IMPACT & PROCESS EVALUATION REPORT

California Foodservice Instant Rebates Statewide Third-Party Program, Program Year 2021

California Public Utilities Commission

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Information	Details
Project sponsor	Geoff Barker
Project manager	Joshua Brown
Telephone number	+1 (510) 891-0446
Mailing address	155 Grand Avenue, Suite 500, Oakland, CA 94612
Email address	Geoff.Barker@dnv.com; Joshua.Brown@dnv.com
Report location	https://pda.energydataweb.com/#!/ Search term: "Program Year 2021 Statewide Foodservice Instant Rebates Program Evaluation"

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1 EXECUTIVE SUMMARY

This report presents the key findings of DNV's evaluation of the Statewide Midstream[1] Foodservice Instant Rebates Program for program year (PY) 2021 on behalf of the California Public Utilities Commission (CPUC).

Per the Foodservice Program Implementation Plan,[2] the program works with midstream market actors to offer point-of-sale incentives[3] to end users with a non-residential rate. By partnering with commercial foodservice equipment dealers, manufacturers, distributors, and contractors who make sales directly to end users, program participants promote and upsell eligible energy saving technologies, or measures,[4] by offering their end users the incentive as a discount on their sales invoice. Locally owned and chain restaurants are the primary utility customers (end users) that the program targets. However, commercial end users at hotels, grocery stores, educational institutes, and hospitals are also eligible to purchase foodservice equipment through the program.

For PY 2021, the delivery model of the program shifted from independently run Program Administrator (PA) programs to a single statewide model covering the service territories of four investor-owned utilities (IOUs) – Pacific Gas & Electric (PG&E), Southern California Edison (SCE), Southern California Gas Company (SCG), and San Diego Gas & Electric (SDG&E). As such, a designated lead PA is responsible for engaging a third-party program implementer to deliver the program uniformly across the service territories of the IOUs. SCG is the lead PA responsible for the Foodservice program.

DNV conducted a targeted evaluation of the program, focusing on key metrics such as gross[5] and net savings[6] as well as program process and performance, to assess achievements relative to goals from an overall programmatic perspective. This Executive Summary summarizes key findings for each of these areas and provides targeted recommendations for program improvement.

Evaluation findings indicate about two-thirds of the program's energy savings claims[7] would have occurred in absence of the program, as the program had low to moderate levels of influence on end users' decisions to purchase energy efficient foodservice equipment promoted through the program. Participating end users and distributors had very high levels of awareness of the program and expressed high levels of satisfaction with various aspects of the program. However, over half of the end users surveyed said they would have purchased the same or higher efficiency equipment if the efficiency level they purchased was not in stock at their preferred vendor, suggesting that they would have made the same purchasing decision without the program. We provide further details on these key findings, study objectives, evaluation approach, results, and recommendations in the sections below.

1.1 Study background

DNV's key research objectives in this evaluation were to:

- Determine the gross and net savings for the Foodservices statewide program.

[1] Upstream and midstream energy efficiency programs provide incentives and conduct outreach within the 'upper' and 'middle' of a given supply channel by targeting manufacturers, distributors, and/or contractors. Downstream programs target residential and commercial end users.

[2] Program Implementation Plan. California Foodservice Instant Rebates Program Implementation Plan. 2021. p. 4.

[3] Incentives are intended to encourage building owners to install energy efficient equipment by lowering the costs of the equipment through incentive payments – in the case of the Foodservice program, incentives were paid to distributors.

[4] We refer to these energy-efficient technologies that result in a reduction in energy use at a given end user site as program "measures" or "measure packages" throughout this report.

[5] Gross savings measure changes in energy consumption that result directly from program-related actions taken by participants of an energy efficiency program, regardless of why they participated.

[6] Net savings are changes in energy use that are attributable to a particular energy efficiency program and take into consideration savings from participants who would not have purchased energy-efficient technologies without the influence of the program. Savings attributable to participants who would have purchased energy-efficient technologies with or without the program influence are excluded from net savings. These participants who were not influenced by the program are considered free-riders.

[7] Claims, or claimed savings, are expected energy and demand savings associated with program measures submitted by each IOU on a quarterly basis.

- Assess the evaluability of the Foodservices statewide program.[8]
- Determine to what extent the program served hard-to-reach (HTR) end users[9] and disadvantaged communities (DAC).[10]
- Determine levels of satisfaction with the program among participating distributors and end users.
- Determine the extent to which there are opportunities for program improvements, and which could be feasibly made.

Table 1-1 shows the reported number of energy efficient foodservice claims made through the program in PY 2021, along with the associated energy savings. The table shows first year gross and net kW and kWh savings,[11] lifecycle net kWh savings,[12] first year gross and net therm savings, and lifecycle net therm savings for the Foodservice program for each IOU service territory for PY 2021.

Table 1-1. Reported program savings claims by IOU service territory, PY 2021

IOU	Claims	First Year kW		First Year kWh		Lifecycle Net kWh	First Year Therms		Lifecycle Net Therms
		Gross	Net	Gross	Net		Gross	Net	
PG&E	2,617	151	91	730,077	440,976	5,205,844	462,466	278,597	3,342,263
SCE		136	82	659,371	398,269	4,701,675	-	-	-
SCG		-	-	-	-	-	383,553	231,059	2,771,956
SDG&E		53	32	254,869	153,944	1,817,356	71,572	43,116	517,255
Total*		**340**	**205**	**1,644,318**	**993,190**	**11,724,874**	**917,592**	**552,772**	**6,631,474**

** Totals may not add up due to rounding.*

Table 1-2 shows the reported number of claims, gross kW and kWh savings, and gross therm savings for the Foodservice program by measure type for PY 2021. Steamers (23%), convection and combination ovens (22%), refrigerators and freezers (18%), and griddles (17%) accounted for the largest share of electric (kWh) savings. Fryers accounted for the vast majority of the program's gross gas (therms) savings at 81%, while convection and combination ovens accounted for 14% of the gross gas savings.

[8] The evaluability of a program refers to the extent to which the program collects the necessary data and other information needed to evaluate the energy savings associated with the program as well as its overall performance.

[9] Hard to reach (HTR): The criteria for commercial HTR end users are defined by a combination of a geographic requirements plus at least one of the following criteria: primary language of customer(s) is not English, business size is less than 10 employees, or occupying a leased/rented facility. Specific details can be found here: Statewide Deemed Workpaper Rulebook

[10] Disadvantaged Communities (DAC) are areas in California with customers or end users who experience a combination of economic, health, and environmental burdens. More details can be found here: Disadvantaged Communities

[11] Savings associated with a particular measure estimated to occur within the first year after its installation.

[12] Savings associated with a particular measure estimated to occur over the course of a given measure's estimated useful life.

Table 1-2. Reported program savings claims by measure type, PY 2021

Measure Name	Claims	Gross kW	Gross kWh	Gross Therms
Fryers	1,455	-	-	747,791
Refrigerators & Freezers	512	33	297,196	-1,485
Ovens (Convection & Combination)	335	76	356,341	131,873
Ice Machines	107	9	87,658	-
Griddles	103	57	279,786	379
Steamers	38	120	383,801	8,855
Hot Food Holding Cabinets	24	10	35,118	0
Ovens, Gas	15	-	-	18,711
Dishwashers	11	4	20,528	825
Ovens, Electric	6	19	90,228	-
Exhaust Hoods	5	2	22,115	505
Conveyor Broilers	3	10	71,547	9,484
Underfired Broilers	3	-	-	653
Total*	**2,617**	**340**	**1,644,318**	**917,592**

* *Totals may not add up due to rounding.*

1.2 Study approach

DNV estimated measure-level savings and evaluated the overall effectiveness of the Foodservices program for PY 2021 through a gross savings analysis, net savings analysis, and review of overall program process and performance. As this was the first evaluation of California statewide third-party programs, the focus in PY 2021 was evaluating gross and net program savings as well as program performance, in terms of its evaluability and from program process perspectives. Because PY 2021 was the first year for statewide programs run by third-party implementers, we do not include retrospective comparisons to programs from earlier years as they did not exist under the statewide program design prior to 2021. DNV developed methods to determine both the evaluated gross and net savings while simultaneously conducting an overall process evaluation to assess program performance from a more holistic perspective. These approaches are detailed below.

Gross savings. To develop the program's gross realization rate (GRR), or the ratio of evaluated savings to the original claimed savings without any adjustments for program influence, measures were organized into measure packages and matched with corresponding savings from the Database of Energy Efficiency Resources (DEER).[13] DNV engineers aligned individual claim characteristics with DEER values, which allowed for a direct comparison of savings claims between sources. In addition to the engineering review, DNV conducted telephone surveys with end users to verify that their equipment was installed and still operating.

Net savings. Net savings are changes in energy use that are attributable to a particular energy efficiency program. Telephone and web surveys were conducted with foodservice distributors in order to evaluate the net savings and influence

[13] DEER is a reference guide developed and managed by the CPUC for estimating energy savings potential for energy efficiency technologies in both residential and non-residential applications.

of the Foodservice program. Distributors were asked how their sales of high-efficiency equipment sold in 2021 would have changed in the absence of the program. If respondents said their sales would have been lower, they were then asked to approximate what percent lower their sales would have been. These survey responses were used to determine net-to-gross ratios (NTGR),[14] which measure the amount of savings that can be attributed to the program. Telephone and web surveys were also conducted with end users to evaluate program influence. End user responses provided additional context to support the evaluation, although their responses did not inform the NTGR results discussed in Section 1.3.2.

Program process and performance. In addition to energy savings, DNV evaluated the process and performance of the Foodservice program to gain an increased understanding of the program delivery under statewide administration. DNV evaluated the program processes by interviewing distributors and end users via questions regarding their awareness of the program, as well as asking distributors about various barriers they experience when selling the high-efficiency foodservice equipment rebated through the program. Program performance was assessed by interviewing distributors and end users about their satisfaction with various aspects of the program, including the incentive amount provided and program outreach. DNV also investigated whether the program reached a broad range of participants, with particular attention to HTR and DAC end users.

1.3 Results

1.3.1 Gross savings results

To determine the evaluated gross savings estimates of the Foodservice program, DNV reviewed reported details to ensure reported savings were estimated correctly. The process involved the following steps:

1. **Program data processing**: DNV standardized, cleaned, re-categorized, and re-aligned the datasets according to the corresponding measure package within DEER.
2. **Measure package consolidation**: We then identified program participation in the California Energy Data and Reporting System (CEDARS)[15] data and applied the appropriate measure package from DEER.
3. **Measure savings assignment**: The measure savings in the DEER measure package was assigned according to the various combination of claim characteristics such as *Measure Application Type*, *Climate Zone*, and *Delivery Type*.
4. **Engineering analysis**: Once aligned, DNV compared the savings claims in the CEDARS tracking data to the measure savings in DEER to identify any potential discrepancies.

As discussed in the previous section, the gross realization rate is the ratio of evaluated savings to the original claimed savings, without any adjustments for program influence. The gross realization rate (GRR) for kW and therms was 100% across all measures with electric savings in the Foodservice Instant Rebates program in PY 2021. The GRR for kWh was 99%, which means that the evaluated gross savings very closely align with the energy savings values in CEDARS. Some of the measure packages had a discrepancy between energy savings reported in the IOU program data and evaluated savings assigned in DEER. Other discrepancies were due to incorrect climate zone selections. For further details on this review and methods used to arrive at the GRRs, please see Section 4 in the main body of the report.

1.3.2 Net savings results

Net savings are the gross savings minus energy savings attributed to end users who would have purchased foodservice equipment without the program incentives. The “net-to-gross ratio” is the ratio or percent of a program’s gross savings that

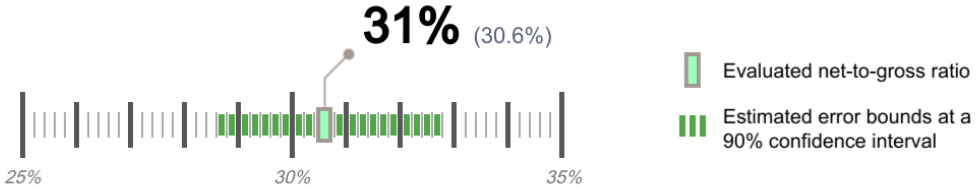
[14] The net-to-gross ratio (NTGR) is the complement of freeridership. For example, an 80% NTGR indicates 20% freeridership. Gross savings are multiplied by the NTGR to arrive at net savings.

[15] CEDARS is a public database that includes program data on annual budget filings, quarterly savings claims, and monthly report summaries by the PAs.

are attributable to program influence. A ratio equal to 100%, or 1.0, means that the installation of the high-efficiency equipment incentivized by the program would not have occurred in the absence of the program. A ratio equal to 0%, or 0.0, means that the program had no influence on the installation of the high-efficiency equipment incentivized by the program and would have occurred with or without the program.

The evaluation determined a net-to-gross ratio of 31% (30.6%) for the Foodservice program, with an error bound of 2% at the 90% confidence level.[16] Evaluation results revealed that over two-thirds (69%) of the program savings would have occurred without the program (Figure 1-1).

Figure 1-1. Program-level net-to-gross ratio



Distributor survey results helped to determine the low net-to-gross ratio for the Foodservice program in PY 2021. When distributor survey respondents were asked about their program-incentivized equipment that was sold in 2021, 28% of distributors stated their sales of equipment would have been the *same* even if the program did not exist.[17] Respondents were then asked why their sales would have remained the same without the program.

Below is a selection of quotations that capture the core themes of the survey responses:

- *"Ice machines have suffered from lengthy product delays, sometimes three or more months waiting for inventory to deliver. Also, the ice machine rebate is quite low considering the cost of the item. Our customers generally need ice machines to run their business properly so rebate or not, if they need an ice machine and we have one in stock, they will purchase it. Rebates should be increased if hoping to make an impact in this category."*
- *"People come in and would have needed it without the incentive. Not a huge incentive amount."*
- *"The rebate offered is quite low considering the cost of the item, most refrigerators are $1,000 plus. Rebates should be increased if looking to make an impact on this category."*

Table 1-3 shows first year reported net savings, evaluated net savings, and net realization rates (NRR). The net realization rate is the ratio of evaluated net savings to reported net savings. As shown, approximately half of the program's reported net savings were realized based on evaluation results.

[16] This means that, with a 90% confidence level, the absolute net-to-gross ratio falls within (+/-) 2.0% of the cited value of 30.6% (rounded up to 31% for demonstrative purposes) – i.e., between 29% and 33%.

[17] Section 5.2 of the report details how distributor survey results were weighted by gross savings and case weights to calculate the program-level net-to-gross ratio.

Table 1-3. Reported and evaluated first net savings and NRR, PY 2021

Net Savings	kW	kWh	Therms
Reported First Year	205	993,190	552,772
Evaluated First Year	109	509,817	269,345
Net Realization Rate	**53%**	**51%**	**49%**

1.3.3 Program awareness and influence

DNV evaluated distributor and end user awareness, as well as the influence of the Foodservice program on equipment selection and recommendations. This section details the key findings related to these topics.

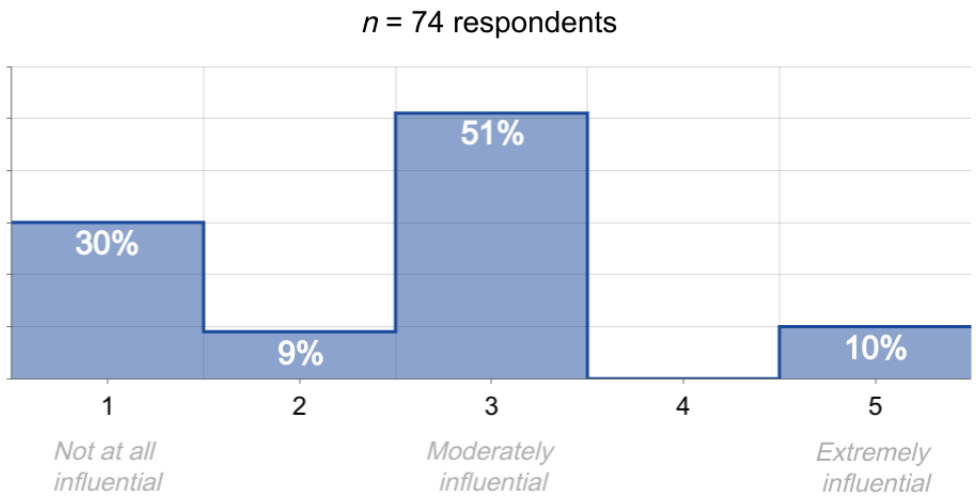
High awareness of the program among participants. Nearly all of distributor respondents (97%) were aware of their company's participation, with only slightly fewer (93%) end users being aware of the program. Almost all of the of the remaining end users who were not aware of the Foodservice program were also not aware of any associated rebates.

The program is influencing the distributors' equipment selections and recommendations. The majority (88%) of distributors reported that the Foodservice program did influence the efficiency level that their company recommends to buyers. Distributors were also asked to rate the influence of the Foodservice program (e.g., incentives, marketing, outreach, and training) on the selection of high-efficiency equipment their company typically sells, using a scale of 1 to 5 where 1 is "not at all influential" and 5 is "extremely influential." The average score was 4.4, with over half (52%) of respondents saying the program was extremely influential in their selection.

Very few end users think distributor recommendations are a strong influence on their decision making. All of the end users surveyed reported purchasing their foodservice equipment through a distributor. Although the program was found to effectively influence distributor selections and recommendations (discussed above), over half (51%) of the end users said distributor recommendations were only moderately influential on their organization's decision to purchase program-qualified equipment.

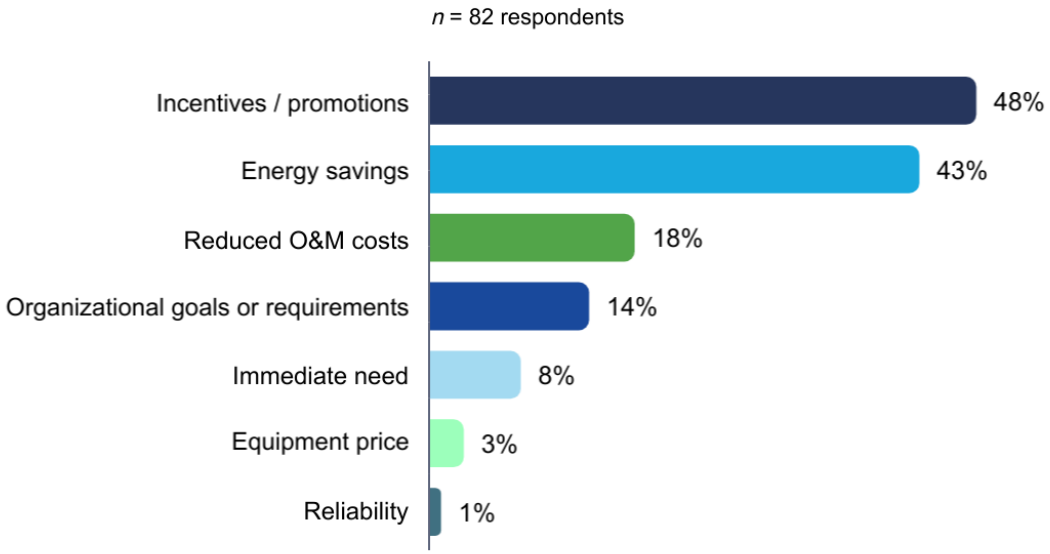
Figure 1-2 shows that very few end users (10%) believed the distributor recommendations had a large influence on their decisions. The responses to this question equate to an average influence score of 2.5, which is below the mid-point of 3. These survey results help corroborate the overall net-to-gross ratio (31%) discussed in Section 1.3.2.

Figure 1-2. Influence of distributor recommendations on end user decisions



End users are primarily influenced by incentives / promotions, energy savings, and reducing operations and maintenance costs. When end users were asked what factors influenced their foodservice equipment choices (Figure 1-3), the two most frequently cited responses were incentives / promotions (48%) and energy savings (43%). More than a quarter of end users (28%) also reported being influenced by the reduced operations and maintenance (O&M) costs. Notably, 14% of end users reported being influenced by organizational goals and requirements, which suggests they would have wanted or needed to purchase high-efficiency equipment in the absence of the program.

Figure 1-3. What influences end user equipment choices[18]



This evaluation also found that over half (55%) of the end users said they would have purchased the same or higher efficiency equipment if the efficiency level they purchased was not in stock at their preferred vendor. These responses

[18] The total percent exceeds 100% because respondents were allowed to cite multiple factors.

suggest that over half of the program participants would have selected the same or high or higher efficiency equipment without the increased availability resulting from the program.

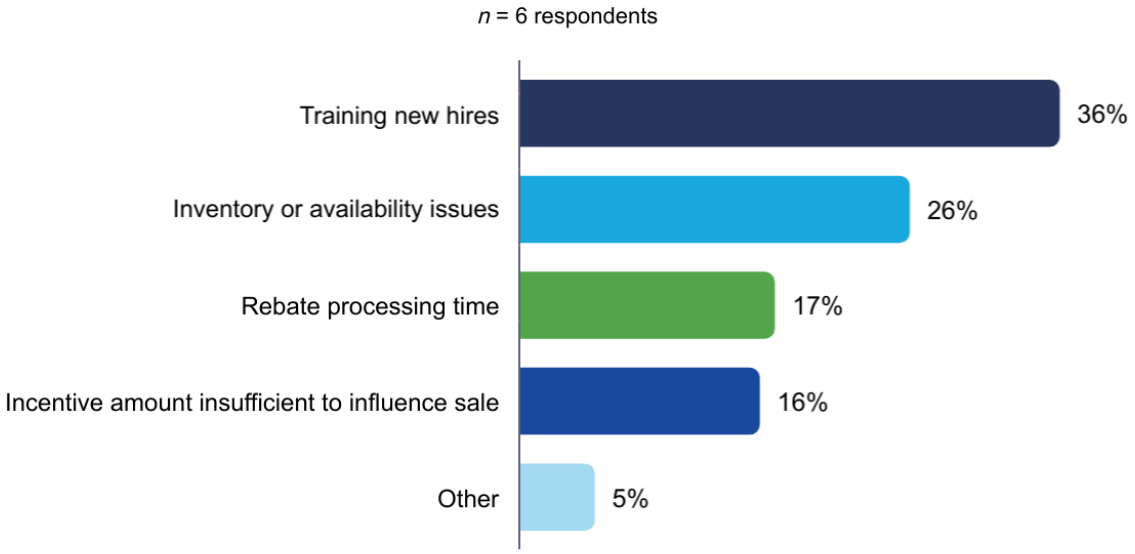
End users were also asked if their vendor/distributor mentioned a rebate associated with the foodservice equipment they purchased. Over three quarters (76%) said the vendor did mention the rebate, with the remainder (24%) saying they did not remember. Among the end users who did recall hearing about the rebate, only a third (33%) said that their invoice included a line item for the incentive and two-thirds (67%) stated they did not**.** Given these results, the program should highlight the requirement to provide a line item for the rebate dollar amount on the invoices to increase end user awareness of program incentives.

1.3.4 Program process and performance

DNV evaluators asked distributors who were aware of the program to comment on barriers to sales of high-efficiency foodservice equipment and to share their suggestions for improvements. Program performance was evaluated by asking distributors and end users a variety of satisfaction questions.

Barriers to program participation. When distributors were asked about obstacles faced when participating in the Foodservice program, over two-thirds (68%) reported experiencing no issues. Among the respondents who did experience obstacles to program participation (Figure 1-4), the most common barriers mentioned were related to training new hires (36%) and inventory / availability (26%).

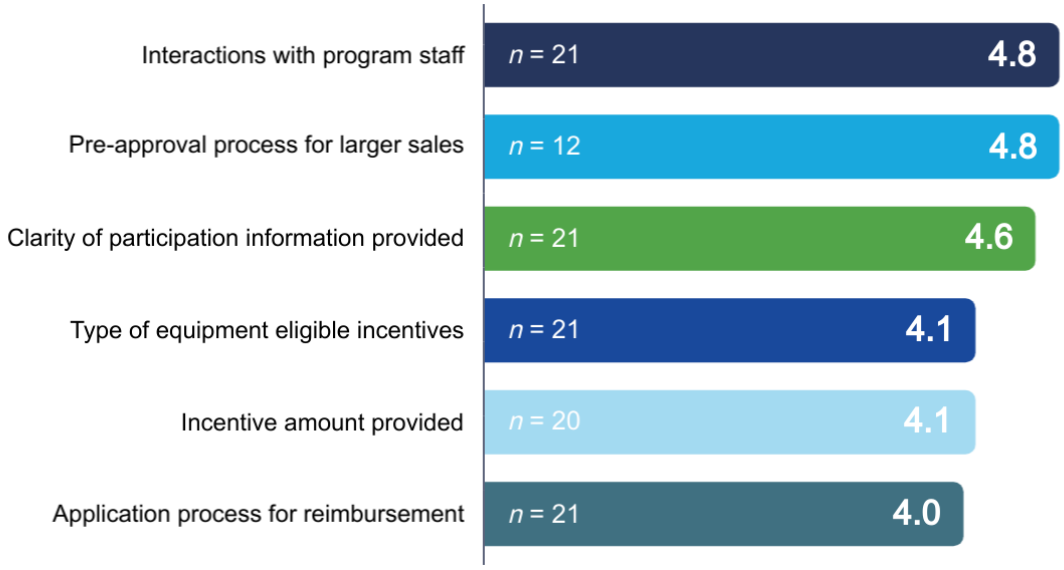
Figure 1-4. Barriers to participating in the program[19]



Program satisfaction. Distributors were asked to rate various aspects of the Foodservice program using a 5-point scale, where 5 means “very satisfied” and 1 means “very dissatisfied” as shown in Figure 1-5. Distributors were found to have an overall satisfaction score of 4.4 (out of 5) when asked about different aspects of the program. Although the satisfaction ratings were relatively high for all categories, distributors were most satisfied with interactions with program staff and the pre-approval process for larger sales and least satisfied with aspects related to incentives, including the application process to receive reimbursement, the incentive amount provided, and the type of equipment eligible for incentives.

[19] The respondent who reported an ‘Other’ obstacle explained: *“Many of our projects have a longer sales cycle (6-12 months) so uncertainty about what the program will look like next year makes it hard to propose new projects with the rebate included.”*

Figure 1-5. Distributor satisfaction



Only three out of 21 distributors were dissatisfied (satisfaction score less than 3) with at least one aspect of the program. One respondent provided a score of 2 for the type of equipment eligible for incentives, another responded with 2 for the incentive amount provided to distributors, and the last provided a score of 2 for the application process to receive reimbursement. Reasons for their dissatisfaction included:

- *Rebates only being available for a limited types of high efficiency equipment*
- *Low incentives (e.g., ice machines)*
- *Strict program requirements (e.g., addresses not matching with utility)*

End users were asked to rate how satisfied they were with the Foodservice program overall using a 5-point scale, where 5 means “very satisfied” and 1 means “very dissatisfied.” The large majority (91%) of respondents provided a score of 5, indicating almost all participants were ‘very satisfied’ with the program. The remaining end users responded with a score of 3 or 4 (4% and 3%, respectively), with no one providing a score of less than 3.

Hard-to-reach end users. Commercial end users are defined as hard-to-reach (HTR) if they meet geographic prerequisites plus at least one of the following criteria: primary language, business size, or leased or rented facility.[20] If the end user does not meet the geographic requirements, then they must meet all three of the language, business size, and lease or rent criteria to be considered HTR.

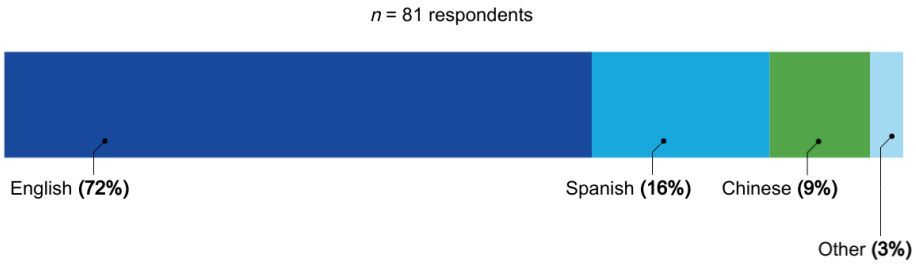
This evaluation found that approximately half (49%) of survey respondents would be defined as HTR based on the definitions above. Just over half (51%) of survey respondents met the geographic prerequisites, although one did not meet any additional criterion, and therefore, was not categorized as HTR. Among the remaining respondents who did not meet the geographic requirements, only 17% met all three remaining criteria and were categorized as HTR.

When looking at the three additional criteria independent of the geographic requirements, we found that almost all (95%) of end users leased or rented their organization’s facility. Slightly less than half (47%) of end users met the criterion for

[20] Commercial HTR end users meet the geographic prerequisite if they a) are located outside of the Combined Statistical Areas for San Francisco, Los Angeles, and Sacramento or b) are located in a disadvantaged community, as defined by CalEPA (https://oehha.ca.gov/calenviroscreen/sb535). Specific details can be found here: Statewide Deemed Workpaper Rulebook.

company size (i.e., employs less than ten people), and only a quarter (25%) of respondents would meet the language criterion (i.e., primary language spoken is not English). As shown in Figure 1-6, the most commonly cited non-English languages spoken by a majority of employees at foodservice businesses surveyed were Spanish (16%) and Chinese (9%). This suggests the program should continue to offer program materials in Spanish, Chinese, Korean, and Vietnamese to ensure that businesses with employees who primarily speak a language other than English continue to benefit from the program.

Figure 1-6. Primary language spoken by employees[21]



[21] Other' responses included 'both English and Spanish' – this respondent's business was not categorized as meeting the language HTR requirement. The "Chinese" total includes both Mandarin and Cantonese languages.

1.4 Key findings and recommendations

Table 1-4. Key findings and recommendations

Key Findings	Recommendations
The program achieved a NTGR of 31%, which is below the NTGR of 60% to 85% (depending on the measure) that the PAs assumed for the program.	The program should continue to require that distributors include a line item for the rebate dollar amount on the invoice. The program should highlight this requirement in program communications and outreach directed at end users to increase end user awareness of program incentives.
Over half of the end users said that the distributor recommendations were only 'moderately influential' on their decision to purchase equipment, with roughly a third saying they are 'not at all influential.'	
The program collected the data needed to evaluate the program, and the vast majority of claims included end user addresses, although only 58% of the claims had end user contact information (either phone, email, or both).	Consider requiring distributors to collect end user contact phone numbers and email addresses to improve internal program verification efforts and increase evaluability of the program.
Satisfaction scores with various aspects of the program were high among distributors with average scores of 4.0 or higher. Distributors were most satisfied with their interactions with program staff, the pre-approval process for larger program sales, and clarity of information about how to participate in the program. Distributors, while still satisfied, provided lower satisfaction ratings for the program incentive amounts, the application process for reimbursement, and the types of equipment eligible for incentives.	Consider increasing incentive amounts to a minimum of 65% of the measure's incremental cost. The program should also update measure package cost assumptions as most of these assumptions reference studies that are at least five years old. Findings indicate that these actions could improve the program's influence on sales of efficient equipment.
The program serves a large share of smaller restaurants with nearly half of the participants stating that their business had fewer than ten employees. Additionally, more than a quarter of businesses stated that the majority of their employees speak a language other than English as their primary language.	The program should continue to focus on smaller restaurants, particularly those that have fewer than 10 employees, to ensure hard-to-reach businesses are benefiting. The program should also continue to offer program materials in Spanish, Chinese, Korean, and Vietnamese to ensure that businesses with employees who primarily speak a language other than English continue to benefit from the program.
Approximately half of end users who participated in the program were categorized as hard-to-reach customers.	The program should continue to focus on integrating equity and access into program design.

2 INTRODUCTION

This report presents the key findings of DNV's evaluation of the Statewide Midstream Foodservice Instant Rebates Program for program year (PY) 2021 on behalf of the California Public Utilities Commission (CPUC). DNV conducted a targeted evaluation of the program, focusing on key metrics such as gross and net savings as well as program process and performance, to assess achievements relative to goals from an overall programmatic perspective.

2.1 Program overview

Per the Foodservice Program Implementation Plan (PIP), the program works with midstream market actors to offer point-of-sale incentives to end users with a non-residential rate. By partnering with commercial foodservice equipment dealers, manufacturers, distributors, and contractors who make sales directly to end users, program participants promote and upsell eligible energy saving technologies, or measures, by offering their end users the incentive as a discount on their sales invoice. Thus, the program has a midstream design by providing incentives to participating market actors who sell foodservice equipment, and the market actors are asked to pass on program incentives to the end user and show the rebate amount on the sales invoice. Participating end users can therefore directly benefit from the program through the reduced cost of the incentivized equipment without having to fill out additional paperwork to receive that incentive (which would occur in a downstream program). In addition to receiving incentives for eligible foodservice equipment, participating market actors also receive sales incentives to encourage staff to promote the program. Program sales occur directly between the participating market actors and end users. There are no intermediary market actors (e.g., contractors) between the foodservice equipment sellers and end users. Locally owned and chain restaurants are the primary utility customers (end users) that the program targets.[22] However, commercial end users at hotels, grocery stores, educational institutions, and hospitals are also eligible to purchase foodservice equipment through the program.[23] For further details on participation by business type, see Section 6.7.1.

For PY 2021, the delivery model of the program shifted from independently run Program Administrator (PA) programs to a single statewide model covering the service territories of four investor-owned utilities (IOUs) – Pacific Gas & Electric (PG&E), Southern California Edison (SCE), Southern California Gas Company (SCG), and San Diego Gas & Electric (SDG&E). As such, a designated lead PA is responsible for engaging a third-party program implementer to deliver the program uniformly across the service territories of the IOUs. SCG is the lead PA responsible for the Foodservice program.

The program aims to overcome barriers in the foodservice market to specify, stock, and sell high-efficiency natural gas fired and electric foodservice equipment to commercial customers in California. The program works with multiple foodservice market sales channels that service various customer segments. The PIP identifies four of these sales channels and their estimated market size.[24]

1. **Cash and Carry** (~25% of the market): Cash and carry dealers sell restaurant supplies, equipment, and in some cases food. They commonly have a showroom/store, make same-day sales, and stock lower-priced equipment.
2. **Design/Build** (~45% of the market): Design/Build dealers design and build facilities that have food service equipment. They target new construction, re-designs, large projects, and chain facilities. They commonly do not stock equipment or have a showroom.
3. **Manufacturer Direct** (~20% of the market): Manufacturers make sales directly to customers and sales through specialty and high-volume kitchen equipment suppliers and general purchase organizations.

[22] Program Implementation Plan. California Foodservice Instant Rebates Program Implementation Plan. 2021. p. 4.
[23] Ibid. p. 7
[24] Ibid. p. 6.

4. **Online** (~10% of the market): Online dealers sell equipment and supplies through an online web portal. Online is the fastest growing sales channel.

According to the PIP, the program includes both foundational and innovative midstream and point of sale implementation and engagement strategies to elevate the program model to foster greater market participation across diverse customer segments.

The program's primary goals are to deliver energy savings to the California IOUs and to foster and sustain market adoption of high-efficiency food service equipment. To support these goals, the program has the following objectives.[25]

1. Increase the available stock of high-efficiency equipment so that these models are available to customers for quick replacement situations
2. Influence participants to integrate energy efficiency considerations into their sales processes and upsell high-efficiency equipment
3. Influence other market actors (franchisors, manufacturer representatives, manufacturers, design consultants) to integrate energy efficiency considerations into their equipment specification, sales, and promotional techniques
4. Increase opportunities for customers to receive rebates on high-efficiency equipment
5. Support market adoption of new, high-efficiency technologies
6. Increase adoption of high-efficiency equipment among hard-to-reach ("HTR") and disadvantaged communities ("DAC") customers
7. Increase awareness of high-efficiency equipment options and benefits in the commercial foodservice market
8. Influence equipment manufacturers to develop new high-efficiency models and technologies
9. Manage and maintain California Energy Wise ("CEW") website and resources
10. Coordinate quarterly Foodservice Executive Planning Meetings
11. Support the maintenance and expansion of the qualified product list ("QPL") through equipment testing and the development of test methodologies and new measures

2.2 Evaluation objectives

The research objectives that this evaluation aims to address are:

- What are the ex-post gross savings[26] for the Foodservices program?
- What are the ex-post net savings for the program?
- What is the evaluability of the program compared to previous midstream/upstream foodservices programs run by PAs before 2021?
- To what extent is the program serving hard-to-reach (HTR) customers and disadvantaged communities (DACs)?
- To what extent are participating distributors and end users satisfied with the program?
- To what extent are there opportunities for program improvements?
- Is the program effectively serving customers and realizing savings consistently across the four participating IOU service territories?
- Is it more efficient to run a midstream foodservices program using a statewide model through a third-party implementer rather than operating them locally through separate IOUs?
- Is there any market confusion with distributors enrolled in multiple programs or purchasing similar equipment offered by different programs?

[25] Ibid. p. 5.

[26] We refer to expected program savings as ex-ante savings and evaluated program savings as ex-post savings.

We discuss which data sources and research activities inform the above research questions in Section 3.

2.3 Program savings overview

Table 2-1 shows the reported number of energy efficient foodservice claims made through the program in PY 2021, along with the associated energy savings. The table shows first year gross and net kW and kWh savings, lifecycle net kWh savings, first year gross and net therm savings, and lifecycle net therm savings for the Foodservice program for each IOU service territory for PY 2021.

Table 2-1. Reported savings claims by IOU service territory, PY 2021

PA	Claims[27]	First year kW		First year kWh		Lifecycle net kWh	First year therm		Lifecycle net therms
		Gross	Net	Gross	Net		Gross	Net	
PG&E	**2,617**	151	91	730,077	440,976	5,205,844	462,466	278,597	3,342,263
SCE		136	82	659,371	398,269	4,701,675	0	0	0
SCG		0	0	0	0	0	383,553	231,059	2,771,956
SDG&E		53	32	254,869	153,944	1,817,356	71,572	43,116	517,255
Total		**340**	**205**	**1,644,318**	**993,190**	**11,724,874**	**917,592**	**552,772**	**6,631,474**

Table 2-2 shows the reported number of claims, gross kW and kWh savings, and gross therm savings for the Foodservice program by measure type for PY 2021. Steamers (23%), convection and combination ovens (22%), refrigerators and freezers (18%), and griddles (17%) accounted for the largest share of electric (kWh) savings. Fryers accounted for the vast majority of the program's reported gross gas (therms) savings at 81%, while convection and combination ovens accounted for 14% of the gross gas savings.

Table 2-2. Reported first year gross savings by measure, PY 2021

Measure name	Claims	Gross kW	Gross kWh	Gross therms
Fryers	1,455	0	0	747,791
Refrigerators & freezers	512	33	297,196	-1,485
Ovens (convection & combination)	335	76	356,341	131,873
Ice machines	107	9	87,658	0
Griddles	103	57	279,786	379
Steamers	38	120	383,801	8,855
Hot food holding cabinets	24	10	35,118	0
Ovens, gas	15	0	0	18,711
Dishwashers	11	4	20,528	825
Ovens, electric	6	19	90,228	0
Exhaust hoods	5	2	22,115	505
Conveyor broilers	3	10	71,547	9,484
Underfired broilers	3	0	0	653
Total	**2,617**	**340**	**1,644,318**	**917,592**

[27] Although total program claims in CEDARS sums to 2,623, six claims have no associated savings and are therefore dropped from total counts throughout this report.

Table 2-3 shows the reported first year net kW and kWh savings, and net therm savings for the Foodservice program by measure type for PY 2021. Steamers and convection and combination ovens accounted for 23% and 22%, respectively, of the reported first year net kWh savings. Fryers accounted for 81% of the net therm savings.

Table 2-3. Reported first year net savings by measure, PY 2021

Measure name	Claims	Net kW	Net kWh	Net therms
Fryers	1,455	0	0	448,768
Refrigerators & freezers	512	20	180,104	-891
Ovens (convection & combination)	335	46	213,805	81,203
Ice machines	107	5	53,114	0
Griddles	103	34	167,872	228
Steamers	38	72	230,281	5,313
Hot food holding cabinets	24	7	24,275	0
Ovens, gas	15	0	0	11,227
Dishwashers	11	3	13,406	538
Ovens, electric	6	11	54,137	0
Exhaust hoods	5	1	13,269	303
Conveyor broilers	3	6	42,928	5,690
Underfired broilers	3	0	0	392
Total	**2,617**	**205**	**993,191**	**552,771**

2.4 Report organization

We have organized the remainder of this report as follows (Table 2-4).

Table 2-4. Report organization

Section	Description
3	**DATA SOURCES** Details the data sources used to support the evaluation.
4	**GROSS SAVINGS ANALYSIS** Provides an overview of gross savings methods and results.
5	**NET SAVINGS ANALYSIS** Provides an overview of net savings methods and results.
6	**PROGRAM PROCESS AND PERFORMANCE** Includes programmatic findings such as insights into program design, outreach, and influence, market effects, overall program satisfaction, program process characteristics, and participant characterization details.
7	**CONCLUSIONS AND RECOMMENDATIONS** Provides the evaluation's conclusions and recommendations.

Section	Description
8	**APPENDICES** **8.1 A:** Standardized, high-level program savings data **8.2 B:** Standardized per unit savings **8.3 C:** Standardized recommendations **8.4 D:** Stratified sampling design **8.5 E:** Measure-level distributor and end user survey results **8.6 F:** Data collection instruments used for distributor and end user surveys

3 DATA SOURCES

This section discusses the various data sources the evaluation team used to inform the evaluation of the PY 2021 Foodservice statewide program. Table 3-1 below shows the research activities and data sources aligned with the evaluation's research questions. We provide further details on each source in the following subsections.

Table 3-1. Statewide third-party programs research questions

Research question	Research activities / data source				
	Program tracking data	Distributor survey	End user survey	Program staff interview	Implementer interview
What are the ex-post gross savings for the Foodservices program?	•		•		
What are the ex-post net savings for the program?	•	•			
What is the evaluability of the program compared to previous midstream/upstream foodservices programs run by PAs prior to 2021?	•			•	•
To what extent is the program serving hard-to-reach (HTR) customers and disadvantaged communities (DACs)?	•		•		
To what extent are participating distributors and end users satisfied with the program?		•	•		
To what extent are there opportunities for program improvements?		•	•		
Is the program effectively serving customers and realizing savings consistently across the four participating IOU service territories?	•			•	•
Is it more efficient to run a midstream foodservices program using a statewide model through a third-party implementer rather than operating them locally through separate IOUs?		•		•	•
Is there any market confusion with distributors enrolled in multiple programs or purchasing similar equipment offered by different programs?		•			

3.1 Program tracking data

The lead PA, SCG, uploads data for each claim associated with the Foodservices program into the California Energy Data and Reporting System (CEDARS) on a quarterly basis. CEDARS is a public tracking database that includes program data on annual budget filings, quarterly energy savings claims, and monthly report summaries for each IOU participating in the program. The energy savings reported in the CEDARS tracking database is the starting point for the impact evaluation as this represents the energy savings expected from the program before calculating the evaluated savings.[28] Section 4 describes how the program tracking database is used for the gross savings analysis.

3.2 Program staff interview

DNV's evaluation team conducted a program staff interview for the Foodservices program on October 4, 2022. Interviewees included the Foodservices program manager from SCG (the lead PA for the program), a manager for all statewide programs

[28] We refer to expected program savings as ex-ante savings and evaluated program savings as ex-post savings.

from SCG, and a representative from PG&E. As discussed in Section 2.1, SCG was responsible for overseeing the implementation of the program and the third-party program implementer, Energy Solutions. Most interview questions were directed to the program managers from SCG, but the evaluation team also asked questions of the representative from PG&E to better understand the role of non-lead IOUs and their interactions with SCG. The primary purpose of the interview was to gain a fuller understanding of the program and the roles of program staff and to gain insight into how well the program ran in its first year under the statewide third-party model. We detail key takeaways from the program staff interviews in Section 6.1.

3.3 Implementer interview

DNV conducted the implementer interview for the Foodservices program with the program's managers at Energy Solutions on October 25, 2022. Both managers were actively involved with launching the statewide program at its inception and continue to manage the program as of PY 2022. The primary purpose of the implementer interview was to gain a fuller understanding of the program design, implementation of the program, quality control processes in place, and marketing and outreach conducted for the program. We detail key findings from the program implementer interview in Section 6.1 and 6.2.

3.4 Distributor survey

From November 2022 to December 2022, DNV implemented web- and phone-based surveys with distributors who participated in the PY 2021 Foodservices program. The primary objective of the survey was to inform net savings estimates and to assess program performance and design. Data collected from these surveys provided information on program satisfaction, potential market confusion, and process-related feedback.

Responses to the surveys were captured via a data collection tool designed and deployed through Form.com. DNV adopted proven best practices in fielding these surveys, including:

- Using a unique traceable hyperlink with custom information for each distributor including the anonymized IDs and key measures of interest
- Providing distributors with a link to validate the legitimacy of the survey effort
- Cobranding web surveys with the CPUC logo
- Contacting non-respondents up to six times via email, phone asking them to complete the survey
- Providing all respondents with the option to opt-out of the survey and opt-out of receiving an incentive

Further details on the survey methods are included in Section 5.2. Results from the distributor surveys are summarized in Sections 5.3 (Net savings results) and Section 6 (Program process and performance). Appendix F provides the survey instrument used to collect information for this survey.

3.5 End user survey

From November 2022 to January 2023, web- and phone-based end user surveys were deployed by DNV and GC Green. The responses to this survey helped inform gross savings results by evaluating to what extent the program equipment was installed and operating. The survey data also helped support secondary research questions by providing information on program satisfaction and process-related feedback. Additional questions were asked to evaluate participant characteristics, such as respondent firmographics that helped determine the proportion of hard-to-reach customers that participated in the program.

Responses to the surveys were captured via a data collection tool designed and deployed through Form.com. Each end user respondent was offered a $30 Amazon e-gift card for participating in the survey. Beyond the incentive offerings, DNV adopted the same proven best practices in fielding these surveys as outlined in Section 3.4.

Further details on the survey sample design are included in Section 5.2.1. Results from the end user surveys are summarized in Sections 4.3 (Net savings results) and Section 6 (Program process and performance). Appendix D provides detailed sample design information while Appendix F provides the survey instrument used to collect information for this survey.

4 GROSS SAVINGS ANALYSIS

4.1 Overview

This section presents evaluated energy (kWh and therm) and demand (kW) savings from program installations in PY 2021. Evaluated gross savings are based on the validation of the measure package applications used to claim program measure savings and the verification of measures installed by the programs. To develop the program's gross realization rate (GRR), or the ratio of evaluated savings to the original claimed savings without any adjustments for program influence, measures were organized into measure packages and matched with corresponding savings permutations from the Database of Energy Efficiency Resources (DEER). DNV engineers aligned individual claim characteristics with DEER permutations, which allowed for a direct comparison of savings claims between the two sources, tracking data claims and approved deemed savings values. To assess program installations, DNV also conducted telephone surveys with participating end users. End users were asked questions to confirm the incentivized equipment was installed and is still operating. If participants reported the equipment is not installed or operating, DNV probed to determine the reasons why that was the case. Telephone participant surveys were also used to estimate program attribution for installed measures using NTGRs and to what extent these claims penetrated the HTR and DAC. These ratios were applied to evaluated gross savings to generate estimates of net savings.

4.2 Methods

To determine the evaluated gross savings estimates for the program, DNV reviewed reported claim-level details to ensure reported savings were estimated correctly. The process involved the following steps:

Tracking data processing: DNV standardized, cleaned, re-categorized, and re-aligned the datasets according to the corresponding workpaper and measure package within DEER.

Measure package consolidation: Evaluators then identified program participation at the claim-level in the CEDARS tracking data and applied the appropriate measure package from DEER.

Measure parameter assignment: The measure savings in the DEER measure package were assigned according to the various combination of claim characteristics such as *Measure Application Type*, *Climate Zone*, and *Delivery Type*.

Engineering analysis: Once aligned, DNV compared the savings claims in the CEDARS tracking data to the measure savings in DEER to identify any potential discrepancies.

Table 4-1 shows the measure parameters mapping that DNV used to compare claimed measure packages in CEDARS with DEER permutations.

Table 4-1. Measure parameters mapping between CEDARS packages and DEER permutations

Item description	CEDARS	DEER
Workpaper ID containing measure	SourceDesc	Source Description
Measure Offering ID number	Offering ID	Offering ID
Identification of the context for the measure's installation/application ***(e.g., accelerated replacement, new construction, or behavioral)***	MeasAppType	Measure Application Type
Identification of a program implementation strategy or method of delivering a measure to a customer ***(e.g., direct install)***	DeliveryType	Delivery Type

Item description	CEDARS	DEER
Measure-level sector conforming to the sectors listed in DEER	DEER_Sector	Sector
Text codes identifying the building type and other parameters specific to a building's use ***(e.g., "Com" = Commercial buildings)***	BldgType	Building Type
Standard ExAnte Building Vintage	BldgVint	Building Vintage
Standard ExAnte Building Location/Climate Zone	BldgLoc	Building Location

4.3 Results

4.3.1 Reported savings review

Table 4-2 summarizes the findings of the program's gross savings analysis while Table 4-3 shows the gross realization rates by measure package and the program overall. As shown, few measures have discrepancies between savings reported in the CEDARS tracking data and the savings found in the corresponding DEER measure package permutation, and only one of the measures showed a significant discrepancy—ultra-low temperature freezers. In general, the most common differences between the program tracking data and DEER are due to the incorrect selection of building vintage and the related DEER building sector in the tracking data.

Table 4-2. Summary of claimed and evaluated gross savings, PY 2021

Measure ID	Measure description	Claims	Sum of claimed gross (kW)	Sum of evaluated gross (kW)	Sum of claimed gross (kWh)	Sum of evaluated gross (kWh)	Sum of claimed gross (therms)	Sum of evaluated gross (therms)
SWCR017-02	Ultra-Low Temperature Freezer, Commercial	9	9	7	78,045	62,960	-1,485	-1,713
SWCR018-02	Reach-In Refrigerator or Freezer, Commercial	503	24	25	219,151	219,087	0	0
SWFS001-02	Convection Oven, Commercial	284	8	8	23,506	23,520	89,571	89,726
SWFS002-02	Door-Type Dishwasher, Commercial	1	1	1	3,168	3,170	185	188
SWFS003-01	Combination Oven, Commercial	51	68	68	332,835	332,800	42,302	42,280
SWFS004-01	Griddle, Commercial	103	57	57	279,786	280,630	379	378
SWFS005-02	Steamer, Commercial	38	120	120	383,801	383,760	8,855	8,890
SWFS006-01	Ice Machine, Commercial	107	9	9	87,658	87,641	0	0
SWFS007-02	Insulated Hot Food Holding Cabinet, Commercial	24	10	10	35,118	35,166	0	0

Measure ID	Measure description	Claims	Sum of claimed gross (kW)	Sum of evaluated gross (kW)	Sum of claimed gross (kWh)	Sum of evaluated gross (kWh)	Sum of claimed gross (therms)	Sum of evaluated gross (therms)
SWFS009-01	Deck Oven, Electric, Commercial	6	19	19	90,228	90,240	0	0
SWFS011-03	Fryer, Commercial	1,455	0	0	0	0	747,791	747,791
SWFS012-01	Exhaust Hood Demand Controlled Ventilation, Commercial	5	2	2	22,115	22,100	505	505
SWFS014-02	Rack Oven, Gas, Commercial	15	0	0	0	0	18,711	18,720
SWFS017-02	Automatic Conveyor Broiler, Commercial	3	10	10	71,547	71,400	9,484	9,480
SWFS018-01	Undercounter Dishwasher, Commercial	5	2	2	10,894	10,872	435	434
SWFS018-03	Undercounter Dishwasher, Commercial	5	1	1	6,466	6,480	204	216
SWFS019-02	Underfired Broiler, Commercial	3	0	0	0	0	653	654
Grand Total		**2,617**	**340**	**339**	**1,644,318**	**1,629,826**	**917,592**	**917,549**

Table 4-3. Summary of gross realization rates, PY 2021

Measure ID	Measure description	Claims	kW gross realization rate (GRR)	kWh gross realization rate (GRR)	Therms gross realization rate (GRR)
SWCR017-02	Ultra-Low Temperature Freezer, Commercial	9	81%	81%	115%
SWCR018-02	Reach-In Refrigerator or Freezer, Commercial	503	104%	100%	-
SWFS001-02	Convection Oven, Commercial	284	100%	100%	100%
SWFS002-02	Door-Type Dishwasher, Commercial	1	100%	100%	101%
SWFS003-01	Combination Oven, Commercial	51	100%	100%	100%
SWFS004-01	Griddle, Commercial	103	100%	100%	100%
SWFS005-02	Steamer, Commercial	38	100%	100%	100%
SWFS006-01	Ice Machine, Commercial	107	100%	100%	-
SWFS007-02	Insulated Hot Food Holding Cabinet, Commercial	24	100%	100%	-
SWFS009-01	Deck Oven, Electric, Commercial	6	100%	100%	-
SWFS011-03	Fryer, Commercial	1,455	-	-	100%
SWFS012-01	Exhaust Hood Demand Controlled Ventilation, Commercial	5	100%	100%	100%
SWFS014-02	Rack Oven, Gas, Commercial	15	-	-	100%
SWFS017-02	Automatic Conveyor Broiler, Commercial	3	100%	100%	100%
SWFS018-01	Undercounter Dishwasher, Commercial	5	101%	100%	100%
SWFS018-03	Undercounter Dishwasher, Commercial	5	100%	100%	106%
SWFS019-02	Underfired Broiler, Commercial	3	-	-	100%

Measure ID	Measure description	Claims	kW gross realization rate (GRR)	kWh gross realization rate (GRR)	Therms gross realization rate (GRR)
Grand Total		**2,617**	**100%**	**99%**	**100%**

In summary, DNV's gross savings analysis highlighted the following key takeaways:

- **Claimed Unit Energy Savings (UES) match DEER permutations**: Based on the parameters defined for each claim in the CEDARS data, the corresponding DEER permutation savings values match within 0.5%. This is true for the following measure packages:
  - Underfired Broiler, Commercial (SWFS019-02)
  - Rack Oven, Gas, Commercial (SWFS014-02)
  - Automatic Conveyor Broiler, Commercial (SWFS017-02)
  - Exhaust Hood Demand Controlled Ventilation, Commercial (SWFS012-01)
  - Fryer, Commercial (SWFS011-03)
  - Deck Oven, Electric, Commercial (SWFS009-01)
  - Steamer, Commercial (SWFS005-02)
  - Griddle, Commercial (SWFS004-01)
- **Claimed building types not found in DEER:** A small number of claims have unverified savings. This is due to the lack of DEER permutation savings assignments for the CEDARS-claimed IFP-Food Processing and RSD-Restaurant-Sit-Down building types. This caused a 19% reduction in the evaluated energy savings (kWh) and demand (kW) and a 15% reduction in therms saving for the following measure package:
  - Ultra-Low Temperature Freezer (SWCR017-02)
- **Incorrect climate zone:** For several of the food service program supporting measure packages, the DEER savings permutations vary by climate zone (CZ). DNV aligned the individual claimed zip codes with their corresponding climate zones to determine the correct DEER permutation EUS for each claim. This revealed that CEDARS claims in the two measure package categories listed below had sourced savings for the wrong climate zone for some of the claims.
  - Ultra-Low Temperature Freezer, Commercial (SWCR017-02)
    - All claims sourced savings for CZ 9 but zip codes span CZs 3, 7, 9, and 10
  - Undercounter Dishwasher, Commercial (SWFS018-03)
- **Claimed Unit Energy Savings rounding error:** The claimed (UES) values found in the CEDARS differ slightly from the DEER permutation UES savings values. This error for which DNV attributed to rounding of the UES value impacted the following measure packages:
  - Undercounter Dishwasher, Commercial (SWFS018-01)
  - Door-Type Dishwasher, Commercial (SWFS002-02)
  - Reach-In Refrigerator or Freezer, Commercial (SWCR018-02)
- **Effective Useful Life and Remaining Useful Life (EUL/RUL)**: There were no discrepancies found between the claimed EULs and RULs found in CEDARS and what is listed in DEER.

4.3.2 Incentive levels

Overall, the program did a good job of ensuring that incentives covered a large share (>50%) of the incremental measure cost for most measures. There were some notable exceptions, however, which included relatively low incentives for reach-in refrigerators or freezers (SWCR018-02) and insulated hot food holding cabinets (SWFS007-02), which were 40% and 37% of their incremental measure cost, respectively. We recommend increasing incentive amounts for these measures and updating the incremental measure cost assumption sources to ensure that they are up to date.

4.3.3 Measure installations

To assess program installations, DNV also conducted web- and phone-based surveys with participating foodservice end users. End users were asked to verify if the incentivized equipment was installed and, if the equipment was not, the reasons why the equipment was not installed. End users' survey responses verified that the program was working as intended, with 99% of the program rebated equipment verified as installed during PY 2021.[29] The remaining 1% of the program measures was associated with a fryer measure that the end user reported was never installed. Figure 8-1 in Appendix E provides a detailed measure-level breakout of these results.

Given that nearly 100% of the equipment that end users purchased was installed in PY 2021, we did not make any adjustments to the reported installation rate for the program.

[29] One end user respondent reported installing their program rebated oven equipment after the installation date provided in the tracking data, although they verified that it was installed at a later date that was within the PY 2021 evaluation window. Therefore, this did not negatively impact the overall installation rate of 99%.

5 NET SAVINGS ANALYSIS

5.1 Overview

Net savings are the gross savings minus energy savings attributed to end users who would have purchased program-qualifying equipment without the program incentives. The “net-to-gross ratios” are the proportions of program gross savings, or the proportions of a program’s subcomponents (e.g., energy efficiency measures) gross savings, that are attributable to program influence.

5.2 Methods

In this section, DNV describes the methods used to evaluate the net savings of the PY 2021 Foodservice program. This includes a discussion of the sampling methodology used for the distributor and end user surveys, as well as a summary of the methodology used to estimate net savings estimates. Details of the stratified sampling are provided in Appendix F: Data collection instruments

5.2.1 Sample design

We requested the list of distributors and list of end users that participated in the Foodservice program in PY 2021 from SCG. The dataset included information to map each program claim to the distributor and end user responsible for the sale and purchase of the program equipment associated with that claim. This allowed the team to determine the total number of claims and associated energy savings for each distributor and end user. The sample design approach we used ensured that the samples (units from the full populations or sample frames) that were drawn were representative and provided estimates that achieved a target relative precision for a defined confidence level.

To develop the sample frame for primary data collection, we used a stratified sampling approach. We selected sample units for study from groups of interest (e.g., sector and measure group) stratified by savings and measured in MMBtu, which is the sum of kWh and therm savings converted to a common unit of measure. We then estimated appropriate sample sizes for each program to achieve the targeted relative precision (±10%) at a desired level of confidence (90%). After we determined the required sample sizes, we chose primary sample points from the population based on the stratification plan. In addition, we selected a backup sample in case any sample points needed to be replaced. Replacement sample points are needed when a distributor or end user in the primary sample cannot be reached or refuses to be interviewed.

Table 5-1 below shows the total number of participating distributors and their associated first year gross savings. There was a total of 61 unique Foodservice Distributors. Our sample design targeted the largest 15 distributors, which represented 83% of the Foodservice program’s gross savings.

Table 5-1. Foodservice distributor population and gross savings summary

Distributors	First year gross savings (kWh)	First year gross savings (therms)	First year gross savings (MBtu)
61	1,655,087	918,717	108,813

Table 5-2 shows the targeted and achieved sample for the distributor survey. The completed Foodservice distributors surveys represent 36% of the distributor population and 73% of the program’s first year gross savings.

Table 5-2. Foodservice distributors: targeted sample and achieved completed surveys

Distributor population	Distributor completes targeted	Distributor surveys completed	Achieved completed surveys		
			Percent of distributors	First year savings (MBtu)	Percent of first year savings (MBtu)
61	15	22	36%	79,706	73%

Table 5-3 shows the population of participating end users along with the total program savings associated with them. There was a total of 2,612 unique end users in the population. For the end user sample design, we flagged end users as either DAC customers or non-DAC customers and divided each group into up to 3 measure categories, Fryers, Ovens, and everything else which is denoted as "Other." Stratification of the domains ranged from one to three strata, which was based on the variability of first year MBtu savings and the number of sample points allocated to the domain. A more detailed summary of the sample design appears in Appendix E.

Table 5-3. Foodservice end user population and savings summary

End users	First year gross savings (kWh)	First year gross savings (therms)	First year gross savings (MBtu)
2,612	1,655,087	921,433	109,085

Table 5-4 shows the targeted and achieved sample for the end users. The completed Foodservice end user surveys represent 3% of the end user population and 6% of the first year gross program savings associated with the end users.

Table 5-4. Foodservice end user: targeted and achieved completed surveys

End user population	End user completes targeted	End user surveys completed	Achieved completed surveys		
			Percent of end users	First year gross savings (MBtu)	Percent of first year gross savings (MBtu)
2,612	75	86	3%	6,402	6%

5.2.2 Net impact evaluation approach

As noted above, net savings estimates are the proportion of gross savings that can be attributed to the program. This study examined the influence of the program on installed measures to understand what percentage of the installations would have occurred in the absence of the program.

We assessed net savings at the program- and measure-level based on distributor responses to the following questions. Each respondent was asked about the sale of up to three measure groups.[30] Distributors were asked the following questions to help quantify program influence:

- "In 2021 the Foodservice Instant Rebate program offered your company incentives, marketing, outreach, and training for each [Measure type] unit sold. If the program did not exist, do you think your sales of high-efficiency units sold in 2021 would have been about the same, lower, or higher?"
- "Approximately what percent lower or higher do you estimate sales would be of [Measure type] if the program did not exist?"

All respondents who said their sales would have been the same without the program received an "attribution score" of 0, as these responses indicate the program had no influence on their sales. If they responded "Lower" and provided a valid response (%) estimating their decrease in sales, then they were assigned attribution based on the percent (e.g., if a respondent answered question 1 with "Lower," and answered question 2 with 20, their attribution score would be 0.2 or 20%). A couple of respondents answered "Lower" but did not provide an approximate percentage. In these cases, we imputed the missing values using the MMBtu savings-weighted attribution scores of all respondents who had answered "Lower" and had also provided an estimated percentage for the decline in sales.

We calculated net-to-gross ratios based on the distributor attribution scores to allow for estimates of net energy (kWh, therm, and combined MMBtu) savings using a stratified ratio estimation approach. The ratios were calculated according to the following formula:

Equation 1. Net-to-gross ratio calculation

$$\widehat{B} = \frac{\sum_{i=1}^{n} w_i y_i}{\sum_{i=1}^{n} w_i x_i}$$

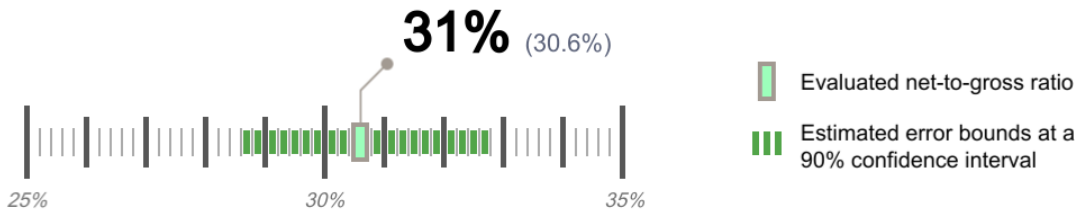
In this equation, x_i is the ex-ante (reported) first year gross savings, y_i is the product of the attribution score discussed above and the ex-ante gross savings, and w_i is the respondent case weight, which is equal to the inverse of the inclusion probability discussed in Appendix D: Stratified sampling. The resulting net-to-gross ratios were then implicitly weighted by respondent gross savings and explicitly weighted using the case weights as an expansion variable. The statistical precision of the net-to-gross ratios was calculated based on the above statistic.

5.3 Results

The evaluation determined a net-to-gross ratio of 31% (30.6%) for the Foodservices program, with an error bound of 2.0% at the 90% confidence level. Evaluation results determined that over two-thirds (69%) of the program savings would have occurred without the program (Figure 5-1).

[30] A respondent's top 3 measures were selected according to the share of a respondent's total savings that were accounted for by each measure group.

Figure 5-1. Program-level net-to-gross ratio



Distributor survey results helped to determine the low net-to-gross ratio for the program in PY 2021. When we asked distributor survey respondents about their program-incentivized equipment that was sold in 2021, 28% of distributors[31] stated their sales of equipment would have been the *same* even if the program did not exist. We then asked respondents why their sales would have remained the same without the program. Below is a selection of quotations that capture the core themes of the survey responses:

- *"Ice machines have suffered from lengthy product delays sometimes 3 or more months waiting for inventory to deliver. Also, the ice machine rebate is quite low considering the cost of the item. Our customers generally need ice machines to run their business properly so rebate or not, if they need an ice machine and we have one in stock, they will purchase it. Rebates should be increased if hoping to make an impact in this category."*
- *"People come in and would have needed it without the incentive. Not a huge incentive amount."*
- *"The rebate offered is quite low considering the cost of the item, most refrigerators are $1,000 plus. Rebates should be increased if looking to make an impact on this category."*

When asked about their program-incentivized equipment sold in 2021, 72% of distributors said that their sales would have been lower without the program. Of these, 12% said their sales would have been lower but did not provide an approximate percentage. These missing values were filled according to the imputation strategy outlined in Section 5.2.2.

Table 5-5 shows the evaluated net-to-gross ratios for each measure group in the program and for the program overall.[32] While some of the individual measure groups had small sample sizes relative to the population (marked with asterisks in the table below), the results for these smaller measure groups were included to show the consistency of the survey responses. Net-to-gross ratios for individual measure groups ranged from about 10% to 30%, not counting a few measure groups that were outliers due to small measure sample sizes. The population (N) displayed in the table refers to the distributor population for each measure group. A finite population correction factor was applied as a variance reduction calculation to account for small population sizes within measure groups. Although some measure groups had small sample sizes, the sample of distributors that were surveyed accounted for a majority of gross savings (73%) claimed by the program (Table 5-2), so we can be confident that our results reflect program population net-to-gross savings.

Although we are confident about each of our estimates to be within 8% or less, the associated relative precision values do not reflect the level of precision in our estimates. The relative precision, or the size of the error bound relative to the size of the evaluated net-to-gross ratio, is large for several estimates due to the low magnitude of the evaluated net-to-gross ratios. To better display the confidence achieved in our results, Table 5-5 also shows the associated relative precision of the free-

[31] Section 5.2 of the report details how distributor survey results were weighted by gross savings and case weights to calculate the program-level net-to-gross ratio.
[32] Measures that had no associated responses were omitted.

ridership ratios,[33] which are the inverse of net-to-gross ratios, which demonstrate that the program has a high free-ridership rate.

Table 5-5. Measure-level net-to-gross ratio (NTGR) [34]

Measure	Population (N)	Sample (n)	Combined MMBtu		
			NTGR	NTGR Relative Precision	Free-Ridership Relative Precision
Dishwasher	8	3	36.8%	14.6%	8.5%
Griddle	5	3	14.7%	41.1%	7.1%
Ice Machine	20	8	13.4%	18.9%	2.9%
Kitchen Exhaust	4	2	86.6%	5.9%	38.5%
Oven	37	12	30.0%	11.2%	4.8%
Steamer	11	7	31.3%	5.7%	2.6%
Fryer*	39	7	31.1%	13.1%	5.9%
Refrigerator*	27	4	7.2%	95.3%	7.4%
Freezer*	22	5	13.0%	64.4%	9.7%
Overall	**173**	**51**	**30.6%**	**6.6%**	**2.9%**

**Due to small sample sizes at the measure level, the results are not statistically representative.*

Table 5-6 shows the evaluated net savings for the Foodservice program. We calculated these results based on the gross realization rates determined in Section 4.3 and the net-to-gross ratios determined above. More specifically, the evaluated net savings were calculated by multiplying the program's total evaluated gross savings by the program-level net-to-gross ratio.

Table 5-6. Evaluated net savings

Program	Evaluated net kWh savings	Evaluated net kW savings	Evaluated net therms savings
Foodservice Instant Rebates	509,817	109	269,345

5.4 Cost effectiveness and total system benefit

The evaluators calculated the program's cost effectiveness (CE) based on evaluated savings using the Cost Effectiveness Tool (CET) available on the CEDARS website. Table 5-7 summarizes the evaluated PY 2021 Foodservice Instant Rebates program electric and gas savings benefits and the total resource costs associated with these benefits.

Table 5-7. Evaluated program benefits and costs, PY 2021

Program	Electric benefit	Gas Benefit	Program TRC cost
Foodservice Instant Rebates	$302,767	$3,184,780	$9,838,204

[33] Free-ridership refers to the proportion of end users who would have purchased and installed the same foodservice equipment in absence of the program. They are referred to as free-riders because they are receiving benefits from programs for actions they would have taken without the programs' existence. Net savings estimates remove or "net out" these free-riders' savings.

[34] DNV does not recommend making program decisions based of the NTG of measures marked with asterisks and displayed in light grey text. These measures were based on small sample sizes relative to the population and are not expected to accurately represent the program population.

The ratio of the combined benefits to the total resource cost quantifies the cost effectiveness of the programs and is summarized by the total resource cost (TRC) ratio.[35]

We compared the evaluated TRC values with claimed TRC values for the Foodservice Instant Rebate program filed in CEDARs. We present these values in Figure 5-2. The claimed TRC ratio is 0.71, and the evaluated TRC ratio is about half of the claimed ratio.

Figure 5-2. Claimed and evaluated TRC ratios, PY 2021

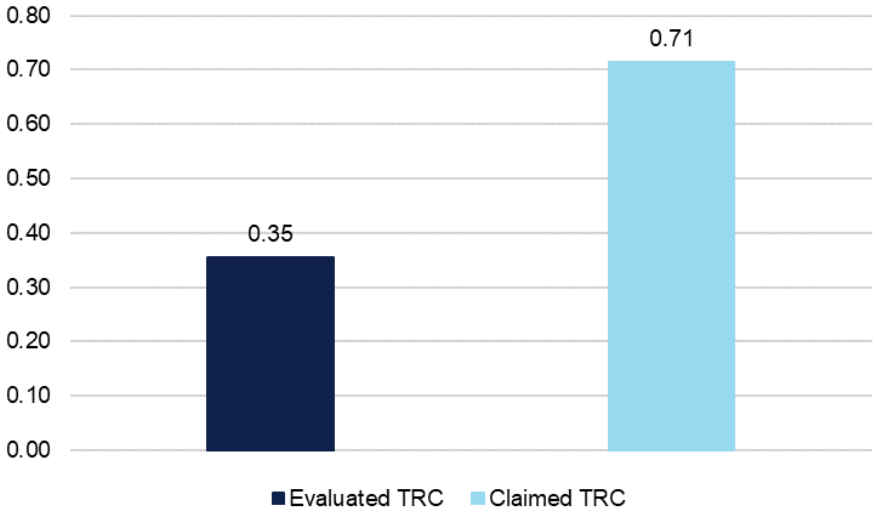


Table 5-8 shows the total system benefits (TSB) for the Foodservice Instant Rebates program. The evaluated gas system TSB realization rate was higher for gas compared to electric. The program had an overall realization rate of 50% for TSB.

Table 5-8. Total system benefits of Foodservice program, PY 2021

	Claimed	Evaluated	Realization Rate
Electric	$1,062,509	$302,767	28%
Gas	$5,971,367	$3,184,780	53%
Total	$7,033,876	$3,487,547	50%

35 The Total Resource Cost (TRC) Test is a measure of cost-effectiveness that compares the net benefit of programs to their net cost. https://docs.cpuc.ca.gov/published/FINAL_DECISION/105926-03.htm

6 PROGRAM PROCESS AND PERFORMANCE

6.1 Program design

During the program staff interview, DNV asked program staff interviewees to give an overview of the Foodservice program and describe their roles and responsibilities. SCG is responsible for overseeing the third-party implementer, Energy Solutions, and making sure the program is compliant with rules and regulations. The non-lead IOUs' program staff are responsible for remitting monthly payments as co-funders of the program, monitoring energy savings forecasts resulting from program activity, and participating in monthly meetings with SCG to track program progress. Energy Solutions also holds quarterly meetings with SCG, which the non-lead IOUs are invited to.

According to the SCG program manager, the statewide design for the Foodservices program has helped increase participation due to the involvement of national market actors and the expansion of the program into most of California. Prior to the statewide program rollout, the SCG ran its own local program in a more confined geographic region. The SCG program manager feels that this model helps improve product selection and customer access to energy efficient foodservice equipment while reducing the spending burden incurred by each IOU, which formerly were responsible for running their own programs individually. This model is also beneficial to participating distributors since they only need to participate in one statewide program rather than multiple local programs. The PG&E representative believes that the statewide model is more efficient from an administrative cost standpoint, with one lead PA managing the program and non-lead IOUs providing co-funding.

During the program implementer interview, evaluators asked the senior program manager from Energy Solutions for his perspective on the efficiency of running a statewide program through a third-party. He believes the statewide program design is more efficient than locally run programs due to economies of scale. The statewide Foodservices program has the ability to reach both small distributors who serve smaller restaurants and larger market actors who serve large chains in existing buildings and new construction projects, including stadiums and other large projects.

6.2 Program marketing and outreach

Energy Solutions developed the marketing materials and branding for the program in PY 2021. They also oversaw the development of a media plan and a subcontractor that oversaw the media plan. Energy Solutions advertised the program via podcasts, e-newsletters, and advertisement placements in several publications, including a Spanish language magazine. The senior program manager for Energy Solutions said that their media buys and marketing efforts have a broad reach and that their marketing efforts for PY 2021 were far more expansive than SCG's locally run Foodservice program, which existed prior to 2021.

Energy Solutions outreach efforts primarily focus on manufacturer, distributor, and dealer outreach. They also work with a subcontractor that does outreach targeted at HTR and DAC customers. Energy Solutions has a trade ally management team that is designed to build relationships with distributors and educate them on the program.

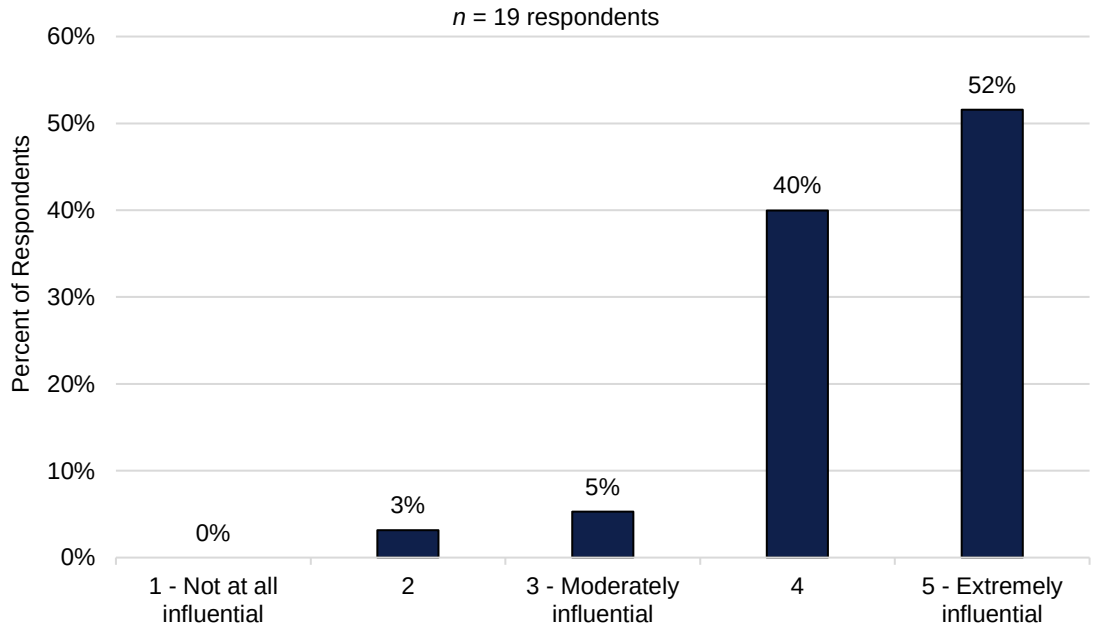
6.3 Program awareness and influence

DNV evaluated distributor and end user awareness, as well as the influence of the Foodservice program in PY 2021. This section details the key findings on these topics.

High awareness of the program among participants. Nearly all the distributor respondents (97%) were aware of their company's participation, with only slightly fewer (93%) end users being aware of the program. A large majority of the end users who were not aware of the Foodservice program were also not aware of any associated rebates.

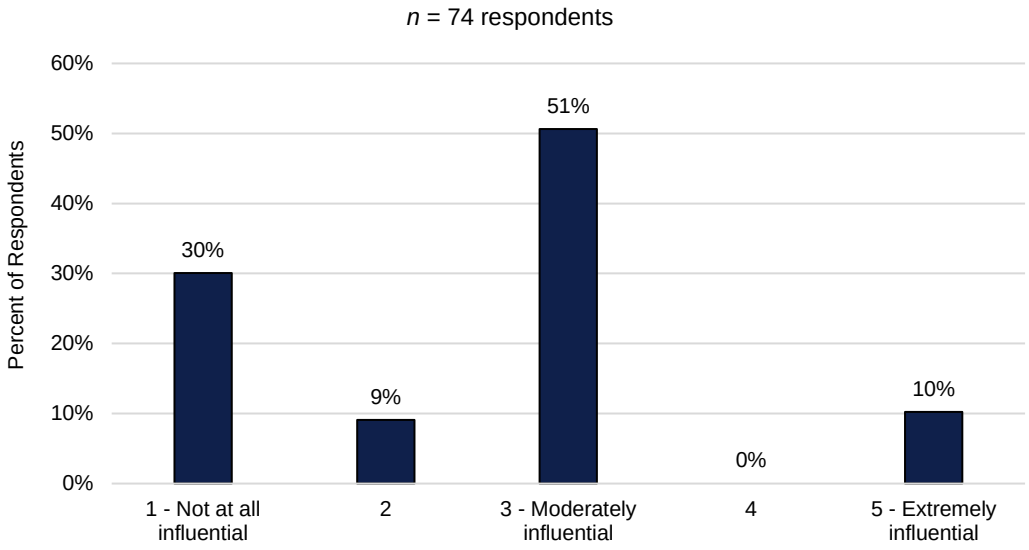
The program is influencing the distributors' equipment selections and recommendations. The majority (88%) of distributors reported that the Foodservice program did influence the efficiency level that their company recommends to end users. Distributors were also asked to rate the influence of the Foodservice program (e.g., incentives, marketing, outreach, and training) on the selection of high-efficiency equipment their company typically sells, using a scale of 1 to 5 where 1 is "not at all influential" and 5 is "extremely influential." The average score was 4.4, with over half (52%) of respondents saying the program was extremely influential in their selection.

Figure 6-1. Influence of Foodservice program on selection of high-efficiency equipment



Very few end users think distributor recommendations are a strong influence on their decision making. All (100%) of the end users surveyed reported purchasing their foodservice equipment through a distributor. Although the program was found to effectively influence distributor selections and recommendations (discussed above), over half (51%) of the end users said distributor recommendations were only moderately influential on their organization's decision to purchase program-qualified equipment. Figure 6-2 shows very few end users (10%) believed the distributor recommendations had a large influence on their decisions. The responses to this question equate to an average influence score of 2.5, which is below the mid-point of 3. These survey results help corroborate the overall net-to-gross ratio (31%) discussed in Section 5.3.

Figure 6-2. Influence of distributor recommendations on end user decisions



6.4 Market effects

DNV evaluated distributor and end user survey responses to better understand the market effects associated with the equipment installed through the PY 2021 Foodservices program. This section summarizes the survey responses to questions about drivers to selling high-efficiency (HE) equipment, influences on equipment choices, and program-qualified equipment sold outside of the program.

Figure 6-3 shows how distributors most frequently (43%) cited “utility rebates” as the strongest driver to selling HE equipment, with less than a quarter (21%) reporting ‘available stock or delivery time’ to be the strongest driver. Distributors were subsequently asked if there were any other drivers they could think of when selling HE equipment (Figure 6-4). Slightly less than two-thirds (61%) of distributors stated that that return on investment or payback calculations were other drivers, with just less than a third (29%) citing utility rebates. Only 17% of respondents cited ‘available stock or delivery time’ as a secondary driver. The relatively high percent of distributors citing utility rebates and payback calculations suggests that the final cost to the end user is viewed as one of the key drivers to adoption.

Figure 6-3. Strongest drivers to selling high-efficiency equipment according to distributors[36]

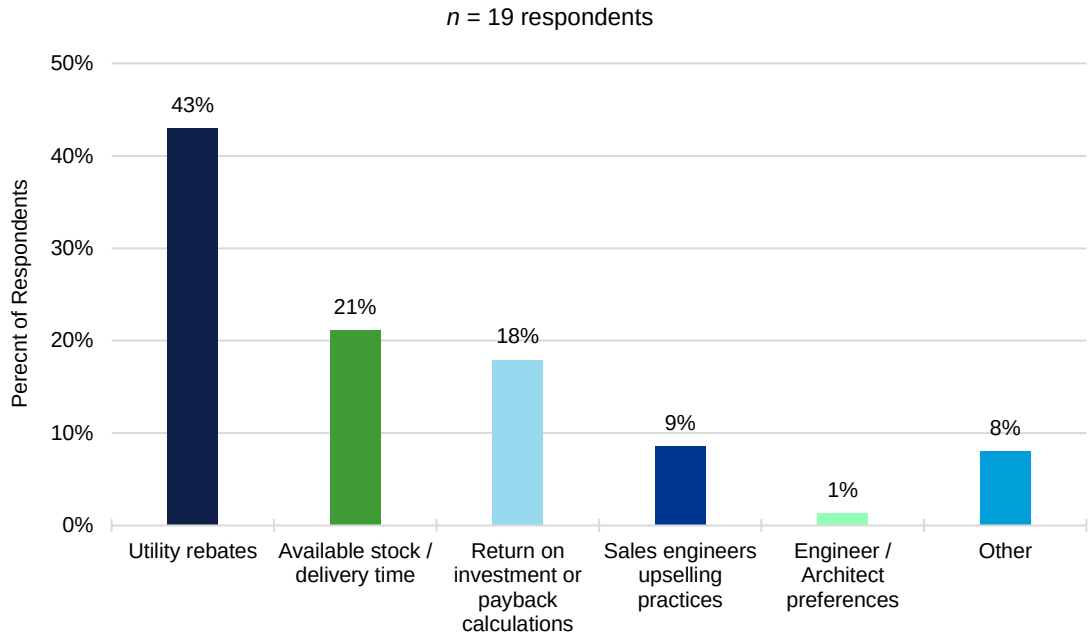
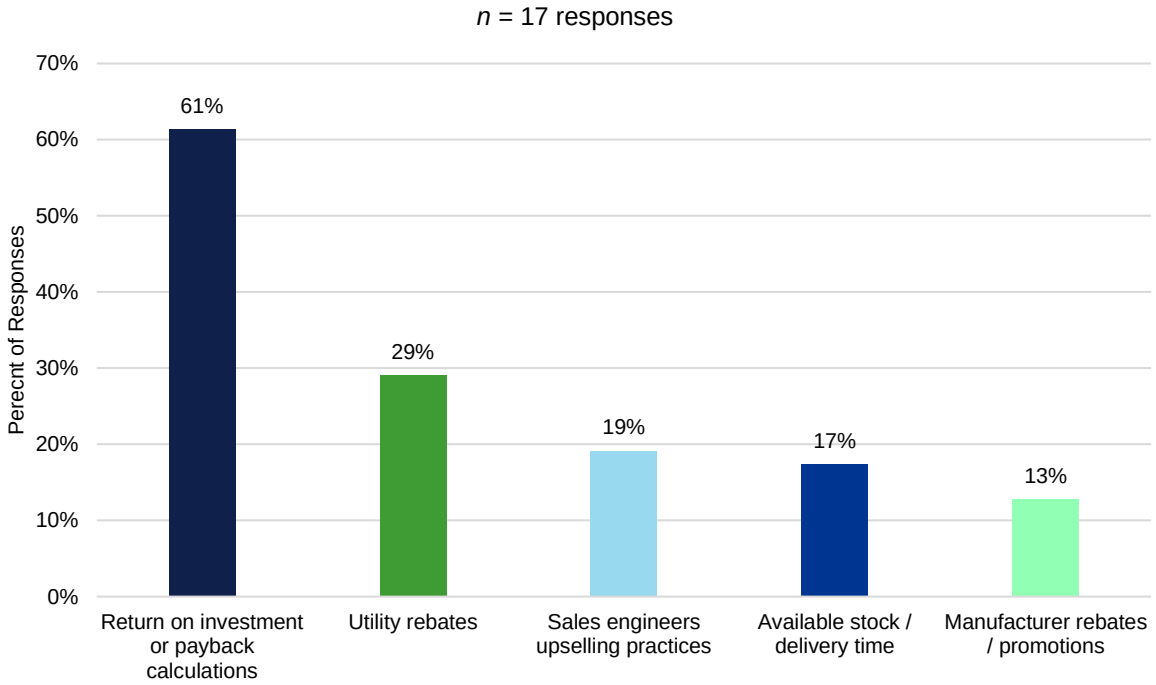


Figure 6-4. Other drivers to selling high-efficiency equipment according to distributors[37]

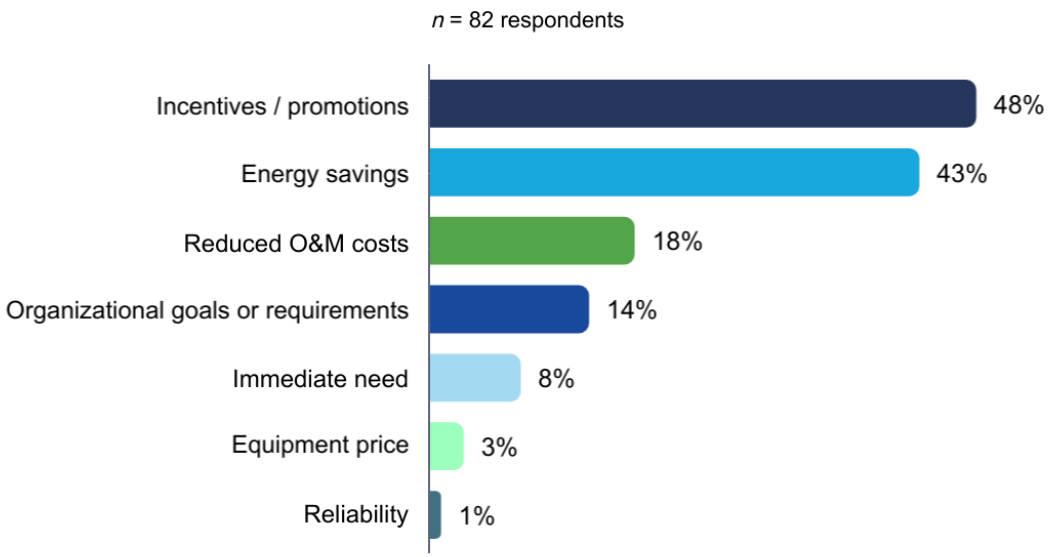


[36] 'Other' responses include "'A balance of knowledge of equipment, available stock / delivery times, and utility rebates" and "The ability to tell customer they can save $2,000 or upgrade quality because they qualify for an energy rebate."

[37] The total percent exceeds 100% because respondents were allowed to cite multiple drivers.

When end users were asked what factors influenced their foodservice equipment choices (Figure 6-5), the two most frequently cited responses were incentives / promotions (48%) and energy savings (43%). More than a quarter of end users (28%) also reported being influenced by the reduced operations and maintenance (O&M) costs. Notably, 14% of end users reported being influenced by organizational goals and requirements, which suggests they would have wanted or needed to purchase high-efficiency equipment in the absence of the program. Responses to this question further suggest that the overall costs of the equipment are primary drivers to adoption. The overall costs of the equipment include payback calculations, utility rebates, energy savings, and reduced O&M costs.

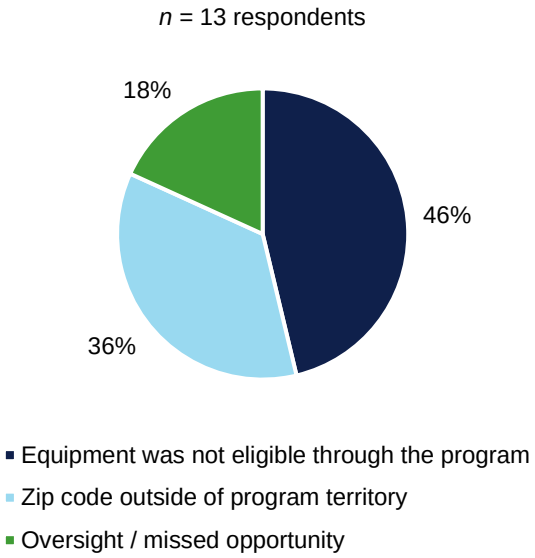
Figure 6-5. What influences end user equipment choices[38]



Participating distributors were also asked if they had purchased any additional program-qualified equipment that did not receive incentives through the Foodservice program (Figure 6-6). Almost a quarter (24%) of distributors' high-efficiency sales in CA in 2021 was reported to have not received incentives from the program. When asked why some of their sales did not receive incentives, over three quarters (82%) of distributors said it was either because the equipment was not eligible through the program (46%), or the end users zip code fell outside of the program territory (36%). The remaining 18% said they did not receive incentives due to oversight or a missed opportunity.

[38] The total percent exceeds 100% because respondents were allowed to cite multiple factors.

Figure 6-6. Why some distributor sales of high-efficiency equipment did not receive incentives



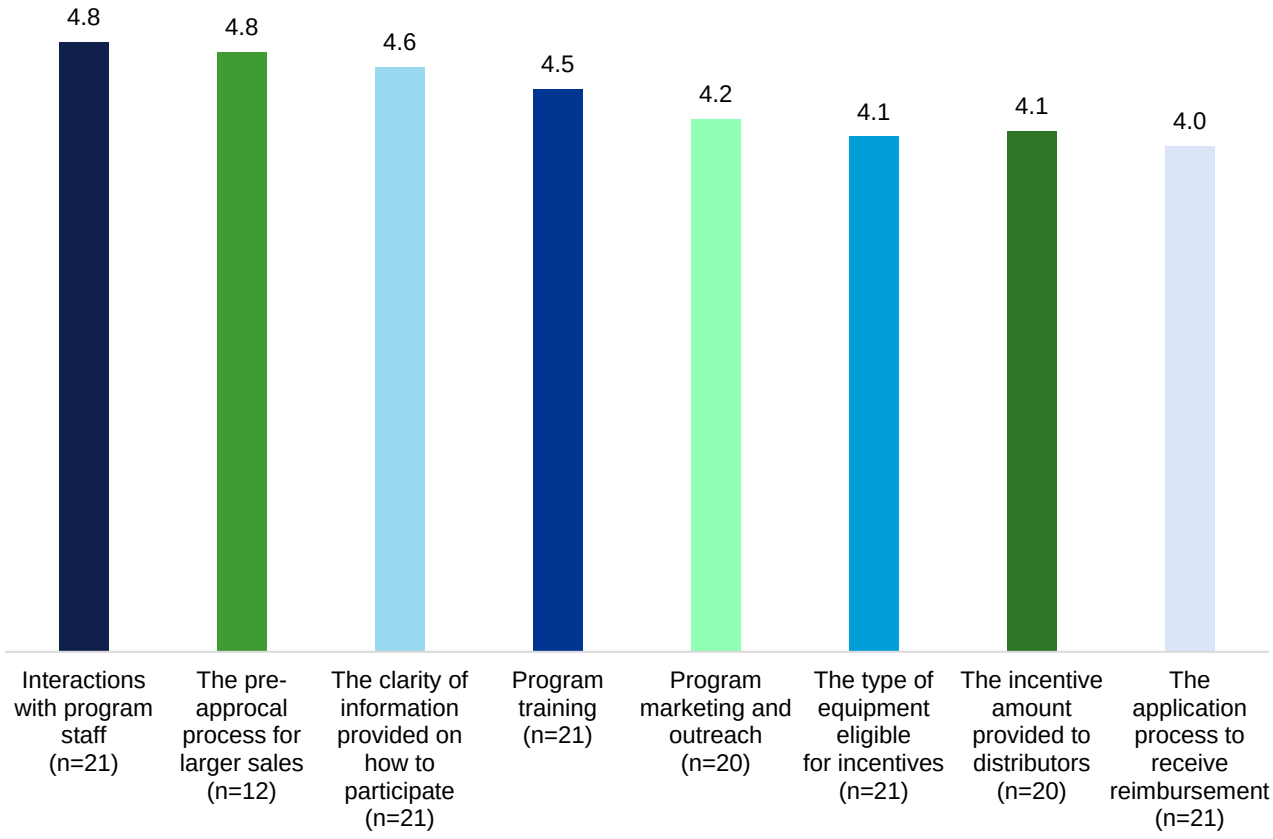
6.5 Program satisfaction

Distributors and end users who were aware of their participation in the program were asked to rate various aspects of the program using a five-point Likert scale, where 5 means “very satisfied” and 1 means “very dissatisfied.” Eight distinct aspects were covered in the distributor interviews with the intention of capturing key elements of participants’ program engagement. End users were asked about their overall satisfaction with the program. The findings are detailed below.

6.5.1 Distributor satisfaction

Figure 6-7 shows distributor satisfaction with various aspects of the program. Distributors were found to have an overall satisfaction score of 4.4 (out of 5) when asked about different aspects of the program. Although the satisfaction ratings were relatively high for all categories, distributors were most satisfied with interactions with program staff (4.8) and the pre-approval process for larger sales (4.6). Program training and program marketing and outreach received marginally lower satisfaction scores, with 4.5 and 4.2 respectively. Distributors were least satisfied with aspects related to incentives, including the application process to receive reimbursement (4), the incentive amount provided (4.1), and the type of equipment eligible for incentives (4.1).

Figure 6-7. Distributor satisfaction



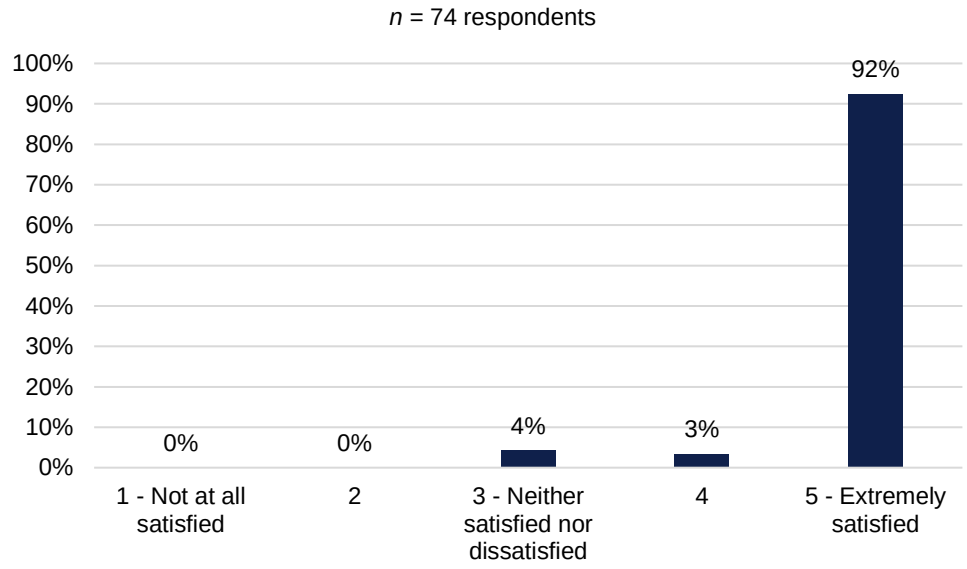
Only three out of 21 distributors provided satisfaction ratings less than three for one of the eight distinct program aspects and were subsequently asked why they were dissatisfied. Of the three respondents, one respondent provided a score of 2 for the type of equipment eligible for incentives, another responded with a score of 2 for the incentive amount provided to distributors, and the last provided a score of 2 for the application process to receive reimbursement. Reasons for their dissatisfaction included:

- *"Rebates are only being available for limited types of high-efficiency equipment."*
- *"The incentives are too low (e.g., ice machines)."*

6.5.2 End user satisfaction

Figure 6-8 presents end user-reported satisfaction of the Foodservice program overall using a 5-point scale, where 5 means "very satisfied" and 1 means "very dissatisfied." End users were found to have an overall satisfaction score of 4.9 (out of 5) related to their experience with the program. A large majority (91%) of respondents provided a score of 5, indicating that almost all participants are 'very satisfied' with the program. The remaining end users responded with a score of three or four (4% and 3%, respectively), with no one providing a score of less than three.

Figure 6-8. End user satisfaction with the program



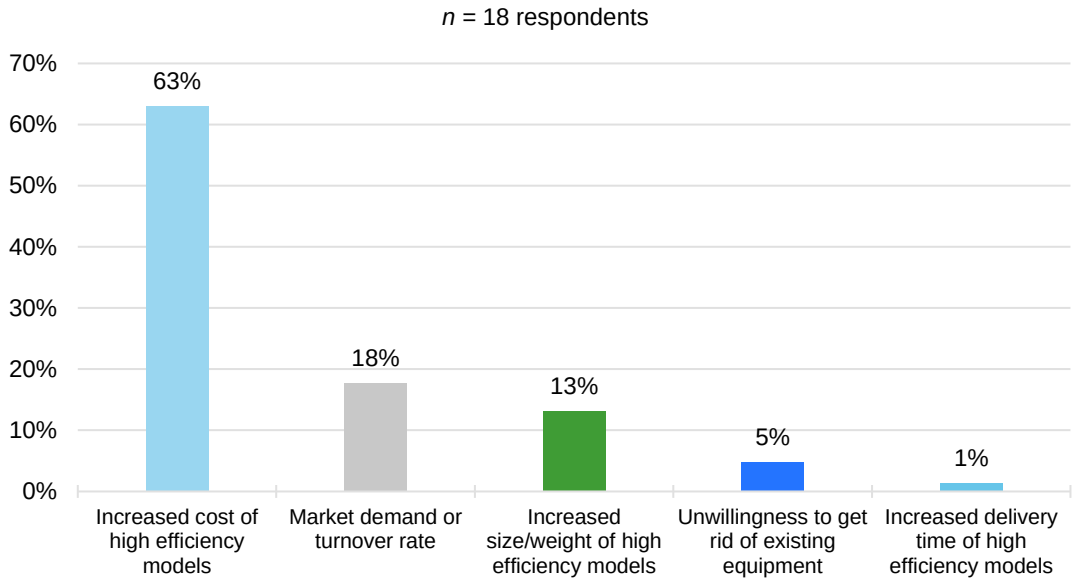
6.6 Program process

This evaluation included an array of questions to Foodservice distributors and end users about various program processes. Questions surrounded barriers to sales, obstacles to participation, incentives, confusion about multiple programs, rebates from other programs, differences in programs run individually by different IOUs and statewide implementation, recommended program changes, program aspects that worked well, and general program improvements. These survey findings are summarized in the following subsections.

6.6.1 Sales barriers and participation obstacles

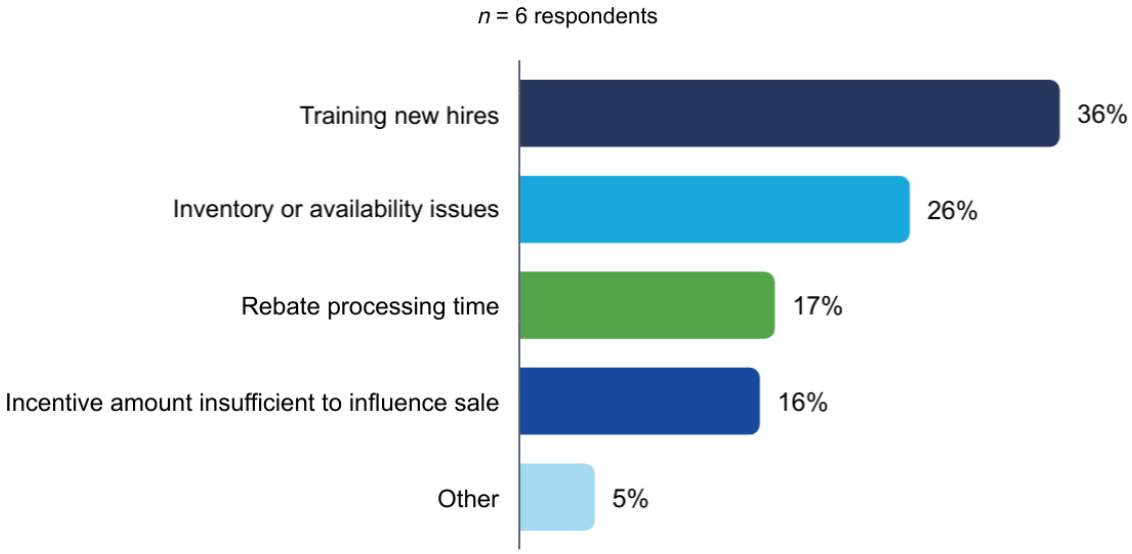
Foodservice distributors were asked what the largest barriers were when it comes to selling HE equipment. The majority (63%) of distributor responses indicated that the increased cost of HE models was the largest barrier to selling that equipment. Fewer distributors (18%) indicated market demand and turnover rates were the largest barriers to sales, with the remaining responses indicating the increased size or weight of HE units (13%) and unwillingness to get rid of existing equipment (5%) were primary barriers.

Figure 6-9. Distributor reported barriers to selling high-efficiency equipment



Distributors were asked what obstacles they face when participating in the program. The majority (68%) of distributors indicated there were no obstacles to program participation. Among the distributors who did experience obstacles, most (36%) indicated that training new hires was the largest challenge related to program participation. The remaining responses cited supply chain and availability issues (26%), rebate processing time (17%), and low incentive amounts (16%).

Figure 6-10. Distributor reported obstacles to program participation[39]



Foodservice distributors were also asked about potential reasons why they would be hesitant to recommend HE equipment to their customers. Almost a third (32%) of the responses indicated that there were no reasons or hesitancy in

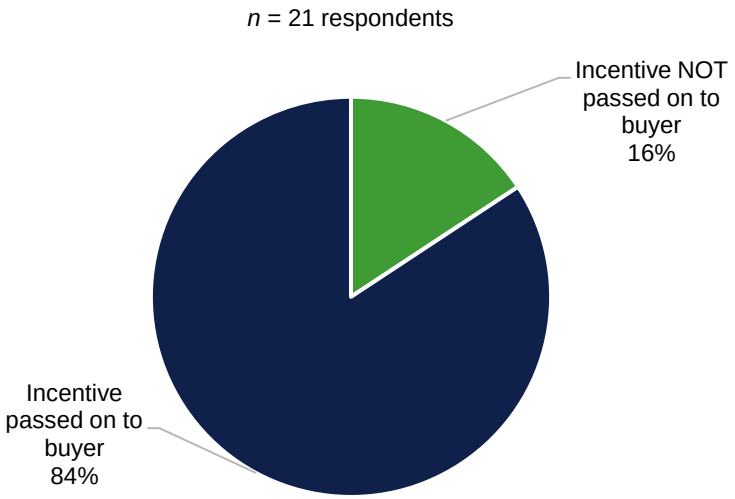
[39] The total percent exceeds 100% because respondents were allowed to cite multiple factors. The 'Other' response included uncertainty about what the program would look like the following year. This respondent reported it was hard to propose new projects with the rebate included, since they often have projects with longer sale cycles (6-12 months).

recommending equipment, while the remaining responses cited hesitation due to reduced power/performance (23%), upfront costs (16%), not being able to meet customer needs (15%), lack of availability (11%), as well as reduced reliability (3%). The total percent of responses to this question exceeds 100% because respondents were allowed to cite multiple factors.

6.6.2 Incentives

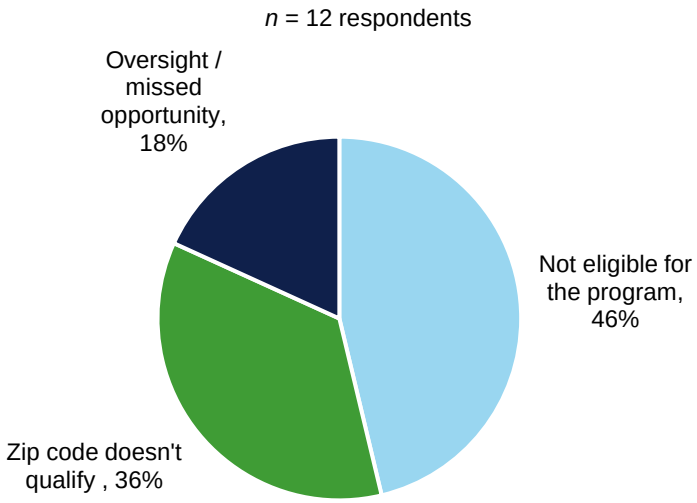
Distributors were first asked if the incentive impacted the final price paid to the buyer. Almost all (95%) distributors stated that the incentives did impact the final price paid to the buyer, with very few (5%) stating that incentives only impact 'some' of the final prices paid by the end user. No distributors reported that the incentives did not impact the final price. Foodservice distributors were also asked what percent of the incentive was passed on to the buyer (Figure 6-11). Distributor responses revealed that, on average, 84% of the incentives had been passed on to the buyer, with the remaining 16% not being passed on.

Figure 6-11. Percent of program incentives passed along to the buyer



Across all distributors, three-quarters (76%) of their sales of HE foodservice equipment received incentives through the program, while roughly a quarter (24%) of their sales did not receive incentives through the program. Distributors, who reported not receiving incentives for all their high-efficiency sales, were also asked to explain why this occurred. Figure 6-12 shows how almost half (46%) of distributors said the equipment was not eligible for the program and over a third (36%) were ineligible due to not being located within the program-qualified zip codes. The remaining 18% cited oversight or a missed opportunity as the reason for not receiving incentives.

Figure 6-12. Reasons why incentives were not received for all high-efficiency equipment



End users were asked if their vendor or distributor mentioned a rebate associated with the food service equipment they purchased. Over three quarters (76%) said the vendor did mention the rebate, with the remainder (24%) saying they did not remember. Among the end users who did recall hearing about the rebate, only a third (33%) said that their invoice included a line item for the incentive and two-thirds (67%) stated their invoice did not include this line item**.** Given these results, the program should highlight the requirement to provide a line item for the rebate dollar amount on the invoices to increase end user awareness of program incentives.

6.6.3 Program confusion

Food service distributors were first asked if they were able to claim incentives for the same HE equipment through other programs (e.g., Alameda Municipal Power's Commercial Food Service Rebate program) in addition to the statewide Foodservice program. Approximately three quarters (74%) of the respondents indicated that they were not able to claim incentives from more than one program, with 26% stating they were unsure.

Foodservice distributor respondents who indicated they were unsure if they had claimed incentives through more than one program were also asked if there had been any confusion around equipment being eligible for an incentive through one program but not another. All (100%) distributors said they were uncertain if they had participated in other programs, so they could not speak to any potential confusion.

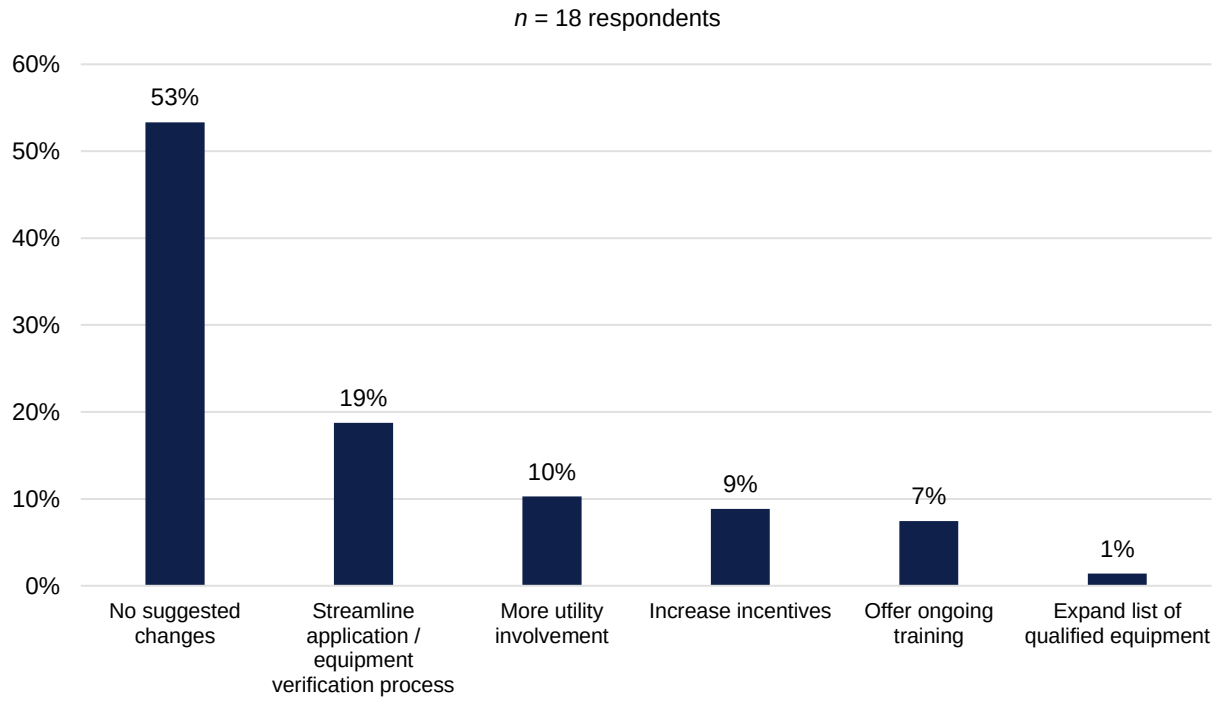
6.6.4 Differences between IOU and statewide implementation

Another key research objective for this evaluation was to assess whether it is more efficient to run statewide programs through third-party implementers as opposed to running them individually through PAs (see Section 6.1 for the IOUs' and implementer's perspective on this topic). Distributors were asked about program differences and changes since it moved from locally run IOU programs to a single statewide program. About 20% indicated that they did not notice any differences between the two program designs. Half (50%) of distributors indicated that they had a more streamlined experience, with the fewer distributors indicating that the program seemed more accessible (11%) or had better program staff communication (7%). The remaining 10% of distributors indicated that they had not participated in the previous program format that was implemented by IOUs.

6.6.5 Recommendations for improvement

Distributors were asked an open-ended question about various program or process-related changes that they would recommend. This question addressed another key evaluation objective related to opportunities for program improvement (see Section 2.2). Over half (53%) of distributors stated that they did not have any recommended changes for the program. The most frequent distributor recommendation was to streamline the application and verification process (19%), followed by recommendations for more utility involvement (10%), increasing incentives (9%), and offering ongoing training (7%). Only 1% of respondents suggested expanding the list of qualified equipment.

Figure 6-13. Distributors recommended program changes



Foodservice distributors and end users were also asked what general program improvements they would like to see related to program delivery. The majority (68%) of distributors indicated they had no suggestions for general improvements. The remaining distributor responses suggested improving the qualification verification process (87%) or promotion of rebates directly with the end user (13%). Almost all end users (99%) indicated that they had no feedback regarding the Foodservice Instant Rebate program. A very small percentage (1%) indicated they were unaware of incentives and would like more information on the program and rebates available. This direct feedback from program market actors suggests the opportunity for require distributors to add a line item for incentives to increase the transparency of the incentive amount.

6.6.6 Other findings

Distributors were asked what they communicate to end users when discussing the Foodservice programs. Most distributors indicated that they spoke about the incentive amount (92%), while some discussed return on investment/long-term savings (25%) and the features of the eligible equipment (10%).[40]

[40] The total percent of responses to this question exceeds 100% because respondents were allowed to provide multiple responses.

6.7 Participant characterization

To better understand the program from a holistic perspective, DNV conducted an analysis of the geographic and demographic makeup of participants and the characteristics of their businesses (firmographics).

6.7.1 Overall program participation

Figure 6-14 shows overall program participation by individual claims within a given Zip Code Tabulation Area (ZCTA), or zip code, for PY 2021 while Figure 6-15 shows the same information with individual points for end user geocoded locations. A large majority of the claims and energy savings occurred within Los Angeles, with 15 (60%) of the top 25 zip codes with the largest savings falling within the city's boundaries. Approximately 9% of the total program's gross therm savings were concentrated in these 15 zip codes, while less than 0.001% (0.0008%) of kWh savings were realized here. Within the city proper, 19% of total program energy savings occurred (significantly less than 1% [0.004%] of total kWh and 19.9% of total therms savings).

For PY 2021, overall program claims were 2,617, of which 2,271 (87%) were restaurants, 139 (5%) were hospitals or schools, while the remaining 207 (8%) were a variety of commercial end users such as grocery stores, offices, hotels, fitness centers, or parks. Graduated shades of red are used to differentiate the density of claims ranging from zip codes with one to two claims to those containing greater than 15 claims, with the darker shades indicating a higher total concentration of claims. As with all maps in this report, the combined statewide territory for the program includes the electric service territories for PG&E, SCE, and SDG&E plus the natural gas service territories for PG&E, SDG&E, and SCG (in green) while non-participating service territories are in white.

Figure 6-14. Program claims by zip code

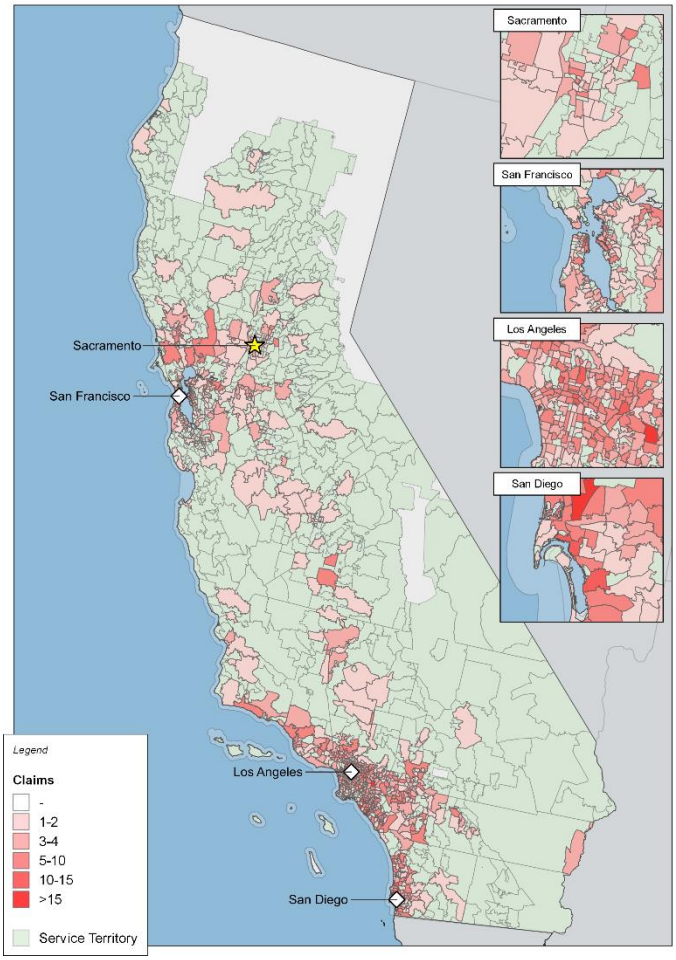
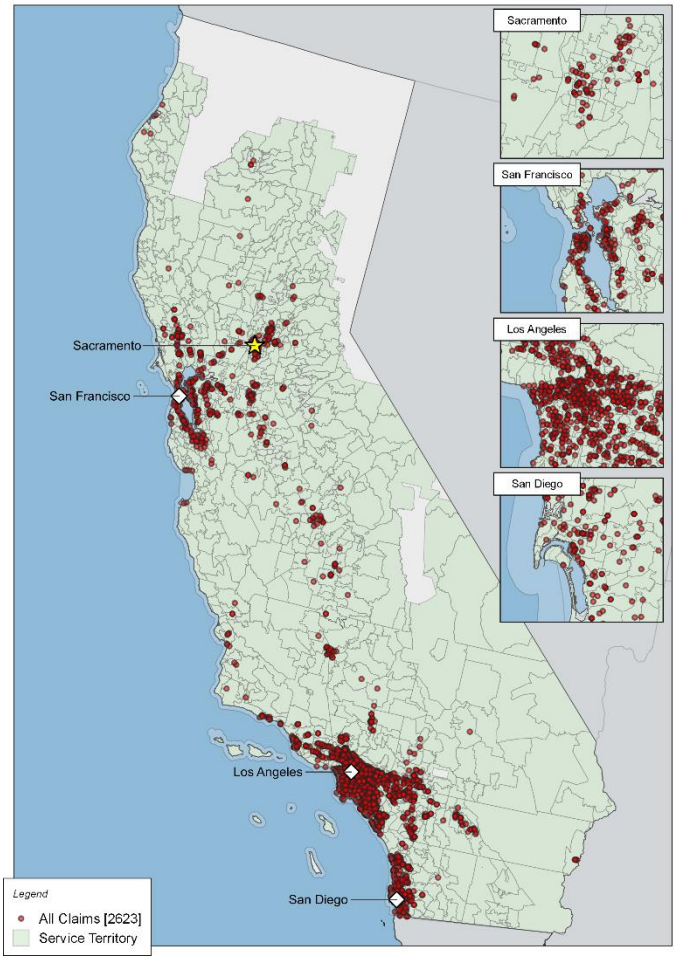
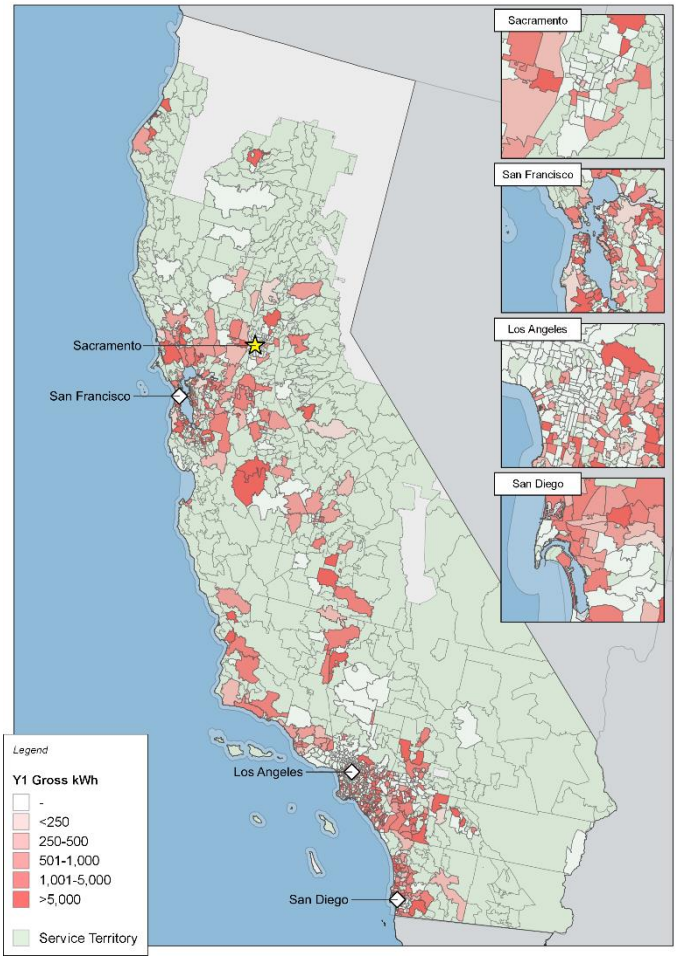


Figure 6-15. Program claims by location



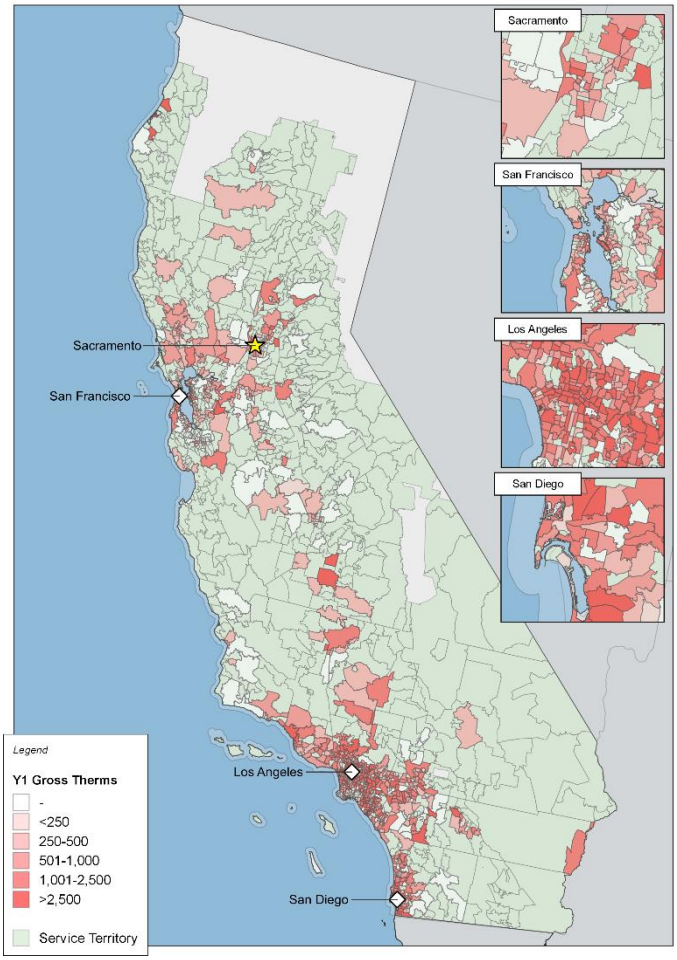
Total gross kWh savings by zip code is shown in Figure 6-16. Graduated shades of red are used to differentiate the density of program electricity savings ranging from zip codes with less than 500 in gross kWh savings to those containing greater than 5,000 kWh, with the darker shades indicating a higher total concentration of savings.

Figure 6-16. Program gross kWh savings by zip code



Total gross therms savings by zip code is shown in Figure 6-17. Graduated shades of red are used to differentiate the density of program gas savings ranging from zip codes with less than 250 therms in gross therms savings to those containing greater than 2,500 therms, with the darker shades indicating a higher total concentration of savings.

Figure 6-17. Program gross therms savings by zip code



6.7.2 Disadvantaged communities

As referenced in the CPUC's Decision 18-05-041 (Section 2.5.1),[41] the California Environmental Protection Agency (CalEPA) identifies disadvantaged communities in the state based on the following parameters:

1. Areas that are disproportionally affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation
2. Areas with concentrations of people that are of low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment

CalEPA defines DACs as census tracts scoring in the top 25 percent statewide on a set of 20 different indicators within their CalEnviroScreen tool's *Pollution Burden*, such as exposure to high levels of emissions, groundwater threats, traffic density, solid waste sites, and *Population Characteristic*, such as higher vulnerability to asthma and cardiovascular disease, low educational attainment, linguistic isolation, and unemployment/poverty.[42] In addition to tracts identified via the above methodology, census tracts scoring in the top five percent of CalEnviroScreen's Pollution Burden indicator but do not have

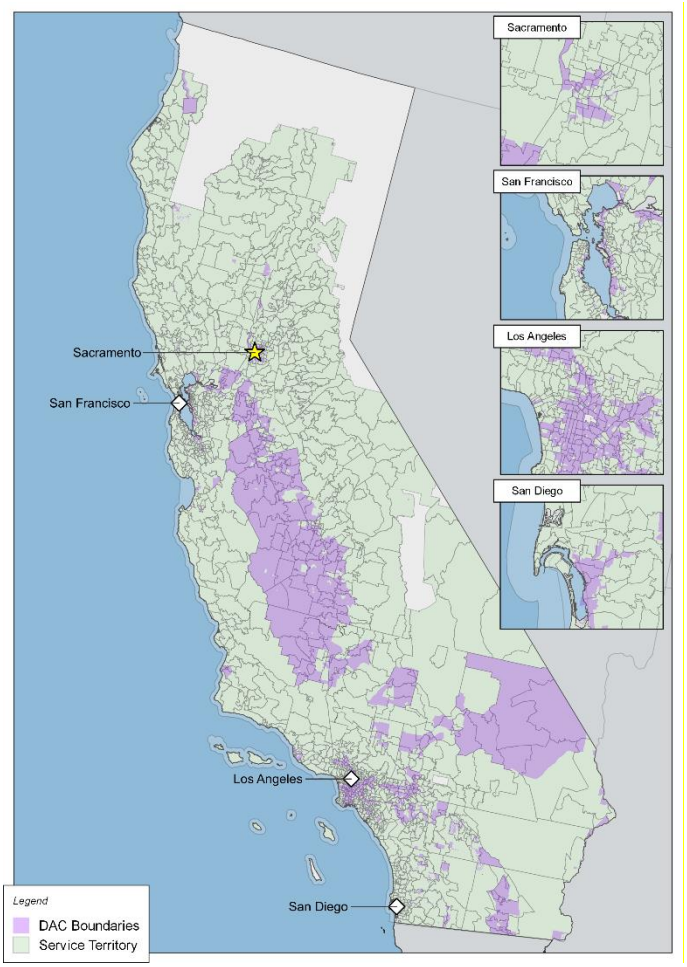
[41] California Public Utilities Commission. Decision 18-05-041. Decision Addressing Energy Efficiency Business Plans. June 5, 2018. pp. 39-40 https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M215/K706/215706139.PDF

[42] California Environmental Protection Agency (CalEPA). SB 535 Disadvantaged Communities. https://oehha.ca.gov/calenviroscreen/sb535 -

an overall score in the top 25 percent statewide due to unreliable socioeconomic of health data automatically fall within CalEPA's DAC definition.

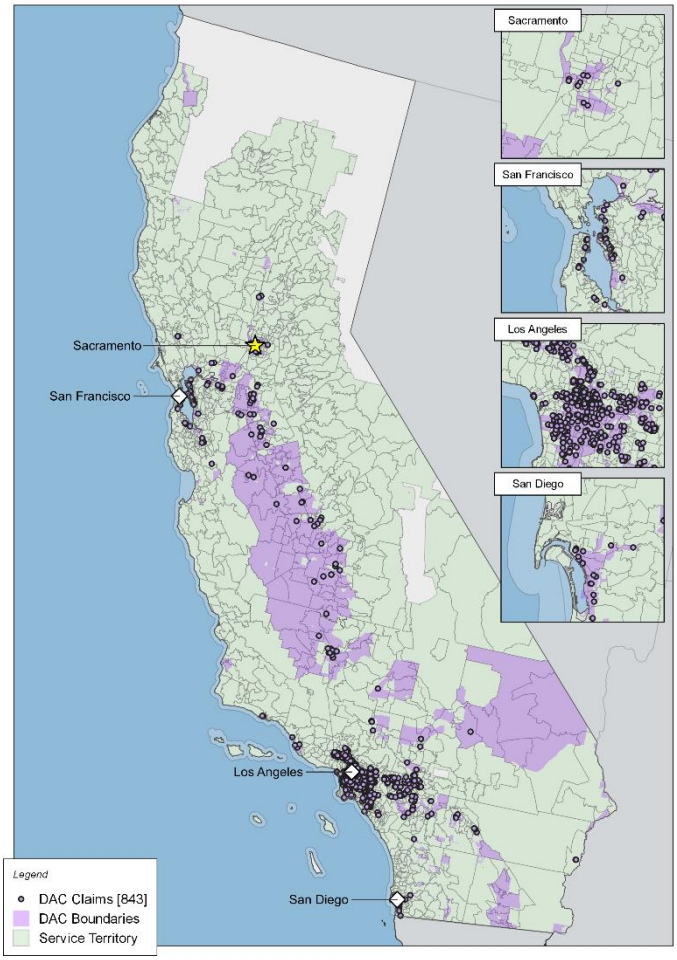
In Figure 6-18 below, DAC census tract boundaries as identified by CalEnviroScreen are shown in purple overlaid on the combined statewide territory for the program in green.

Figure 6-18. DAC boundaries



A total of 843 claims (32% of total program claims) were installed for commercial customers located within DAC boundaries. As shown in Figure 6-19, a majority of these occurred within the Greater Los Angeles area (including Long Beach, Anaheim, San Bernardino, and Riverside).

Figure 6-19. DAC participation



6.7.3 Hard-to-reach customers

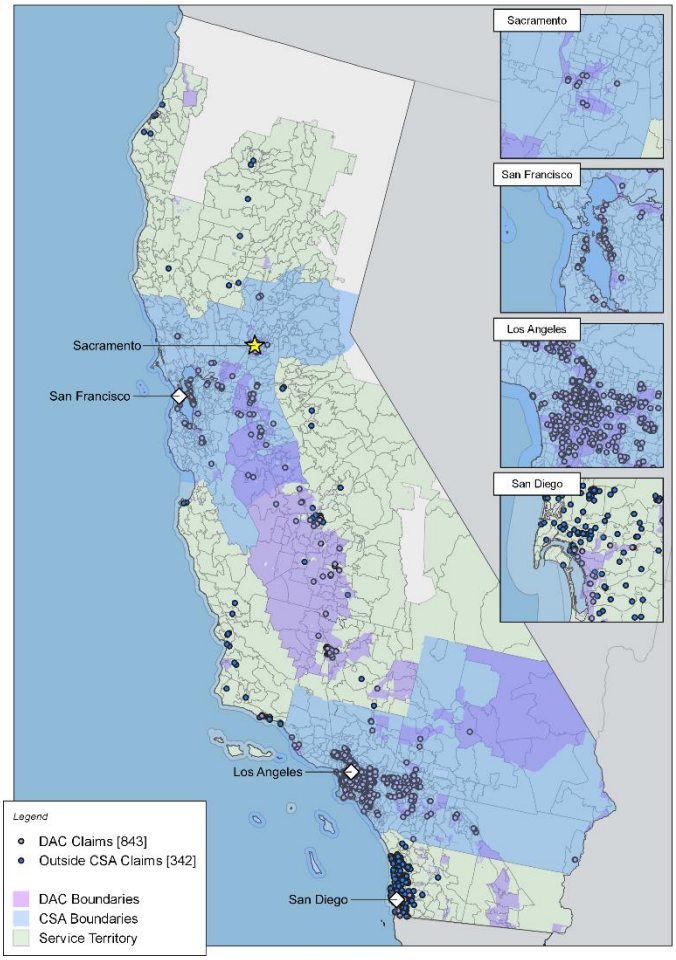
Commercial end users are defined as hard-to-reach (HTR) if they meet geographic prerequisites plus at least one of the following criteria: primary language, business size, or leased or rented facility.[43] If the end user does not meet the geographic requirements, then they must meet all three of the non-geographic criteria (language, business size, and lease or rent) to be considered HTR.

This evaluation found that approximately half (49%) of survey respondents would be defined as HTR based on the definitions above. Just over half (51%) of survey respondents met the geographic prerequisites, although one did not meet any additional criterion, and therefore, was not categorized as HTR. Among the remaining respondents who did not meet the geographic requirements, only 17% met all three remaining criteria and were categorized as HTR. Figure 6-20 shows the Combined Statistical Areas (CSA) for San Francisco, Los Angeles, and Sacramento in blue over DAC boundaries in purple with applicable claims shown as points in their respective color scheme. Program participants would meet the geographic definition of hard-to-reach if they fall outside of the SF/LA/SAC CSAs (342 participants, blue points) or inside the DAC

[43] Commercial HTR end users meet the geographic prerequisite if they a) are located outside of the Combined Statistical Areas for San Francisco, Los Angeles, and Sacramento or b) are located inside a disadvantaged community, as defined by CalEPA (https://oehha.ca.gov/calenviroscreen/sb535). Specific details can be found here: Statewide Deemed Workpaper Rulebook.

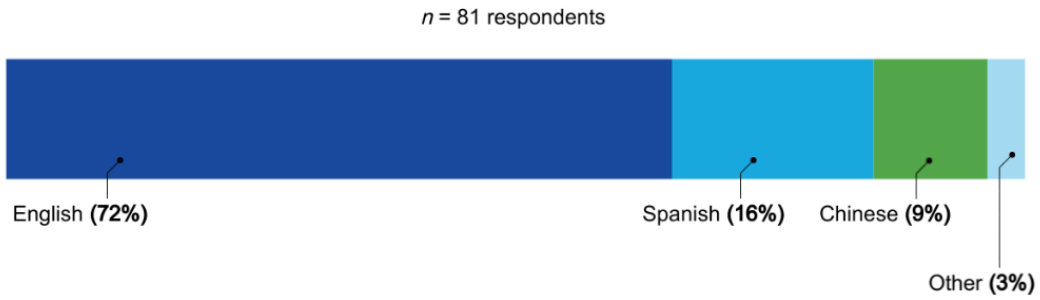
boundaries (843 participants, purple points). As described above, at least one additional demographic or firmographic requirement must be met to qualify as HTR.

Figure 6-20. Hard-to-reach claims distribution within geographic requirements



When looking at the 3 additional criteria independent of the geographic requirements, we found that almost all (95%) of the end users leased or rented their organization's facility. Slightly less than half (47%) of end users met the criterion for company size (i.e., employ less than 10 people), and only a quarter (25%) of respondents would meet the language criterion (i.e., primary language spoken is not English). As shown in Figure 6-21, the most commonly cited non-English languages spoken by a majority of employees at foodservice businesses surveyed were Spanish (16%) and Chinese (9%). This suggests the program should continue to offer program materials in Spanish, Chinese, Korean, and Vietnamese to ensure that businesses with employees who primarily speak a language other than English continue to benefit from the program.

Figure 6-21. Primary language spoken by employees[44]



[44] Other' responses included 'both English and Spanish' – This respondent's business was not categorized as meeting the language HTR requirement. The "Chinese" total includes both Mandarin and Cantonese languages.

7 CONCLUSIONS AND RECOMMENDATIONS

Table 7-1. Key findings and recommendations

Key findings	Implications and recommendations
1. The program achieved an NTGR of 31%, which is below the NTGR of 60% to 85% (depending on the measure) that the PAs assumed for the program.	The program should continue to require that distributors include a line item for the rebate dollar amount on the invoice. The program should highlight this requirement in program communications and outreach directed at end users to increase end user awareness of program incentives.
2. Over half of the end users said that the distributor recommendations were only 'moderately influential' on their decision to purchase equipment, with roughly a third saying they are 'not influential at all.'	
3. The program collected the data needed to evaluate the program, and the vast majority of claims included end user addresses, although only 58% of the claims had end user contact information (either phone, email, or both).	Consider requiring distributors to collect end user phone numbers and email addresses for each claim to improve internal program verification efforts and increase evaluability of the program.
4. Satisfaction scores with various aspects of the program was high among distributors with average scores of 4.0 or higher. Distributors were most satisfied with their interactions with program staff, the pre-approval process for larger program sales, and the clarity of information about how to participate in the program. Distributors, while still satisfied, provided lower satisfaction ratings for the program incentive amounts, the application process for reimbursement, and the types of equipment eligible for incentives.	Consider increasing incentive amounts to a minimum of 65% of the measure's incremental cost. The program should also update measure package cost assumptions as most of these assumptions reference studies that are at least five years old. Findings indicate that these actions could improve the program's influence on sales of efficient equipment. We also recommend updating the base case and measure case cost assumptions to current market costs.
5. The program serves a large share of smaller restaurants with nearly half of the participants stating that their business had fewer than 10 employees. Additionally, more than a quarter of businesses stated that the majority of their employees speak a language other than English as their primary language.	The program should continue to focus on smaller restaurants, particularly those that have fewer than 10 employees, to ensure HTR businesses are benefiting. The program should also continue to offer program materials in Spanish, Chinese, Korean, and Vietnamese to ensure that businesses with employees who primarily speak a

Key findings	Implications and recommendations
	language other than English continue to benefit from the program.
6. Approximately half of end users who participated in the program were categorized as hard-to-reach customers.	The program should continue to focus on integrating equity and access into program design.
7. Sourced Climate Zone (CZ) savings values found in CEDARS are sometimes inconsistent with the installation CZ. All UES values for the Ultra-Low Temperature Freezer (SWCR017-02) claims were sourced from the CZ 9 DEER savings permutation but the claimed zip codes span CZ 3, 7, 9, and 10. Four out of five Undercounter Dishwasher, Commercial (SWFS018-03) claims had a similar error.	Going forward, always collect and document the installation addresses for each claim. When validating claims, confirm the sourced savings is consistent with the climate zone of the installation address. Ensure that the values listed in CEDARS are accurate for each claim.
8. Claims in the CEDARS tracking datasets for all statewide programs are split into four subclaims to allow for the assignment of savings across each of the four participating IOUs. For anyone unfamiliar with the datasets, this makes it appear that there are four times as many claims than the actual number of claims for the program.	The CPUC should work together with PAs to modify the design of CEDARS so that the number of claims for statewide programs can be counted accurately. Creating a separate “number of claims” variable in statewide tracking datasets could provide a solution.

8 APPENDICIES

8.1 Appendix A: Data standardized high-level savings

California Foodservice Instant Rebates Statewide Third-Party Program, Program Year 2021. Impact and Process Evaluation.

Gross Lifecycle Savings (MWh)

PA	Standard Report Group	Ex-Ante Gross	Ex-Post Gross	GRR	% Ex-Ante Gross Pass Through	Eval GRR
SW	Com Foodservices	19,411	19,411	1.00	100.0%	
SW	**Total**	**19,411**	**19,411**	**1.00**	**100.0%**	
	Statewide	***19,411***	***19,411***	***1.00***	***100.0%***	

Net Lifecycle Savings (MWh)

PA	Standard Report Group	Ex-Ante Net	Ex-Post Net	NRR	% Ex-Ante Net Pass Through	Ex-Ante NTG	Ex-Post NTG	Eval Ex-Ante NTG	Eval Ex-Post NTG
SW	Com Foodservices	12,695	7,042	0.55	0.0%	0.65	0.36	0.65	0.36
SW	**Total**	**12,695**	**7,042**	**0.55**	**0.0%**	**0.65**	**0.36**	**0.65**	**0.36**
	Statewide	***12,695***	***7,042***	***0.55***	***0.0%***	***0.65***	***0.36***	***0.65***	***0.36***

Gross Lifecycle Savings (MW)

PA	Standard Report Group	Ex-Ante Gross	Ex-Post Gross	GRR	% Ex-Ante Gross Pass Through	Eval GRR
SW	Com Foodservices	4.0	4.0	1.00	100.0%	
SW	**Total**	**4.0**	**4.0**	**1.00**	**100.0%**	
	Statewide	***4.0***	***4.0***	***1.00***	***100.0%***	

Net Lifecycle Savings (MW)

PA	Standard Report Group	Ex-Ante Net	Ex-Post Net	NRR	% Ex-Ante Net Pass Through	Ex-Ante NTG	Ex-Post NTG	Eval Ex-Ante NTG	Eval Ex-Post NTG
SW	Com Foodservices	2.6	1.5	0.57	0.0%	0.65	0.37	0.65	0.37
SW	**Total**	**2.6**	**1.5**	**0.57**	**0.0%**	**0.65**	**0.37**	**0.65**	**0.37**
	Statewide	***2.6***	***1.5***	***0.57***	***0.0%***	***0.65***	***0.37***	***0.65***	***0.37***

Gross Lifecycle Savings (MTherms)

PA	Standard Report Group	Ex-Ante Gross	Ex-Post Gross	GRR	% Ex-Ante Gross Pass Through	Eval GRR
SW	Com Foodservices	11,008	11,008	1.00	100.0%	
SW	**Total**	**11,008**	**11,008**	**1.00**	**100.0%**	
	Statewide	***11,008***	***11,008***	***1.00***	***100.0%***	

Net Lifecycle Savings (MTherms)

PA	Standard Report Group	Ex-Ante Net	Ex-Post Net	NRR	% Ex-Ante Net Pass Through	Ex-Ante NTG	Ex-Post NTG	Eval Ex-Ante NTG	Eval Ex-Post NTG
SW	Com Foodservices	7,182	3,782	0.53	0.0%	0.65	0.34	0.65	0.34
SW	**Total**	**7,182**	**3,782**	**0.53**	**0.0%**	**0.65**	**0.34**	**0.65**	**0.34**
	Statewide	***7,182***	***3,782***	***0.53***	***0.0%***	***0.65***	***0.34***	***0.65***	***0.34***

Gross First Year Savings (MWh)

PA	Standard Report Group	Ex-Ante Gross	Ex-Post Gross	GRR	% Ex-Ante Gross Pass Through	Eval GRR
SW	Com Foodservices	1,644	1,644	1.00	100.0%	
SW	**Total**	**1,644**	**1,644**	**1.00**	**100.0%**	
	Statewide	***1,644***	***1,644***	***1.00***	***100.0%***	

Net First Year Savings (MWh)

PA	Standard Report Group	Ex-Ante Net	Ex-Post Net	NRR	% Ex-Ante Net Pass Through	Ex-Ante NTG	Ex-Post NTG	Eval Ex-Ante NTG	Eval Ex-Post NTG
SW	Com Foodservices	1,075	597	0.55	0.0%	0.65	0.36	0.65	0.36
SW	**Total**	**1,075**	**597**	**0.55**	**0.0%**	**0.65**	**0.36**	**0.65**	**0.36**
	Statewide	***1,075***	***597***	***0.55***	***0.0%***	***0.65***	***0.36***	***0.65***	***0.36***

Gross First Year Savings (MW)

PA	Standard Report Group	Ex-Ante Gross	Ex-Post Gross	GRR	% Ex-Ante Gross Pass Through	Eval GRR
SW	Com Foodservices	0.3	0.3	1.00	100.0%	
SW	**Total**	**0.3**	**0.3**	**1.00**	**100.0%**	
	Statewide	***0.3***	***0.3***	***1.00***	***100.0%***	

Net First Year Savings (MW)

PA	Standard Report Group	Ex-Ante Net	Ex-Post Net	NRR	% Ex-Ante Net Pass Through	Ex-Ante NTG	Ex-Post NTG	Eval Ex-Ante NTG	Eval Ex-Post NTG
SW	Com Foodservices	0.2	0.1	0.57	0.0%	0.65	0.37	0.65	0.37
SW	**Total**	**0.2**	**0.1**	**0.57**	**0.0%**	**0.65**	**0.37**	**0.65**	**0.37**
	Statewide	***0.2***	***0.1***	***0.57***	***0.0%***	***0.65***	***0.37***	***0.65***	***0.37***

Gross First Year Savings (MTherms)

PA	Standard Report Group	Ex-Ante Gross	Ex-Post Gross	GRR	% Ex-Ante Gross Pass Through	Eval GRR
SW	Com Foodservices	918	918	1.00	100.0%	
SW	**Total**	**918**	**918**	**1.00**	**100.0%**	
	Statewide	***918***	***918***	***1.00***	***100.0%***	

Net First Year Savings (MTherms)

PA	Standard Report Group	Ex-Ante Net	Ex-Post Net	NRR	% Ex-Ante Net Pass Through	Ex-Ante NTG	Ex-Post NTG	Eval Ex-Ante NTG	Eval Ex-Post NTG
SW	Com Foodservices	599	315	0.53	0.0%	0.65	0.34	0.65	0.34
SW	**Total**	**599**	**315**	**0.53**	**0.0%**	**0.65**	**0.34**	**0.65**	**0.34**
	Statewide	***599***	***315***	***0.53***	***0.0%***	***0.65***	***0.34***	***0.65***	***0.34***

8.2 Appendix B: Standardized per unit savings

California Foodservice Instant Rebates Statewide Third-Party Program, Program Year 2021. Impact and Process Evaluation.

Per Unit (Quantity) Gross Energy Savings (kWh)

Report Name	PA	Standard Report Group	Pass Through	% ER Ex-Ante	% ER Ex-Post	Average EUL (yr)	Ex-Post Lifecycle	Ex-Post First Year	Ex-Post Annualized
SW3PP - Foodservice Instant Re	SW	Com Foodservices	1	0.0%		11.9	1,346.5	114.1	114.1

Per Unit (Quantity) Gross Energy Savings (Therms)

Report Name	PA	Standard Report Group	Pass Through	% ER Ex-Ante	% ER Ex-Post	Average EUL (yr)	Ex-Post Lifecycle	Ex-Post First Year	Ex-Post Annualized
SW3PP - Foodservice Instant Re	SW	Com Foodservices	1	0.0%		11.9	763.6	63.7	63.7

Per Unit (Quantity) Net Energy Savings (kWh)

Report Name	PA	Standard Report Group	Pass Through	% ER Ex-Ante	% ER Ex-Post	Average EUL (yr)	Ex-Post Lifecycle	Ex-Post First Year	Ex-Post Annualized
SW3PP - Foodservice Instant Re	SW	Com Foodservices	0	0.0%	0.0%	11.9	488.5	41.4	41.4

Per Unit (Quantity) Net Energy Savings (Therms)

Report Name	PA	Standard Report Group	Pass Through	% ER Ex-Ante	% ER Ex-Post	Average EUL (yr)	Ex-Post Lifecycle	Ex-Post First Year	Ex-Post Annualized
SW3PP - Foodservice Instant Re	SW	Com Foodservices	0	0.0%	0.0%	11.9	262.3	21.9	21.9

8.3 Appendix C: Recommendations

Rec #	Program or Database	Summary of Findings	Additional Supporting Information	Best Practice/Recommendations	Recipient	Affected Workpaper or DEER
1	Foodservice Instant Rebate Program	Program achieved lower NTGR (31%) than assumed value.	The program achieved an NTGR of 31%, which is below the NTGR of 60% to 85% (depending on the measure) that the PAs assumed for the program.	The program should continue to require that distributors include a line item for the rebate dollar amount on the invoice. The program should highlight this requirement in program communications and outreach directed at end users to increase end user awareness of program incentives.	SoCalGas	All Program Measures
2	Foodservice Instant Rebate Program	Distributor equipment recommendations influenced roughly half of end users and a third noted they aren't influential at all.	Over half of the end users said that the distributor recommendations were only 'moderately influential' on their decision to purchase equipment, with roughly a third saying they are 'not influential at all.'		SoCalGas	All Program Measures
3	Foodservice Instant Rebate Program	Adequate data was collected, but only 58% of claims had end user contact information.	The program collected the data needed to evaluate the program, and the vast majority of claims included end user addresses, although only 58% of the claims had end user contact information (either phone, email, or both).	Consider requiring distributors to collect end user phone numbers and email addresses for each claim to improve internal program verification efforts and increase evaluability of the program.	SoCalGas	All Program Measures

Rec #	Program or Database	Summary of Findings	Additional Supporting Information	Best Practice/Recommendations	Recipient	Affected Workpaper or DEER
4	Foodservice Instant Rebate Program	Although satisfied with the program overall, distributors noted lower satisfaction with incentive amounts, application processes for reimbursement, and the types of equipment eligible for incentives.	Satisfaction scores with various aspects of the program was high among distributors with average scores of 4.0 or higher. Distributors were most satisfied with their interactions with program staff, the pre-approval process for larger program sales, and the clarity of information about how to participate in the program. Distributors, while still satisfied, provided lower satisfaction ratings for the program incentive amounts, the application process for reimbursement, and the types of equipment eligible for incentives.	Consider increasing incentive amounts to a minimum of 65% of the measure's incremental cost. The program should also update measure package cost assumptions as most of these assumptions reference studies that are at least five years old. Findings indicate that these actions could improve the program's influence on sales of efficient equipment. We also recommend updating the base case and measure case cost assumptions to current market costs.	SoCalGas	All Program Measures
5	Foodservice Instant Rebate Program	Most program participants were small restaurants with roughly a quarter indicating non-English as the primary language.	The program serves a large share of smaller restaurants with nearly half of the participants stating that their business had fewer than 10 employees. Additionally, more than a quarter of businesses stated that the majority of their employees speak a language other than English as their primary language.	The program should continue to focus on smaller restaurants, particularly those that have fewer than 10 employees, to ensure HTR businesses are benefiting. The program should also continue to offer program materials in Spanish, Chinese, Korean, and Vietnamese to ensure that businesses with employees who primarily speak a language other than English continue to benefit from the program.	SoCalGas	All Program Measures

Rec #	Program or Database	Summary of Findings	Additional Supporting Information	Best Practice/Recommendations	Recipient	Affected Workpaper or DEER
6	Foodservice Instant Rebate Program	Roughly half of end users were hard-to-reach customers.	Approximately half of end users who participated in the program were categorized as hard-to-reach customers.	The program should continue to focus on integrating equity and access into program design.	SoCalGas	All Program Measures
7	Foodservice Instant Rebate Program	Numerous Climate Zone (CZ) values were inconsistent with installation claims.	Sourced Climate Zone (CZ) savings values found in CEDARS are sometimes inconsistent with the installation CZ. All UES values for the Ultra-Low Temperature Freezer (SWCR017-02) claims were sourced from the CZ 9 DEER savings permutation but the claimed zip codes span CZ 3, 7, 9, and 10. Four out of five Undercounter Dishwasher, Commercial (SWFS018-03) claims had a similar error.	Going forward, always collect and document the installation addresses for each claim. When validating claims, confirm the sourced savings is consistent with the climate zone of the installation address. Ensure that the values listed in CEDARS are accurate for each claim.	SoCalGas	All Program Measures
8	Foodservice Instant Rebate Program	CEDAR tracking datasets caused issues/confusion around duplicate savings for IOUs.	Claims in the CEDARS tracking datasets for all statewide programs are split into four subclaims to allow for the assignment of savings across each of the four participating IOUs. For anyone unfamiliar with the datasets, this makes it appear that there are four times as many claims than the actual number of claims for the program.	The CPUC should work together with PAs to modify the design of CEDARS so that the number of claims for statewide programs can be counted accurately. Creating a separate “number of claims” variable in statewide tracking datasets could provide a solution.	SoCalGas	All Program Measures

8.4 Appendix D: Stratified sampling

For the Foodservice program end user survey, we use a stratified sampling approach to collect primary data via web and telephone surveys. The approach places participant end users into segments of interest by measure type and disadvantaged community (DAC) status. The program was dominated by oven and fryer measures, so these two measures were stratified explicitly. All other measures were collapsed into an "Other" group for sample design purposes. The measure and DAC status combinations are placed into strata by savings, measured in a common unit of MBtu reflecting kWh and therm savings. The methodology then estimates appropriate sample sizes to achieve the desired relative precision at 90% confidence at the program level. The sample points are allocated to each measure and DAC/non-DAC group proportionally based on their savings. Table 8-1 presents a summary of the Foodservice end user sample design which targets ±10% relative precision across the program.

Table 8-1. Food service end user sample design results summary

Measure description	Disadvantaged community	Accounts	First year savings (MBtu)	Assumed error ratio	Sample	Expected relative precision
Other	Yes	198	2,915	0.5	3	81%
	No	614	12,300	0.5	7	39%
Total		**812**	**15,216**	**0.5**	**10**	**35%**
Fryer	Yes	485	25,154	0.5	15	21%
	No	967	49,888	0.5	40	13%
Total		**1,452**	**75,042**	**0.5**	**55**	**11%**
Oven	Yes	120	6,165	0.5	3	61%
	No	228	12,662	0.5	7	33%
Total		**348**	**18,828**	**0.5**	**10**	**30%**
Overall		**2,612**	**109,085**	**0.5**	**75**	**10%**

Table 8-2 presents the stratification for the Foodservice end user sample design. Each measure and DAC/non-DAC group was divided into up to 3 strata based on the first year MBtu savings. The table presents the maximum MBtu, number of end users, total savings (MBtu), number of sample points, and the inclusion probability for each stratum.

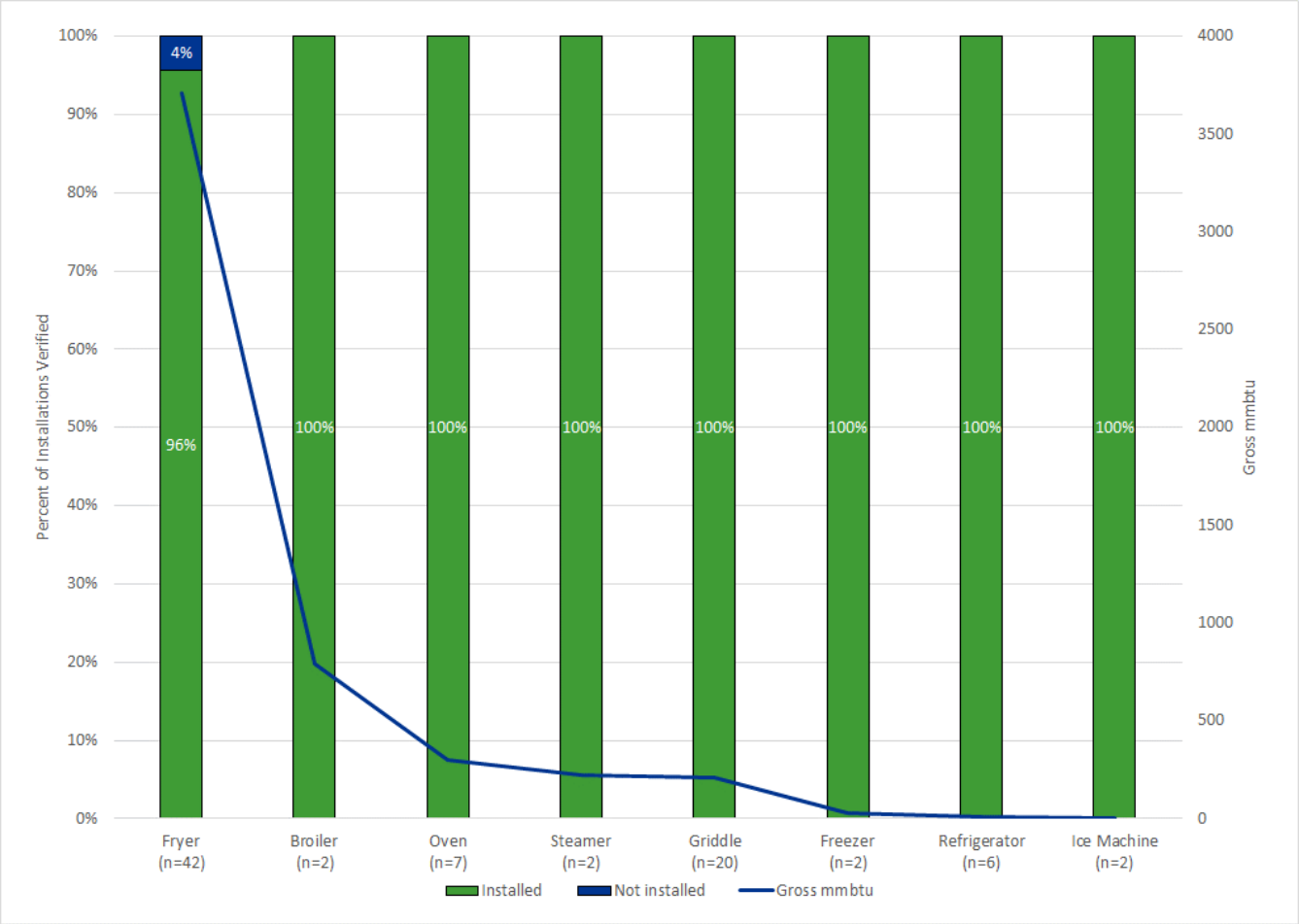
Table 8-2. Food service end user sample design stratification

Measure description	Disadvantaged community	Stratum	Maximum first year savings (MBtu)	Accounts	First year savings (MBtu)	Sample	Inclusion probability
Other	Yes	1	191.6	198	2,915	3	0.015
	No	1	40.7	553	4,588	4	0.007
	No	2	560.2	61	7,713	3	0.049
Other Total		-	**792.5**	**812**	**15,216**	**10**	-
Fryer	Yes	1	37.5	205	7,688	5	0.024

Measure description	Disadvantaged community	Stratum	Maximum first year savings (MBtu)	Accounts	First year savings (MBtu)	Sample	Inclusion probability
	Yes	2	75.0	190	7,821	5	0.026
	Yes	3	187.5	90	9,645	5	0.056
	No	1	37.5	407	15,263	14	0.034
	No	2	75.0	375	15,682	13	0.035
	No	3	284.5	185	18,944	13	0.070
Fryer Total		-	**697**	**1,452**	**75,042**	**55**	**-**
Oven	Yes	1	409.3	120	6,165	3	0.025
	No	1	40.5	173	5,380	4	0.023
	No	2	472.0	55	7,282	3	0.055
Oven Total		-	**921.8**	**348**	**18,828**	**10**	-
Overall		-	**2,411.3**	**2,612**	**109,085**	**75**	**-**

8.5 Appendix E: Measure-level survey results

Figure 8-1. Measure-level equipment installations verified by end users



8.6 Appendix F: Data collection instruments

In this section, we include the data collection instruments used to support this evaluation.

8.6.1 Distributor interview guide

Statewide Foodservice Instant Rebate Program

Research Questions Addressed:

- What are the net savings for evaluated measures in the program (influence of program on sales and types of equipment sold)?
- To what extent are participating customers and distributors satisfied with the programs?
- Is there any market confusion among distributors participating in multiple programs?
- What, if any, general process improvements for statewide administration could be recommended?

Question or section	Instrument goal
Screener questions	To identify the contact who is most familiar with the sales of high efficiency equipment through the Statewide Foodservice program
General distributor information	Get the contact to think about their business before diving into causal pathway questions
Market effects	Obtain a high-level understanding of efficient products and sales
Stocking	Questions to understand what technologies the distributor keeps in stock and why
Upselling	Questions to determine the impact of the program on the distributors upselling tactics
Pricing	Does the program incentive impact the final price paid by the customer, how much of the incentive is passed on to the contractor or end-user
Market/NTG	These questions are intended to obtain NTG values in the traditional manner by asking the distributor about their sales of high efficiency equipment with and without the program. These are included in the survey to ensure NTG data is collected even if the causal pathway approach is not feasible
Process	Obtain feedback on program awareness, satisfaction, obstacles, and suggestions

Equipment included in Foodservice Instant Rebate Program:

Fuel	Qualifying Equipment	Rebate Amount
Natural Gas	Griddle	$200 per foot
	Rack Oven	$2,000-2,500^{1} per unit
	Conveyor Oven	$1,400 per cavity
	Combination Oven	$1,500 - $3,000^{2} per cavity
	Convection Oven	$700 per cavity
	Fryer	$900 - $1,400^{3} per vat
	Steamer	$2,000 per cavity
	Underfired Broiler	$650 per foot
Electric	Griddle	$200 per foot
	Deck Oven	$1,500 per cavity
	Combination Oven	$1,500 - $3,000^{2} per cavity
	Convection Oven	$600-750^{1} per cavity

	Fryer	$650 per vat
	Hand-Wrap Machine	$125 per unit
	Steamer	$2,000 per cavity
	Hot Food Holding Cabinet	$200 - $750^{1} per unit
	Glass or Solid Door Refrigerator	$70 - $100^{1} per unit
	Refrigerated Chef Base	$250 - $500^{1} per unit
	Glass or Solid Door Freezer	$30 - $350^{1} per unit
	Ice Machine	$70 - $100^{4} per unit
	Ice Making Head	$100 - $250^{4} per unit
	Remote Condensing Unit	$250 per unit
	Ultra-Low Temperature Freezer	$1,200 per unit
	Conveyor Toaster	$600 per unit
Dual Fuel	Dishwasher	$150 - $900^{5} per unit
	Conveyor Broiler	$2,000 - $4,000^{1} per unit
	Demand Controlled Kitchen Ventilation	$700 per HP

Introduction

We've been hired by the California Public Utilities Commission (CPUC) to get a better understanding of the Statewide Third-Party 'Foodservice Instant Rebate program' which was rolled out statewide in 2021.

SCREENING

1. The CPUC Program Administrators deliver incentives through a foodservice instant rebate program that offers point-of-sale rebates to customers through manufacturers, contractors, and distributors. Are you familiar with your company's participation in this program?

2. [IF Q1 = NO] Can you provide me with the contact information for the correct person to speak with?

GENERAL DISTRIBUTOR INFO

3. Today I'd like to ask you about [Measure type 1, Measure type 2, etc.]. What percentage of [Measure_type] do you sell to installation contractors, and what percentage do you sell directly to end-users? End-users are defined as the final customer who owned the equipment. Your best guess is fine.

[NOTE: We will be asking only about the equipment sold by the interviewee]

Technology	Percent sold to Contractors	Percent sold to end-users
Measure_type 1	%	%
Measure_type 2	%	%
Measure_type 3	%	%

Measure_type 4	%	%
Measure_type 5	%	%
Measure_type 6	%	%
Measure_type 7	%	%
Measure_type 8	%	%
Don't know	98	98
Refused	99	99

MARKET EFFECTS

4. What is the strongest driver when it comes to selling high efficiency equipment?

Sales engineers upselling practices	1
Available stock / delivery time	2
ROI or payback calculations	3
Engineer / Architect preferences	4
Manufacturer rebates / promotions	5
Utility rebates	6
Non-rebate activities (e.g., quarterly sales meeting, letter of commitment, market reports)	7
Reduced operations and maintenance (O&M) costs	8
Other (Record)	50
Don't know	98
Refused	99

5. Are there any other drivers you can think of when it comes to selling high efficiency equipment? Please select all that apply.

Sales engineers upselling practices	1
Available stock / delivery time	2
ROI or payback calculations	3
Engineer / Architect preferences	4
Manufacturer rebates / promotions	5
Utility rebates	6
Non-rebate activities (e.g., quarterly sales meeting, letter of commitment, market reports)	7
Reduced operations and maintenance (O&M) costs	8
Other (Record)	50
Don't know	98
Refused	99

6. What is the largest barrier when it comes to selling high efficiency equipment?

Increased cost of HE models	1
Increased size/weight of HE models	2
Increased delivery time of HE models	3
Market demand or turnover rate	4
Sales marketing / educating buyers	5
Unwillingness to get rid of existing equipment	6
Other (Record)	50
Don't know	98
Refused	99

INFLUENCE OF PROGRAM ON SALES

7. On a scale of 1 to 5 with 1 being the lowest influence and 5 being the highest influence, what numerical rating would you give for the influence of the Foodservice Instant Rebate program (e.g., incentives, marketing, outreach, and training) on the selection of high efficiency equipment your company sells?

INFLUENCE OF UPSELLING

8. In situations where your company's sales staff are selling equipment, does the program (e.g., incentives, marketing, outreach and training) influence the efficiency level that your company recommends to buyers?

9. What percent of the time does your company's sales staff recommend high efficiency equipment to buyers?

INFLUENCE OF PRICE

10. Does the incentive impact the final price paid by the buyer?

11. On average, what percentage of the incentive is passed through to the buyer?

MARKET/NTG

12. Approximately what percentage of your company's total unit sales of high efficiency equipment in California in 2021 received incentives through the program?

13. [IF Q12 < 100%] Why did you not receive an incentive for all of the high efficiency unit sales?

14. [LOOP FOR EACH MEASURE; LIMIT TO 3 MEASURES MAX] In 2021 the Foodservice Instant Rebate program offered your company incentives, marketing, outreach and training for each [Measure_type] unit sold. If the program did not exist, do you think your sales of high efficiency [Measure_type] units sold in 2021 would have been about the same, lower, or higher?

    a. [IF Q14 = LOWER] Approximately what percent lower do you estimate sales would be of [Measure_type]s if the program did not exist?

    b. [IF Q14 = HIGHER] Approximately what percent higher do you estimate sales would be of [Measure_type]s if the program did not exist?

    c. [IF Q14 = HIGHER OR SAME] Why?

Technology	Lower or Higher	% lower or higher	Why?
Measure_type 1			
Measure_type 2			
Measure_type 3			
Don't know	98	98	98
Refused	99	99	99

PROCESS

15. When you sell high efficiency equipment, are you able to claim incentives for the same equipment through other programs (e.g., Alameda Municipal Power's Commercial Food Service Rebate program) offered in California in addition to this program?

16. [IF Q15 = Yes] Has there been any confusion around equipment being eligible an incentive through one program but not another?

17. What do your staff typically tell buyers about the Foodservice Instant Rebate program?

18. Prior to 2021, Foodservice programs were run separately by each investor-owned utility (PG&E, SCE, SoCal Gas, and SDG&E). Since it has moved to a statewide program, have you noticed any differences in processes?

19. Please rate your level of satisfaction with each of the following items related to the initiative using a scale of 1 to 5, where 1 is 'very dissatisfied' and 5 is 'very satisfied.'

Your experience overall	Level of Satisfaction
The type of equipment eligible for incentives	
The incentive amount provided to distributors	
Program marketing and outreach	
Program training	
The clarity of information provided about how to participate	
The application process to receive reimbursement	
The pre-approval process for larger sales	
Interactions with program staff	

20. [IF Q19 < 3] You indicated some dissatisfaction with at least one aspect of the program. Why do you say that?

21. Are there any additional technologies you would like the program to offer incentives for?

22. From your perspective, what are the reasons you might be hesitant to recommend high efficiency equipment to your customers? [PROBE BY EQUIPMENT TYPE; ALSO PROBE FOR FIRST COST, RETURN ON INVESTMENT, RELIABILITY, PERFORMANCE, or MAINTENANCE CONCERNS]

23. What obstacles do you face, if any, when participating in the program?

24. What aspects of the program are working well, in your opinion?

25. Based on your experience, which aspects of the program, if any, would you change?

26. Are there any general improvements you would like to see related to program delivery?

27. Thank you for taking the time to complete this survey. Is there anything else you think the California Public Utilities Commission (CPUC) should know about the Statewide Foodservice Instant Rebate Program?

8.6.2 End user survey guide

Statewide Foodservice Instant Rebate Program

Research Questions Addressed:

- What are the ex post gross savings for the evaluated measures? To what extent are the program measures verified as installed?
- To what extent are participating customers satisfied with the programs?
- What, if any, general process improvements for statewide administration could be recommended?
- What percentage of end users are HTR/DACs?

Question or Section	Instrument Goal
Screener questions	To identify the contact's role in the equipment purchase and attribute equipment choice
Equipment	A series of questions to understand whether the buyer (contractor or end-user) replaced their equipment due to equipment failure or replaced it early given concerns it would fail; these are included in the stocking section of the survey
Stocking	Questions to understand what technologies were available to the buyer and how immediate the need was to replace their equipment. Were they impacted in their purchasing decision by what the distributor had in stock at the time?
Upselling	Questions to determine whether the distributor attempted to sell the customer on higher efficiency equipment and whether that upselling led to a purchase
Pricing	Questions to understand the buyer's willingness to pay for higher efficiency technology
Process	Questions to better understand satisfaction, hurdles, and opportunities to participate in the program
Firmographics	Questions characterize customers and their businesses, including firmographics (e.g., organization type, business size, income, % of participants that rent vs own).

Equipment included in Statewide Foodservice Instant Rebate Program:

Fuel	Qualifying Equipment	Rebate Amount
Natural Gas	Griddle	$200 per foot
	Rack Oven	$2,000-2,500^{1} per unit
	Conveyor Oven	$1,400 per cavity
	Combination Oven	$1,500 - $3,000^{2} per cavity
	Convection Oven	$700 per cavity
	Fryer	$900 - $1,400^{3} per vat
	Steamer	$2,000 per cavity
	Underfired Broiler	$650 per foot
Electric	Griddle	$200 per foot

	Deck Oven	$1,500 per cavity
	Combination Oven	$1,500 - $3,000^{2} per cavity
	Convection Oven	$600-750^{1} per cavity
	Fryer	$650 per vat
	Hand-Wrap Machine	$125 per unit
	Steamer	$2,000 per cavity
	Hot Food Holding Cabinet	$200 - $750^{1} per unit
	Glass or Solid Door Refrigerator	$70 - $100^{1} per unit
	Refrigerated Chef Base	$250 - $500^{1} per unit
	Glass or Solid Door Freezer	$30 - $350^{1} per unit
	Ice Machine	$70 - $100^{4} per unit
	Ice Making Head	$100 - $250^{4} per unit
	Remote Condensing Unit	$250 per unit
	Ultra-Low Temperature Freezer	$1,200 per unit
	Conveyor Toaster	$600 per unit
Dual Fuel	Dishwasher	$150 - $900^{5} per unit
	Conveyor Broiler	$2,000 - $4,000^{1} per unit
	Demand Controlled Kitchen Ventilation	$700 per HP

Email Invitation:

From: “California Public Utilities Commission (CPUC) Foodservice Instant Rebate Program Survey" <CPUC.survey@dnv.com>

Subject line: Tell us about your experience with the ‘Foodservice Instant Rebate program

Dear [Customer Name],

How was your recent experience with the Statewide Third-Party ‘Foodservice Instant Rebate program’?

The California Public Utilities Commission (CPUC) are requesting customers provide feedback on their experience with the 2021 Foodservice Instant Rebate program. As a participant in this program, your opinions are important. The CPUC would like your input and perspectives to understand how to best structure future energy efficiency programs designed to serve customers like you. We’re requesting your participation today in this brief survey.

To participate in the survey please click on the following link: [Survey Link]

If this link does not work, please copy the URL below and paste it in your browser address bar: [URL]

Reward for your Participation: As a thank you, you will be entered into a drawing held on [date] for $50 Amazon e-gift card. We will select 5 survey participants to win $50 each. The information gathered will be used solely for research purposes and your individual responses will be kept confidential.

DNV Energy is the research provider retained by the CPUC to help administer this survey. If you'd like to validate the legitimacy of this survey, visit the CPUC website for a listing of this and other CPUC approved research efforts underway: http://cpuc.ca.gov/validsurvey

Thank you in advance for your participation.

DNV Energy on behalf of the CPUC Energy Division

If you would like to unsubscribe from this survey request, please click on this link: [remove]

Introduction

Thank you for clicking the link you received by e-mail to get to this survey. This survey is being administered by DNV (formerly DNV GL) on behalf the California Public Utilities Commission (CPUC). Your answers will help to get a better understanding of the Statewide Third-Party 'Foodservice Instant Rebate program' which was rolled out statewide in 2021.

SCREENING

1. According to our records, your company recently purchased [m1_tech, m2_tech, …] equipment through the Statewide Foodservice Instant Rebate program. Were you involved in the selection and purchase of that equipment?

1	Yes
2	No

2. [IF Q1=No] Please provide the name and email for the person most familiar with the purchase of this foodservice equipment.

1	Name
2	Email
98	Don't Know

3. Did your organization purchase the equipment for …?

1	Use at your own facility
2	Use at another facility owned by your organization
3	A customer at an outside organization
98	Don't Know

4. [IF Q3 = Use at another facility owned by your organization] Is this other facility located in California?

1	Yes
2	No
98	Don't Know

5. Prior to this survey, were you aware of the Foodservice Instant Rebate program?

1	Yes
2	No
98	Don't Know

6. [IF Q5 = NO OR DON'T KNOW] Were you aware of the rebate at the time your organization purchased the equipment?

1	Yes
2	No
98	Don't Know

EQUIPMENT PURCHASE AND VERIFICATION

Throughout this survey, we define "high efficiency" as equipment that is at or above the required efficiency level for the program rebates.

[LOOP THROUGH Q7 – Q14 FOR EACH MEASURE; LIMIT TO 3 MEASURES MAX] [START

MEASURE LOOP]

28. According to our records [m1_tech] was installed in [m1_tech MM and YYYY]. Is this information accurate?

1	Yes
2	No
98	Don't Know

29. [IF Q7 = NO OR DON'T KNOW] When was the equipment installed?

1	[RECORD MONTH/YEAR]
2	We never installed the equipment
98	Don't Know

30. [IF Q8 = WE NEVER INSTALLED THE EQUIPMENT] Does your organization plan on installing the [m1_tech] equipment?

1	Yes
2	No
98	Don't Know

31. [IF Q9 = YES] When do you think your organization will install the equipment?

1	[RECORD MONTH/YEAR]
98	Don't Know

32. [IF Q9 = NO/DON'T KNOW] Why is your organization not installing the equipment?

1	[RECORD RESPONSE]
98	Don't Know

33. [IF Q7 = YES] Is [m1_tech] still installed and operating?

1	Yes
2	No
98	Don't Know

34. [IF Q12 = NO] Why not?

1	[RECORD RESPONSE]
98	Don't Know

12. Was the [m1_tech] replacing existing equipment?

1	Yes
3	No
98	Don't Know

13. [IF Q12 = YES; OTHERWISE SKIP TO Q15] Why did your organization decide to replace your existing equipment? Please select all reasons that apply.

1	It was not functioning at all
2	It was still functioning but with significant performance or maintenance problems
3	It was too expensive to operate/Not energy efficient
4	Our contractor/plumber recommended it
5	We were doing a major renovation in our facility
6	Older unit was undersized
7	Older unit was oversized
50	Other [RECORD RESPONSE]
98	Don't know [EXCLUSIVE]

14. How much longer do you think your old [m1_tech] equipment would have lasted?

1	Less than 1 year
2	1 to 2 years
3	3 to 5 years
4	More than 5 years
98	Don't Know

[END MEASURE LOOP]

15. When your organization purchased the program-qualified foodservice equipment, what factors influenced the equipment choice? Please select all that apply.

1	Energy savings
2	Reduced operation and maintenance costs
3	Equipment price
4	Organization goals/requirements
5	Physical size/space limitations
6	Stretch code/LEED or other design certification
7	Incentives/promotions
8	Brand name/reputation
9	Reliability
10	Recommendation from distributor or contractor
11	Immediate need
12	Non-energy benefits (e.g., reduced water usage; less heat waste from foodservice equipment)
13	Environmental factors
50	Other reasons (please describe):
98	Don't Know [EXCLUSIVE]

16. Did your organization purchase this equipment from a contractor or directly from a distributor?

1	Contractor
2	Distributor
3	[IF > 1 MEASURE] Both – from contractor and distributor
98	Don't Know

STOCKING

17. If efficiency level of the foodservice equipment had not been in stock at your preferred vendor, would your organization have purchased…

1	The same or higher efficiency as what you purchased
2	Standard efficiency on the market at the time
3	Something above standard efficiency on the market, but less efficient than what you purchased
98	Don't know

UPSELLING

18. When your organization purchased the program-qualified foodservice equipment, did the vendor discuss multiple types of equipment to choose from?

1	Yes
2	No
98	Don't Know

19. Did the vendor recommend the equipment your organization eventually purchased?

1	Yes
2	No
98	Don't Know

20. On a scale of 1 to 5 where 1 is "not at all influential," and 5 is "extremely influential," how influential was the vendor's recommendation on your organization's decision to purchase the specific program-qualified foodservice equipment?

1	1 - Not at all influential
2	2
3	3 - Moderately influential
4	4
5	5 – Extremely influential
98	Don't know / Not applicable

21. [IFQ20 >1 OR 'Don't know'] In your own words, please explain how the vendor influenced your organization's purchase decision.

1	[RECORD RESPONSE]
98	Don't Know

PROCESS

22. Did your vendor mention a rebate associated with the program-qualified foodservice equipment you purchased?

1	Yes
2	No
98	Don't Know

23. [IF Q22 = Yes] Did your invoice include a line item for the dollar amount of the discount?

1	Yes
2	No

98	Don't Know

24. On a scale of 1-5 where 1 is 'not at all satisfied' and 5 is 'extremely satisfied', how satisfied are you with your experience with the Foodservice Instant Rebate program?

1	1 – Not at all satisfied
2	2
3	3
4	4
5	5 – Extremely satisfied
98	Don't know

25. [IF Q24 < 3] You indicated some dissatisfaction with the program. Which aspects of the program, if any, would you change?

1	[RECORD RESPONSE]

26. Are there any general process improvements you would like to see to improve program delivery?

1	[RECORD RESPONSE]

FIRMOGRAPHICS

These last questions help the California Public Utilities Commission (CPUC) better understand the participants of the Statewide Third-Party 'Foodservice Instant Rebate program. Your responses will remain anonymous.

27. Does your organization lease or own the space it occupies?

1	Lease / rent
2	Own
3	Own part and lease the remainder
50	Other (Record)
98	Don't know

28. Approximately how many people are employed at your company?

1	1-9
2	10-49
3	50-99
4	100 or more
98	Don't know

29. What is the total enclosed square footage of the portion of the facility that you occupy at this location? Your best estimate is fine.

30. What is the primary language spoken by the majority of your employees?

1	English
2	Spanish
3	Chinese (including Mandarin and Cantonese)
4	Tagalog
5	Vietnamese
6	Korean
7	Prefer not to say
8	Other (please specify)

31. Thank you for taking the time to complete this survey. Before we finish, is there anything else you would like to let us know about your experience with the Statewide Third-Party 'Foodservice Instant Rebate program?

1	[RECORD RESPONSE]

About DNV

DNV is a global quality assurance and risk management company. Driven by our purpose of safeguarding life, property and the environment, we enable our customers to advance the safety and sustainability of their business. We provide classification, technical assurance, software and independent expert advisory services to the maritime, oil & gas, power and renewables industries. We also provide certification, supply chain and data management services to customers across a wide range of industries. Operating in more than 100 countries, our experts are dedicated to helping customers make the world safer, smarter and greener.