



Central Hudson Gas & Electric Corporation

Commercial Lighting Program

2012-2013 Process Evaluation • February 2015



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Executive Summary

Applied Energy Group, Inc. (AEG) was retained by Central Hudson Gas & Electric Corporation ("Central Hudson") to conduct a process evaluation of its Small and Mid-Sized Business Programs. The Small and Mid-Sized Commercial Lighting Programs encourage small and mid-sized commercial customers to replace current interior lighting with energy efficient lighting and lighting controls. Participants receive a free energy audit, incentives cover up to 70 percent of the equipment and installation costs, and zero percent financing to cover the remaining equipment and installation costs.

AEG designed the 2012-3 process evaluation to examine program processes and customer responses to the program. The evaluation identifies methods for gathering data and measuring program results, and makes recommendations for program improvements. To arrive at the final recommendations, AEG performed the following tasks:

- Reviewed program materials and data
- Reviewed program tracking methods
- Updated program logic model and assessed program flow
- Conducted interviews with Central Hudson staff and Lime Energy, the third party implementation contractor
- Conducted interviews with installation contractors
- Conducted surveys of participating customers

Summary of Key Findings

In 2012, Central Hudson was under budget and achieved 63 percent of the small commercial and 74 percent of the mid-sized commercial MWh savings target. Between January 1st and June 30th, Central Hudson spent approximately 20 percent of the small commercial budget and 30 percent of the mid-sized budget while achieving 50 percent and 70 percent of the MWh target, respectively.

In January 25, 2013, the New York DPS authorized Central Hudson to remove the 350 kW eligibility cap from the Mid-Sized Commercial Lighting Program.¹ The Commercial Lighting Program is comprised of two programs, the Small and Mid-Sized Commercial Lighting Programs, which appear to be one program from the customer perspective, but are tracked and reported separately.

Between April 1, 2012 and June 30, 2013, 882 customers participated in the Commercial Incentive Program and 908 projects were incentivized. Small businesses accounted for the vast majority of projects (97 percent).

- The majority of customers paid in a lump sum (67 percent), followed by 24 month financing (16 percent) and 12 month financing (7 percent).
- The majority of activity concentrated in Dutchess (40 percent) and Ulster (32 percent) counties.
- The top 5 most active contractors accounted for 80 percent of total projects.

While the participants surveyed are satisfied with the program overall, the installation process and communication with the Lighting Contractor had the lowest satisfaction rates.

¹ New York DPS. Case 07-M-0548. Order Approving in Part and Denying in Part Central Hudson Gas & Electric Corporation's Petitions to Modify Certain Energy Efficiency Portfolio Standard (EEPS) Programs. January 25, 2013.

Recommendations

AEG has several recommendations on how to improve the program. These include:

Target Larger Commercial Facilities

Small commercial customers account for 43 percent of the DSM portfolio but make up less than 20 percent of the load forecast. Ninety-seven (97) percent of customers that participated between April 1, 2012 and June 30, 2013 were small commercial customers. On January 25, 2013, the New York DPS authorized Central Hudson to remove the 350 kW eligibility cap from the Mid-Sized Commercial Lighting Program.

AEG recommends that Lime work with Central Hudson to target larger commercial facilities. Marketing tactics, such as direct mail and local events, should be targeted towards larger commercial facilities as well as small commercial customers. Where possible, Lime should leverage Central Hudson staff that work closely with larger commercial clients.

Improve Facility Audits

Lime auditors utilize Lime's Audit Tool software to generate a customer proposal. The software provides reference operating hours as well as a full list of eligible measures and the application of each measure. While the software was designed to minimize errors, a Lighting Contractor and Lime noted that there have been issues with material miscounts. Lime noted that number of material miscounts has decreased as the program progresses. However, Central Hudson is concerned that Lime is unable to keep up with the participant backlog and that materials are not ready for installation.

AEG recommends that Lime continue to work closely with the auditors, providing additional training for auditors that continually generate incorrect proposals. Any new auditors hired would optimally have some background with the measures installed.

Update SavingsCentral Website

The SavingsCentral website does not currently offer easily accessible information about the Commercial Lighting Program. Program information is only available within the 'FAQ' section. AEG recommends that Central Hudson work with Lime to develop language for the SavingsCentral website. A program description, Call Center telephone number and link to the sign up for a lighting audit should be available to customers.

Continue to Engage Lighting Contractors

Thirteen (13) Lighting Contractors completed at least one project between April 1, 2012 and June 30, 2013. The top 5 most active contractors accounted for 80 percent of total projects. Nearly all participants surveyed reported that they were satisfied with their Lighting Contractor. The respondents that were not satisfied with the Lighting Contractor were dissatisfied with the professionalism (7 percent), level of customer service (7 percent small) and that the project was not completed on time (4 percent small).

AEG recommends that Lime continue to regularly communicate with the Lighting Contractors and work closely with the Lighting Contractors to improve customer satisfaction.

1. Introduction

Applied Energy Group, Inc. (“AEG”) was retained by Central Hudson Gas & Electric Corporation (“Central Hudson”) to conduct a process evaluation of its Commercial Lighting Program. The program is part of Central Hudson’s effort to help the State of New York meet its goal of reducing statewide electricity usage by 15 percent by 2015.² Central Hudson is a regulated transmission and distribution utility serving approximately 300,000 electric customers and 75,000 natural gas customers in New York State’s Mid-Hudson River Valley, which extends from the suburbs of metropolitan New York City to the Capital District of Albany.

This report describes the key findings from the Commercial Lighting Program process evaluation and provides recommendations for program improvement. Section 2 provides a program overview, Section 3 summarizes the 2011 process evaluation recommendations and Section 4 presents the evaluation approach. Section 5 presents the program flow. Section 6 presents the key findings, including program performance, marketing and program tracking. Section 7 describes opportunities for program improvement and Section 8 provides recommendations.

2. Program Overview

The Commercial Lighting Program encourages commercial customers to replace existing inefficient lighting with energy efficient interior lighting and lighting controls. Through a competitive bidding process, Central Hudson contracted with an exclusive turn-key service provider, Lime Energy (“Lime”).³ Participants receive a free energy audit and report, identifying efficient lighting measures and potential savings, installation costs and anticipated payback. Incentives cover up to 70 percent of the project costs and zero percent financing is available to cover the remaining cost.

The Commercial Lighting Program is comprised of two programs, the Small and Mid-Sized Commercial Lighting Programs, which appear to be one program from the customer’s perspective, but are tracked and reported separately. The New York Department of Public Service (“DPS”) approved a Small Commercial Lighting Program budget of \$17,685,563 for 2012-2015, with a cumulative program energy savings goal of 61,987 MWh.⁴

Table 1 Small Commercial Lighting Program Goals, 2012-2015

	2012	2013	2014	2015
Annual Energy Savings Goal (MWh)	16,018	15,429	15,270	15,270
Participant Goal	1,346	1,297	1,283	1,283

² The New York State Department of Public Service (“DPS”) established the energy efficiency portfolio standard on June 23, 2008. As part of this portfolio standard, the DPS mandated New York State gas and electric utilities and the New York State Energy Research and Development Authority (“NYSERDA”) to administer energy efficiency programs.

³ Lime Energy was awarded the contract in April 2012, replacing Alliance Energy Solutions.

⁴ New York DPS. Case 07-M-0548. Order Approving in Part and Denying in Part Central Hudson Gas & Electric Corporation’s Petitions to Modify Certain Energy Efficiency Portfolio Standard (EEPS) Programs. January 25, 2013.

Table 2 Small Commercial Lighting Program Budget, 2012-2015

	2012	2013	2014	2015
General Administration	\$240,000	\$240,000	\$240,000	\$240,000
Program Marketing	\$50,000	\$50,000	\$50,000	\$50,000
Incentives & Services	\$4,132,618	\$3,771,927	\$3,660,691	\$3,660,691
Direct Program Implementation	\$100,000	\$100,000	\$100,000	\$100,000
Evaluation	\$224,909	\$224,909	\$224,909	\$224,909
Total Budget	\$4,747,527	\$4,386,836	\$4,275,600	\$4,275,600

The New York DPS approved a Mid-Sized Commercial Lighting Program budget of \$5,178,933 for 2012-2015, with a cumulative program energy savings goal of 15,157 MWh.

Table 3 Mid-Sized Commercial Lighting Program Goals, 2012-2015

	2012	2013	2014	2015
Annual Energy Savings Goal (MWh)	3,268	3,857	4,016	4,016
Participant Goal	56	59	60	60

Table 4 Mid-Sized Commercial Lighting Program Budget, 2012-2015

	2012	2013	2014	2015
General Administration	\$90,000	\$90,000	\$90,000	\$90,000
Program Marketing	\$28,000	\$28,000	\$28,000	\$28,000
Incentives & Services	\$739,701	\$1,100,392	\$1,211,628	\$1,211,628
Direct Program Implementation	\$50,000	\$50,000	\$50,000	\$50,000
Evaluation	\$60,896	\$60,896	\$60,896	\$60,896
Total Budget	\$968,597	\$1,329,288	\$1,440,524	\$1,440,524

Central Hudson is an active participant on the Energy Efficiency Program Administrator Collaborative with NYSERDA and the other New York State utilities. Central Hudson is an active participant on the Steering Committee and working groups discussing double dipping / counting, referrals, contractor qualifications, training, and collaborative outreach. Central Hudson has participated in numerous conference calls and meetings with the other utilities in New York State to discuss program operation and structure to minimize market confusion and promote best practices.

3. 2011 Process Evaluation Recommendations

AEG conducted a process evaluation of Central Hudson's 2010-2011 Small and Mid-Sized Commercial Lighting Programs. Recommendations and Central Hudson's actions, in response to the recommendations, are listed below.

Host a Workshop(s) with Alliance and Installation Contractors

Recommendation: AEG recommends that Alliance and Central Hudson host a workshop for the Alliance salespeople and lighting contractors to review the program and participation process as well as the lighting audit process. Participants noted that more knowledgeable staff should be conducting the audits and contractors noted that the Alliance salesperson conducting the audit has, on occasion, ordered the incorrect lighting equipment or number of fixtures. Alliance and Central Hudson should closely monitor installations to ensure that these issues are resolved. The goal is not to completely eradicate errors, but to streamline the participation process and increase communication so the number of issues is minimized.

Central Hudson Action: The new implementation contractor, Lime, takes an active role in making sure contractors and customers are well aware of program offerings. Auditors received training on all of Central Hudson's program offerings.

Assign Projects to an Alliance Project Manager

Recommendation: AEG recommends that Alliance assign a project manager to each lighting project to act as the participating customer's primary contact for the duration of the project. Participants communicate with up to four different groups throughout the program process.

Central Hudson Action: The new implementation contractor, Lime, has a project manager that is the customer contact as well as the Central Hudson contact.

Review Program Offerings and Conduct a Baseline Equipment Study

Recommendation: AEG recommends that, within the next year, Central Hudson conduct a baseline equipment study to identify the type, age and efficiency level of equipment currently being used by small and mid-sized businesses within Central Hudson's territory. The study would inform program design changes and measures to be considered for inclusion in Central Hudson's programs.

Central Hudson Action: Central Hudson expanded its offering to include LED exit signs and down lights and is currently exploring options to offer non-lighting measures. In 2013, CHGE conducted a potential study to show the savings possible in the larger commercial sector. In the EEPS Statewide Research Studies and Joint Evaluations Plan, there is a recommendation for a Statewide Commercial Baseline Study. Project details are still under development by NYSERDA, DPS and other EAG members.

Modify the Data Tracking System and Reporting Format

Recommendation: AEG recommends that Alliance modify the reporting format of the tracking system to minimize Central Hudson's time commitment associated with the New York DPS reporting requirements. Central Hudson finds that there could be a simpler and less time consuming method to track program expenses and projected savings. AEG recommends that Alliance track the number of audits conducted; the data will provide insight into program progress and areas to focus on.

Central Hudson Action: The new implementation contractor, Lime, has an online database that provides real-time data which is helpful for planning and tracking purposes.

4. Evaluation Methodology

AEG designed the process evaluation to examine program processes and customer responses to the program. The focus of the process evaluation activities was to gain a better understanding of program operations, assess the overall effectiveness of program operations, and identify areas for program improvement. The process evaluation was designed to comply with the *New York Evaluation Plan Guidance for EEPS Program Administrators* and the *New York State Process Evaluation Protocols*.

The evaluation was guided by the following key researchable issues:

- Are Central Hudson's requirements being effectively communicated to the program implementer and are those requirements adhered to?
- Does the program implementer have sufficient resources to effectively implement the programs?

- Is the tracking system effective for documenting and reporting program progress?
- Have customer/Lighting Contractor participation rates improved as the programs have developed?
- Are the programs achieving participation and energy savings goals?
- What marketing/promotional efforts resonate with customers? Lighting Contractors?
- Are Lighting Contractors sufficiently knowledgeable about the Central Hudson programs?
- What types of training/education do Lighting Contractors receive?
- Is the rebate processing system effective in managing the application and rebate payment process?
- Are rebate applications processed, approved and paid on a timely basis?
- Are customers/Lighting Contractors satisfied with the program?
- What are the areas for improvement?
- What are the barriers to program participation? How can those barriers be overcome?
- Would customers recommend the program?
- Has program participation generated interest in other Central Hudson programs? In other energy efficiency actions?

The process evaluation included the period from January 1, 2012 through June 30, 2013. To arrive at the final recommendations in this report, AEG undertook the following activities:

Program Materials and Data

AEG reviewed current program documents and processes including, but not limited to, marketing materials, the 2012-2015 implementation plan, and program performance data. The review served as the basis for understanding whether the program has been implemented as planned and is on track to meet its energy savings goals.

Program Flow

AEG updated the program logic model based on interviews with Central Hudson program staff and the third-party implementer. The model shows the linkages among the program's activities, outputs, key program stakeholders and outcomes, and highlights potential external influences.

Program Tracking System

AEG reviewed Lime's program tracking and reporting as well as Central Hudson's tracking database and the reports submitted to the New York DPS.

Central Hudson Staff Interview

AEG conducted a comprehensive, group interview with Central Hudson program staff in August 2013 to get staff impressions of program implementation activities, program performance, marketing and customer awareness, and opportunities for program improvements. Individual interviews with program staff, as well as informal discussions, were conducted between August and October 2013. The individual interviews focused on program delivery issues, program performance, potential areas of improvements and overall program effectiveness.

Third-Party Implementer Interview

Lime Energy was awarded the contract for third-party implementation contractor in April 2012, replacing Alliance Energy Solutions. As third-party implementation contractor, Lime Energy ("Lime") is responsible for program delivery, Lighting Contractors, incentive processing, participant financing, program tracking, and assisting CHGE with marketing. AEG interviewed Lime in October 2013. The interview provided information on program implementation activities, Lighting Contractors, tracking methods, and barriers to increased participation. An interview guide can be found in Appendix A.

Participating Customer Surveys

AEG administered a 10 to 12 minute telephone survey to a sample of program participants to assess program experience and awareness, customer satisfaction, barriers to participation and areas for improvement. A survey guide can be found in Appendix B.

Between April 1, 2012 and June 30, 2013, Central Hudson provided incentives to 908 participants, 877 small and 31 mid-sized commercial participants. Central Hudson provided data for all participants, including business name, account number and telephone number. AEG scrubbed the participant data to remove duplicate electric Central Hudson account numbers from the participant list, thereby accounting for customers that received more than one rebate. The scrubbed participant data included 882 unique participants, 853 small and 29 mid-sized commercial participants. AEG calculated the sample size at a 90 percent confidence interval with an error margin of +/-10 percent. The sample size was calculated at 63 small and 22 mid-sized commercial participants. Participants were then randomly selected based on unique identifiers determined by Microsoft Excel's random number generator. Program participants were contacted based on the unique identifier, beginning with the smallest number.

Seventy-two (72) small commercial surveys and 14 mid-sized commercial surveys were completed. Therefore, the mid-sized commercial survey responses are statistically valid at a 90 percent confidence interval with an error margin of +/-14 percent.⁵

Lighting Contractor Interviews

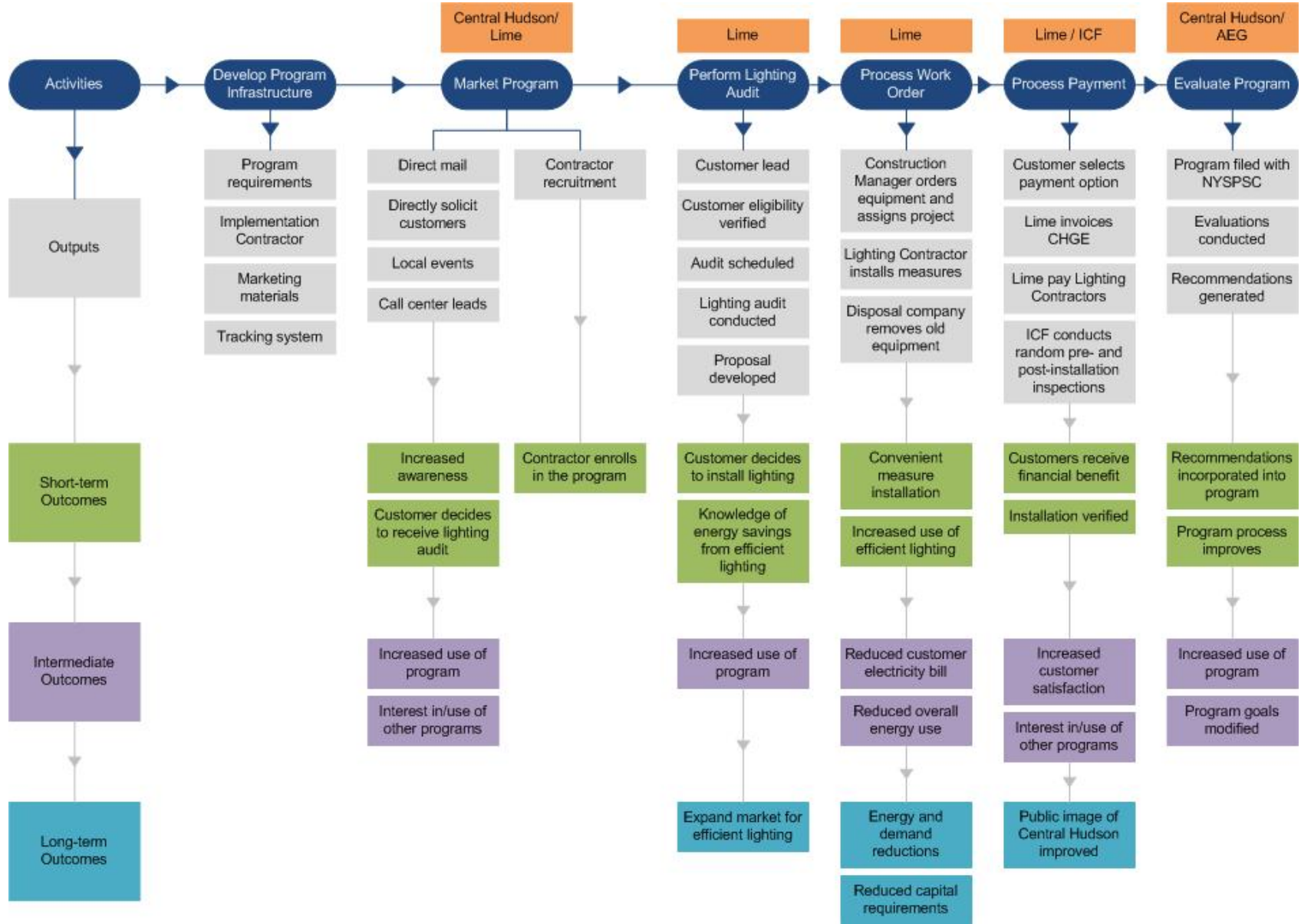
The interviews focused on identifying areas of program effectiveness, overall satisfaction, and identifying barriers to program participation. Two participating lighting contractors were interviewed. The interview guide can be found in Appendix A.

5. Program Flow

The *New York State Process Evaluation Protocols* requires that a process evaluation assess program flow. Logic models are graphic representations of a program and its processes. Logic models make the program's assumptions explicit, showing the causal relationships or linkages among the problem or situation the program is designed to address, the intervention (inputs and outputs), and program impact (short, medium and long-term outcomes). Logic models also serve to identify handoffs of processes and relationships that are critical to the program's performance.

⁵ The number of completed small commercial surveys exceeded the desired sample size of 63.

Figure 1 Program Logic Model



5.1 Program Activities

The program activities and their corresponding outputs help to establish linkages between the situation the program is designed to address and the program's intended outcomes. Program activities include:

Develop Program Infrastructure

Activities include gathering market knowledge, setting program goals, designing the program, developing marketing tactics, and establishing an operating structure. The Commercial Lighting Program was initially launched on May 18, 2009. Central Hudson designed the program and established program goals and utilized a third-party implementation contractor to deliver the program, provide financing and track program progress. As of April 2012, Lime has been the program implementation contractor. Prior to Lime, Alliance Energy Solutions was the implementation contractor.

Lime currently has four local auditors and is looking to hire 1 to 2 additional individuals. Auditors are required to complete six weeks of in-house training, including two weeks of classroom training on items such as the audit tool and types of lighting equipment and two weeks of field training shadowing an experienced auditor. Initial audits are closely watched and auditors given additional assistance as needed.

Market Program

Central Hudson and Lime promote and market the program to non-residential customers and lighting contractors. Lime develops the marketing tactics with approval of Central Hudson. Marketing activities include direct mail, direct customer solicitation, local events and the call center.

Perform Lighting Audit

Lighting audits are scheduled one of two ways:

- 1) Customer schedules an audit via telephone utilizing a toll free number.
- 2) Customer schedules an audit on the Central Hudson website. Customer provides their name, address and contact information.

Customer leads are assigned to a Lime auditor. The auditor verifies customer eligibility and schedules the lighting audit with the customer. Customer eligibility is verified utilizing a database of qualifying customers, based upon electric account number and 6-month history, provided by Central Hudson on a routine basis. If customer eligibility cannot be verified, the Lime representative contacts Central Hudson for verification.

Audits are typically conducted weekdays between 8 a.m. and 6 p.m. but may be conducted on weekends or evenings depending upon participant availability. Audits are typically scheduled two to three weeks in advance. The Lime auditor conducts the facility audit and provides the customer with a proposal, detailing the lighting equipment that could be replaced with energy efficient alternatives, the incentive, project savings and project cost. According to Lime,

Approximately 50 to 65 percent of customers that receive an audit participate in the program. Customers that do not move forward with a project typically have concerns about the project payback period, lack the capital, or business longevity.

Process Work Order

The customer approves the proposal and provides a 10 percent deposit. A Lime Construction Manager reviews the work order, orders the equipment and assigns the work to a Lighting Contractor based upon geographic location and job size. The equipment is typically delivered directly to the Lighting Contractor although equipment is occasionally delivered directly to the customer location or the Lime warehouse. The Lighting Contractor installs the equipment and a disposal company, subcontracted by Lime, removes old lighting equipment from the customer location.

Process Payment

Once the installation is complete, the customer signs the final work order and Lime processes the customer invoice. Customers are offered three payment options:

- 1) Lump sum payment⁶
- 2) 12-month no interest financing
- 3) 24-month no interest financing

Lime provides the customer financing, either through automatic withdrawal of the customer's bank account or the customer's credit card. Lime invoices Central Hudson and pays the Lighting Contractor.

Central Hudson has contracted with ICF to conduct random pre- and post- inspections of ten percent of projects a month to verify that the equipment. New Lighting Contractors may have more projects inspected to ensure quality assurance/quality control of the program.

Evaluate Program

Evaluation activities include process, market and impact studies. Once evaluations are conducted, recommendations for program improvements are generated for Central Hudson and fed back into program design. Central Hudson is responsible for program filings with the New York DPS.

5.2 Outcomes

Outcomes are the result of program partners and target audiences responding to the outputs of the program. There are short-term, intermediate, and long-term outcomes of the program.

Short-term Outcomes

When the program is marketed and promoted, customers and Lighting Contractors may become aware of and interested in the Commercial Lighting Program. Customers and Lighting Contractors may become knowledgeable about the benefits of high efficiency lighting.

Intermediate Outcomes

Intermediate outcomes may include increased use of the program, interest in and use of other Central Hudson programs, reduced overall energy consumption and increased customer satisfaction.

Long-term Outcomes

The long-term outcomes may include energy savings for Central Hudson, reduced utility emissions, and an improved public image of Central Hudson as a utility that responds to customer needs and is considerate of environmental issues.

⁶ Customers receive a discount of 11 percent for lump sum payment.

5.3 External Factors

There are a variety of factors outside the control of Central Hudson and Lime that may influence the program. Documenting these factors help improve program planning by identifying important program partners, the issues the program can realistically influence, and other needs to address the issue.

- Changes in political priorities (e.g. codes and standards, state and local regulations)
- Weather and associated impacts on customer actions and energy bills
- Economy and associated impacts on customer actions
- Energy prices and regulation
- Changes in utility rate structures
- Perceptions in the value of energy efficiency
- Competing interests among demand side customers
- Cost, performance and availability of efficient lighting technology

6. Process Evaluation Findings

This section provides key process evaluation findings, including marketing, program performance, Lighting Contractor participation and program tracking.

6.1 Program Marketing

The Commercial Lighting Program is marketed to non-residential customers through direct mail, direct solicitation, local events, and the call center. Lime develops the marketing tactics with Central Hudson approval. In 2012 and 2013, Central Hudson marketed the program to customers through the following:

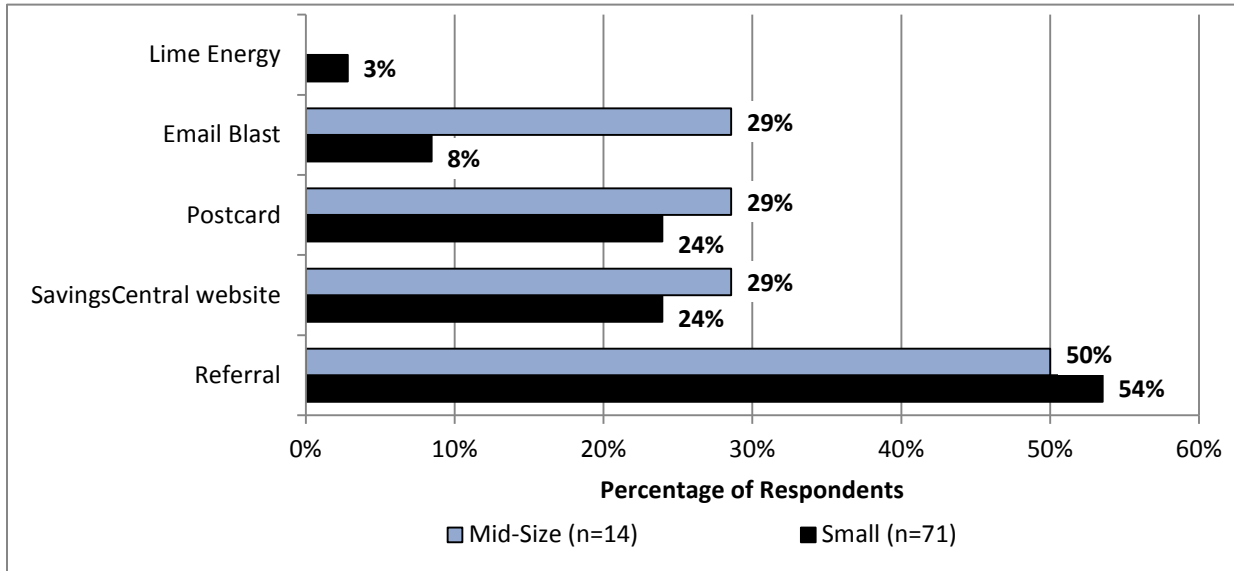
- **Direct Mail.** Postcards were sent to non-residential customers periodically throughout the year.
- **Local Events.** A program representative attended local Chamber of Commerce events, expositions and other pertinent local events frequently attended by non-residential customers.
- **Email.** Email blasts were periodically sent out to potential program participants.
- **Call Center.** The call center gathered daily email leads of interested customers that contacted the call center for information about the program.
- **Direct Solicitation.** The Lighting Contractors directly solicited customers, visiting local businesses and distributing marketing materials to potential customers.

Figure 2 Postcard



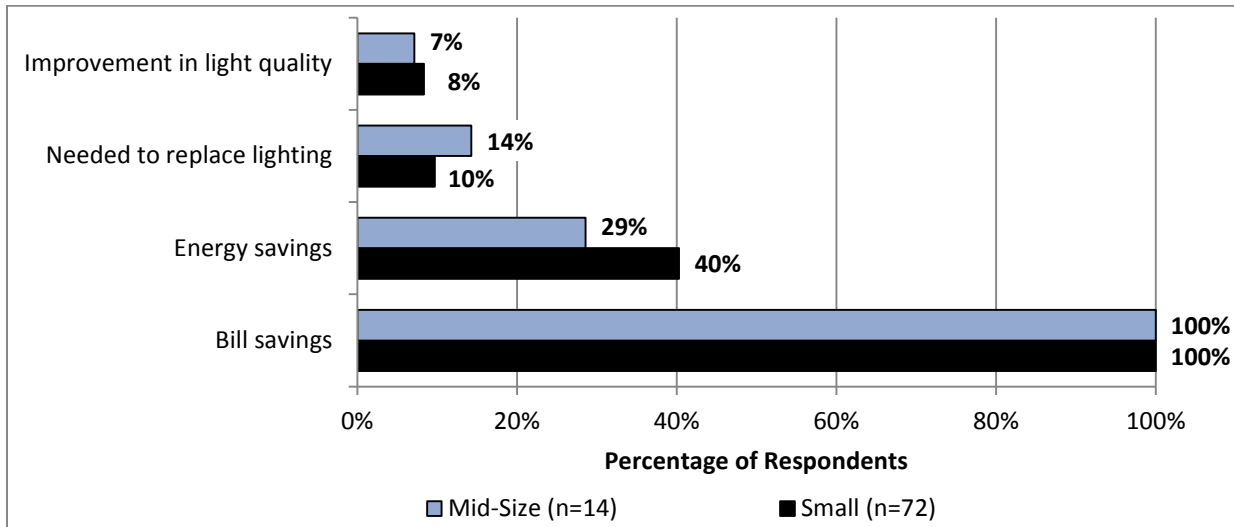
According to the participant surveys, participants first became aware of the program via referral (approximately 50 percent) followed by the Savings Central website and the postcard (approximately 25 percent respectively). Few respondents reported finding about the program from the implementation contractor.

Figure 3 Participant Program Awareness



All survey respondents reported that bill savings was among the primary reason for participating in the program. Respondents also noted that energy savings, the need to replace lighting and an improvement in light quality were reasons for participating in the program.

Figure 4 Participant Motivations



6.2 Program Performance

The Commercial Lighting Program was initially launched on May 18, 2009 and implemented by Alliance Energy Solutions until Lime took over in April 2012. Central Hudson and Lime hold weekly conference calls. Central Hudson noted that some transition issues with staffing and auditors have been resolved.

The program has been modified three times:

1. **May 2009 to November 2010.** The Small and Mid-Sized Commercial Electric Programs offered incentives to non-residential electric customers to purchase and install a variety of energy efficiency equipment including motors, HVAC equipment and lighting.⁷ Small commercial customers had an average electric demand of less than 100 kW and mid-sized customers had an average electric demand between 100 and 350 kW, based on average monthly usage.
2. **November 2010 to January 2013.** The programs were restructured and the Small and Mid-Sized Commercial Lighting Programs launched on November 1, 2010. The programs offered incentives to replace existing inefficient lighting with energy efficient interior lighting and lighting controls. The programs appeared to be one program from the customer perspective.
3. **January 2013 to Present.** On January 25, 2013, the New York DPS authorized Central Hudson to remove the 350 kW eligibility cap from the Mid-Sized Commercial Lighting Program.⁸ The programs continue to appear to be one program from the customer perspective.

In 2012, Central Hudson was under budget and achieved 63 percent of the small commercial and 74 percent of the mid-sized commercial MWh savings target. However, the energy savings accrued and incentive dollars spent by Alliance Energy Solutions between January and April 2012 were accounted for in 2011. Between January 1, 2012 and June 30, 2013, Central Hudson spent approximately 20 percent of the small commercial budget and 30 percent of the mid-sized budget while achieving 50 percent and 70 percent of the MWh target, respectively. Based on this information, both programs are on target to meet the 2013 MWh savings targets.

Table 5 Small Commercial Program Budget versus Expenditures

	2012			2013		
	Budget	Expenditures	% Spent	Budget	Expenditures (Jan - June)	% Spent
Administration	\$240,000	\$192,409	80%	\$287,591	\$116,572	41%
Marketing	\$50,000	\$43,388	87%	\$56,612	(\$4,215)	-7%
Trade Ally Training	\$20,000	\$0	0%	\$20,000	\$0	0%
Incentives	\$3,763,284	\$1,262,582	34%	\$6,272,629	\$1,378,790	22%
Implementation	\$200,000	\$21,516	11%	\$278,484	\$14,725	5%
Evaluation	\$224,909	\$112,175	50%	\$337,643	\$86,735	26%
Total Budget	\$4,498,193	\$1,632,070	36%	\$7,252,959	\$1,592,607	22%

⁷ The Small Business Program was approved on January 16, 2009 in order 08-E-1019. The Mid-Sized Business Program was approved on October 23, 2009 in order 08-E-1135.

⁸ New York DPS. Case 07-M-0548. Order Approving in Part and Denying in Part Central Hudson Gas & Electric Corporation's Petitions to Modify Certain Energy Efficiency Portfolio Standard (EEPS) Programs. January 25, 2013.

Table 6 Mid-Sized Commercial Program Budget versus Expenditures

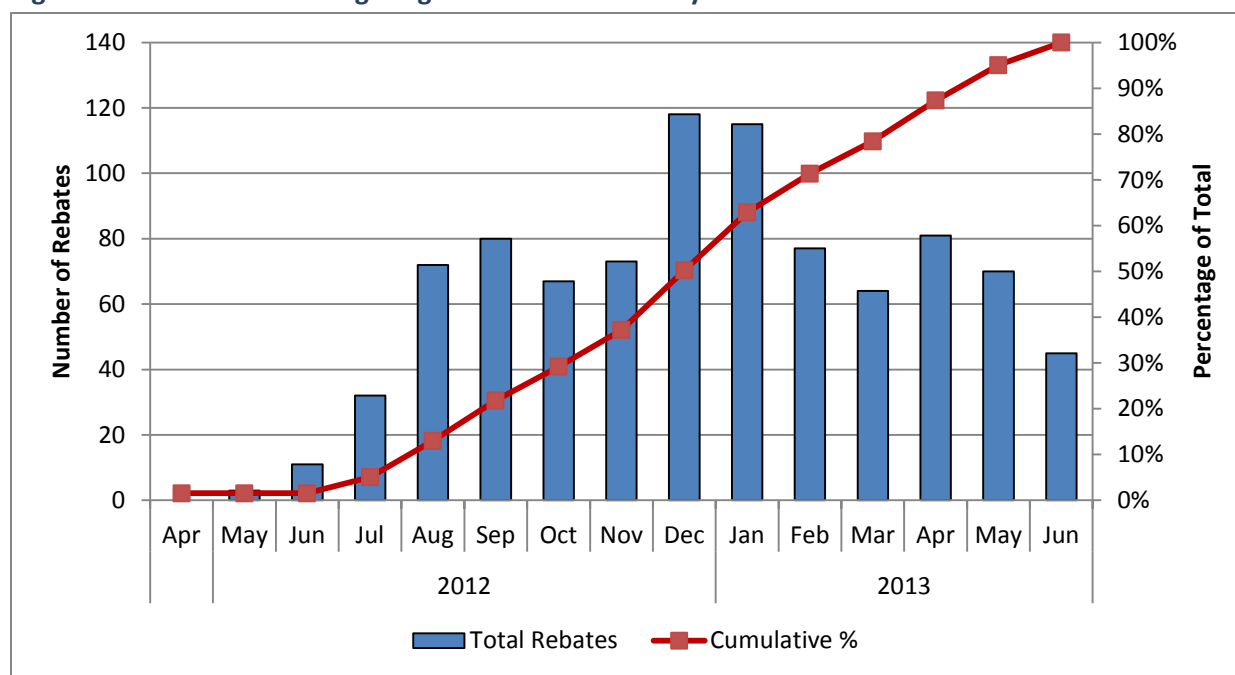
	2012			2013		
	Budget	Expenditures	% Spent	Budget	Expenditures (Jan - June)	% Spent
Administration	\$90,000	\$70,761	79%	\$109,239	\$40,880	37%
Marketing	\$28,000	\$20,087	72%	\$35,913	\$0	0%
Trade Ally Training	\$5,000	\$0	0%	\$5,000	\$0	n/a
Incentives	\$984,035	\$416,902	42%	\$1,667,525	\$540,993	32%
Implementation	\$50,000	\$14,727	29%	\$85,273	\$4,854	6%
Evaluation	\$60,896	\$47,033	77%	\$74,759	\$22,076	30%
Total Budget	\$1,217,931	\$569,510	47%	\$1,977,709	\$608,803	31%

Table 7 Savings Targets versus Savings Achieved

	Small Commercial		Mid-Sized Commercial	
	2012	2013 (Jan - June)	2012	2013 (Jan - June)
MWh Savings Target	16,018	15,429	3,268	3,857
MWh Savings Achieved	10,122	7,371	2,403	2,605
% Achieved	63%	48%	74%	68%

Between April 1, 2012 and June 30, 2013, 882 customers participated in the Commercial Incentive Program and 908 projects were incentivized. Small businesses accounted for the vast majority of projects (97 percent). Program activity began to ramp up during the summer of 2012 and remained steady through 2013, with a spike of activity in December 2012 and January 2013.

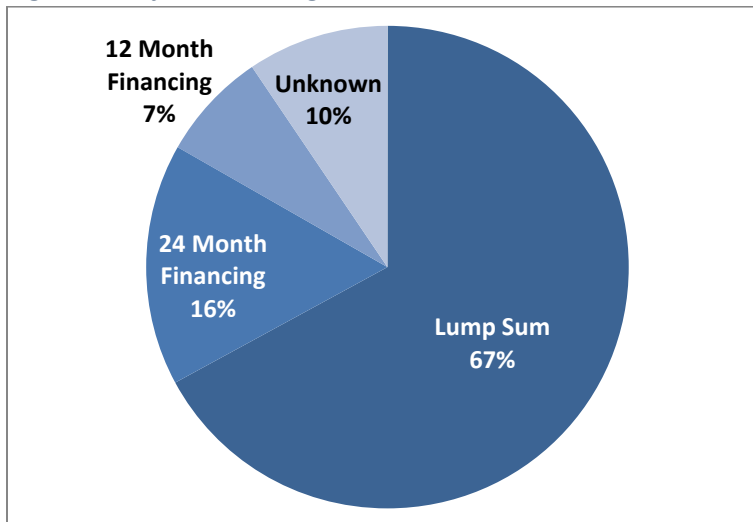
Figure 5 Total Commercial Lighting Rebates Processed by Month



The majority of customers surveyed noted that they owned their facility (74 percent small and 79 percent mid-sized). Ninety-three (93 percent) of small commercial and 86 percent of mid-sized commercial customers surveyed noted they scheduled an audit of their facility via phone. The remainder scheduled an audit via the SavingsCentral website. One mid-sized commercial customer participated in the Commercial Natural Gas Program.

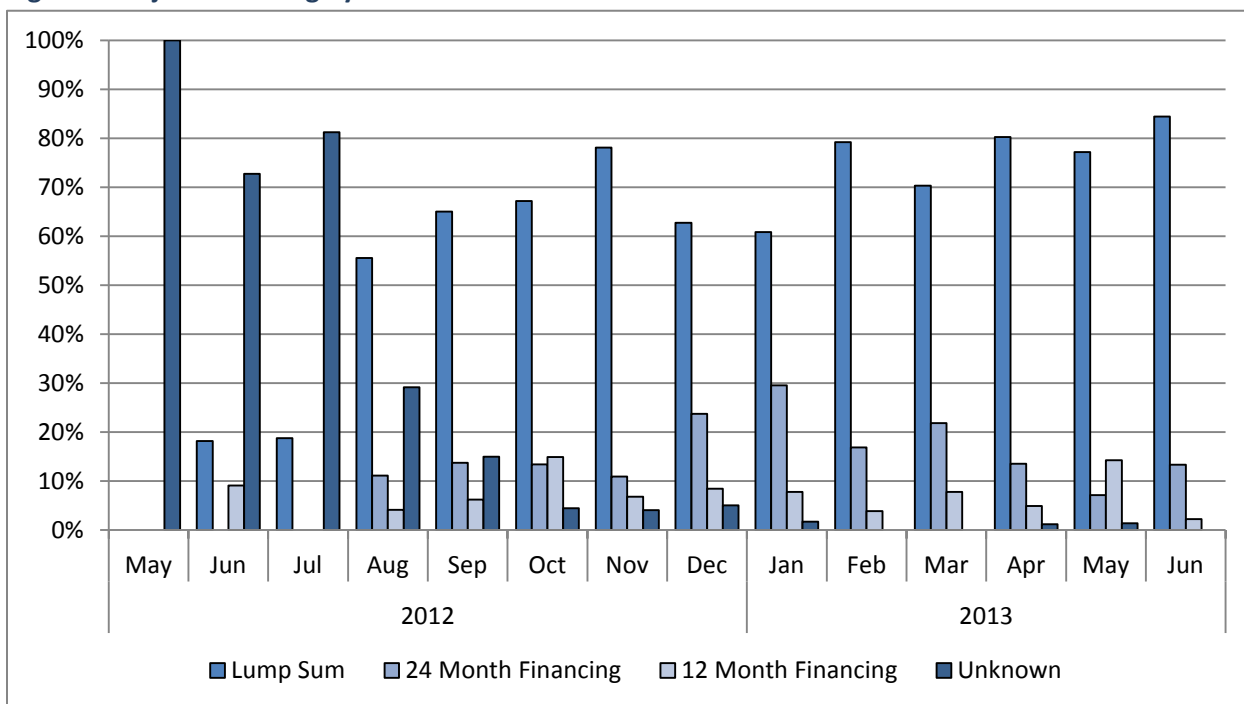
Program participants were given the option of paying the non-incentivized portion of the project in a lump sum or utilize financing. The majority of customers paid in a lump sum (67 percent), followed by 24 month financing (16 percent) and 12 month financing (7 percent).

Figure 6 Project Financing



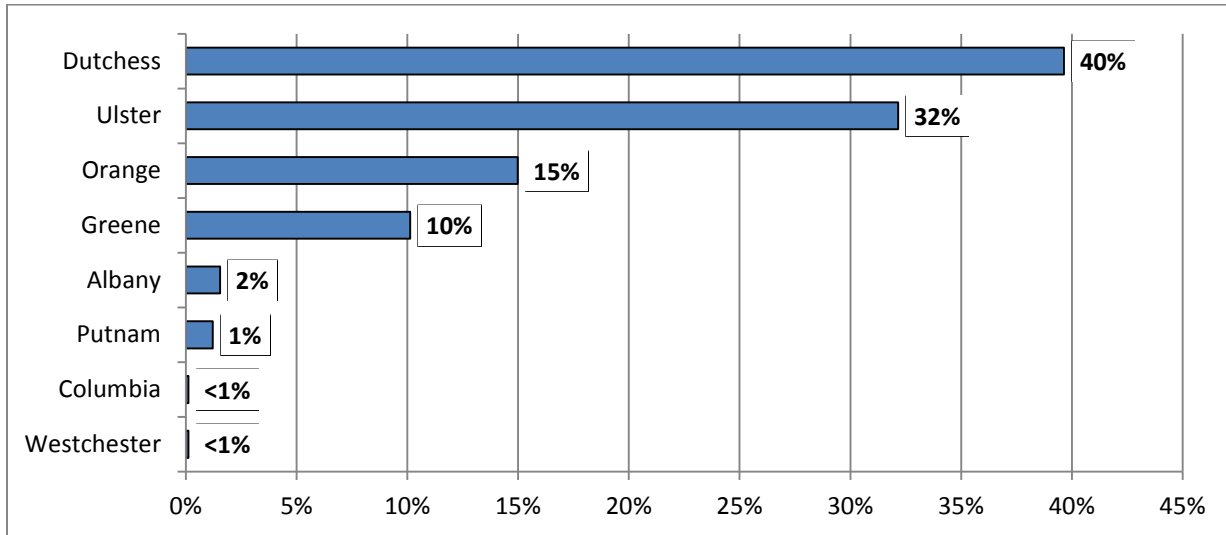
The number of program participants that paid the non-incentivized portion of the project in a lump sum remained relatively stable over 2012 and 2013. The number of 'unknown' payment types decreased dramatically in August 2012, signaling there may have been a program tracking issue that was resolved. However, there were still 'unknown' payment types as of April and May 2013.

Figure 7 Project Financing by Month



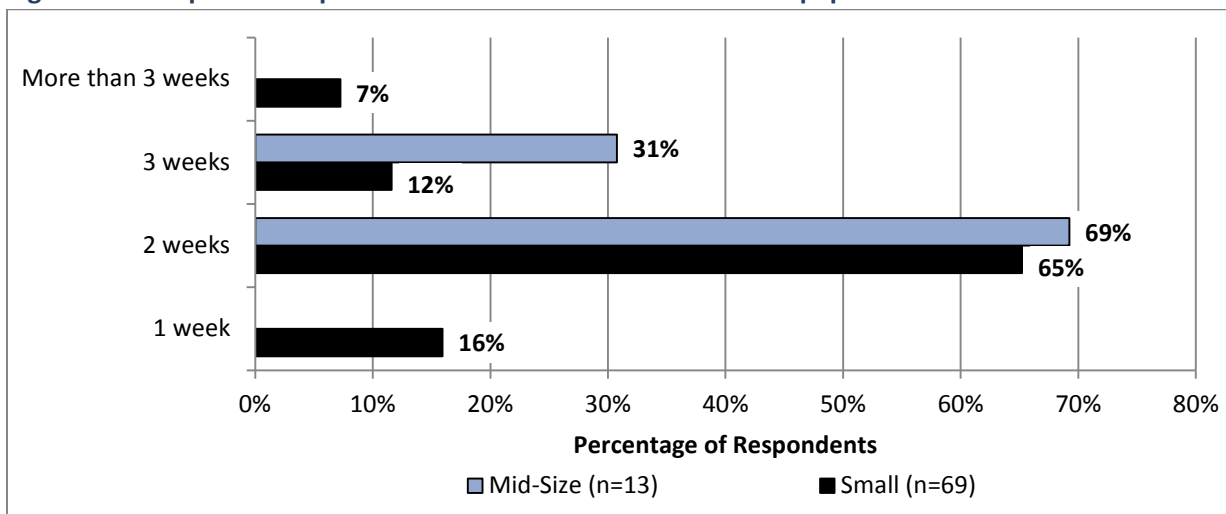
Program activity spanned across the eight counties within Central Hudson's service territory with the majority of activity concentrated among businesses in Dutchess (40 percent) and Ulster (32 percent) counties.

Figure 8 Total Projects by County



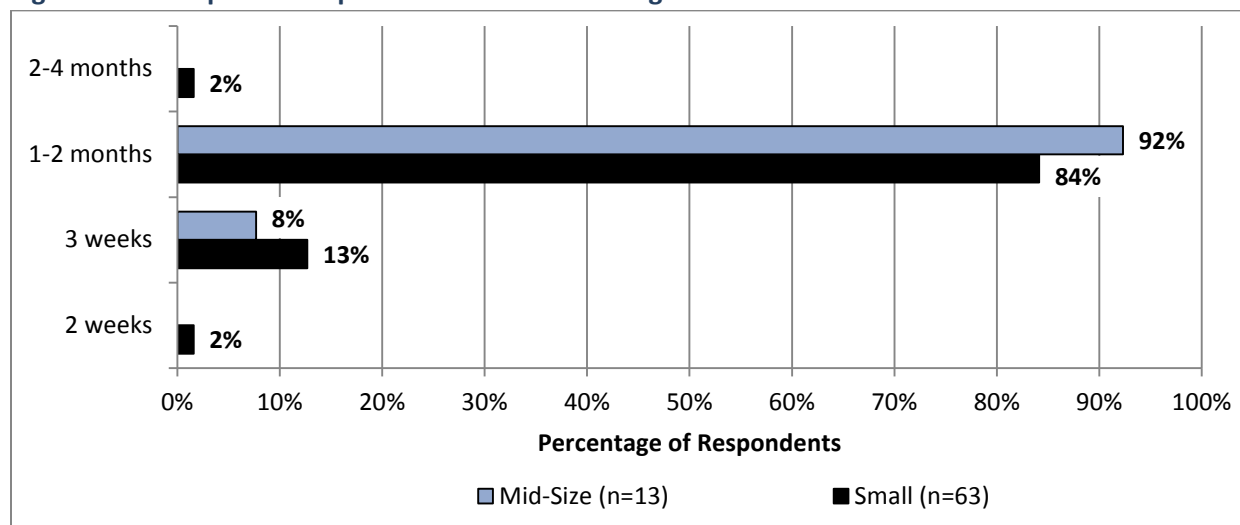
The majority of participants surveyed reported that it took approximately 2 weeks for the equipment to be installed after the audit was completed and the proposal approved.

Figure 9 Participant Perception of Duration between Audit and Equipment Installation



The majority of participants surveyed reported that it took 1-2 months to receive the rebate after the equipment was installed.

Figure 10 Participant Perception of Rebate Processing Duration

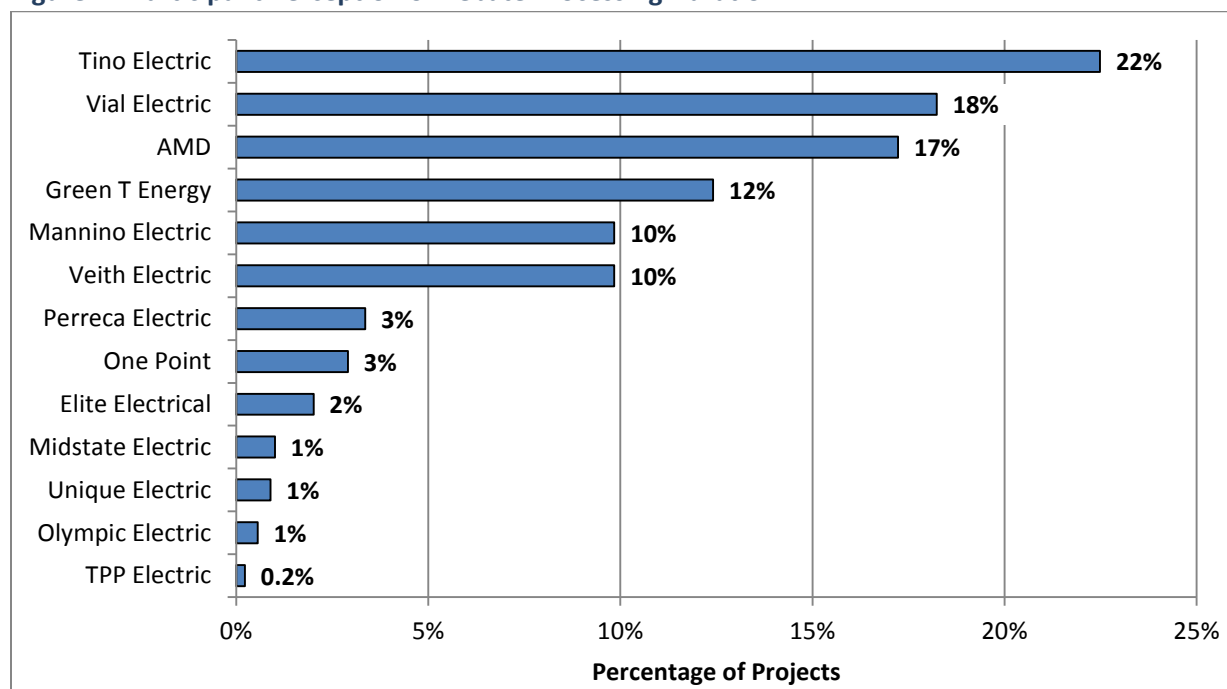


Approximately 15 to 20 percent of customers surveyed reported that they were planning to install the efficient lighting equipment within three months of participating in the program. Those customers had not installed the equipment because of factors such as cost, uncertainty regarding the potential savings, and business priorities.

6.3 Lighting Contractor Participation

Thirteen (13) Lighting Contractors completed at least one project between April 1, 2012 and June 30, 2013. The top 5 most active contractors accounted for 80 percent of total projects. Lime noted that Lighting Contractor participation varies; some contractors are very active in the program while others take on only a few projects a year.

Figure 11 Participant Perception of Rebate Processing Duration



Lime Corporate reviews and approves the Lighting Contractors based upon the following criteria:

- Must meet insurance requirements
- Experience
- Must agree to prevailing wage
- Must agree to the program pricing format
- Background checks

The Lime Construction Manager and/or Assistant Construction Manager communicate with the Lighting Contractors on a daily basis. Lime also provides safety training and hosts breakfast meetings with Central Hudson and the Lighting Contractors.

6.4 Tracking System

The Commercial Lighting Program is tracked by Lime and ICF. Central Hudson submits a monthly, quarterly and annual scorecard report to the New York DPS with each program's progress to-date, including participation, energy savings and budget.

- Lime tracks program participation as well as energy and demand savings.
- ICF tracks the project inspections.

Lime Energy's Direct Install™ is a secure, cloud-based platform that delivers real-time Customer Relationship Management, field audit data collection and customer record tracking. The platform contains multiple features that track customer participation.

Quickbase: Customer Service Representatives create a customer profile for each customer that contacts the call center for information about the Commercial Incentive Program. Customer leads are emailed to Lime on a daily basis and subsequently distributed to Lime auditors on a weekly basis. The auditors update the customer's status in their customer profile.

Audit Tool: Lime auditors utilize the software during the customer facility audit to generate a proposal. The software can be accessed remotely via an iPad or other mobile device. The auditor updates facility information, such as email and contact person, records existing fixtures by room, and develops operating hours by room with facility manager input. The Audit Tool contains reference operating hours as well as a full list of eligible measures and the application of each measure.

Direct Install: Each project is given an ID number. Upon customer approval of the proposal, the proposal is sent to the Lime Construction Office. A Construction Manager reviews the work order to verify the measures are correct, develops labor and material purchase orders and assigns the work to a Lighting Contractor. The Lighting Contractor completes the project and gets a completion certificate. The certificate is sent to the Lime Construction Office and subsequently to billing.

Central Hudson can access the Quickbase and Direct Install platforms to review the customer leads, audits, stages of construction and completed projects. The Quickbase and Direct Install platforms allow the user to drill into the high-level data and view detailed participant data. Central Hudson has read-only rights to the platforms.

ICF conduct inspections of ten percent of projects a month, assessing program experience and verifying the lighting equipment installed. The inspection includes pre- and post-project verification of the lighting equipment, energy and demand usage, and annual lighting hours.

6.5 Program Satisfaction

AEG assessed program satisfaction through a participant survey, interviews with Central Hudson and Lime, and Lighting Contractor interviews. Overall, all parties are very satisfied with the program. The Lighting Contractors are very satisfied with the program and one Lighting Contractor noted that

Lime staff is great to work with.

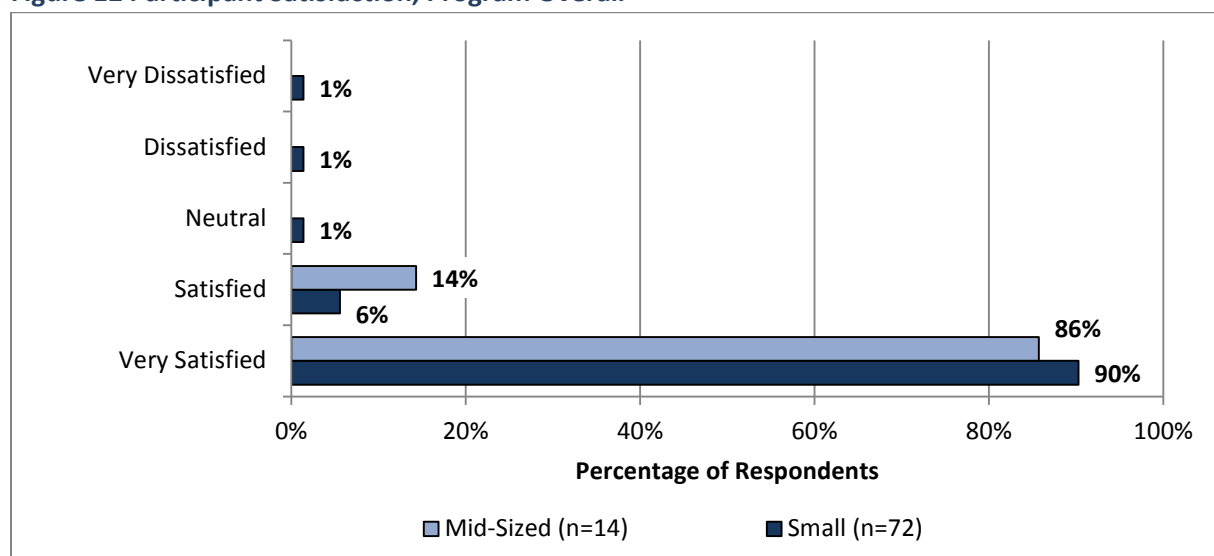
Central Hudson noted that there were transition issues involving staffing and auditors, program savings, and paying Lighting Contractors that were resolved. However, Central Hudson has two concerns:

- 1) Small commercial customers account for 43 percent of the DSM portfolio but make up less than 20 percent of the load forecast.
- 2) Lime is unable to keep up with the participant backlog and that materials are not ready for installation.

A Lighting Contractor noted that there were often issues with the number of fixtures purchased. If an error occurs, Lime sends a change order and provides new materials. The customer must also sign off on the change. Lime noted that there are few issues with the Commercial Incentive Program. Typical problems include miscounting materials and needing to reorder. Lime closely watches the Lighting Contractors and auditors and has found that the program is moving well and there are fewer miscounts as the program progresses.

Ninety (90) percent of small and 86 percent of mid-sized commercial participants surveyed noted that they were very satisfied with the Commercial Incentive Program.

Figure 12 Participant Satisfaction, Program Overall



While the participants surveyed are satisfied with the program overall, the installation process and communication with the Lighting Contractor had the lowest satisfaction rates.

Table 8 Small Commercial Participant Satisfaction

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Enrollment process	100%	-	-	-	-
Auditor	99%	-	1%	-	-
Installation process	79%	4%	7%	4%	6%
Performance of the new equipment	85%	3%	8%	3%	1%
Financing options	88%	2%	8%	2%	2%
Rebate processing time	91%	5%	3%	-	2%
Communication with the Contractor	79%	6%	4%	3%	8%

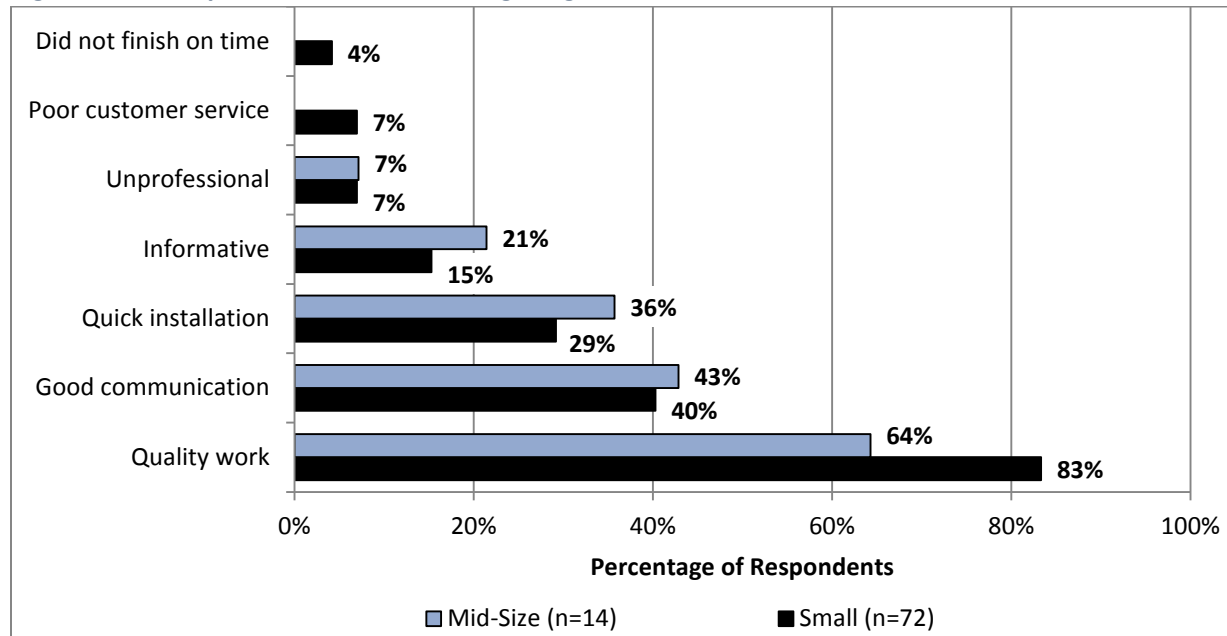
Table 9 Mid-Sized Commercial Participant Satisfaction

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Enrollment process	93%	7%	-	-	-
Auditor	86%	14%	-	-	-
Installation process	86%	7%	7%	-	-
Performance of the new equipment	71%	14%	14%	-	-
Financing options	77%	15%	8%	-	-
Rebate processing time	69%	31%	-	-	-
Communication with the Contractor	86%	7%	-	-	7%

All participants surveyed found the auditor knowledgeable. Ninety-seven (97) percent of small commercial customers surveyed felt that the proposal provided sufficient detail while the remaining 3 percent requested additional detail. Approximately 10 percent of small commercial customers surveyed noted that the final cost of the project differed from the cost quoted in the proposal.

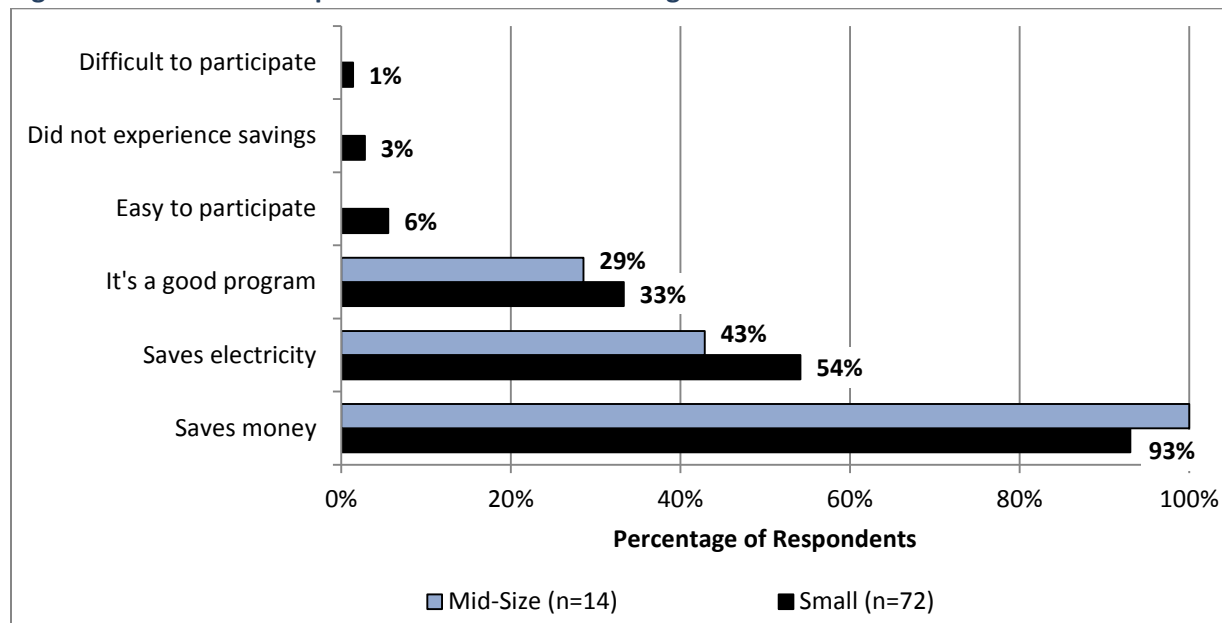
Nearly all participants surveyed (90 percent small and 93 percent mid-sized) reported that they were satisfied with the Lighting Contractor that installed the lighting equipment. Respondents were pleased with the quality of work, the communication and quick installation. The respondents that were not satisfied with the Lighting Contractor were dissatisfied with the professionalism, level of customer service and that the project was not completed on time.

Figure 13 Participant Satisfaction with Lighting Contractor



All mid-sized and 96 percent of small commercial participants surveyed reported that they would recommend the program to other customers, primarily for the bill savings. Of the three customers that would not recommend the program, one found it difficult to participate and two have found that their electricity bills have increased since participating in the program. The figure below shows the key reasons participants would recommend the program.

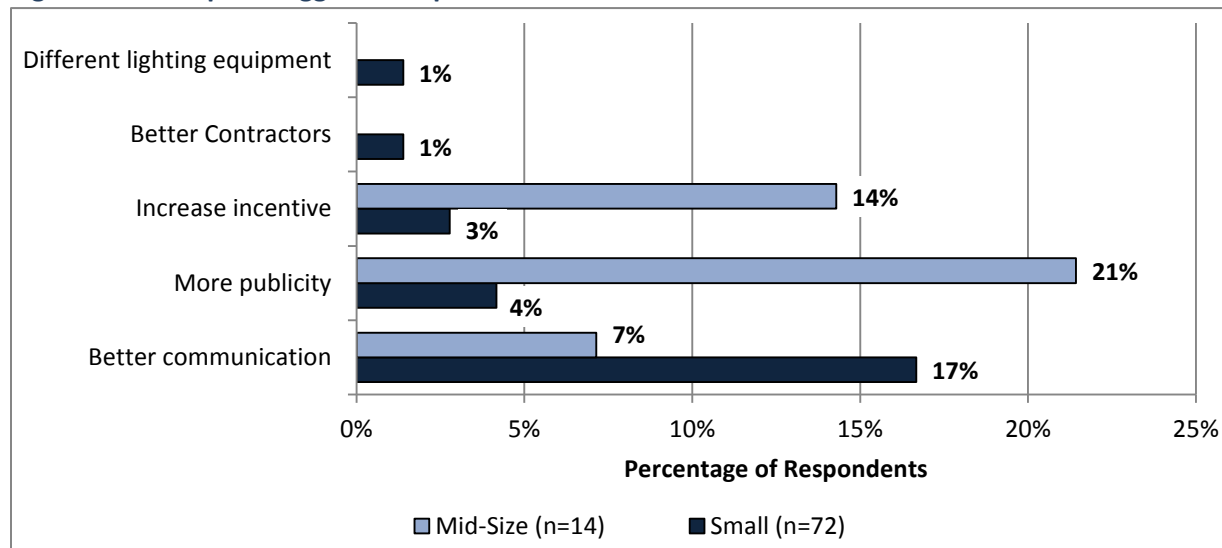
Figure 14 Reasons Participant Would Recommend Program



7. Opportunities for Improvement

Participants surveyed were asked if they had suggestions for program improvements. The primary suggestions included better communication, more publicity and increased incentives. Central Hudson added energy efficient refrigeration measures to the program in 2014.

Figure 15 Participant Suggested Improvements



8. Conclusions and Recommendations

In 2012, Central Hudson was under budget and achieved 63 percent of the small commercial and 74 percent of the mid-sized commercial MWh savings target. Between January 1st and June 30th, Central Hudson spent approximately 20 percent of the small commercial budget and 30 percent of the mid-sized budget while achieving 50 percent and 70 percent of the MWh target, respectively.

In January 25, 2013, the New York DPS authorized Central Hudson to remove the 350 kW eligibility cap from the Mid-Sized Commercial Lighting Program.⁹ The Commercial Lighting Programs continue to appear to be one program from the customer perspective.

Between April 1, 2012 and June 30, 2013, 882 customers participated in the Commercial Incentive Program and 908 projects were incentivized. Small businesses accounted for the vast majority of projects (97 percent).

- The majority of customers paid in a lump sum (67 percent), followed by 24 month financing (16 percent) and 12 month financing (7 percent).
- The majority of activity concentrated in Dutchess (40 percent) and Ulster (32 percent) counties.
- The top 5 most active contractors accounted for 80 percent of total projects.

While the participants surveyed are satisfied with the program overall, the installation process and communication with the Lighting Contractor had the lowest satisfaction rates.

AEG has several recommendations on how to improve the program. These include:

Target Larger Commercial Facilities

Small commercial customers account for 43 percent of the DSM portfolio but make up less than 20 percent of the load forecast. Ninety-seven (97) percent of customers that participated between April 1, 2012 and June 30, 2013 were small commercial customers. On January 25, 2013, the New York DPS authorized Central Hudson to remove the 350 kW eligibility cap from the Mid-Sized Commercial Lighting Program.

AEG recommends that Lime work with Central Hudson to target larger commercial facilities. Marketing tactics, such as direct mail and local events, should be targeted towards larger commercial facilities as well as small commercial customers. Where possible, Lime should leverage Central Hudson staff that work closely with larger commercial clients.

Improve Facility Audits

Lime auditors utilize Lime's Audit Tool software to generate a customer proposal. The software provides reference operating hours as well as a full list of eligible measures and the application of each measure. While the software was designed to minimize errors, a Lighting Contractor and Lime noted that there have been issues with material miscounts. Lime noted that number of material miscounts has decreased as the program progresses. However, Central Hudson is concerned that Lime is unable to keep up with the participant backlog and that materials are not ready for installation.

⁹ New York DPS. Case 07-M-0548. Order Approving in Part and Denying in Part Central Hudson Gas & Electric Corporation's Petitions to Modify Certain Energy Efficiency Portfolio Standard (EEPS) Programs. January 25, 2013.

AEG recommends that Lime continue to work closely with the auditors, providing additional training for auditors that continually generate incorrect proposals. Any new auditors hired would optimally have some background with the measures installed.

Update SavingsCentral Website

The SavingsCentral website does not currently offer easily accessible information about the Commercial Lighting Program. Program information is only available within the 'FAQ' section. AEG recommends that Central Hudson work with Lime to develop language for the SavingsCentral website. A program description, Call Center telephone number and link to the sign up for a lighting audit should be available to customers.

Continue to Engage Lighting Contractors

Thirteen (13) Lighting Contractors completed at least one project between April 1, 2012 and June 30, 2013. The top 5 most active contractors accounted for 80 percent of total projects. Nearly all participants surveyed reported that they were satisfied with their Lighting Contractor. The respondents that were not satisfied with the Lighting Contractor were dissatisfied with the professionalism (7 percent), level of customer service (7 percent small) and that the project was not completed on time (4 percent small).

AEG recommends that Lime continue to regularly communicate with the Lighting Contractors and work closely with the Lighting Contractors to improve customer satisfaction.

Appendix A. Implementation Contractor Interview Guide

Program Operations

1. Describe your role/responsibilities (e.g. customer service).
2. How frequently do you interact with Central Hudson staff?
3. What changes have been made to the program since 2011?
4. Explain how customer rebates are processed.
 - a. How is eligibility verified?
 - b. What are the QA/QC policies?

Lighting Contractors

5. Describe the role/responsibilities of the Lighting Contractors.
6. How are the Lighting Contractors recruited?
7. How often do you communicate with the Lighting Contractors?
8. What type of support/training is provided?
9. Have there been any issues with the Lighting Contractors? How are these issues dealt with?
10. How many Lighting Contractors are participating in the program?

Marketing

11. How is the program marketed to customers?
12. How are marketing and outreach activities tracked?
13. What marketing and outreach methods are most effective in reaching customers?

Program Tracking

14. Describe the current program tracking database.
15. What program data are tracked and captured?
16. How are the data managed and maintained?
17. Is the database updated on a timely basis with customer data?
18. Is the database information readily available?

Program Satisfaction/Barriers

19. Have you received any customer/Lighting Contractor feedback regarding the program, satisfaction and opportunities for improvement?
20. Do you have an indication of the level of customer satisfaction with the service and quality of work provided by the Lighting Contractors?
21. What do you see as the biggest barriers to program participation?
22. How could the program be improved?

Comments

Appendix B. Program Participant Survey Guide

Hello, my name is _____ and I'm calling on behalf of Central Hudson Gas & Electric.
According to our records, your household participated in Central Hudson's Commercial Lighting Program.

Do you recall participating in the program?

- Yes
- No (*"The program provides rebates to commercial customers to upgrade to efficient lighting." If they still do not remember, ask if there is someone else you can speak to. If no, **Terminate Interview.***)

May I ask you a few questions about your participation?

- Yes
- No (*See if they agree to another date/time: If "No," thank them for their time and exit.*)

Program Participation

1. How did you first become aware of the program?
 - Lime Energy
 - SavingsCentral website
 - Radio
 - Referral
 - Postcard
 - Email Blast
2. Why did you decide to participate?
 - Energy savings
 - Bill savings
 - Needed to replace lighting
 - Improvement in light quality
3. How did you schedule the energy audit?
 - Phone
 - Internet
4. About how much time passed between scheduling the audit and the appointment?
 - Less than 1 week
 - 1 week
 - 2 weeks
 - 3 weeks
 - More than 3 weeks
5. Was the auditor knowledgeable?
 - Yes (explain)
 - No (explain)
6. Did the project proposal provide sufficient detail?
 - Yes (explain)
 - No (explain)
7. Did the final project cost differ from the cost quoted in the proposal?
 - Yes (explain)
 - No (explain)

8. About how long did it take to receive the rebate from the time the equipment was installed?
 - 1 week
 - 2 weeks
 - 3 weeks
 - 1-2 months
 - 2-4 months
 - More than 4 months
9. Were you satisfied with the contractor that installed the equipment?
 - Yes
 - No
10. Why do you say that?
 - Quality work
 - Quick installation
 - Informative
 - Good communication
 - Did not finish on time
 - Unprofessional
 - Poor customer service

11. Rate your satisfaction with the following program components on a five-point scale, where ‘5’ means ‘Very Satisfied’ and ‘1’ means ‘Very Dissatisfied.’ How satisfied were you with the:

	5	4	3	2	1
Enrollment Process					
Auditor					
Installation Process					
Performance of equipment installed as compared to the equipment replaced					
Financing options					
Rebate processing time					
Communication with contractor					
Program overall					

Free Ridership

12. Had you been planning to purchase and install the EXACT SAME lighting equipment, within three months of participating in the program?
 - Yes
 - No (skip to Q14)
13. What factors had kept you from installing the efficient lighting equipment before participating
 - Cost
 - Not a priority
 - Unsure of savings potential
14. If Central Hudson had NOT offered the incentive, how likely is it that you would have purchased and installed the EXACT SAME lighting equipment within 3 months of participating in the program?
 - Very likely
 - Somewhat likely
 - Neutral
 - Somewhat unlikely
 - Very unlikely

Spillover

15. As a result of your participation in the program, have you taken any other steps to reduce your energy use?
- Yes
 - No (skip to Q17)

16. Have you taken the following actions?

If YES, “How much influence did the program have in this decision?”

Action	No	Yes	Program Influence (1-4)
Replace incandescent light bulbs with CFLS/LEDs			
Install efficient HVAC equipment			
Install / upgrade insulation			
Insulate water heater/installed pipe insulation			
Recycle an appliance			

Are there any other energy savings actions you have taken?

Barriers to Participation

17. Would you recommend this program to other businesses?
- Yes
 - No
18. Why did you say that?
- Saves electricity
 - Saves money
 - Easy to participate
 - It’s a good program
 - It’s time consuming
 - Difficult to participate in the program
19. How could the program be improved?
- More publicity
 - Increase incentive
 - Better communication
 - No suggestions
20. Have you participated in Central Hudson’s Commercial Gas Program?
- Yes
 - No
21. What other energy efficiency products would you like Central Hudson to provide incentives for?
- Refrigeration equipment
 - Food Service equipment
 - HVAC equipment
22. Do you own or lease the building where you do business?
- Own
 - Lease

Thank you for taking the time to answer my questions!

Appendix C. Lighting Contractor Survey Guide

Hello. My name is _____ and I’m calling on behalf of Central Hudson Gas & Electric. We are currently conducting an evaluation of Central Hudson’s Commercial Lighting Program and would like to ask you a few questions about your participation as a Lighting Contractor.

Program Awareness

1. How did you first hear about Central Hudson’s Commercial Lighting Program?
 - Central Hudson
 - Advertisement
 - Internet
 - SavingsCentral Website
 - Lime Energy
 - Customer
2. Have you received any training from Lime?
 - Yes (please describe training subjects)
 - No
3. How often do you interact with Lime personnel?
 - Daily
 - Weekly
 - Monthly

Customer Participation/Satisfaction

4. In your opinion, how satisfied are customers with the Commercial Lighting Program?
 - Very Satisfied
 - Satisfied
 - Neutral
 - Dissatisfied
 - Very dissatisfied
5. What is the most common feedback that customers have about the program?

Application/Program Tracking

6. Do you conduct audits of customer facilities as part of the Commercial Incentive Program?
 - Yes
 - No
7. Are there ever any issues with the audit findings or the materials purchased for a project?

	Audit	Materials Purchased
Yes		
No (skip to Q12)		

8. What types of issues?
9. How are the issues resolved?
10. What type of paperwork are you required to complete? (Please describe information collected).
11. Do you interact with the customer after the lighting measures are installed? (e.g. if there are issues with the lighting). Please describe.

12. About how long does it take to receive payment from the time the project is completed?

- 1 week
- 2 weeks
- 2-4 weeks
- 1-2 months
- More than 2 months

13. How satisfied are you with:

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Lime staff					
Auditors					
Paperwork required					
Program Overall					

14. What aspects of the program could be improved? Please describe how they could be improved.

15. Do you have any additional comments about the program?