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Cape Light Compact Enhanced Incentives Study (2022-2024 Plan Period)

Final Report

Prepared for:

Cape Light Compact

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Executive Summary

In the 2022-2024 Three-Year Plan Order (D.P.U. 21-126), Cape Light Compact (CLC) received approval from the Massachusetts Department of Public Utilities (D.P.U.) to offer enhanced incentives for selected income-eligible and moderate income residential multifamily new construction and selected commercial and industrial (C&I) existing buildings projects. However, in the Order, the D.P.U. also directs CLC "to complete prior to the filing of its 2025-2027 Three-Year Plan, and file with its 2025-2027 Three-Year Plan, an analysis of its enhanced incentives through the statewide evaluation protocols to determine if these enhanced incentives, including incentive levels, are warranted and necessary to drive participation levels." Further, the Order states that "one aspect of the evaluation should consider the participation rates of comparable customer groups receiving similar services with lower incentive levels."[1]

Study Goals

The primary goals of this study are to assess:

1. Whether the enhanced incentives offered by CLC targeting selected income-eligible and moderate-income multifamily new construction and C&I existing buildings offerings are an effective mechanism for inducing participation.
2. As possible, the depth of savings by segments that received an enhanced incentive relative to segments that received lower incentive levels.

Key Findings and Conclusions

Below are the key study findings and conclusions:

- **The study confirmed that average incentive levels increased between the Comparison and Treatment periods for turnkey lighting and weatherization measures.** Average incentive levels for installed turnkey measures did increase from the Comparison period to the Treatment period. Average buydown for installed lighting measures increased from 93% to 99% between the Comparison and Treatment periods (buydown for measures that were not installed increased from 63% to 97%). Average buydown for weatherization measures increased from 61% to 73% between the Comparison and Treatment periods. Importantly, the data received for this study did not have any heat pumps installed during the Treatment period.[2]

- **Closure rates for turnkey lighting measures increased between Comparison and Treatment periods. For weatherization measures, the closure rate was 100% in**

[1] 2022-2024 Three-Year Plan Order (p. 267): "As stated above, the Department allows the Compact to move forward with its residential new construction and C&I existing buildings enhancements but makes no substantive findings on the prudence of these incentive levels at this time. The Department again directs the Compact to complete prior to the filing of its 2025-2027 Three-Year Plan, and file with its 2025-2027 Three-Year Plan, an analysis of its enhanced incentives approved herein through the statewide evaluation protocols to determine if these enhanced incentives, including incentive levels, are warranted and necessary to drive participation levels. One aspect of the evaluation should consider the participation rates of comparable customer groups receiving similar services with lower incentive levels. If the Compact is unable to justify its greater incentive levels, the Department will consider this when assessing the certification of the Compact's energy efficiency plan in the future."

[2] CLC's turnkey vendor indicated that heat pumps installed through the turnkey pathway may be categorized as New and Replacement Equipment, which is outside of how turnkey measures are typically categorized (i.e., Existing Buildings Retrofit). We did not receive data for New and Replacement Equipment for this study.

both periods (based on a small sample). For turnkey lighting measures, the analysis shows an increase in closure rates between the Comparison and Treatment periods across all three small business customer segments (microbusiness, small business, and small non-profits). Between the Comparison and Treatment periods, the closure rate for microbusiness increased from 68% to 93%. For small businesses, the closure rate increased from 80% to 93%. Small non-profits also saw an increase in closure rate between Comparison and Treatment periods, from 81% to 100% (however, the Treatment period sample size is only 3 measures). For weatherization, only the microbusiness segment installed measures during the Treatment period. For the microbusiness segment, incentives for weatherization increased from 58% to 78% between the Comparison and Treatment period, and the closure rate was 100% in both periods.

- **There was no change in participation rates between the Comparison and Treatment periods, but depth of savings increased.** While the closure rate went up or stayed the same between Comparison and Treatment periods, participation rates mostly stayed fairly constant (with the exception of non-profits, which saw a decrease but also had a very small sample). Depth of savings increased between Comparison and Treatment periods for all customer segments with the exception of small non-profits.

- **On average, interviewed small business turnkey participants (12), indicated that they would still have participated if the incentive level had been 25% lower than what they received.** The average incentive level received by interview respondents was 85%. The average lowest acceptable incentive level was 60% across the 12 respondents who were able to comment on the hypothetical question posed (an average delta of 25%).

- **However, four of 12 respondents indicated that they would not have participated if a lower incentive level had been offered.** Two of these four respondents had received a 100% incentive level, one had received 75%, and the fourth received a 60% incentive level.

Conclusion #1 - <u>The findings from this study offer justification for CLC continuing to offer enhanced incentives targeting small businesses, microbusinesses, and small non-profits in measure categories with strategic importance.</u> This is supported by the increase in closure rates and depth of savings for turnkey lighting measures and increase in depth of savings for turnkey weatherization measures between Comparison and Treatment periods. Support for enhanced incentives also includes the fact that two of nine interviewed respondents who had received a 100% incentive indicated that they would not have participated had the incentive been lower.

- **Incentive levels for municipal customers decreased between 2022 and 2023, but participation rates increased during this time.** The majority of measures installed by municipal customers in 2022 and 2023 (enhanced incentives were available starting January 2022) were non-turnkey lighting measures. The average incentive level for non-turnkey lighting measures installed by municipal customers decreased from 90% in 2022 to 54% in 2023 (January through October). Importantly, according to CLC, the net cost of energy efficiency projects for municipalities is typically zero or low through the combination of CLC's incentives, Green Communities grants and other grants. While the analysis indicates that the average incentives from CLC decreased between 2022 and

2023, it is likely that the proportion of costs covered by other sources of funding increased over the same time period.

The participation rate for non-turnkey lighting measures increased from 4% to 8% between 2022 and 2023, suggesting that other, non-incentive-related factors are at play. CLC has long-standing relationships with each municipality. In addition to incentives, CLC provides support to municipalities in other ways including assistance with Green Communities and other grant applications.

Conclusion #2 – The findings from this study offer justification for CLC continuing to support municipalities as they have been doing – through a combination of enhanced incentives and non-incentive support services. Analysis of participation data for 2022 and 2023 shows that the participation rate increased even as the average incentive level declined over that time.

- Four of five interviewed developers said they would still pursue high efficiency weatherization measures and heat pumps on their construction with lower incentives – either to pursue certifications like Passive House or a HERS-45 index, or simply in an attempt to develop the highest quality housing they could.

- However, with lower incentives from CLC, one developer indicated that they may not have been able to afford all the measures necessary for Passive House certification. Another developer highlighted that the CLC enhanced incentives allowed them to pursue better quality materials and measures – and explained that the overall quality of the project and its energy efficiency would have suffered with lower incentives. Finally, one developer noted they added extra measures to the project that they would not have been able to afford without CLC's incentives covering the costs of other measures.

Conclusion #3: As the study findings for income-eligible and moderate-income multifamily building developers stem from the qualitative analysis only, the interview findings for this group are inconclusive. This study does not provide enough information to support a change incentive levels for income-eligible and moderate-income multifamily building developers. While several developers interviewed highlighted cost savings as a key motivator for program participation and explained that they would not have been able to afford all of the installed measures without the financial assistance, most reportedly would still install high efficiency weatherization measures and heat pumps with lower incentives. It appears that most developers used the CLC incentives to improve the quality of materials and install additional measures in pursuit of certifications like Passive House or simply in an attempt to develop the highest quality housing they could – however, some reported that affordable housing developers frequently rely on grants to operate, so CLC's incentives are only one form of financial assistance some of the developers pursued.

1. Introduction

In the 2022-2024 Three-Year Plan Order (D.P.U. 21-126), Cape Light Compact (CLC) received approval from the Massachusetts Department of Public Utilities (D.P.U.) to offer enhanced incentives for selected income-eligible and moderate income residential multifamily new construction and selected commercial and industrial (C&I) existing buildings projects. However, in the Order, the D.P.U. also directs CLC "to complete prior to the filing of its 2025-2027 Three-Year Plan, and file with its 2025-2027 Three-Year Plan, an analysis of its enhanced incentives through the statewide evaluation protocols to determine if these enhanced incentives, including incentive levels, are warranted and necessary to drive participation levels." Further, the Order states that "one aspect of the evaluation should consider the participation rates of comparable customer groups receiving similar services with lower incentive levels."[3]

CLC's 2022-2024 enhanced incentives are summarized in Table 1-1. Income-eligible and moderate-income multifamily new construction projects are the only residential enhanced incentives available for the 2022-2024 program years. For C&I, during 2022-2024 program years, CLC offers enhanced incentives for selected retrofit measures offered through the small business turnkey initiative and the municipal program.

[3] 2022-2024 Three-Year Plan Order (p. 267): "As stated above, the Department allows the Compact to move forward with its residential new construction and C&I existing buildings enhancements but makes no substantive findings on the prudence of these incentive levels at this time. The Department again directs the Compact to complete prior to the filing of its 2025-2027 Three-Year Plan, and file with its 2025-2027 Three-Year Plan, an analysis of its enhanced incentives approved herein through the statewide evaluation protocols to determine if these enhanced incentives, including incentive levels, are warranted and necessary to drive participation levels. One aspect of the evaluation should consider the participation rates of comparable customer groups receiving similar services with lower incentive levels. If the Compact is unable to justify its greater incentive levels, the Department will consider this when assessing the certification of the Compact's energy efficiency plan in the future."

Table 1-1. CLC's Enhanced Incentives vs. Statewide Offer as Described in CLC's pre-filed Testimony related to the 2022-2024 Plan[4,5]

Eligible Customer Segment	Eligible Project Type	CLC Enhanced Incentive	Statewide Offer
1. Income-eligible residential multifamily [a, b] 2. Moderate-income residential multifamily [a, c]	New construction projects involving heat pumps and weatherization	Pay-for-Savings plus enhanced incentives and support for weatherization and heat pump installation and operation for income eligible and moderate-income customers. (1) a 100 percent incentive for weatherization measures above User Defined Reference Home (URDH)[6] for income-eligible and moderate-income buildings (2) a 100 percent incentive for heat pumps for projects where 51 percent of the building is occupied by income-eligible customers (3) an 80 percent incentive for heat pumps for projects where 51 percent of the building is occupied by moderate-income customers (4) a $2,000 per unit incentive, capped at $60,000, for a project engineering study and to fund an operating and maintenance contract for up to three years.	Pay-for-Savings relative to average new home. Capped at $10,000/unit.
3. Municipal customers [d] 4. Small non-profits [d] 5. Small businesses [d, e] 6. Micro businesses [d, f]	Weatherization, lighting, and electrification measures	Up to 100% of project costs covered	Up to 70% of project costs covered

a. From the Pre-filed Testimony of Margaret T. Downey on behalf of Cape Light Compact JPE (D.P.U. 21-126, Exh. Compact-2), the multifamily segment eligible for Cape Light Compact's enhanced incentives is multifamily buildings of three or less stories: https://www.masssave.com/-/media/Files/PDFs/Save/Residential/Pay-for-Savings.pdf.
b. The PAs define income-eligible annual household income that does not exceed 60% of State Median Income. They define moderate income as annual household income that does not exceed 80% of State Median Income. Source: https://www.capelightcompact.org/home-energy-assessments/residential-new-construction/.
c. The PAs define moderate-income as annual household income that does not exceed 80% of State Median Income. Source: https://www.capelightcompact.org/home-energy-assessments/residential-new-construction/.
d. In its 2022-2024 plan Order, the D.P.U., "directs the Compact, in its annual report, to identify with specificity who qualifies for the C&I existing buildings incentives."
e. 1.5 million kWh is the annual consumption threshold employed by all electric PAs to define small businesses (except for Unitil). Unitil defines small business electric customers with a kWh threshold of 1 million rather than 1.5 million.
f. 30,000 kWh was the consumption threshold employed by CLC for microbusinesses as confirmed for the last Enhanced Incentives study. We will seek to reconfirm how CLC is defining microbusinesses for the 2022-2024 enhancements.

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4 https://ma-eeac.org/wp-content/uploads/2022-2024-3YP-Order_1.31.22.pdf

5 Pre-filed Testimony of Margaret T. Downey on behalf of Cape Light Compact JPE (D.P.U. 21-126, Exh. Compact-2), November 1, 2021: https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/14151618. This testimony provides a table (p.132) showing, side-by-side, Cape Light Compact's enhanced incentives and the corresponding statewide offering.

6 Pre-filed testimony stated "above code", but CLC has clarified that they have been providing the enhanced incentive to projects above UDRH.

1.1 Study Objectives

To address the DPU's request, CLC has undertaken a study (the Enhanced Incentives Study) to assess whether the enhanced incentives offered by CLC targeting select C&I existing buildings and income-eligible and moderate-income multifamily new construction offerings are an effective mechanism for inducing participation and deeper savings.

The primary goals of this study are to assess:

1. Whether the enhanced incentives offered by CLC targeting selected income-eligible and moderate-income multifamily new construction and C&I existing buildings offerings are an effective mechanism for inducing participation.
2. As possible, the depth of savings by segments that received an enhanced incentive relative to segments that received lower incentive levels.

1.1.1 Research Questions

The key research questions of this study are listed in Table 1-2 (for C&I existing buildings segments) and Table 1-3 (for income-eligible and moderate-income multifamily new construction).

Table 1-2. Key C&I Existing Buildings Research Questions

Research Topic	Research Question	Addressed Through…

Incentives and participation metrics	• What is the average buydown by month, and measure type for:
	  ○ Measures installed by small businesses, microbusinesses, small non-profits, and municipal customers?
	  ○ Measures recommended but not installed by small businesses, microbusinesses, small non-profits, and municipal customers? *(If data the necessary data are available)*
	• Does customer participation indicate that enhanced incentives lead to higher participation rates for lighting, electrification, and weatherization measures?
	  ○ What percentage of applicable customer segments installed measures in 2022-2023 during periods of enhanced incentives vs. periods without enhanced incentives?
	  ○ What percentage of applicable customer segments were recommended measures through the turnkey initiative in 2022-2023 that they did not install identified measures? *(If data the necessary data are available)*
	  ○ What percentage of recommended measures were installed vs. not installed through the turnkey initiative in 2022-2023? *(If data the necessary data are available)*
	  ○ What is the participation rate? Calculated as the percentage of unique initiative participant accounts over a time period as compared to the segment population.
	  ○ What is the depth of participation (participant savings achieved)? Calculated as the amount of participant savings achieved in kWh and MMBtu.
	  ○ What is the depth of savings? Calculated as the sum of participant savings over a period for a segment divided by the participation consumption for the whole segment.
		Participation Analysis

Customer-reported impact of enhanced incentives on participation*	• Would customers that adopted measures with an enhanced offer still have done so if the incentive had been lower (e.g., 70% instead of 90%)? • Would customers that did not adopt recommended measures with a lower offer (if applicable) have completed the work if the incentive had been higher (e.g., 90-100% instead of 80%)? *(If data the necessary data are available)*	CLC Participant Research

*For this study, participant research was not conducted for the municipal customer segment. This is because CLC municipal participant interviews were conducted for the previous Commercial & Industrial Enhanced Incentives Study (February 24, 2022).

During the study planning phase, our initial review of income-eligible and moderate-income multifamily new construction participation and eligible population data indicated that only a qualitative assessment of the impact of the enhanced incentives would be possible. Therefore, we report on what we see in the data as far as incentive levels received and the number of eligible developers who participated but focus the analysis for this segment on the interviews with developers.

Table 1-3. Key Income-Eligible and Moderate-Income Multifamily New Construction Research Questions

Research Topic	Research Question	Addressed Through…

Incentives and participation metrics	• What is the buydown by project and measure type for:
	  ○ Measures installed by income-eligible and moderate-income multifamily new construction projects in 2020-2023?
	  ○ Measures recommended but not installed by income-eligible and moderate-income multifamily new construction projects in 2020-2023?
	• What level of participation has there been relative to the eligible population since 2020? How has this changed, if at all, since the enhanced incentives were offered?
		Participation Analysis

Developer-reported impact of the heat pump and weatherization incentive on participation	• Would developers of income-eligible and moderate-income multifamily buildings that completed weatherization installations with the 100% offer still have completed the work if the incentive had been lower? • Would developers of income-eligible multifamily buildings that completed heat pump installations with the 100% offer still have completed the work if the incentive had been lower? • Would developers of moderate-income multifamily buildings that completed heat pump installations with the 80% offer still have completed the work if the incentive had been lower? • How influential was the heat pump technical assistance and heat pump O&M funding relative to the enhanced incentives for heat pump equipment to developers of income-eligible and moderate-income multifamily new construction buildings? • How did developers become aware of the enhanced incentive program? When did they become aware of enhanced incentive offerings relative to their project development timeline?	Participant Research

2. Study Methods

This section provides details on study methods, which included data management, participation analysis, and participant interviews.

2.1 Data Management

This section describes the data sources and methods that the study team used to identify customers of interest and prepare for the participation analysis and participant interviews.

CLC and RISE provided the study team with tracking data for the C&I Existing Buildings Program and C&I customer billing data. The study team combined these data sources to create a detailed customer list where each customer is associated with information regarding the property the business or entity occupies, 2020-2023 participation information, and 2020-2023 consumption information.

The study team then used this information to categorize each customer into a segment and analyze the incentive levels, adoption rates, and depth of savings by segment.

Table 2-1. C&I Customer Segments Included in Study

Segment	Definition for this Study	Explanation / Detail
Small Businesses	>30,000 kWh and <1.5 million kWh	Small businesses larger than microbusiness. 1.5 million kWh is the consumption threshold employed by CLC for small businesses and 30,000 kWh is the consumption threshold employed by CLC for microbusinesses.
Microbusinesses	<30,000 kWh	30,000 kWh is the consumption threshold employed by CLC for microbusinesses.
Small Non-Profits	<100,000 kWh	Small non-profit businesses in CLC's territory
Municipal Customers	Town and county (regardless of size)	CLC's municipal enhanced incentive is for town and county customers.

For multifamily new construction, the study team received two data sets from CLC, one containing information related to completed and in-progress low- and moderate-income projects, and one listing eligible potential projects. These are further described in the section below.

2.1.1 Data Sources

The participation analysis leveraged C&I customer data and C&I Existing Buildings Program tracking data. Data was provided by both CLC and RISE. Table 2-2 summarizes the data sources used in the analysis.

Table 2-2. Data Sources – C&I

Dataset	Included Measure Status(s)	Source	Detail
Existing Buildings program tracking data	Installed	CLC	Includes data for all turnkey and non-turnkey measures that were installed by municipal or small business customers during 2020-2023. *Note: This data is incomplete for heat pumps recommended through the turnkey pathway.*[7]
Existing Buildings program tracking data	In-progress and not installed	RISE	Includes data for turnkey measures that were currently in the process of being installed or that were never installed. *Note: This data is incomplete. The risk of this is that estimates of closure rates may be overestimated. However, we assume any overestimation would be systematic and consistent across comparison and treatment periods analyzed in this study.* [8]
Customer Data	N/A	CLC	Includes consumption, business type, and location data during 2020-2023

Table 2-3 below shows the data sets received for the income-eligible and moderate income multifamily new construction sector.

Table 2-3. Data Sources – Low- and Moderate-Income Multifamily New Construction

Dataset	Included Measure Status(s)	Source	Detail
Low- and moderate-income multifamily new construction tracking data	Installed and in-progress	CLC	Includes a summary of all completed or in-progress projects for the period of 2020-July 2023 and measure level data for all installed measures.
Low- and moderate-income multifamily new construction projects (non-participating)	Eligible, potential projects	CLC	Includes a summary of all non-participating, eligible new construction buildings that have been engaged by CLC over the period 2020-July 2023.

[7] CLC's turnkey vendor indicated that heat pumps recommended/installed through the turnkey pathway may be categorized as New and Replacement Equipment, which is outside of how turnkey measures are typically categorized (i.e., Existing Buildings Retrofit). Therefore, we did not receive data for heat pumps installed during the treatment period.

[8] The information provided by RISE for "in-progress" and "not-installed" measures is limited in scope. According to CLC, there are three scenarios the data does not capture: 1) There are measures that may be recommended to a customer but would not be served through small business (such as kitchen equipment as an example) so it would not be captured in RISE's system; 2) There are some projects where there could be recommendations made to a customer, but the program is not able to support incentives due to the project not passing the benefit cost ratio analysis or other economic factors. These are not entered into RISE's system if it is not a viable project; 3) There are instances where if a customer decides that they don't want to move forward with recommendations early on in the discussion, it may not ever get to a proposal stage and therefore not captured in RISE's system.

Both the first and third caveat are relevant to this study. Relating to the first caveat, we heard from CLC's turnkey vendor that heat pumps recommended/installed through the turnkey pathway may be categorized as New and Replacement Equipment, which is outside of how turnkey measures are typically categorized (i.e., Existing Buildings Retrofit).

Accordingly, we assume that the data on in-progress and not installed measures is incomplete. The risk of this is that estimates of closure rates may be overestimated. However, we assume any overestimation would be systematic and consistent across comparison and treatment periods analyzed in this study.

Given the small quantity of data related to low- and moderate-income multifamily new construction projects (and, therefore, the de-emphasis of this segment in the participation analysis), the following section ("Data Cleaning and Assumptions") pertains solely to C&I.

2.1.2 Data Cleaning and Assumptions

The incentives and participation analysis leveraged C&I customer data and C&I Existing Buildings program tracking data, both of which required some level of cleaning and restructuring. After cleaning the customer and tracking datasets, the files were combined. Details related to C&I customer and program tracking data preparation is in **Appendix A**.

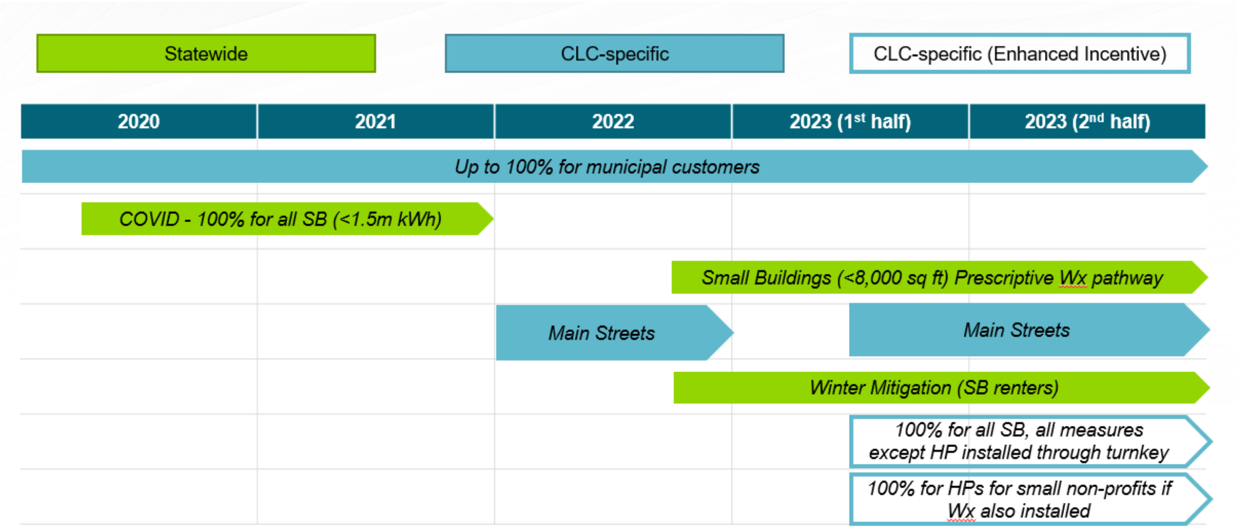
Note that for the previous C&I Enhanced Incentives Study, towns that CLC targeted for "Main Streets" efforts during treatment or comparison periods were removed from the analysis. This was to control for the fact that towns targeted for Main Streets efforts include increased marketing and outreach efforts directed towards them in addition to higher incentives. In contrast to the previous study, for this study, we did <u>not</u> remove towns that were targeted for Main Streets promotions from the tracking data and the customer data. This is because CLC employed Main Streets as a primary method of delivering the turnkey initiative (and enhanced incentives) to small business customers in 2022 and 2023. CLC had a significant number of Main Streets efforts during these years – targeting 10 towns in 2022 and 13 towns in 2023 (out of a total of 21 towns). Removing Main Streets would significantly reduce both the number of participants and the total population for the analysis. Customers located in towns targeted for Main Streets accounted for 74% of participants in 2022 and 80% of participants in 2023.

2.2 Participation Analysis

As previously mentioned, the 2022-2024 Plan Order states that "one aspect of the evaluation should consider the participation rates of comparable customer groups receiving similar services with lower incentive levels." At the outset of this study, to identify potential comparison periods against which to compare activity in the "treatment" period (i.e., period of enhanced incentives), Guidehouse had discussions with CLC to learn more about the specific incentive levels offered from 2020 to 2023 (year-to-date) to the customer segments relevant to this study for the measure types of interest.

For small businesses, CLC did not launch its enhanced incentives until April 2023. All PAs offered 100% incentives during 2020-2021 due to the COVID-19 pandemic, so this period could not be leveraged as a comparison. In addition, the statewide prescriptive weatherization pathway for small buildings less than 8,000 sq ft was launched at the fall of 2022 and a Winter Mitigation promotion targeting small business renters (primarily focused on weatherization) launched in the fall of 2022 (see Figure 2-1). These were both considered in the ultimate selection of a comparison period.

Figure 2-1. CLC C&I Existing Buildings Incentive Offerings 2020-2023 (Compared to Statewide)



Source: Guidehouse analysis

Ultimately, we were able to receive and analysis tracking data for this study through October 31, 2023. Accordingly, the Treatment period for small business segments, regardless of measure was April – October 2023 (Table 2-4).

Given the statewide weatherization enhancements launched in September 2022, for weatherization for small business segments, the study used a Comparison period of September 2022 – March 2023.[9] For lighting and heat pumps, we selected a Comparison period that is the same time of year as the treatment to control for seasonality effects (i.e., EE participation systematically increases during certain times of the year).

Table 2-4. C&I Enhanced Incentives – Treatment and Comparison Periods

Segment	Measure	Treatment Period	Comparison Period
Small business	Weatherization	April 2023 – present	September 2022 – March 2023
Small business	Heat pumps and lighting	April 2023 – present	April 2022 – August 2022
Municipal	Weatherization, lighting, and electrification	Municipal offer has been consistent since before 2020	No feasible comparison period

Source: Guidehouse analysis

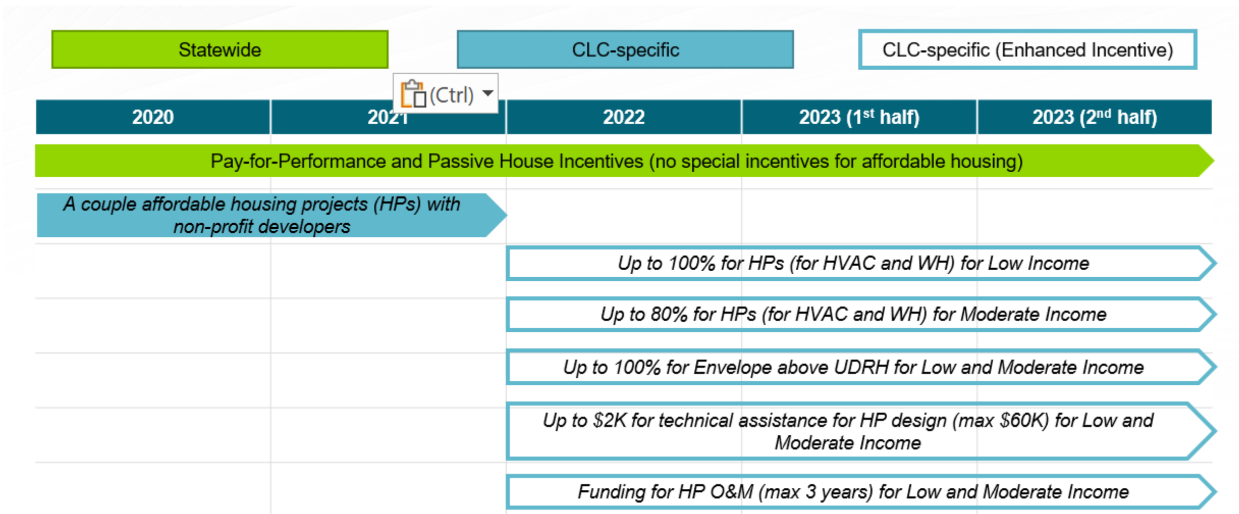
For informational purposes, Figure 2-2 shows that CLC began offering the enhanced incentives for income-eligible and moderate-income multifamily new construction projects at the beginning

[9] To control for the statewide weatherization offers (Small Buildings Perspective Weatherization pathway and Winter Mitigation), it was important to have both treatment and comparison periods overlap with the timing of the statewide offers.

of 2022. Prior to 2022, CLC's offer was aligned with the statewide offer for multifamily new construction projects.

As previously noted, for this segment, only a qualitative assessment of the impact of the enhanced incentives was possible, because long lead times on building projects mean very few have had the chance to complete projects and collect incentives in the 18 months since this offer was opened up.

Figure 2-2. CLC Income-Eligible and Moderate-Income Multifamily New Construction Incentive Offerings 2020-2023 (Compared to Statewide)



Source: Guidehouse analysis

2.3 Participant Interviews

Guidehouse conducted interviews with small business turnkey participants and participating income-eligible and moderate-income multifamily building developers to gain insight into the impact of enhanced incentives on participation, as reported by participants.

2.3.1 Small Businesses and Nonprofits

Guidehouse conducted 15 interviews with small businesses and small nonprofits in September-early October 2023 – one interview per organization. For this group, a qualified respondent was considered management-level staff at each organization who oversaw energy-related decisions for the business at the time of energy assessment. Small business interviewees were offered a $100 e-gift card if they complete the interview.

Outreach efforts focused on the following criteria: small businesses that participated in the program in 2023, installed turnkey program measures on premises, and that had at least one method of contact provided (email address or phone number). Through most of the interview effort, outreach primarily focused on businesses and nonprofits that received an incentive level of 100% or more, to capture additional insight from those with the highest level of incentives.

Table 2-5. Breakdown of Small Business and Small Nonprofit Interview Effort

Total Count of 2023 Small Business Turnkey Participants with Emails[10]	Targeted Number of Completed Interviews	Actual Number of Completed Interviews	Number of Interviewees Who Received a 100% Incentive for Relevant Measures*
230	12	15	9

*Relevant measures meaning measures covered by the enhanced incentive – i.e., lighting, weatherization, and heat pump measures installed through the turnkey pathway.
Source: Guidehouse analysis

2.3.2 Income-Eligible and Moderate-Income Multifamily Developers

Guidehouse conducted a total of 5 interviews with income-eligible and moderate-income multi-family building developers - one interview with each targeted developer.[11]

For the developer demographic, a qualified respondent was management-level staff at each multifamily developer who oversaw energy-related decisions for developers since 2022. Interviews took place in September and early October 2023. To encourage additional participation, interviewees were offered a $100 e-gift card if they complete the interview.

Note that most developer interviews were conducted within the first couple of years of the project lifecycle (which is typically 5 or more years); developers' sentiments about the impact of the CLC's incentives on their decision-making may change further into the development timeline.

Table 2-6. Breakdown of Multifamily Developer interview effort

Total Count of Income-Eligible and Moderate Multifamily Building Developer Participants	Targeted Number of Completed Interviews	Actual Number of Completed Interviews	Number of Interviewees Who Received a 100% Incentive for Relevant Measures*
5	5	5	5

*Relevant measures meaning measures covered by the enhanced incentive – i.e., weatherization and heat pump measures.
Source: Guidehouse analysis

[10] Total Population Size data includes only the businesses that match the following criteria: small businesses that participated in the program in 2023, installed turnkey program measures on premises, and that had at least one method of contact provided (email address or phone number).

[11] The tracking data that CLC provided for participating income-eligible and moderate-income multifamily developers contained a total of six developers. However, one developer had the listed dates of initial contact and contract signing in 2015 and early 2020, respectively, but the project had not progressed enough to include any measure or incentive data – for that reason, this developer was not prioritized for discussion and is excluded from the targeted population.

3. Analysis and Results

3.1 Participation Analysis

This section summarizes findings from the Participation Analysis and is organized as follows:

- Key Findings - Overview
- C&I Findings
- Multifamily New Construction Findings

3.1.1 Key Findings – Overview

Below is a summary of key findings from the participation analysis:

- **Small Business Customers:** Average incentive levels for installed turnkey measures did increase from the Comparison period to the Treatment period. Average buydown for installed lighting measures increased from 93% to 99% between the Comparison and Treatment periods (buydown for measures that were not installed increased from 63% to 97%). Average buydown for weatherization measures increased from 61% to 73% between the Comparison and Treatment periods. Importantly, the data received for this study did not have any heat pumps installed during the Treatment period.[12]

- For turnkey lighting measures, the analysis shows an increase in closure rates between the Comparison and Treatment periods across all three small business customer segments (microbusiness, small business, and small non-profits). Between the Comparison and Treatment periods, the closure rate for microbusinesses increased from 68% to 93%. For small businesses, the closure rate increased from 80% to 93%. Small non-profits also saw an increase in closure rate between Comparison and Treatment periods, from 81% to 100% (however, the Treatment period sample size is only 3 measures). For weatherization, only the microbusiness segment installed measures during the Treatment period. For the microbusiness segment, incentives for weatherization increased from 58% to 78% between the Comparison and Treatment period, and the closure rate was 100% in both periods.

- While the closure rate went up or stayed the same between Comparison and Treatment periods, participation rates mostly stayed fairly constant (with the exception of non-profits, which saw a decrease but also had a very small sample). Depth of savings increased between Comparison and Treatment periods for all customer segments with the exception of small non-profits.

- **Municipal Customers:** The majority of measures installed by municipal customers in 2022 and 2023 (enhanced incentives were available starting January 2022) were non-turnkey lighting measures. The average incentive level for non-turnkey lighting measures installed by municipal customers decreased from 90% in 2022 to 54% in 2023 (January through October). Importantly, according to CLC, the net cost of energy efficiency projects for municipalities is typically zero or low through the combination of CLC's

[12] CLC's turnkey vendor indicated that heat pumps installed through the turnkey pathway may be categorized as New and Replacement Equipment, which is outside of how turnkey measures are typically categorized (i.e., Existing Buildings Retrofit). Therefore, we did not receive data for heat pumps installed during the treatment period.

incentives, Green Communities grants and other grants. While the analysis indicates that the average incentives from CLC decreased between 2022 and 2023, it is likely that the proportion of costs covered by other sources of funding increased over the same time period.

The participation rate for non-turnkey lighting measures increased from 4% to 8% between 2022 and 2023, suggesting that other, non-incentive-related factors are at play. CLC has long-standing relationships with each municipality. In addition to incentives, CLC provides support to municipalities in other ways including assistance with Green Communities and other grant applications.

- **Income-Eligible and Moderate-Income Multifamily Building Developers:** Six income-eligible and moderate-income projects were completed or are in-progress with a contract sign date of between 2020 and 2023. All six have received or will receive 100% of costs covered for heat pump and weatherization measures installed. Nine additional projects were identified by CLC as income-eligible or moderate-income multifamily new construction opportunities with a date of initial contact with the developer mostly in 2022 and 2023. It is too early to know which of these opportunities will lead to the installation of heat pumps and/or weatherization measures given the long duration of these types of projects.

3.1.2 C&I Findings

For C&I, the participation analysis first examines the incentive levels that were offered during the analysis period by customer segment and measure type both for measures that were installed and those that were recommended and not installed (i.e., “Incentives Analysis”). Next, closure and participation rates were calculated, along with depth of savings and participation.

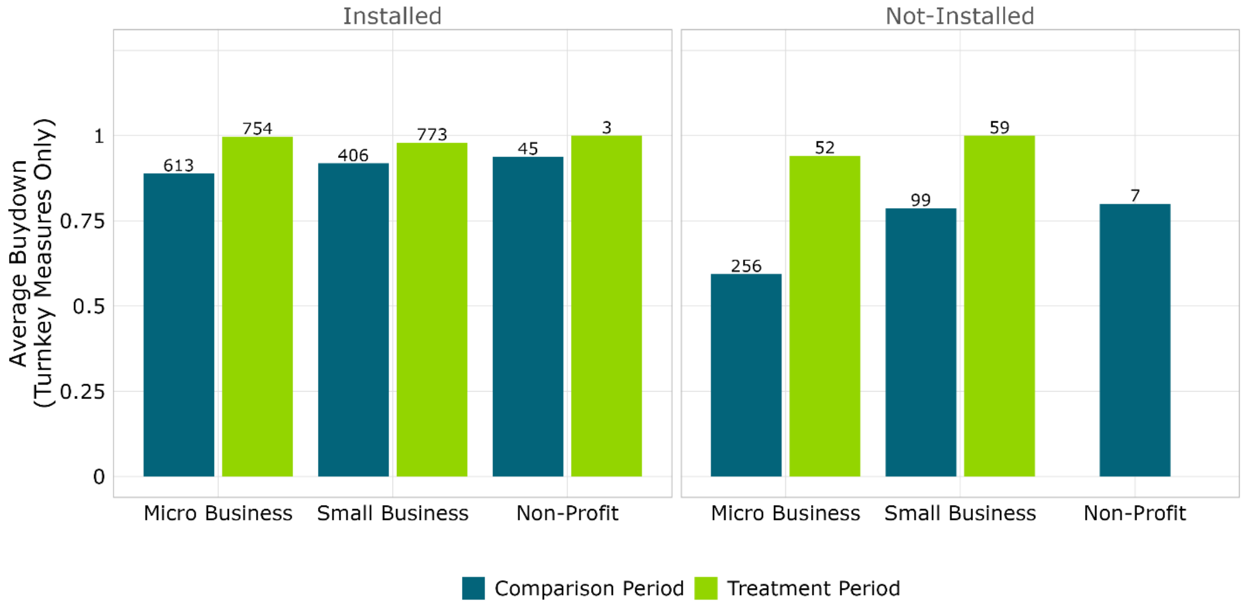
3.1.2.1 Incentives Analysis

This section summarizes findings related to average incentive levels by customer segment and measures type during relevant time periods.

Figure 3-1 below shows the average buydown of relevant turnkey measures (lighting, weatherization, heat pumps) for each small business customer segment (microbusiness, small business, non-profits) and period. The chart shows measures that were installed (left panel) along with measures that were recommended but not installed (right panel). Table 3-1 shows the same results in table format.

Looking first at installed measures, the results confirm that average incentive levels did increase from the Comparison Period to the Treatment Period, from 89% to 100% for microbusinesses and from 92% to 98% for small businesses, and from 94% to 100% for small non-profits. Average incentive levels for measures that were not ultimately installed increased more significantly between the Comparison and Treatment Periods, from 59% to 94% for microbusinesses and from 79% to 100% for small businesses.

Figure 3-1. Small Business: Average Buydown for Turnkey Measures by Customer Segment and Period – *Installed v. Not Installed*



Note: For lighting and heat pumps, the Comparison Period is April 2022 – August 2022 and the Treatment Period is April 2023 – October 2023. For Weatherization the Comparison Period is September 2022 – March 2023 and the Treatment Period is April 2023 – October 2023.
Counts represent the number of installed and in-progress measures.
Source: Guidehouse analysis of 2020-2023 completed project tracking data received from CLC on November 6, 2023; customer billing data received from CLC on November 2, 2023; 2020-2023 in-progress and not installed project tracking information received from RISE on November 6, 2023.

Table 3-1. Small Business: Average Buydown for Turnkey Measures by Customer Segment and Period – *Installed v. Not Installed*

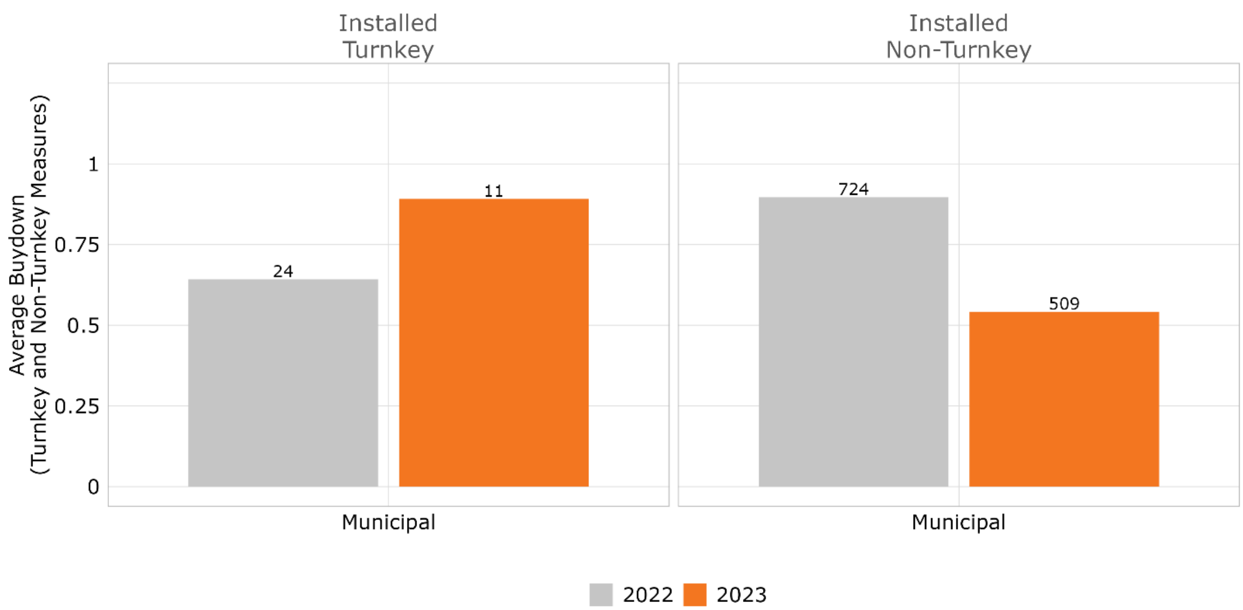
	Comparison Period			
	Installed		Not Installed	
Segment	Average Buydown	Number of Measures	Average Buydown	Number of Measures
Micro Business	0.89	613	0.59	256
Small Business	0.92	406	0.79	99
Non-Profit	0.94	45	0.80	7
	Treatment Period			
Micro Business	1.00	754	0.94	52
Small Business	0.98	773	1.0	59
Non-Profit	1.00	3	N/A	N/A

Note: For lighting and heat pumps, the Comparison Period is April 2022 – August 2022 and the Treatment Period is April 2023 – October 2023. For Weatherization the Comparison Period is September 2022 – March 2023 and the Treatment Period is April 2023 – October 2023.
Source: Guidehouse analysis of 2020-2023 completed project tracking data received from CLC on November 6, 2023; customer billing data received from CLC on November 2, 2023; 2020-2023 in-progress and not installed project tracking information received from RISE on November 6, 2023.

Figure 3-2 shows the average buydown of both turnkey and non-turnkey measures for municipal customers for installed measures (data on measures that were recommended but not installed was not provided for municipal customers). The chart breaks out 2022 and 2023 for informational purposes, not for comparative purposes. As shown, the average buydown for turnkey measures increased from 64% to 90% from 2022 to 2023. However, the majority of measures installed by municipal customers were non-turnkey measures. The average buydown for non-turnkey measures decreased from 90% to 54% from 2022 to 2023 (as of October 31).

Importantly, according to CLC, the net cost of energy efficiency projects for municipalities is typically zero or low through the combination of CLC's incentives, Green Communities grants and other grants. While the above results indicate that the average incentives from CLC decreased between 2022 and 2023, it is likely that the proportion of costs covered by other sources of funding increased over the same time period.

Figure 3-2. Municipal: Average Buydown for Turnkey and Non-Turnkey Measures by Year – *Installed Measures Only*



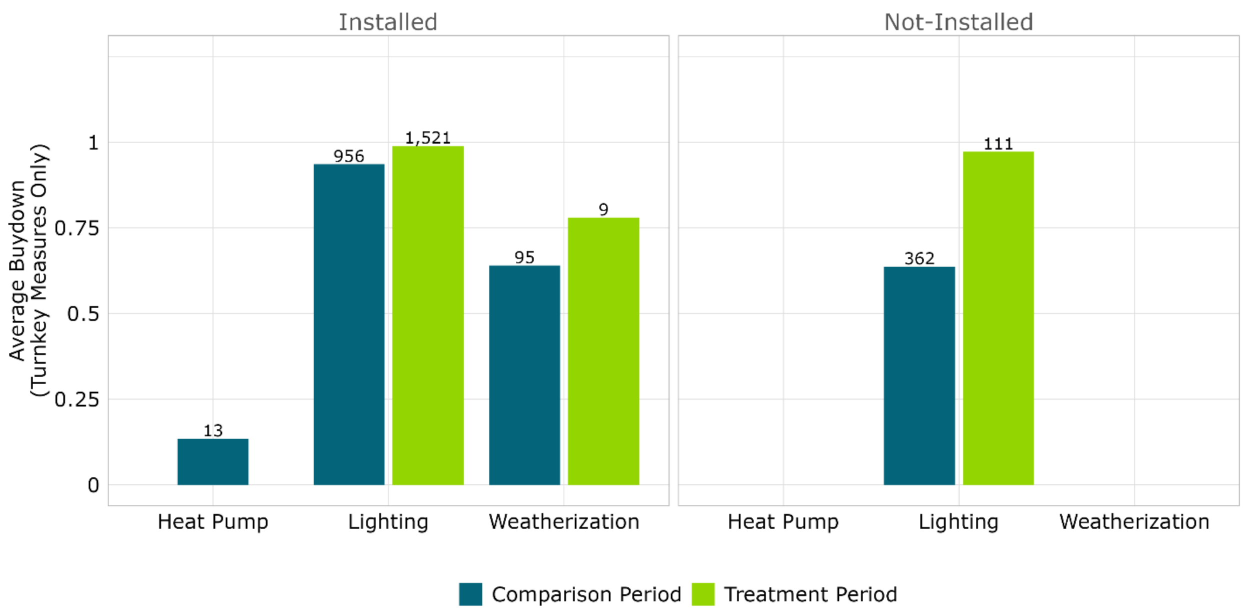
Note: Counts represent the number of installed measures.
Source: Guidehouse analysis of 2020-2023 completed project tracking data received from CLC on November 6, 2023; customer billing data received from CLC on November 2, 2023; 2020-2023 in-progress and not installed project tracking information received from RISE on November 6, 2023.

Figure 3-3 shows the average buydown of turnkey measures for small business customers by measure type and period. The chart shows measures that were installed (left panel) along with measures that were recommended but not installed (right panel). Average buydown for installed lighting measures increased from 94% to 99% between the Comparison and Treatment periods (buydown for measures that were not installed increased from 64% to 97%). Average buydown for weatherization measures increased from 64% to 78% between the Comparison and

Treatment periods. Importantly, the data received for this study did not have any heat pumps installed during the Treatment period.[13]

Table 3-2 shows average incentive levels for the Comparison and Treatment periods by measure type and customer segment.

Figure 3-3. Small Business: Average Buydown for Turnkey Measures by Measure Type and Period – *Installed v. Not Installed*



Note: For lighting and heat pumps, the Comparison Period is April 2022 – August 2022 and the Treatment Period is April 2023 – October 2023. For Weatherization the Comparison Period is September 2022 – March 2023 and the Treatment Period is April 2023 – October 2023.
Counts represent the number of installed and in-progress measures.
Source: Guidehouse analysis of 2020-2023 completed project tracking data received from CLC on November 6, 2023; customer billing data received from CLC on November 2, 2023; 2020-2023 in-progress and not installed project tracking information received from RISE on November 6, 2023.

[13] CLC's turnkey vendor indicated that heat pumps installed through the turnkey pathway may be categorized as New and Replacement Equipment, which is outside of how turnkey measures are typically categorized (i.e., Existing Buildings Retrofit). We did not receive New and Replacement Equipment data for this study.

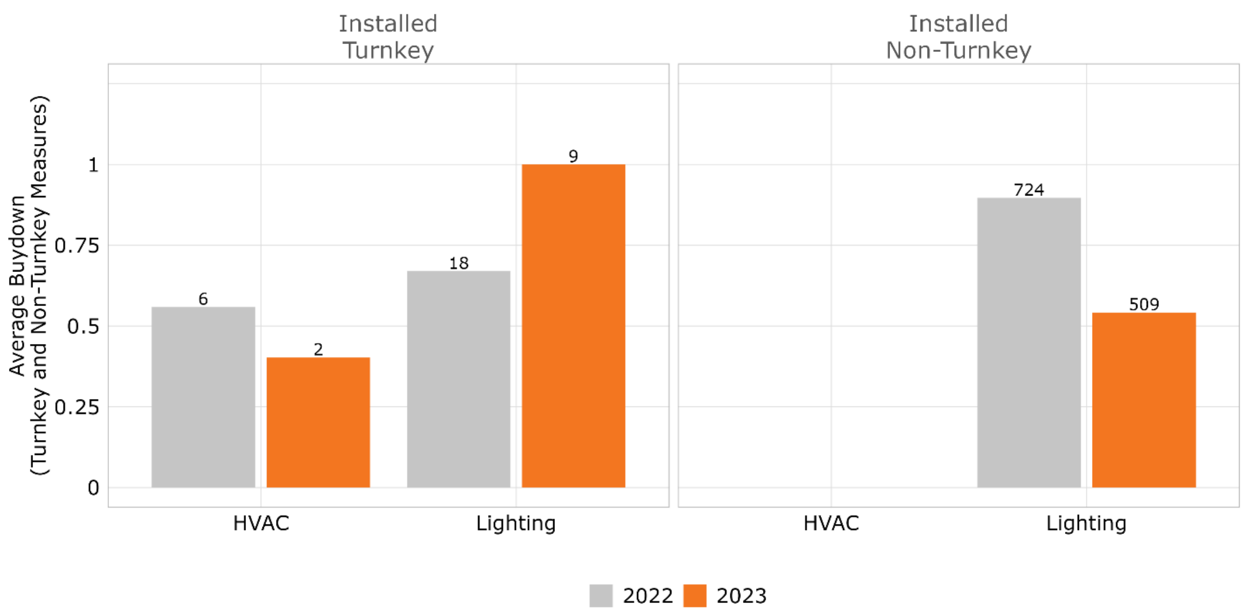
Table 3-2. Small Business: Average Buydown for Turnkey Measures by Measure Type and Period – *Installed Measures*

	Comparison Period			
Measure	Microbusiness	Small Business	Non-Profits	Overall
Weatherization	0.58	0.81	0.81	0.64
Heat Pump	0.18	0.11		0.13
Lighting	0.93	0.94	1.00	0.94
	Treatment Period			
Weatherization	0.78	N/A	N/A	0.78
Lighting	1.00	0.98	1.00	0.99

Note: For lighting and heat pumps, the Comparison Period is April 2022 – August 2022 and the Treatment Period is April 2023 – October 2023. For Weatherization the Comparison Period is September 2022 – March 2023 and the Treatment Period is April 2023 – October 2023.
Source: Guidehouse analysis of 2020-2023 completed project tracking data received from CLC on November 6, 2023; customer billing data received from CLC on November 2, 2023; 2020-2023 in-progress and not installed project tracking information received from RISE on November 6, 2023.

Figure 3-4 shows the average buydown of both turnkey and non-turnkey measures for municipal customers by measure type and year for installed measures. Again, the chart breaks out 2022 and 2023 for informational purposes, not for comparative purposes.

Figure 3-4. Municipal: Average Buydown for Turnkey and Non-Turnkey Measures Installed by Municipal Customers by Measure Type and Year – *Installed Measures Only*



Note: Counts represent the number of installed measures.
Source: Guidehouse analysis of 2020-2023 completed project tracking data received from CLC on November 6, 2023; customer billing data received from CLC on November 2, 2023; 2020-2023 in-progress and not installed project tracking information received from RISE on November 6, 2023.

3.1.2.2 Participation Metrics

Small Business Turnkey (Comparison Group Results)

Figure 3-5 below shows the closure rate for turnkey measures by small business customer segment and period. Closure rate is calculated as the number of installed measures divided by the number of installed and non-installed measures (i.e., total number of measures recommended).

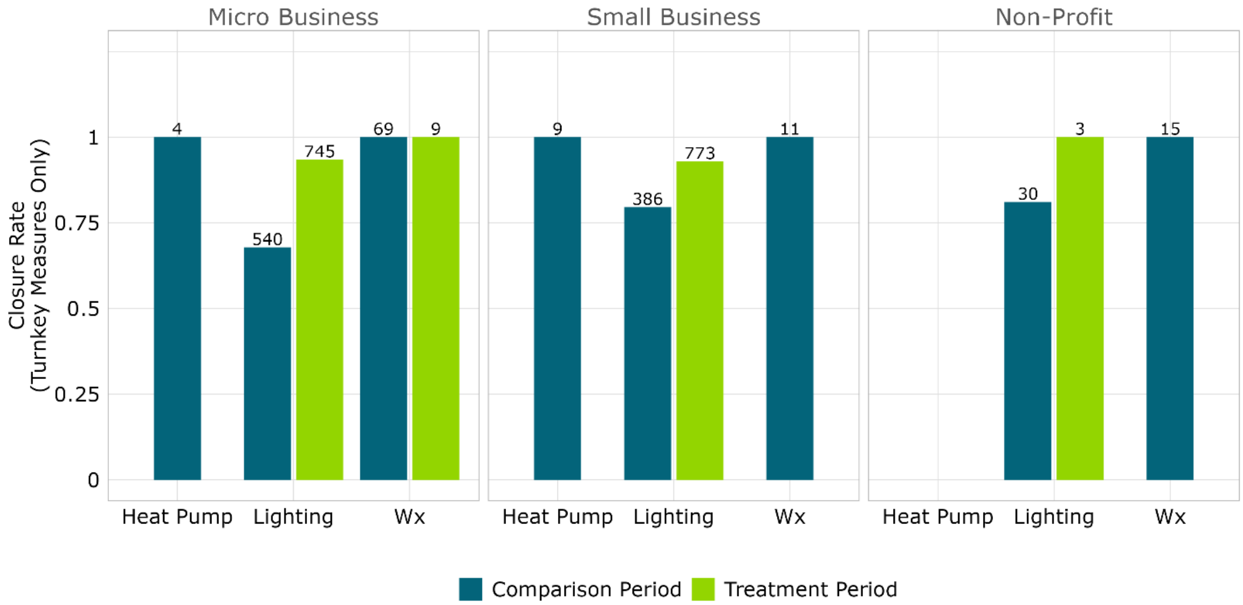
For lighting measures, the analysis shows an increase in closure rates between the Comparison and Treatment periods across all three small business customer segments (microbusiness, small business, and small non-profits). Between the Comparison and Treatment periods, when the average incentive level for microbusinesses increased from 93% to 100%, the closure rate for microbusiness increased from 68% to 93%. For small businesses, the average incentive level increased from 94% to 98% between the Comparison and Treatment periods and the closure rate increased from 80% to 93%. Small non-profits also saw an increase in closure rate between Comparison and Treatment periods, from 81% to 100% (however, the Treatment period sample size is only 3 measures).

For weatherization, only the microbusiness segment installed measures during the Treatment period. For the microbusiness segment, incentives increased from 58% to 78% between the Comparison and Treatment period. The closure rate was 100% in both periods.

Note that no comparison can be made of how the closure rate for heat pumps changes over time because the data received for this study did not have any heat pumps installed during the Treatment period. [14]

[14] CLC's turnkey vendor indicated that heat pumps installed through the turnkey pathway may be categorized as New and Replacement Equipment, which is outside of how turnkey measures are typically categorized (i.e., Existing Buildings Retrofit). Therefore, we did not receive data for heat pumps installed during the treatment period.

Figure 3-5. Small Business: Closure Rate for Turnkey Measures by Customer Segment and Period



Note: For lighting and heat pumps, the Comparison Period is April 2022 – August 2022 and the Treatment Period is April 2023 – October 2023. For Weatherization the Comparison Period is September 2022 – March 2023 and the Treatment Period is April 2023 – October 2023.
Counts represent the number of installed and in-progress measures.
Source: Guidehouse analysis of 2020-2023 completed project tracking data received from CLC on November 6, 2023; customer billing data received from CLC on November 2, 2023; 2020-2023 in-progress and not installed project tracking information received from RISE on November 6, 2023.

Table 3-3. Small Business: Closure Rate, Participation Rate, and Depth of Savings by Customer Segment and Period (Measure-Level)again shows the closure rates for turnkey lighting measures for microbusinesses, small businesses and small non-profits. Additionally, it includes participation rate, depth of participation and participant savings achieved. As shown, while the closure rate goes up or stays the same between Comparison and Treatment periods, participation rates mostly stay fairly constant (with the exception of non-profits, which saw a decrease but also have a very small sample). Depth of savings increased between Comparison and Treatment periods for all customer segments with the exception of small non-profits.

Table 3-3. Small Business: Closure Rate, Participation Rate, and Depth of Savings by Customer Segment and Period (Measure-Level)

		Closure Rate		Participation Rate		Depth of Savings		Participant Savings Achieved (kWh) (# of measures)	
Segment	**Measure**	**CP**	**TP**	**CP**	**TP**	**CP**	**TP**	**CP**	**TP**
Micro Business	Lighting	0.68	0.93	0.01	0.01	0.21	0.31	264,658 (540)	516,633 (745)
Micro Business	Weatherization	1.00	1.00	0.00	0.00	0.17	0.21	51,756 (69)	8,911 (9)

		Closure Rate		Participation Rate		Depth of Savings		Participant Savings Achieved (kWh) (# of measures)	
Segment	Measure	CP	TP	CP	TP	CP	TP	CP	TP
Small Business	Lighting	0.80	0.93	0.03	0.04	0.04	0.06	344,718 (386)	751,006 (773)
Non-Profit	Lighting	0.81	1.00	0.12	0.01	0.04	0.02	3,164 (30)	2,930 (3)

Note: For lighting and heat pumps, the Comparison Period (CP) is April 2022 – August 2022 and the Treatment Period (TP) is April 2023 – October 2023. For Weatherization the CP is September 2022 – March 2023 and the TP is April 2023 – October 2023.
Closure rate is calculated as (installed + in-progress measures)/(installed + in-progress + not-installed measures).
Participation rate is calculated as (installed + in-progress measures)/(population of eligible businesses).
Participant savings achieved is calculated as total segment savings.
Depth of savings is calculated as total segment savings/total segment consumption.
Source: Guidehouse analysis of 2020-2023 completed project tracking data received from CLC on November 6, 2023; customer billing data received from CLC on November 2, 2023; 2020-2023 in-progress and not installed project tracking information received from RISE on November 6, 2023.

Municipal Turnkey and Non-Turnkey

For the municipal segment, although no comparison period was identified during the planning stage of this study, the incentives analysis discussed previously revealed that the average incentive level for non-turnkey lighting measures installed (the vast majority of the relevant measures installed) by municipal customers decreased from 90% in 2022 to 54% in 2023 (January through October). The table below shows the average participation rate, depth of savings, and participant savings achieved for municipal customers who installed lighting and heat pump measures in 2022 and 2023. The results show that both the participation rate and depth of savings stay constant between 2022 and 2023, except in the case of non-turnkey lighting where the participation rate increased from 4% to 8%. The increase in participation rate for non-turnkey lighting measures suggests that other, non-incentive-related factors are at play. CLC has long-standing relationships with each municipality. In addition to incentives, CLC provides support to municipalities in other ways including assistance with Green Communities and other grant applications.

Table 3-4. Municipal: Participation Rate and Depth of Savings by Pathway and Year (Measure-Level)

			2022			
Turnkey	Measure	Number of Measures	Average Incentive	Participation Rate	Depth of Savings	Participant Savings Achieved (kWh)
Non-Turnkey	Lighting	724	0.9	0.04	0.09	550,923
Turnkey	Lighting	18	0.67	0.01	0.00	5,288
Turnkey	Heat Pump	6	0.56	0.00	0.01	11,579
			2023			
Non-Turnkey	Lighting	509	0.54	0.08	0.08	421,938
Turnkey	Lighting	9	1.00	0.01	0.00	16,508

				2022		
Turnkey	**Measure**	**Number of Measures**	**Average Incentive**	**Participation Rate**	**Depth of Savings**	**Participant Savings Achieved (kWh)**
Turnkey	Heat Pump	2	0.40	0.00	0.01	4,391

Source: Guidehouse analysis of 2020-2023 completed project tracking data received from CLC on November 6, 2023; customer billing data received from CLC on November 2, 2023; 2020-2023 in-progress and not installed project tracking information received from RISE on November 6, 2023.

3.1.3 Income-Eligible and Moderate-Income Multifamily New Construction Findings

Six income-eligible and moderate-income projects were completed or are in-progress with a contract sign date of between 2020 and 2023 (Table 3-5). **All six have received or will receive 100% of costs covered for heat pump and weatherization measures installed.** Note that most projects include other measures beyond heat pumps and weatherization.

Table 3-5. Income-Eligible and Moderate-Income Multifamily New Construction – Completed and In-Progress Projects – 2020-2023 (as of July 27, 2023)

#	Contract Sign Date	Project Status	Measure Type(s)	Total Project Incentive Amount
1	8/5/2021	Done and paid	Completed **weatherization**; additional measures mentioned during interview included VRF, water heaters, lighting, solar panels, high-efficiency windows	$966,250
2	6/25/2021	Done and paid	Completed **weatherization** and **heat pumps**	$279,006
3	7/28/2023	Done, not paid yet but will be soon	Completed **weatherization** and **heat pumps**; additional measures mentioned during interview included water heaters	Incentive amount: $96,000
4	10/20/2020	Commitment letter sent	Measures still being finalized; **weatherization** and **heat pumps** measures are planned. Additional planned measures mentioned during interview included solar panels, water heaters, energy recovery ventilators, certain design services.	$1,423,327* *Not a final number – construction will begin in 2024 and designs are still being updated.
5	1/23/2020	Commitment letter sent	Not interviewed / measure data not available	Incentive amount not specified

#	Contract Sign Date	Project Status	Measure Type(s)	Total Project Incentive Amount
6	12/14/2022	Commitment letter signed	Completed **weatherization** and **heat pumps**; additional measures mentioned during interview include water heaters, high-efficiency windows, HVAC system upgrades, solar panels.	$1,920,000

Source: Guidehouse analysis of tracking of income-eligible and moderate-income multifamily building participants (2020 to 2023) received from CLC on July 27, 2023.

Nine additional projects were identified by CLC as income-eligible or moderate-income multifamily new construction opportunities with a date of initial contact with the developer mostly in 2022 and 2023.[15] It is too early to know which of these opportunities will lead to EE program participation given the long duration of these types of projects.

3.2 Participant Interviews

This section summarizes findings from the Participant Interviews and is organized as follows:

- Key Findings - Overview
- Small Business Interview Findings
- Income-Eligible and Moderate-Income Multifamily Building Developer Interview Findings

3.2.1 Key Findings – Overview

Below is a summary of key findings from interviews with participating small business customers and multifamily developers:

- **Small Business Interviews:**
    - The average incentive level received by interview respondents was 85%. The average lowest acceptable incentive level was 60% across the 12 respondents who were able to comment on the hypothetical question posed (an average delta of 25%).
    - **Four of 12 respondents indicated that they would not have participated if a lower incentive level had been offered.** Two of these four respondents had received a 100% incentive level, one had received 75%, and the fourth received a 60% incentive level.
- **Income-Eligible and Moderate-Income Multifamily Building Developer Interviews:**
    - Four of five interviewed developers said they would still pursue high efficiency weatherization measures and heat pumps on their construction with lower

[15] Seven of these opportunities have a date of initial contact in 2022 or 2023. One had a date of initial contact in 2020 and one has a blank contact date.

incentives – either to pursue certifications like Passive House or a HERS-45 index, or simply in an attempt to develop the highest quality housing they could.

- However, with lower incentives from CLC, one developer indicated that they may not have been able to afford all the measures necessary for Passive House certification. Another developer highlighted that the CLC enhanced incentives allowed them to pursue better quality materials and measures – and explained that the overall quality of the project and its energy efficiency would have suffered with lower incentives. Finally, one developer noted they added extra measures to the project that they would not have been able to afford without CLC's incentives covering the costs of other measures.

3.2.2 Small Business Interview Findings

Interviews were conducted with management-level staff at 15 small and micro businesses and small nonprofits that participated in the program in 2023 and installed turnkey program measures on premises (note: some of the respondents participated before April 2023, when the enhanced incentives took effect). The interviews aimed to understand how small businesses make decisions regarding energy efficiency project participation and to assess the impact of different incentive levels on program participation among the target audience.

3.2.2.1 Participant Demographic and Measure Information

Table 3-6**Error! Reference source not found.** details background information on the small businesses and nonprofits interviewed, including the industry, size, seasonality, and interviewee's title. Table 3-7 details participating site information, including site age and relationship to the business as reported by interviewees, and installed turnkey measures and incentive levels as provided by CLC and confirmed during interviews.

Table 3-6. Small Business and Nonprofit Interview Participant Demographic Information

#	Interviewee Job Title	Industry	Size (where avail.)	Approx. # of employees	Seasonality
1	Vice President	Retail	--	3	Year-round
2	Owner	Retail	Micro	2-3	Seasonal (seasonal)
3	Manager	Timeshare resort	Small	5 full-time, 6 part-time	Year-round (timeshare resort in summer months; also functions as a rental in other seasons)
4	Co-owner	Retail	Small	11	Year-round
5	Treasurer (volunteer)	Nonprofit	Micro	No employees, run by volunteers	Year-round

#	Interviewee Job Title	Industry	Size (where avail.)	Approx. # of employees	Seasonality
6	Owner / General Manager	Restaurant	Small	55	Seasonal (summer months)
7	Office manager	Medical office	Micro	2	Year-round
8	Owner	Recreation (Golf)	Micro	6	Seasonal (summer months)
9	General Manager	Construction	Micro	9	Year-round
10	Executive Director	Nonprofit	Small	3 full-time, 2 part-time; 20 teachers working a few hours a week	Year-round
11	Operations Manager	Retail	Micro	6	Year-round
12	Firm Administrator	Financial services	Micro	6	Year-round
13	Managing Partner	Recreation (arcades / bowling alley)	--	~225	This location is year-round
14	Owner	Recreation (outdoor)	Micro	~40	Seasonal (summer months)
15	Owner	Fitness	Micro	7	Year-round

Source: Guidehouse analysis of interview data (interviews conducted September-October 2023)

Table 3-7. Small Business and Nonprofit Interview Participant Building and Incentive Information

#	Relationship to Site	Site Built / How long at location	Turnkey measures installed	Incentive level
1	Leased	• Not sure when built • At least 4 years at location	Lighting systems (interior and exterior)	60%
2	Leased	• ~1970s • 14 years at location	Interior lighting systems	80% for turnkey lighting; 41% for overall project*
3	Own and occupy	• Not sure when built • At location since 1983 (when it was converted into a timeshare)	Low-flow showerheads and faucet aerator (also did exterior lighting systems through turnkey a couple of years ago)	100%

#	Relationship to Site	Site Built / How long at location	Turnkey measures installed	Incentive level
4	Business leases the building; business co-owner also co-owns the site	• Built in 1985 • At location since 1994	Interior lighting systems, faucet aerator, pre-rinse spray valve	100%
5	Own and occupy	• Not sure when built • At location since 1966	Interior lighting systems and prescriptive insulation	59%
6	Leased	• Built ~70 years ago • 3 years at location	Lighting systems (interior and exterior)	112%[16]
7	Own and occupy	• Built in 1987 • At location for 2.5 years	Interior lighting systems	100%
8	Own and occupy	• Built around 1950s • At location for 7 years	Exterior lighting systems	100%
9	Lease	• Built before 1970s • At location for 50 years	Lighting systems (interior and exterior), faucet aerator	75%
10	Own and occupy	• Operational since 2010 (construction fully completed ~2016) • At location for 12 years	Lighting systems (interior and exterior)	100%
11	Leased	• Not sure when built • At location since 2006	Interior lighting systems, pipe wrap	81%
12	Own and occupy	• Not sure when built • At location a few years	Interior lighting systems	100%
13	Own and occupy	• Built ~20 years ago • At location the whole time (~20 years)	Lighting systems (interior and exterior) Also planning HVAC this year (not included data from CLC)	100%
14	Own and occupy	• ~1980s • Bought 3 years ago	Prescriptive insulation	64%
15	Own and occupy	• ~1990s • Bought last year (previous owner was a family member)	Programmable thermostat	100%

*Respondent had the 41% incentive level in mind when responding to incentive-related questions.
Source: Guidehouse analysis of interview data (interviews conducted in September-October 2023)

[16] One of the small businesses interviewed had an incentive level of over 100% in the data received from CLC. Upon further inquiry, the organization explained that the measures and installations were fully covered by the program, without any additional financial incentives offered to the business on top of that. However, the business owner indicated that there were certain issues with the wiring of the outdoor lights that needed remediation and were replaced after the initial installation by the contractor. The incentive level of over 100% reported in the data may indicate additional expenditure for replacement materials and/or additional labor in the event of issues with the initial installation.

3.2.2.2 Key Findings – Details

Respondents were split in how they initially engaged with the program.
In terms of respondents' initial engagement with the turnkey program, respondents were split relatively evenly: 7 organizations reached out to CLC to request the Assessment, and 8 were contacted by CLC or RISE Engineering (implementer). It is worth noting that small business program participants did not distinguish between CLC and RISE – only one explicitly noted working with RISE on the program; everyone else was not sure whether it was CLC itself or a third-party that they were in contact with.

Many of the business participants interviewed indicated having prior knowledge of energy efficiency programs, even when CLC / RISE initiated the contact, as several of the interviewees had energy assessments done on their homes (some through CLC).

Cost savings is a key motivator.
Nearly all businesses highlighted cost savings as their main motivation to participate in the program: some expressed wanting to lower their ongoing energy costs, while others were attracted to the program due to cheap or free installation of the measures. Some interviewees expressed being motivated by both of these factors. Several organizations also pointed out that without the incentives, the cost to install the same energy efficiency measures would have been prohibitive to them.

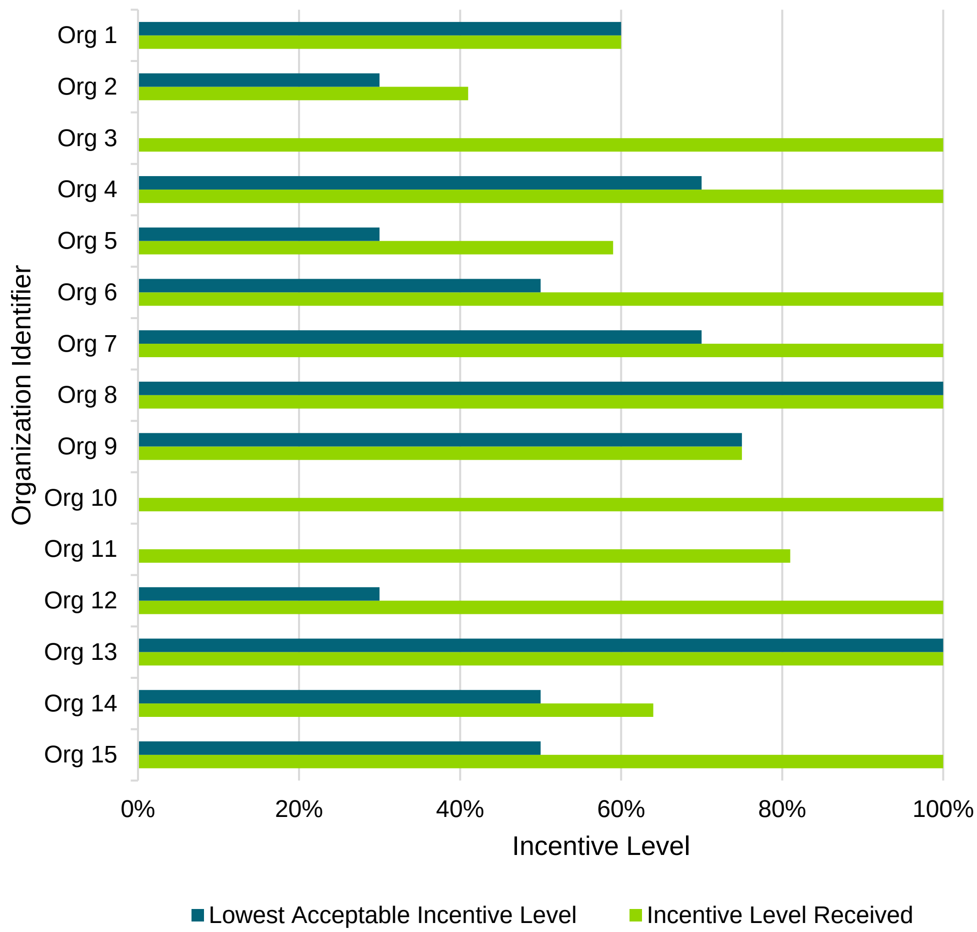
Several businesses pointed out energy preservation and sustainability being important to them as an organization, with one nonprofit specifically noting that climate action speaks to their mission.

One interviewee was looking to improve the safety of their warehouse, as the original light fixtures were outdated and did not provide sufficient lighting. A couple of interviewees said they were looking to improve efficiency more broadly – which they said the program helped them address.

Respondents varied in whether or not they would have participated at lower incentive levels.
Figure 3-6 provides a breakdown of interviewees' reported likelihood of program participation at lower incentive levels as compared to the incentive level that they received.

Note: Organizations with no "lowest acceptable incentive level" listed did not provide a specific incentive level in their response. These respondents struggled to determine the likelihood of participating at different incentive levels as the total final dollar amount cost to their business was a much stronger point of consideration than percentage of the total cost covered. For these interviewees, the decision would have to be made on a case-by-case basis, based on the actual measures installed, how expensive the final cost would be, and how necessary the installation would be. As one interviewee explained, it would be difficult to justify any spending on a recommended measure that did not address any specific issues with their building.

Figure 3-6. Small Business and Nonprofit Interviewee Reported Lowest Acceptable Incentive Level vs Actual Incentive Level Received



Note: Several organizations did not specify at which levels of incentive they would be likely to participate; these organizations do not have a “Lowest Acceptable Incentive Level” data provided in the above table.
Source: Guidehouse analysis of interview data (interviews conducted in September-October 2023)

The average incentive level received by interview respondents was 85%. The average lowest acceptable incentive level was 60% across the 12 respondents who were able to comment on the hypothetical question posed (an average delta of 25%).

The lowest of the “lowest acceptable incentive levels” that was reported was 30%. Three organizations cited this number as the lowest incentive level they would consider – a microbusiness in the retail space, operating seasonally, which had received an overall incentive level of 41% for all measures installed as part of the project (org 2); a nonprofit, operating year-round, which had received an incentive level of 59% for interior lighting systems and prescriptive insulation (org 5); and a microbusiness in financial services, operating year-round, which had received 100% of costs covered for lighting measures (org 12). It is important to note that the nonprofit said they would have to search for other means of financial assistance to ensure they could still afford the project with a 30% incentive.

Four of 12 respondents indicated that they would not have participated if a lower incentive level had been offered. Two of these four respondents had received a 100% incentive level (orgs 8 and 13), one had received 75% (org 9), and the fourth received a 60% incentive level (org 1). More details on these four entities are provided below:

- Org 1 – Microbusiness, retail, year-round, lease space, received 60% incentive level for Lighting systems (interior and exterior).
- Org 8 – Microbusiness, recreation (golf), seasonal, own/occupy space, received 100% incentive level for Exterior lighting systems.
- Org 9 – Microbusiness, construction, year-round, lease space, received 75% incentive level for Lighting systems (interior and exterior), faucet aerator. Remaining co-pay was split between the business and their landlord; lower incentive would be a hard sell to landlord.
- Org 13 – Small business, recreation (arcades/bowling alley), year-round, own/occupy space, received 100% incentive level for Lighting systems (interior and exterior).

Seven of 12 respondents who provided an estimate of lowest acceptable incentive level had received a 100% incentive level. Of these 7, the average lowest acceptable incentive level was 67% (an average delta of 33%). The lowest acceptable level cited was 30% (as previously discussed).

Only one respondent reported receiving a recommendation on measures that they did not install (all other respondents reported that they agreed to all measures recommended through the program). This respondent reported that the additional measures were recommended to them through the program, but CLC did not follow through on that. However, the data received from CLC for analysis does not indicate any measures that were recommended but not installed for this individual – this may relate to the limitations of the tracking data for measures that were recommended but not installed.[17] It is worth highlighting that this respondent was also the only business interviewed that reported having an overall negative experience with the program.

3.2.3 Income-Eligible and Moderate-Income Multifamily Building Developer Interview Findings

Interviews were conducted with management-level staff at 5 income-eligible and moderate-income multifamily new construction developers to understand how these developers make decisions regarding weatherization and heat pump measure adoption, and to assess the impact of different incentive levels on program participation among the target audience.

[17] The information provided by RISE for “in-progress” and “not-installed” measures is limited in scope. According to CLC, there are three scenarios the data does not capture: 1) There are measures that may be recommended to a customer but would not be served through small business (such as kitchen equipment as an example) so it would not be captured in RISE’s system. This information is not needed for this study; 2) There are some projects where there could be recommendations made to a customer, but the program is not able to support incentives due to the project not passing the benefit cost ratio analysis or other economic factors. These are not entered into RISE’s system if it is not a viable project; 3) There are instances where if a customer decides that they don’t want to move forward with recommendations early in the discussion, it may not ever get to a proposal stage and therefore not captured in RISE’s system.

Accordingly, we assume that the data on in-progress and not installed measures is incomplete.

3.2.3.1 Participant Demographic and Measure Information

Table 3-8 details background information on the multifamily developer interviewees and their position at the business. It also lists out the building type, unit information, and the incentive level received from CLC, and installed measure data as reported during interviews.

Table 3-8. Multifamily Developer Interview Participant Demographic and Measure Information

Project	Role within Company	Building Details	Measures	Incentive Amount/Level
Project 1	Project Manager	• 30 units • Multifamily • 100% low or moderate income	Completed weatherization; additional measures mentioned during interview included water heaters, lighting, solar panels, high-efficiency windows	$966,250 100% of incremental weatherization costs were covered by the incentive.
Project 2	Director of Projects	• 20 units • Multifamily (Duplexes) • All affordable	Completed weatherization and heat pumps	$279,006 100% of incremental weatherization and heat pump costs were covered by the incentive.
Project 3	Co-owner	• 10 units • Multifamily (Duplexes) • Interviewee said all affordable; tracker indicates 33%	Completed weatherization and heat pumps; additional measures mentioned during interview included water heaters	$96,000 100% of incremental weatherization and heat pump costs were covered by the incentive.
Project 4	Executive Vice President	• 48 units • Mixed use • All affordable	Completed weatherization and heat pumps; additional measures mentioned during interview include water heaters, high-efficiency windows, HVAC system upgrades, solar panels.	$1,920,000 100% of incremental weatherization and heat pump costs were covered by the incentive.

Project	Role within Company	Building Details	Measures	Incentive Amount/Level
Project 5	Community Housing Resource was joined for the interview by their nonprofit developer partner on this project, The Community Builders: • CHR: Founder / Owner • TCB: Project Manager	• 39 units • Multifamily (Duplexes and multi-unit apartment buildings) • All affordable	Measures still being finalized; weatherization and heat pumps measures are planned. Additional planned measures mentioned during interview included solar panels, water heaters, energy recovery ventilators, certain design services	$1,423,327* Not a final number – construction will begin in 2024 and designs are still being updated

Source: Guidehouse analysis of interview data (interviews conducted September-October 2023)

3.2.3.2 Key Findings – Details

Financial assistance from CLC was a key motivator for the developers' program participation, as reported by 4 interviewees. Several of them noted they would not be able to afford to install all of their chosen energy efficiency measures without the financial assistance. Particular importance was drawn to the fact that these are affordable housing projects – as the financial investment from the developer is harder to get a return on based on the eventual costs. According to some of the interviewees, affordable housing developers frequently need to rely on grants and other forms of financial assistance to be able to afford the projects; some developers who exclusively do affordable developments would not be able to afford to operate without the grants and rebates.

In the same vein, the Passive House certification played a key role in program participation, with 3 developers explicitly calling out the certification as a motivator. One developer particularly called out the high costs of installing all the measures that Passive House certification calls for, saying that the CLC incentives are helpful in pursuing it. The sentiment was echoed by another developer, saying that the CLC enhanced incentives program allowed them to afford additional sustainability measures in pursuit of Passive House certification that they would not have been able to afford otherwise. This developer noted: "We would not have been able to go for Passive House-certifiable level without CLC. This was a critical piece that allowed us to add scope in that pushed us over the threshold [to achieve certification]."

Some developers provided additional – more unique – considerations for choosing to participate in the program. One developer brought up these incentives as a marketing tool that allows them to promote their organization among donors as a financially responsible business that uses rebates and grants to lower overhead costs while delivering high-quality, high-efficiency projects. The high energy efficiency profile of these constructions also allows them to attract more donors who are "inspired" by contributing to these kinds of projects. Another developer explained that the incentives they pursue need to address their existing goals for the building and support existing plans rather than completely shift the project's direction – and participating in the CLC program allowed them to achieve the specific HERS index they were pursuing more easily.

Despite most developers highlighting the importance of CLC's program for their ability to afford chosen energy efficiency measures, **most said they would still pursue high efficiency weatherization measures and heat pumps on their construction with lower incentives** – either to pursue certifications like Passive House or a HERS-45 index, or simply in an attempt to develop the highest quality housing they could. Some developers would still install measures like heat pumps with no incentive at all, explaining that they are a standard measure for high-efficiency constructions. Another developer echoed the sentiment, explaining that as the code catches up with energy efficiency goals, incentives like CLC's will become unnecessary, with code driving a lot of the same standards.

Another developer explained **they would still try to get as many measures installed as possible with a lower incentive – in pursuit of the Passive House certification – but with lower CLC incentives, they may not have been able to afford all the measures necessary for this.**

Still another developer highlighted that the **CLC enhanced incentives allowed them to pursue better quality materials and measures – and explained that the overall quality of the project and its energy efficiency would have suffered with lower incentives.**

One developer also noted they added extra measures to the project that they would not have been able to afford without CLC's incentives covering the costs of other measures. Another developer explained that because of the CLC incentives, they were able to afford higher quality heat pumps and **chose to pursue an all-electric building, opting out of installing gas water heaters they had planned to install prior to learning about the incentives.**

Most of the developers have participated in similar programs on other projects; only for one developer was the CLC program their first such financial assistance on a new construction project; however, they had received assistance through Mass Save on a retrofit project. All of the multifamily developers interviewed found out about CLC's enhanced incentives program early on in their projects; however, some mentioned it being after some of the designs had been completed, which led to needing to redesign certain aspects to further increase energy efficiency and qualify for additional incentives.

4. Key Findings and Conclusions

4.1 C&I Customers

Key Findings -

- **The study confirmed that average incentive levels increased between the Comparison and Treatment periods for turnkey lighting and weatherization measures.** Average incentive levels for installed turnkey measures did increase from the Comparison period to the Treatment period. Average buydown for installed lighting measures increased from 93% to 99% between the Comparison and Treatment periods (buydown for measures that were not installed increased from 63% to 97%). Average buydown for weatherization measures increased from 61% to 73% between the Comparison and Treatment periods. Importantly, the data received for this study did not have any heat pumps installed during the Treatment period.[18]

- **Closure rates for turnkey lighting measures increased between Comparison and Treatment periods. For weatherization measures, the closure rate was 100% in both periods (based on a small sample).** For turnkey lighting measures, the analysis shows an increase in closure rates between the Comparison and Treatment periods across all three small business customer segments (microbusiness, small business, and small non-profits). Between the Comparison and Treatment periods, the closure rate for microbusiness increased from 68% to 93%. For small businesses, the closure rate increased from 80% to 93%. Small non-profits also saw an increase in closure rate between Comparison and Treatment periods, from 81% to 100% (however, the Treatment period sample size is only 3 measures). For weatherization, only the microbusiness segment installed measures during the Treatment period. For the microbusiness segment, incentives for weatherization increased from 58% to 78% between the Comparison and Treatment period, and the closure rate was 100% in both periods.

- **There was no change in participation rates between the Comparison and Treatment periods, but depth of savings increased.** While the closure rate went up or stayed the same between Comparison and Treatment periods, participation rates mostly stayed fairly constant (with the exception of non-profits, which saw a decrease but also had a very small sample). Depth of savings increased between Comparison and Treatment periods for all customer segments with the exception of small non-profits.

- **On average, interviewed small business turnkey participants (12), indicated that they would still have participated if the incentive level had been 25% lower than what they received.** The average incentive level received by interview respondents was 85%. The average lowest acceptable incentive level was 60% across the 12 respondents who were able to comment on the hypothetical question posed (an average delta of 25%).

[18] CLC's turnkey vendor indicated that heat pumps installed through the turnkey pathway may be categorized as New and Replacement Equipment, which is outside of how turnkey measures are typically categorized (i.e., Existing Buildings Retrofit). We did not receive data for New and Replacement Equipment for this study.

- **Four of 12 respondents indicated that they would not have participated if a lower incentive level had been offered.** Two of these four respondents had received a 100% incentive level, one had received 75%, and the fourth received a 60% incentive level.

Conclusion #1 - **The findings from this study offer justification for CLC continuing to offer enhanced incentives targeting small businesses, microbusinesses, and small non-profits in measure categories with strategic importance.** This is supported by the increase in closure rates and depth of savings for turnkey lighting measures and increase in depth of savings for turnkey weatherization measures between Comparison and Treatment periods. Support for enhanced incentives also includes the fact that two of nine interviewed respondents who had received a 100% incentive indicated that they would not have participated had the incentive been lower.

- **Incentive levels for municipal customers decreased between 2022 and 2023, but participation rates increased during this time.** The majority of measures installed by municipal customers in 2022 and 2023 (enhanced incentives were available starting January 2022) were non-turnkey lighting measures. The average incentive level for non-turnkey lighting measures installed by municipal customers decreased from 90% in 2022 to 54% in 2023 (January through October). Importantly, according to CLC, the net cost of energy efficiency projects for municipalities is typically zero or low through the combination of CLC's incentives, Green Communities grants and other grants. While the analysis indicates that the average incentives from CLC decreased between 2022 and 2023, it is likely that the proportion of costs covered by other sources of funding increased over the same time period.

  The participation rate for non-turnkey lighting measures increased from 4% to 8% between 2022 and 2023, suggesting that other, non-incentive-related factors are at play. CLC has long-standing relationships with each municipality. In addition to incentives, CLC provides support to municipalities in other ways including assistance with Green Communities and other grant applications.

Conclusion #2 – The findings from this study offer justification for CLC continuing to support municipalities as they have been doing – through a combination of enhanced incentives and non-incentive services. Analysis of participation data for 2022 and 2023 shows that the participation rate increased even as the average incentive level declined over that time.

4.2 Income-Eligible and Moderate-Income Multifamily Building Developers

Key Findings -

- Four of five interviewed developers said they would still pursue high efficiency weatherization measures and heat pumps on their construction with lower incentives – either to pursue certifications like Passive House or a HERS-45 index, or simply in an attempt to develop the highest quality housing they could.

- However, with lower incentives from CLC, one developer indicated that they may not have been able to afford all the measures necessary for Passive House certification. Another developer highlighted that the CLC enhanced incentives allowed them to pursue better quality materials and measures – and explained that the overall quality of the project and its energy efficiency would have suffered with lower incentives. Finally, one developer noted they added extra measures to the project that they would not have been able to afford without CLC's incentives covering the costs of other measures.

Conclusion #3: As the study findings for income-eligible and moderate-income multifamily building developers stem from the qualitative analysis only, the interview findings for this group are inconclusive. **This study does not provide enough information to support a change incentive levels for income-eligible and moderate-income multifamily building developers.** While several developers interviewed highlighted cost savings as a key motivator for program participation and explained that they would not have been able to afford all of the installed measures without the financial assistance, most reportedly would still install high efficiency weatherization measures and heat pumps with lower incentives. It appears that most developers used the CLC incentives to improve the quality of materials and install additional measures in pursuit of certifications like Passive House or simply in an attempt to develop the highest quality housing they could – however, some reported that affordable housing developers frequently rely on grants to operate, so CLC's incentives are only one form of financial assistance some of the developers pursued.

Appendix A. C&I Data Cleaning and Assumptions

Tracking Data

Prior to joining customer/billing data with tracking data, Guidehouse compiled the tracking data by combining the "installed" measure list provided by CLC with the "in-progress/not installed" measure list provided by RISE. For the participation analysis, "in-progress" measures were treated as if they were "installed" measures.

To determine the date most closely associated with when an incentive offer was presented to a customer, the evaluation team needed to leverage several date fields due to missing/incomplete data coverage.

1. For installed measures, CLC informed Guidehouse that "Contract Presented Date" would be the closest in time to the incentive offer being made. However, this field is not recorded in CLC's data management system, so cannot be used in the analysis. Per RISE, a next best proxy is the average between "Contract Signed Date" and "Site Visit Complete Date"; however, these fields are only complete for 12% and 16% of measures. "Outcome Date" was the next date in chronological order and was 100% complete for measures installed.
    a. To create a proxy date for when the incentive was offered, Guidehouse first took the average of "Contract Signed Date" and "Site Visit Complete Date" where both were populated.
    b. The team then took the average of the difference between the result from the above step and "Outcome Date" when both fields were populated. This difference (163 days) was subtracted from "Outcome Date" to scale the date back as closely as possible to the incentive offer date.

2. For in-progress/not installed measures, the evaluation team used the average "Contract Signed Date" and "Site Visit Complete Date", which were 100% filled in and did not require scaling.

The tracking data needed minor cleaning. **Error! Reference source not found.Error! Reference source not found.Error! Reference source not found.** details the steps taken to prepare the tracking data for the analysis. It describes the number of observations removed, along with the reasons for removal.

Table A-1. Data Cleaning Summary C&I Tracking Data

Starting Number of Observations:	Observations	
		38,730
Data Filter	**Filtered Out**	**Remaining**
Filter to only measures of interest	12,805	25,925
Filter to only time periods of interest	20,886	5,039
Remove accounts with no billing data	369	4,670

Customer Data

Prior to joining customer/billing data with tracking data, Guidehouse assigned a customer segment to every customer in the billing data. This was done in four steps:

1. Per CLC guidance, customers with a REV/RATE code beginning with 60, 62, or 64 were assigned to the municipal category.
2. To separate non-profits from businesses, Guidehouse mapped the finalized business category from the previous enhanced incentive study to accounts that were not labeled as municipal in step 1.
3. For accounts not able to be linked to previous study data, Guidehouse manually reviewed each customer name and assigned the account to the business or non-profit category.
4. After finalizing business type, customers were binned into two consumption categories based on their maximum annual usage from 2020-2023.
    a. Micro: 0-30,000 kWh
    b. Small: 30,001-1,500,000 kWh

The customer data needed minor cleaning. **Error! Reference source not found.Error! Reference source not found.** details the steps taken to prepare the customer data for the analysis. It describes the number of observations removed, along with the reasons for removal.

Table A-2. Data Cleaning Summary C&I Customer Data

Starting Number of Observations:	Observations	
		155,879
Data Filter	Filtered Out	Remaining
Remove outliers[19]	786	155,093
Remove observations missing read date	5,565	149,528
Remove duplicates[20]	18,842	130,686

[19] A consumption observation for an account was determined to be an outlier if it was five standard deviations away from the account's median consumption.

[20] Duplicates were the result of accounts that existed twice, mostly associated with company names spelled two different ways.

Appendix B. Additional Feedback Shared During Interviews

B.1 Small Businesses

Several participants provided additional feedback on the program during their interviews. A compilation of key highlights from the microbusinesses, small businesses and small nonprofits interviewed are included in the table below.

Table B-1. Additional Feedback – Small Businesses

Type of feedback	Specific feedback shared
Program experience	• Overall, program participants reported having positive experience with the program and CLC / contractors, with 14 specifically participants highlighting that during their interviews. One said they would rate it "5 stars" and said the program helped them address all the issues they had in their building. Another participant called the program "a breath of fresh air," while another one said they are experiencing "tangible benefits" to the overall safety of their warehouse with the newly installed lighting systems. • Several participants mentioned seeing improved electricity costs after installing energy efficiency measures through the program. One even said they saw a 60% decrease in electricity bills as a result of their participation in the program. • One participant described having a negative experience with the program, including the high copay of installing the measures, no difference in their electricity costs, poor quality of work, and the difficulty of reaching CLC throughout the program. This participant said they already were not convinced energy efficiency measures were warranted, but now they do not think they will want to participate in any energy efficiency incentive programs in the future.
Initial outreach / connecting with CLC	• Several small businesses – 5 out of the 15 interviewed – indicated that they had a hard time connecting with CLC at the program initiation, noting they needed to follow up a few times and use several methods of contact (e.g., email, phone calls / voicemail); one called out that this makes the program particularly difficult for small businesses to navigate given their limited resources.
Quality of work	• One participant – who reported having an overall negative experience – also described the quality of the work as "shoddy," saying they had to hire someone to fix the work that was done through the program. • Several other participants described the quality of the work performed as good or great and said the contractors were prompt and professional. One highlighted having experienced issues with certain aspects of the lights installation (wiring) but noted that the contractor promptly came back and fixed everything.

Type of feedback	Specific feedback shared
Program improvement suggestions	• Providing participant testimonies could help get more small businesses to participate in the future. • There are a lot of residential buildings that have been converted to commercial spaces, and it often is unclear to business owners how they can take advantage of incentives to improve these spaces for their new uses. • Partnering with local community colleges and technical schools can help add more contractors to the program and improve response time while also benefitting the local community and allowing younger professionals to learn on the job.

B.2 Income-Eligible and Moderate-Income Multifamily Buildings Developers

Some participants provided additional feedback on the program during their interviews. A compilation of key highlights from the developers interviewed are included in the table below.

Table B-2. Additional Feedback – Income-Eligible and Moderate-Income Multifamily Building Developers

Type of Feedback	Specific Feedback Shared
Program experience	• Several developers highlighted their positive experience with the program, calling it great and easy to navigate. One specifically highlighted it being “not a cumbersome process at all,” while another emphasized that CLC was great to work with. • “Really helpful program that made the project possible.”
Incentive structure	• The incentive structure for multifamily projects can be hard to navigate, e.g., a single-family home can access a certain level of incentives, but a 2-family home does not qualify for “single family incentive x2,” making it less affordable.
Program promotion / participant targeting	• The incentives are a good way to get more people to install energy efficiency measures, particularly those who may not be concerned with climate goals. Word of mouth is a great way to advertise the incentives and inspire others to participate. • CLC’s incentives push developers to get ahead of the code for things like insulation, R-value, etc., but the code is starting to catch up to this level. Thus, the incentives need to stay ahead of the code continue to have the same effect on energy efficiency measure installations.

Type of Feedback	Specific Feedback Shared
Program improvement suggestions	• Developers new to these programs could benefit from more upfront guidance and additional support. One developer said it was "frustrating" to navigate energy consultations and feasibility assessments without support and took longer than it should have. • Multiple developers noted that there are a lot of interconnected components and different programs providing assistance to multifamily developers, creating confusion around the relationships, e.g., between CLC's enhanced incentives and Mass Save. Providing additional clarity in navigating the relationships is key to ensuring new participants can succeed. • Having estimates of long-term operating costs of buildings at certain efficiency levels is very important for affordable housing projects. One developer said that they received guidance around environmental effects and costs to install, but operating costs are important to their decision-making. It would also be helpful for participants to see studies on results other developers had after participating in the program. • Getting an estimate of the expected level of rebates early in the project is highly important for budgeting. One developer said it was very difficult to get an estimate of total rebates from CLC, making their budgeting less reliable. • One developer said having plans reviewed by the same RISE engineer that later does the inspection – before they come out to inspect the full building – would be a significant improvement, as the inspecting engineer found issues post-construction that could have been resolved during planning. The developer also recommended having one engineer work with each developer throughout the lifecycle of the project to simplify the process and recommended for the same engineer to come out for periodic check-ups throughout the construction to support and help catch issues before construction is done (even if the cost is charged to the developers themselves – this developer said they would be happy to pay for this if it helps avoid catching issues too late). • One developer said the program name is awkward and hard to remember.

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