofits?
3. Who sees the metrics, and what do they use them for?
4. Does the partnership set goals – such as annually – for accomplishments as measured by the metrics?

Q32. In your opinion, are these metrics accurately capturing project stages and accomplishments? **If no:** What are they missing that should be captured?

Q33. What types of data relating to municipal retrofits are challenging for you to track, if any? **If any:** What makes it challenging?

Q34. Do you have any recommendations about how to improve tracking and reporting of progress on municipal retrofits?

Q35. What would you say is your partnership's biggest municipal retrofit accomplishment?

Q36. Now let's briefly discuss funding of municipal retrofit projects. What sources of funds do partners use for municipal retrofit projects?

Q37. How do the local governments in your partnership tend to fund energy efficiency projects? Do your local governments have a budget line item specifically for energy efficiency projects, or are projects budgeted out of facility maintenance funds, or something else?

Q38. What's the biggest barrier to getting funds for municipal retrofit projects?

Q39. [IF NOT EVIDENT:] And has your partnership used non-ratepayer funds to pay for municipal retrofits? **If yes:** What are those funding sources?

Q40. To what extent has your partnership utilized revolving loan funds for municipal retrofits? **If used:** What is the source of these funds? **If not:** why has your partnership not used revolving loan funds?

Q41. How about utility on-bill financing? **If not:** why has your partnership not used on-bill financing?

F.3.4. Strategic Plan Activities [IF INVOLVED]

The next set of questions relates to Strategic Plan activities including partnership progress and how the work is funded and tracked.

[*Interviewer: Look at list of partnerships' SP activities*] It looks like local governments from your partnership have done Strategic Plan activities relating to [*x number*] of Strategic Plan goals. Projects have included [*give 5 or 6 unique examples*]. For the following questions, please specify whether your response relates to Strategic Plan activities in general or if it relates to specific Strategic Plan activities. Examples are especially appreciated. [*Interviewer: PROBE for whether experience is in general or particular to a specific SP activity.]*

Q42. Please walk me through the process a government takes to do a Strategic Plan activity from conception to completion? [If needed: What steps does a local government take to do a Strategic Plan project?] [Probe for: selection of menu item, resources, people involved, required steps]

Q43. What challenges has your partnership encountered conducting Strategic Plan activities? [Probe: Public support for policies, templates for drafting policies].

Q44. One goal of the LGP program is to provide support and expertise that governments may be lacking. What types of support and expertise has your partnership found valuable?

Q45. How often, if ever, does your partnership have projects it would like to conduct, but that do not align with a Strategic Plan menu item? [IF EVER:] What happens to those projects? [IF NEEDED:] Do they happen outside of the LGP program or do they not happen at all?

Q46. Let's briefly discuss funding of Strategic Plan projects. What sources of funds do partners use for Strategic Plan projects?

Q47. [IF NOT EVIDENT:] And has your partnership used non-ratepayer funds to pay for municipal retrofits? **If yes:** What are those funding sources?

Q48. To what extent has your partnership utilized revolving loan funds for Strategic Plan projects? **If used:** What is the source of these funds?

Q49. Next let's discuss tracking and reporting. Are Strategic Plan projects tracked at the partnership level? **If yes:** Who – by title and organization has responsibility for tracking partnership projects? [Probe for each: At LG or LGP?]

1. What project milestones are tracked?
2. What summary statistics or metrics are used to track progress on Strategic Plan activities?
3. Who sees the metrics, and what do they use them for?
4. Does the partnership set goals – such as annually – for accomplishments as measured by the metrics?

Q50. In your opinion, are these metrics accurately capturing project stages and accomplishments? **If no:** What are they missing that should be captured?

Q51. What types of data relating to Strategic Plan activities are challenging for you to track, if any? **If any:** What makes it challenging?

Q52. Do you have any recommendations to improve tracking and reporting of progress on Strategic Plan activities?

Q53. What would you say is your partnership's biggest Strategic Plan accomplishment?

F.3.5. Lessons Learned [ASK ALL]

Now, let's talk about lessons you've learned working in the LGP program.

Q54. Are you aware of any planned or funded projects that local governments were not able to complete? **If any:** What was the reason that/those projects were not completed? [Probe for LG staff knowledge, market barriers]

Q55. What lessons learned would you pass on to someone just joining the LGP program? [If needed: What do you know now that you wish you would have known when you first got involved in the LGP program?]

Q56. What recommendations do you have to improve the LGP program?

F.3.6. Local Government Characteristics [ASK ALL]

This last set of questions asks about the proportion of member governments in the partnership with specific characteristics. **[Multi-LG LGPs: Read Q58-67 then go to closing. Single-LG LGPs: Skip to Q68]**

Q57. What proportion of your local government members have drafted or adopted an Energy Action plan (EAP)?

Q58. What proportion of your local government members are actively implementing their Energy Action Plan?

Q59. Same questions for Climate Action Plan - what proportion of your local government members have drafted or adopted a Climate Action Plan?

Q60. What proportion of those local governments are actively implementing their Climate Action Plan?

Q61. What proportion of your local government members use energy management systems? [**If zero:** skip to Q66]

Q62. [IF ANSWERED PROPORTION:] Do you have any familiarity with the functionality of any of these EMS systems, that I might ask a few follow-up questions? **If yes:** How common is it, to your knowledge, that these systems enable the building operator to adjust controls to meet daily operational needs? **If yes:** And how common is it, to your knowledge, that the systems monitor multiple buildings?

Q63. [IF ANSWERED PROPORTION:] What proportion of those energy management systems were established using Strategic Plan funds?

Q64. In your opinion, what advantages does an EMS offer to a local government?

Q65. What proportion of your local government members have someone you would call an "energy champion" – someone who advocates for prioritizing energy efficiency and pushes projects along to completion? [If needed for SCE-based LGPs: We're using "energy champion" in more of an informal way, so they may not necessarily be the contract-designated energy champion, but instead, someone who nudges others so that energy efficiency is not neglected]. **If yes:** Can you give me some examples of who these people are – by position – and what makes them energy champions?

[Single-LG LGPs, ask Q68 to end. Multi-LG-LGPs: Go to closing]

Q66. Have you drafted or adopted an Energy Action Plan? **If yes:** Are you actively implementing your Energy Action Plan?

Q67. Have you drafted or adopted a Climate Action Plan? **If yes:** Are you actively implementing the Climate Action Plan?

Q68. Do you have an energy management system? **If yes:** How many buildings have an EMS? [**If no:** Skip to Q74]

Q69. [IF EMS:] Do you have any familiarity with the functionality of EMS system, that I might ask a few follow-up questions? **If yes:** Does the system enable the building operator to adjust controls to meet daily operational needs? **If yes:** And does the system monitor multiple buildings?

Q70. Did you establish your EMS using Strategic Plan funds?

Q71. In your opinion, what advantages does an EMS offer your municipality?

Q72. Does your municipality have staff members whose job is entirely dedicated to energy efficiency? **If yes:** Where does the funding for those staff positions come from? **If yes:** Can you estimate how many FTEs are dedicated to energy efficiency?

Q73. Do you have someone you would call an "energy champion" in your municipality– someone who advocates for prioritizing energy efficiency and pushes projects along to completion? [If needed for SCE-based LGPs: We're using "energy champion" in more of an informal way, so they may not necessarily be the contract-designated energy champion, but instead, someone who nudges others so that energy efficiency is not neglected]. **If yes:** Can you give me some examples of who these people are – by position – and what makes them energy champions?

F.3.7. Closing

Thank you. That is all the questions I have for you.

Q74. Is there anything else you would like to add about the local government partnership program, particularly anything that would help [*utility*] improve its program support?