Seeing the Big Picture – Understanding Co-Benefits Implementers Gain from Local Government Partnerships

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ABSTRACT

While past research has covered a wide range of energy and non-energy benefits (NEBs), this paper will explore a different but related type of program benefit relevant to programs where utilities work with local government or quasi-governmental agencies to encourage progress on codes and standards and energy efficiency. Evergreen conducted research sponsored by four utilities to identify possible benefits other than energy efficiency benefits (called co-benefits) from local government partnership (LGP) programs that may not have been tracked but that could represent additional benefits.

As energy efficiency programs work to reach disadvantaged communities and hard-to-reach populations, they will increasingly need to partner with local governments and community-based organizations to leverage their established relationships to reach the targeted customers. By identifying benefits that LGPs prioritize, the utility and partners can better understand the actions and motivations influencing each other's involvement. This improved understanding will allow evaluators to more accurately identify, measure, and report the total benefits of the partnership. This paper identifies seven categories of co-benefits; five of these do not appear in previous NEB research. The research organizes all suggested benefits within activities agreed upon by each partner using program logic models. This ensures each benefit is tied directly to partnership activities.

Findings from this paper can be generalized to demonstrate how to identify and track additional benefits beyond direct energy savings by asking program implementers to share perceived benefits and how they track them or could track them in the future.

Introduction

Evergreen Economics conducted a study to identify co-benefits that result from LGP program activities that focus on hard-to-reach (HTR) communities and disadvantaged communities (DACs) and evaluate how partnerships can measure these co-benefits in the future. The first research step was a literature review of NEB research to understand how this research may overlook additional benefits that LGPs generate. This research helped inform discussions with the IOU study team regarding development of the definition of co-benefits used to direct our work. We developed the following definition of co-benefits:

Co-Benefits: Co-benefits result directly from an activity done by an LGP whose savings are not already claimed by the IOUs. Co-benefits include energy—both resource (direct savings claims) and non-resource (no direct savings claims)—and non-energy benefits that are not already directly claimed by the IOUs. Co-benefits do not include non-energy benefits that are indirectly associated with energy savings that are already claimed by the IOUs.

Using this definition of co-benefits, Evergreen conducted in-depth interviews and web surveys with implementing partners, local governments, the Local Government Sustainable Energy Coalition (LGSEC), and the Rural Hard to Reach Working Group to solicit their input on what co-benefits LGPs are providing. This primary research also explored what data evaluators could track to identify and assess reported co-benefits.

This research on co-benefits expands the evaluation of LGPs by exploring benefits that the partnership or utilities have not historically claimed, including benefits generated by the unique positioning of the partnership. Implementing partners have not previously incorporated these benefits in LGP program logic models but reported these benefits within the partnership as goals and as recognized benefits they generate through their program activities.

This research concludes with suggestions on how partnerships can incorporate co-benefits into their program goals, so they are recognized as benefits of the partnership. To demonstrate this, we present a portion of a generic logic model altered to include the co-benefits found during this research. Though Evergreen conducted this research on LGPs, evaluators can use the conclusions from this study to explore how other kinds of programs can include and track a wider range of benefits.

Approach and Methodology

To approach the goal of identifying co-benefits generated by LGPs, we used the following methodology:

- Literature review to identify currently recognized energy and non-energy benefits attributed to LGPs
- In-depth phone interviews with prominent LGP implementing partners and stakeholders
- Web surveys with implementing partners from LGPs and local government staff
- Identification of co-benefits and benefits from LGPs
- Data collection from local governments

Literature Review

At project outset, Evergreen and stakeholders crafted the definition of co-benefits generated by LGPs. Evergreen then conducted an extensive literature review to identify co-benefits attributable to LGPs.

The literature review identified where co-benefits fit into the LGP program activities and provided background knowledge to support the study findings and recommendations, Evergreen reviewed the following documents:

- Prior NEB research along with IOU and California Public Utilities Commission Energy Division public comments on past reports (Synapse Energy Economics Inc. 2014; Weinsziehr and Skumatz 2016; LBNL 2017; Navigant 2018; Opinion Dynamics 2018; TRC 2019; MEEA 2020; Skumatz Energy Research Associates 2010 and 2016). This helped to define co-benefits, which are currently understood as different than local economic benefits.
- Prior Evergreen research of NEBs and of LGPs (Evergreen Economics 2013a, 2013b, 2013c, 2017a, and 2017b).
- NEB update for low-income programs conducted by the IOUs, with the understanding that the conclusion was to collect more primary data (Skumatz Energy Research Associates 2019).
- LGP Program Theory documentation, to ensure identified benefits tie back to program theory (CADMUS 2013; LGC and LGSEC 2017; SoCalREN 2017; CPUC 2018).
- *Senate Bill 350 Doubling Energy Savings by 2030* Report (CEC 2017).

In-Depth Phone Interviews

We conducted high-level in-depth phone interviews with five implementing partners from LGPs that operate in DACs[1] or HTR[2] communities and were suggested by the IOU study team to be well versed in working with HTR communities and DACs, with two who we interviewed also representing either the LGSEC or the Rural Hard to Reach Working Group. Implementing partners are employees within an LGP that the LGP tasks with implementing the programs they offer, including municipal retrofits, strategic planning, and promoting energy efficiency. We interviewed members from the LGSEC and Rural Hard to Reach Working Group to understand the unique positioning LGPs might face when working in rural areas and to gain insight into co-benefits they have observed LGPs to generate.

In these interviews, we asked specifically about activities included in the LGP generalized logic model created during our 2017 LGP research. We used this approach to encourage respondents to tie co-benefits to partnership activities (Evergreen Economics 2017a, 2017b).

Evergreen prompted implementing partners during the interviews to describe the activities in which the LGP partakes, as well as the benefits resulting directly from the activities. These phone interviews helped us design the web surveys we outline in the next section. After completing the web interviews, we integrated the benefits that the implementing partners mentioned during these interviews with the benefits reported from the web surveys.

Web Surveys

Evergreen designed web surveys using information we gathered in the literature review and from the in-depth phone interviews. We designed the web-surveys to identify what co-benefits and local economic benefits LGPs may be realizing, the expected size of those benefits, what data implementing partners are already tracking, and what additional tracking they could feasibly implement. We emailed these surveys to 36 implementing partners across 27 LGPs and local government staff within LGP territories.[3]

Overall, 21 implementing partners from 18 LGPs and 10 local government staff representing five LGPs completed the survey. For three of the 18 LGPs, two implementing partners responded to the web survey, this may have resulted in a slight bias for those three partnerships. We also did not limit analysis of responses based on described role or time in their position. For these reasons, we consider these web surveys to be qualitative data.

[1] 'DAC' is a formal designation created through a tool called CalEnviroScreen 3.0. This tool was developed on behalf of the California Environmental Protection Agency and identifies census tracts that are "disproportionately burdened by, and vulnerable to, multiple sources of pollution."
https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30

[2]Evergreen utilized the definition adopted in D.18-05-0419 for 'hard to reach' for both households and businesses. D.18-05-041 May 31, 2018, page 160 https://www.pge.com/pge_global/common/pdfs/for-our-businesspartners/energy-efficiency-solicitations/D-18-05-041-EE-Business-Plan-Final-Dec-CPUC-20180531.pdf

[3] The approach for gathering contact information and recruitment differed between implementing partners and non-implementing local governments. For each implementing partner, Evergreen collected contact information (email and phone numbers) from the IOUs. Each implementing partner received no fewer than four email contacts and a phone call (leaving one voicemail). After an implementing partner completed a survey, Evergreen emailed them with a request for the implementing partner to reach out to their local government contacts to let them know about the web survey and distribute the link. Evergreen also offered to contact the local governments directly and requested to be copied on emails to the local governments so that Evergreen could conduct email follow-ups to encourage participation.

The first part of the web survey identified the partnership and asked about the respondent's role, and about what activities the partnership does, including activities relating to strategic plan support, municipal building retrofits, and core program coordination.

The survey then asked questions specific to each activity the respondent reported the partnership doing, including questions on:

- Who benefits from the reported activities?
- What do these activities entail?
- What benefits can you think of that come from these activities?
- How important is each benefit to the overall goals of the program?

Evergreen then asked the survey respondent to choose the two most important benefits they had mentioned in terms of the overall goals of the partnership. We asked this to help us understand what benefits are of the highest priority to the partnerships and to help us evaluate if program goals in the logic model reflect current priorities of the partnerships.

The next section of the survey asked if the partnership tracks any data for each benefit reported. We provided examples of what kind of collected data they could consider tracking, including event attendees, leads sent to IOU programs, and buildings benchmarked. For each benefit that a partnership reported as having some tracking in place, we asked the respondent to describe how they track the benefit and what data they collect. For each benefit the respondent reported currently not tracking, we asked if it would be feasible to collect data in the future to track the benefit. If the respondent reported that it would be feasible to track the benefit in the future, we asked what would enable them to track it. If the respondent reported that it would not be feasible to track the benefit in the future, we asked what barriers they face to being able to track the benefit.

Mapping Co-Benefits to Existing Logic Model

Evergreen organized the co-benefits reported by the implementing partners into a set of 12 categories as seen in Table 1. We then grouped these categories in terms of who they serve (HTR communities and/or DACs), how they tie to program activities, which are economic in nature, how important implementing partners consider them to be, and how trackable they are.

Evergreen then took the same 12 high-level co-benefit categories and filtered out co-benefits that did not fit into our developed definition of co-benefits, resulting in seven high-level co-benefit categories that we could map to outputs and outcomes in the logic model. We show these seven high-level co-benefit categories in Table 2.

Evergreen also reviewed the reported frequency of co-benefits, trackability, and interviewee-rated importance, and identified a similar list of seven high-level co-benefits. Five of the co-benefits identified from this exercise mirrored those that resulted from the logic model exercise.

Data Collection from Local Governments

Twelve of the implementing partners who responded to the web survey reported that they collected data on at least one co-benefit. Evergreen requested data from each of those 12 implementing partners. Of those 12 implementing partners, Evergreen received data from seven of them, representing six LGPs. We used these data to assess tracking ability and to give summaries of currently tracked metrics.

NEB Framework for Analysis

Existing NEB research helped provide examples of the scope of benefits currently recognized by a variety of sources and how these sources have classified and defined them. The exhaustive list of NEBs we collected from this effort and that many sources were not specific to DAC or HTR populations led us to decide that we should not prompt respondents to the web survey and in-depth interviews for this project with a list of co-benefits to select from. We decided that we should instead prompt respondents to share which co-benefits they consider result from partnership activities.

NEBs that multiple sources in our research mentioned were often categorized by what entity the benefit accrued to, including utility-perspective NEBs, participant-perspective NEBs, and societal-perspective NEBs. Examples of relevant NEBs cited by multiple sources include:

1. Utility-perspective NEBs:
    - Reduced arrearages
2. Participant-perspective NEBs:
    - Improved health and fewer lost days at work or school
    - Reduced operation and maintenance costs
    - Increased worker and student productivity
    - Increased comfort
    - Fewer electricity shutoffs and reconnections
    - Energy efficiency education, and greater ability to save energy
3. Societal-perspective NEBs:
    - Environmental externalities
    - Economic development benefits, including job creation, increases in personal income, and state GDP benefits

In addition to reviewing existing NEB research, we also leveraged prior Evergreen research with LGPs and the resulting program logic models. Logic models display program activities as well as both short- and long-term outcomes. Evergreen used logic models to structure how to attribute co-benefits to LGPs and to frame what can and cannot be considered a co-benefit. As an outcome of this research, Evergreen updated a generic logic model for LGPs that showcases how planners can structure recognized co-benefits into existing program goals.

Findings

Self-Reported Co-Benefit Characteristics

After the implementing partners completed the surveys, Evergreen staff sorted the reported benefits into these 12 categories as shown in Table 1. It is important to note that a single implementing partner could mention multiple co-benefits that fell into the same high-level category more than once.

Table 1. Co-benefits reported by implementing partners

	Benefit category	Number of LGPs that mentioned the co-benefit (1 could refer to multiple interviews with implementers at a single LGP)	Number of implementing partners that mentioned co-benefit	Number of total times co-benefit category mentioned
1	Education	11	12	29
2	Staff support/job creation	7	7	20
3	Project identification	8	9	11
4	Monetary savings from reduced energy bills	6	6	9
5	Leveraging relationships	7	7	8
6	Customized/tailored messaging	5	5	5
7	Bundling/combining energy efficiency resources with other programs/ offerings	4	4	5
8	Greenhouse gas (GHG) reductions	4	4	5
9	Providing source of trusted information	4	4	4
10	Increased climate action plan goals	2	2	2
11	Health/comfort	1	1	2
12	Proof of concept for broader industry	2	2	2
	Total			**102**

Screening of Co-Benefits Using the Program Logic Model

Evergreen reviewed the 12 co-benefit categories from the primary research and mapped them to a generalized LGP program logic model.

This exercise allowed for the screening out of co-benefits that did not meet the study definition, and showed which co-benefits are already accounted for in the logic model (i.e., already built into the LGP program planning and presumably, reporting and evaluation). The co-benefits that existing logic model activities already accounted for included:

- GHG reductions
- Project identification

- Some but not all co-benefits that were summarized in the overarching categories of:
    - Customized / tailored messaging
    - Bundling / combining energy efficiency resources with other programs
    - Staff support / job creation

Evergreen did not include the following additional co-benefits in the updated logic model because they did not meet the study team's definition of co-benefits:

- Monetary savings from reduced energy bills
- Health / comfort

We summarized the reported benefits, grouped benefits deemed similar into subcategories, and created high-level names for these similar subcategories. Table 2 displays the resulting seven co-benefit categories and subcategories after screening co-benefits through the logic model.

Table 2. Co-Benefit categories and subcategories

Co-benefit category	Co-benefit subcategory
Education	Increased energy literacy amongst local governments and businesses
	Behavioral changes amongst businesses or local government staff
	Increased energy efficiency awareness amongst the community
	Increased participation in other IOU programs
Staff support/job creation	Energy efficiency job creation (employing contractors to do projects)
	Increased staff time through support from the LGP
	Consistency through city staff turnovers by the LGP acting as a resource center for historical information
Leveraging relationships	Assurance to local governments that projects will be completed
Customized/tailored messaging	Offerings designed to be tailored to certain groups or demographics to boost participation in programs or to make programs more attractive
Bundling/combining energy efficiency resources with other programs	Bundling of projects that creates economies of scale and allows public agency dollars to go further
	Leveraging multiple program resources to provide a full offering of sustainable incentives and practices
Providing source of trusted information	Locally trusted and experienced staff are more effective in breaking down initial barriers with public agency staff and building trust with consumers
	The LGP acting as the lead entity for activities making cities, businesses, and residents more likely to participate
	Local staff not only reduce travel time to rural consumers but also are more successful than outside contractors to be trusted for projects
Proof of concept for broader industry	Demonstrating to the industry that concepts work
	Knowledge sharing of what municipalities are doing to take advantage of incentives offered by utilities

We show the revised logic model for just municipal building retrofit activities in Figure 1, adding the outcomes, outputs, and activities that the logic model screening exercise revealed.[4] Where a co-benefit maps to an activity, outcome, or output that already existed in the logic model, we bolded and underlined the item. There are new rows with darker shading to show the new activities, outcomes, or outputs once we integrated them into the logic model. There were no new outputs identified for municipal building retrofits. The single new output Evergreen added is reduced travel time to rural customers for core program coordination. We added three new outcomes across the three partner activities, including:

- Consistency through city staff turnover by the LGP acting as a resource center for historical information
- Local government staff feel assured that projects will be completed (increase LGP staff confidence)
- An increased level of trust amongst local governments (increase LGP staff confidence)

[4] For the purposes of this paper we only display the logic model for municipal building retrofits. To see the full logic model, refer to page 20 of this report:
http://www.calmac.org/publications/LGP_Co-Benefits_Final_Report_051421.pdf

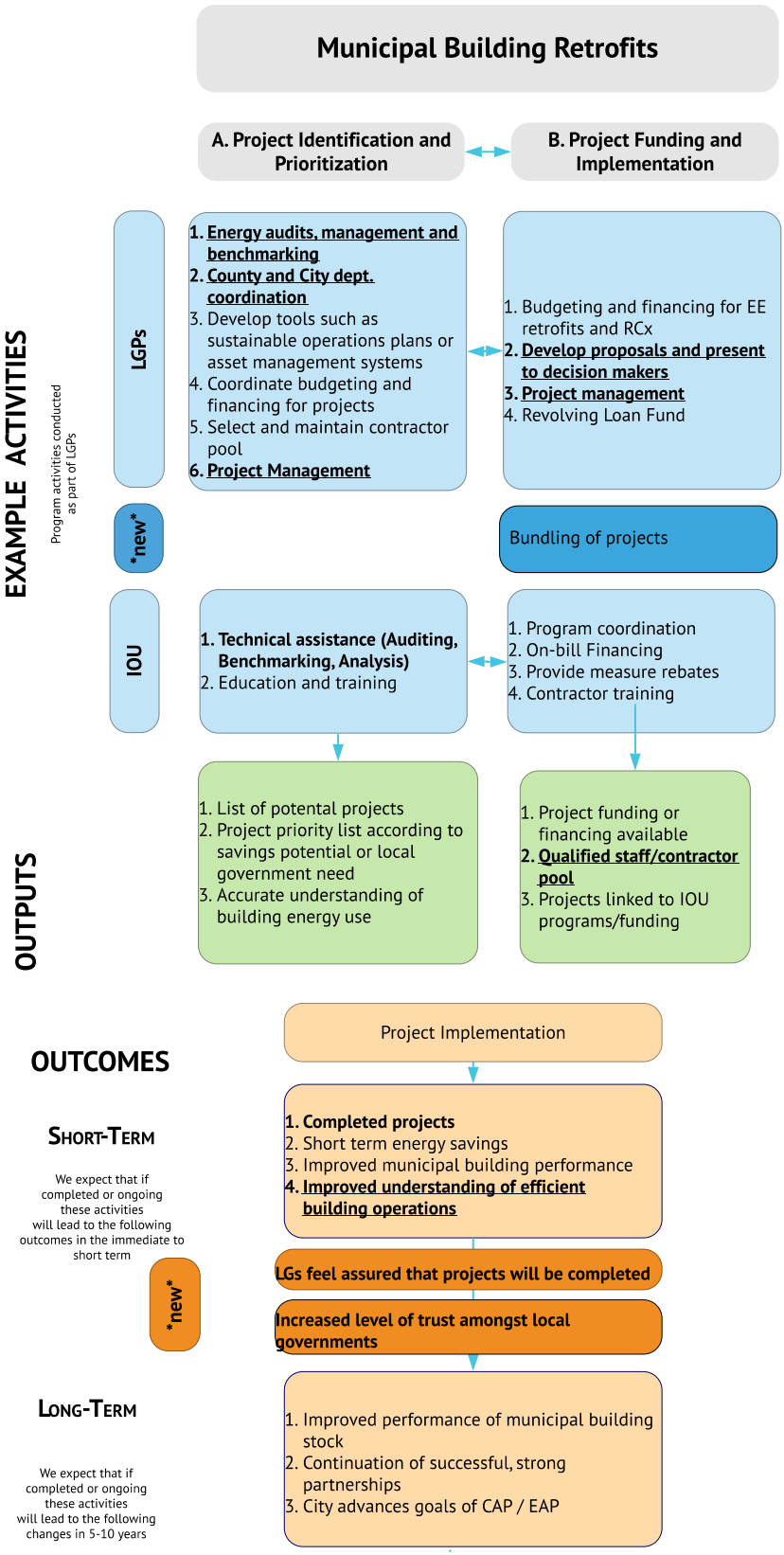

Figure 1. Updated logic model

Recognizing these newly defined co-benefits will ensure LGPs are evaluated more accurately and that all benefits generated through partnership activities are recognized. Each partnership takes on a unique set of activities, all of which should be incorporated into program logic models with the expected outputs of the activities defined. Including co-benefits in a revised logic model helps to ensure that future evaluations of partnerships do not overlook them.

Conclusions

The co-benefits identified from this research differ from previous research on NEBs as displayed in Table 3. Five of the seven co-benefit categories identified in this research did not appear in our literature review of previous NEB research. Co-benefits that used the unique positioning of the partnership implementer (such as leveraging relationships, bundling resources, and customizing messaging to constituent needs and interests) did not appear in our literature review, demonstrating how co-benefits can differ from NEBs.

Table 3. Overlap of reported co-benefits with NEBs

Co-benefit category	Appeared in NEB literature review
Education	Yes
Staff support/job creation	Yes
Leveraging relationships	No
Customized/tailored messaging	No
Bundling/combing energy efficiency resources with other programs/offerings	No
Providing source of trusted information	No
Proof of concept for broader industry	No

This research centers around LGPs and the benefits they generate, but program planners can also generalize this research to any type of program that creates benefits and is interested in ensuring that the activities they conduct do in fact lead to the intended outcomes. A complete logic model can facilitate a thorough review process that program evaluators do to ensure that programs are performing and generating the benefits they set out to do.

To stay up to date with evolving program activities and outcomes, partnerships may periodically review and update the activities and expected goals of partnerships to capture all program benefits. This paper shares a process for updating logic models to support future evaluations.

Partnerships can integrate the process to incorporate co-benefits into program theory by the following steps:

- A program should perform a careful review of program logic models to confirm that each logic model includes any new activities, outputs, and outcomes covering identified co-benefits, and that the existing logic models reflect the current intent of the partnerships. This may identify benefits that already exist within the logic model in addition to novel co-benefits.
- Partnerships can use additional outcomes to identify metrics that will require tracking data to measure progress towards goals identified in the logic models.

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