



Connecticut Energy Efficiency Board C1644 EO Net-to-Gross Study

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APPENDICES



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APPENDIX A: UPSTREAM LIGHTING END-USERS NET TO GROSS INTERVIEW GUIDE

A.1 Introduction

EMI Consulting is conducting research to estimate program attribution for the Connecticut (CT) Energy Efficiency Board’s (EEB) Energize CT upstream lighting initiative in order to support the EEB in improving the design the EO program, inform regulatory reporting, and support program planning.

As part of this study, EMI Consulting will conduct survey research to establish free-ridership and spillover estimates for the Energize CT upstream lighting initiative. Estimates for the upstream element of the program will follow the methodology developed for the Massachusetts Program Administrators and Advisory Council in 2018¹ to the extent that the program data allows. To develop the net-to-gross ratio, EMI Consulting will use self-report data from end-users, contractors, and distributors to determine the impact of the program on purchase decisions and business practices.

This document represents survey questions that will be asked of end-users of the Energy Opportunities program.

Overarching and Survey Research Objectives

Through this survey effort, we will gather data to help answer the overarching and survey research objectives identified in Table A-1.

Table A-1. Research Objectives

Overarching Research Objective	Survey Research Objective
Calculate net-to-gross ratio for EO Program	Estimate free ridership among program participants Estimate spillover among program participants Estimate impact of program on participant equipment purchase decisions Assess market effects of the program
Understand project decision making processes	Identify factors influencing design decisions Identify factors influencing equipment selection
Understand project implementation processes	Identify factors influencing or enabling equipment installation

¹ DNV-GL (July, 2018). Massachusetts Program Administrators and Energy Efficiency Council. Massachusetts C&I Upstream Lighting Net-to-Gross Study - Draft Report.

Sample Data

EMI Consulting was provided with following data for the upstream component of the Energy Opportunities Program:

- Sales quantity
- Product name
- Total incentive
- Annual savings
- Distributor:
 - Name
 - Store address
 - City
 - State
 - Zip code
- Purchaser:
 - Name
 - Organization name
 - Phone
 - Email

EMI Consulting plans to use the contact and quantity information for Eversource end-users (i.e., "purchasers) to field the survey at-hand. The United Illuminating did not contain contact data (i.e., contact, phone, email). Additionally, the United Illuminating data received by EMI Consulting contains values of "1" for all sales quantities, and thus cannot be used to populate the fields of the survey.

Survey Variables

The following table describes the variables that will be included as inputs into the survey. These variables will be derived from program tracking data.

Variable Name	Description
FIRM NAME	Interviewer firm name
CONTACT	Customer contact name
INTERVIEWER NAME	Interviewer name
ADDRESS	Customer site address
LED TYPE 1	Type of LED equipment with most savings from tracking data
LED TYPE 2	Type of LED equipment with second most savings from tracking data, will default to linear or screw-based (opposite type for LED Type 1) with highest savings if respondent purchased measures in both categories
LED TYPE 3	Type of LED equipment with third most savings from tracking data. Only used to help customer recall purchases, not investigated further.
DISTRIBUTOR1	Vendor that the customer purchased lamps through
DISTRIBUTOR2	Vendor that the customer purchased lamps through

TOTAL QUANTITY1	Quantity of LED Type 1 found in tracking data
TOTAL QUANTITY2	Quantity of LED Type 2 found in track data
PA	Customer's electricity program administrator
SCREW-BASED	Flag noting if they purchased screw-based LEDs through the program in 2016-2017
LINEAR	Flag noting if they purchased linear LEDs through the program in 2016-2017
TOTAL SCREW-BASED INCENTIVE	Total incentive provided to customer for screw-based LEDs in 2016-2017
TOTAL LINEAR INCENTIVE	Total incentive provided to customer for linear LEDs in 2016-2017
MUTLI	Flag noting if customer also purchased lamps for accounts
SUM OF ALL ACCOUNTS	Number of accounts associated with a contact phone number

A.2 Survey

Section A: Introduction

INTRO1. Hello, my name is <**INTERVIEWER NAME**> from <**FIRM NAME**>, calling on behalf of the Energize Connecticut Incentives Program (also referred to as Energize CT Incentives, the upstream lighting program, the Energize Connecticut Commercial and Industrial Upstream Lighting Initiative, the instant rebate program, and the distributor rebate program) sponsored by <**PA**> and the Connecticut Department of Energy and Environmental Protection. THIS IS NOT A SALES CALL NOR A SERVICE CALL. May I please speak with <**CONTACT**>?

[IF NEEDED] We're not selling anything, we are interested in your opinions and the factors that were important in your decision to purchase lighting equipment. This survey is authorized by the <**PA**>.

1. Yes [**SKIP TO PERSON 1**]
2. Make Appointment [**SKIP TO APPT**]
3. No longer works here [**SKIP TO INTRO1A**]
4. Refused [**THANK & TERMINATE**]

INTRO1A. Could you give me the name and telephone number of someone else at your facility who is knowledgeable about your lighting equipment?

77. Record name and telephone number [**CALL CONTACT AND REPEAT INTRO PROCESS**]
88. Refused [**THANK AND TERMINATE**]
99. Don't know [**THANK AND TERMINATE**]

PERSON1. According to our records, you recently purchased LED lighting equipment through a program supported by Energize Connecticut Incentives sponsored by <PA>. We would like to speak with you regarding the LEDs installed at your facility. We need to speak with someone who is knowledgeable about the purchase of LEDs at this facility. Would that be you?

1. Yes [**INTRO3**]
2. Yes, need to make an appointment [**APPT**]
3. No, but I will give you the name [**PERSON2**]
4. No one knows about the lighting equipment [**THANK AND TERMINATE**]

PERSON2. Who would be the person most familiar with your organization's lighting equipment?

77. Record Name, as &Contact [**MAY_I**]
88. Refused [**THANK AND TERMINATE**]
99. Don't know [**THANK AND TERMINATE**]

MAY_I May I speak with him/her?

1. Yes [**INTRO2**]
2. Yes, need to make an appointment [**APPT**]
3. No one willing to do survey [**THANK AND TERMINATE**]

INTRO2. Hello, my name is <INTERVIEWER NAME> calling on behalf of the Energize Connecticut Incentives Program sponsored by <PA>. This is not a sales call. We are interested in speaking with the person most knowledgeable about this facility's lighting equipment. I was told that would be you. Is this correct?

[**IF NEEDED**] We're not selling anything, we are interested in your opinions and the factors that were important in your decision to purchase lighting equipment. This survey is authorized by the Energize Connecticut Incentives Program sponsored by <PA>.

1. Yes [**INTRO3**]
2. No, there is someone else [**REPEAT PERSON2 UNTIL CORRECT PERSON IS FOUND OR CALL MUST BE TERMINATED**]
99. No and I don't know who to refer you to. [**THANK AND TERMINATE**].

INTRO3. Today we're conducting an important study on the energy needs and perceptions of organizations like yours with an emphasis on efficient lighting. We are interested in how organizations like yours think about and manage their lighting purchases. The survey should take less than 15 minutes and at no time will we try to sell you anything. We know your time is important and would like to offer you a \$25 Tango gift card for responding to our questions today.

Your input will allow <PA> to build and maintain better energy savings offerings for customers like you.

Finally, we would like to remind you that your responses will be kept confidential.

Section B: Screener

SCRN_PART1. Our records show that you purchased <LED type 1>, <LED type 2>, <LED type 3> lighting equipment from <distributor1> [if applicable] and <distributor2>; in 2016-2017. Is this correct?

1. Yes
2. No
3. No LEDs installed on site
4. Don't Know
5. Refused

[IF SCRN_PART1=2, 3, 4, 5]

SCRN_PART1a. Is there someone at your company who would be more familiar with these purchases?

1. Yes **[OBTAIN CONTACT INFORMATION AND CONTACT THIS PERSON AND REPEAT INTRO2 AND SCRN_PART1]**
2. No **[THANK AND TERMINATE]**
3. Don't Know **[THANK AND TERMINATE]**
4. Refused **[THANK AND TERMINATE]**

SCRN_PART2. Did you purchase these LEDs for use at your own facility or for a customer at an outside organization you were supplying lighting equipment to?

1. Respondent's Facility
2. Facility owned by respondent's organization
3. For a customer at an outside organization
4. Don't Know **[THANK AND TERMINATE]**
5. Refused **[THANK AND TERMINATE]**

[IF SCRN_PART2=1,2 THEN ACTOR=BUYER, IF SCRN_PART2=3 THEN ACTOR=CONTRACTOR]

[ASK IF SCRN_PART2]=3

SCRN_PART3. Which of the following best describes how the LED equipment mentioned above was used by your organization?

1. Equipment was installed at a single facility
2. Equipment was installed at multiple facilities
3. Equipment was kept in storage for later use
4. Don't know
5. Refused

[IF SCRN_PART3=2,3, 4, 5 THEN CONTRACTOR_TYPE=MULTI]

Section C: Program Review

[SKIP NOTE IF ACTOR= CONTRACTOR]

The questions in this survey will refer to your "FACILITY," which means ALL of the buildings and tenants serviced by <PA> under the following billing address: <ADDRESS>. [INTERVIEWERS SHOULD RE-READ THIS STATEMENT AS NEEDED THROUGHOUT THE SURVEY TO REMIND THE RESPONDENTS]

[SKIP IF CONTRACTOR_TYPE = MULTI]

PR1. Which of the following best describes the building at <ADDRESS> in which the <LED TYPE 1>, <LED TYPE 2> AND <LED TYPE 3> equipment was installed. **[READ LIST]**

[SELECT ONE]

1. A newly constructed building
2. New construction to expand floor space on an existing building
3. Renovation - of 75% or more of an existing facility
4. Renovation - of less than 75% of an existing facility
5. Existing building with simple replacement of equipment (didn't build anything)
6. Existing building with the addition of equipment (didn't build anything)
7. Don't know
8. Refused

PR2. My records show that you purchased <TOTAL QUANTITY1> <LED TYPE 1> through <DISTRIBUTOR1> **[IF APPLICABLE]** and <DISTRIBUTOR2>; in 2016-2017. Does that sound correct?

1. Yes **[SKIP TO PR2_B]**
2. No

[IF PR2 = No]

PR2_A. What is your best estimate of the number of <LED TYPE 1> you purchased through <DISTRIBUTOR1> **[IF APPLICABLE]** and <DISTRIBUTOR2>; in 2016-2017?

1. **[ENTER NUMBER]**
2. Don't know
3. Refused

PR2_B. [IF PR1 = 3,4,5,7,8, ELSE SKIP TO PR2_G] Did the <LED TYPE 1> equipment you received replace any existing lighting?

1. Yes

2. No [**SKIP TO PR2_G**]
3. Don't Know [**PR2_G**]
4. Refused [**PR2_G**]

PR2_C. What did <LED TYPE 1> replace?

1. [**RECORD**]
2. Don't Know
3. Refused

PR2_D. At the time you replaced the old lighting equipment with <LED Type 1> through the <PA> program, was the old lighting equipment still working?

1. Yes
2. No
3. Don't Know
4. Refused

PR2_E. How old was the old lighting equipment?

1. [**ENTER NUMBER OF YEARS**]
2. Don't know
3. Refused

PR2_F. [IF PR2_E = 2, 3] What would you estimate the approximate age of the old lighting equipment to be? [**PROMPT AS NEEDED TO OBTAIN RESPONSE**]

1. Less than 2 years
2. Between 2 and 5 years
3. Between 5 and 10 years
4. More than 10 years
5. Don't know
6. Refused

PR2_G. Now thinking about all of the <LED TYPE 1> at this facility, what is your best estimate of the number of <LED TYPE 1> installed at your facility, regardless of where and when these units were purchased?

1. [**ENTER NUMBER OF LEDs**]
2. Don't know
3. Refused

[IF MORE THAN 1 LED TYPE (LED TYPE 2, LED TYPE 3 NOT NULL: REPEAT PR 1 THROUGH PR2_G FOR EACH ADDITIONAL LED TYPE)]

PR4. For the types of LED equipment we are discussing, did your [if actor=buyer] contractor or equipment supplier; [if actor=contractor] equipment supplier mention any discounts or rebates?

1. Yes **[IF ACTOR=BUYER]** Specify whether it was distributor or contractor).
2. No **[SKIP TO PR7]**
3. Don't Know **[SKIP TO PR7]**
4. Refused **[SKIP TO PR7]**

[IF PR4 = YES]

PR5. Did they say where the discount or rebate came from?

1. Yes
2. No **[SKIP TO PR7]**
3. Don't Know **[SKIP TO PR7]**
4. Refused **[SKIP TO PR7]**

[IF PR5 = YES]

PR6. What sources did they say provided the discount or rebate? **[DO NOT READ, SELECT ALL THAT APPLY]**

1. Themselves (contractor or equipment supplier/distributor)
2. Manufacturer
3. <PA> **[IF <SCREW-BASED = 1> SKIP TO SBFR1, ELSE SKIP TO LFFR1]**
4. State of Connecticut
5. Energize Connecticut Incentives **[IF <SCREW-BASED = 1> SKIP TO SBFR1, ELSE SKIP TO LFFR1]**
6. Connecticut Upstream Lighting Program **[IF <SCREW-BASED = 1> SKIP TO SBFR1, ELSE SKIP TO LFFR1]**
7. Someone else **[SPECIFY]**
8. Don't Know
9. Refused

PR7. Were you aware that any of the equipment you purchased from **<DISTRIBUTOR1>** and **[IF APPLICABLE] <DISTRIBUTOR2>** received a price discount sponsored by your electricity service provider, <PA> and/or the Energize Connecticut Incentives?

1. Yes
2. No **[IF <SCREW-BASED = 1> SKIP TO SBFR1, ELSE SKIP TO LFFR1]**
3. Don't Know **[IF <SCREW-BASED = 1> SKIP TO SBFR1, ELSE SKIP TO LFFR1]**
4. Refused **[IF <SCREW-BASED = 1> SKIP TO SBFR1, ELSE SKIP TO LFFR1]**

[IF PR7 = YES]

PR7a. Where did you learn about the price discount? **[DO NOT READ, SELECT ALL THAT APPLY]**

1. Contractor or Distributor
2. <PA>

3. Energize Connecticut Incentives materials or website
4. Energize Connecticut Incentives materials or website
5. Internet other than <PA> website
6. Colleagues within organization
7. Colleagues outside of organization
8. Other-Specify
9. Don't Know
10. Refused

[IF PR6 = 3,5,6,7 OR PR7 = 1 AWARE=YES, ELSE AWARE=NO]

Section D: Screw-based LEDs Net-to-Gross

[IF <SCREW-BASED = 1>, ELSE SKIP TO LFFR1]

Free Ridership

Now I'd like to ask you about your decision to purchase screw-based LEDs from **<DISTRIBUTOR1> [IF APPLICABLE]** and **<DISTRIBUTOR2>**; with **<PA's>** assistance. Screw-based lamps are those that can be screwed into a standard lighting socket and include A-lamps, downlights, reflectors, and globe lamps.

SBFR1. Who was most responsible for recommending or specifying the screw-based LEDs we are discussing? **[DO NOT READ LIST. ONLY SELECT ONE]**

1. Respondent
2. Someone else in the company
3. Third-party design professional
4. Third-party engineer
5. Distributor
6. Contractor
7. Energy Services Company **[RECORD NAME]**
8. Manufacturer's representative
9. **<PA>** account manager
10. Someone else **[SPECIFY]**
11. Don't Know
12. Refused

[IF SBFR1= 3,4,5,6,7,8,9]

SBFR2. On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did **<SBFR1 RESPONSE>** have on your company's decision to purchase the screw-based LEDs?

1. **[ENTER ANSWER 0-10]**
2. Don't Know
3. Refused

Free Ridership (Aware of discount from PA)

[IF AWARE=YES, ELSE SKIP TO SBFR10]

SBFR3. On a scale of 0 to 10, with 0 being 'not at all likely' and 10 being 'very likely', how likely is it that your business would have purchased the same quantity of screw-based LED equipment at that same time if <PA> had not provided this program assistance?

1. **[RECORD ANSWER 0 TO 10]**
2. Don't Know
3. Refused

SBFR4. If <PA> had not provided a price discount, would your business have purchased any type of screw-based lamps **at the same time**?

1. Yes
2. No
3. Don't Know
4. Refused

[IF SBFR4 = 2,3,4]

SBFR5. Would you have purchased the screw-based lamps earlier than you did, at a later date, or never?

1. Earlier
2. Same Time **[RECODE SBFR4 = YES]**
3. Later
4. Never
5. Don't Know
6. Refused

[IF SBFR5 = 1,3]

SBFR6. How much <earlier/later> would you have purchased the screw-based lamps?

1. **[ENTER NUMBER OF YEARS]**
2. **[ENTER NUMBER OF MONTHS]**
3. Don't know
4. Refused

SBFR7. Without the price discount provided by <PA> would your business have purchased the exact same quantity of screw-based lamps **[IF SBFR4=YES]** at that same time **[IF SBFR4=NO]** within **<SBFR6 TIMEFRAME>?**

1. Yes
2. No
3. Don't Know
4. Refused

[IF SBFR7= NO]

SBFR8. Compared to the amount of screw-based lamps that you purchased through the <PA> program, what percent do you think your business would have purchased **[IF SBFR4=YES]** at that same time **[IF SBFR4=NO]** within <SBFR6 TIMEFRAME>?

1. **[ENTER ANSWER 0-100]**
2. Don't Know
3. Refused

SBFR9. You said your business would have purchased **[IF SBFR7= YES]** all; **[IF SBFR7= No]** <SBFR8>; **[IF SBFR7= DON'T KNOW, REFUSED]** some; of the screw-based lamps on its own if the <PA> price discount had not been available. Thinking about the lighting you would have purchased on your own, what percent of this equipment would have been....?

SBFR9a. Screw-based LEDs

1. **[ENTER ANSWER 0-100]**
2. Don't Know
3. Refused

SBFR9b. CFLs

1. **[ENTER ANSWER 0-100]**
2. Don't Know
3. Refused

SBFR9c. Halogen or incandescent lamps

1. **[ENTER ANSWER 0-100]**
2. Don't Know
3. Refused

**[SBFR9A + SBFR9B + SBFR9C MUST EQUAL 100%, WHEN SUM TO 100%
[SKIP TO SBFR10]]**

SBFR10. On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did the price discount you received from <PA> have on your company's decision to purchase the screw-based LEDs?

1. **[ENTER ANSWER 0-10]**
2. Don't Know
3. Refused **[SKIP TO SBPA1]**

Free Rider (Not aware of discount from PA)

[IF AWARE=NO]

Now I'd like to ask you about your decision to purchase screw-based LEDs from <**DISTRIBUTOR1**> [**IF APPLICABLE**] and <**DISTRIBUTOR2**>; in 2016-2017. Screw-based lamps are those that can be screwed into a standard lighting socket and include A-lamps, downlights, reflectors, and globe lamps.

SBFR11. According to our records, you received a discount of <**TOTAL SCREW-BASED INCENTIVE**> from <**PA**> through the Energize Connecticut Incentives for your screw-based LED lamp purchases through <**DISTRIBUTOR1**> [**IF APPLICABLE**] and <**DISTRIBUTOR2**>; in 2016-2017. Would your organization have purchased the same quantity of screw-based LEDs at the same time if they had cost <**TOTAL SCREW-BASED INCENTIVE**> more?

1. Yes
2. No
3. Don't Know
4. Refused

SBFR12. If <**PA**> had not discounted the cost of these lamps, would your business have purchased any type of screw-based lamps **at the same time**?

1. Yes
2. No
3. Don't Know
4. Refused

[IF SBFR12 = 2,3,4]

SBFR13. Would you have purchased the screw-based lamps earlier than you did, at a later date, or never?

1. Earlier
2. Same Time [**RECODE SBFR12 = YES**]
3. Later
4. Never
5. Don't Know
6. Refused

[IF SBFR13 = 1,3]

SBFR14. How much <**EARLIER/LATER**> would you have purchased the screw-based lamps?

1. [**ENTER NUMBER OF YEARS**]
2. [**ENTER NUMBER OF MONTHS**]
3. Don't know
4. Refused

SBFR15. Without the price discount provided by <PA> would your business have purchased the exact same quantity of screw-based lamps [IF SBFR12=YES] at that same time [IF SBFR12=NO] within <SBFR14 TIMEFRAME>?

1. Yes
2. No
3. Don't Know
4. Refused

[IF SBFR15= NO]

SBFR16. Compared to the amount of screw-based lamps that you purchased from <DISTRIBUTOR1> [IF APPLICABLE] and <DISTRIBUTOR2>; with the price discount provided by <PA> what percent do you think your business would have purchased [IF SBFR12=YES] at that same time [IF SBFR12=NO] within <SBFR13 TIMEFRAME>?

1. [ENTER ANSWER 0-100]
2. Don't Know
3. Refused

SBFR17. You said your business would have purchased [IF SBFR15= YES] all; [IF SBFR15= NO] <SBFR16 %>; [IF SBFR15= DON'T KNOW, REFUSED] some; of the screw-based lamps on its own if the <PA> price discount had not been available. Thinking about the lighting you would have purchased on your own, what percent of this equipment would have been....?

SBFR17a. Screw-based LEDs

1. [ENTER ANSWER 0-100]
2. Don't Know
3. Refused

SBFR17b. CFLs

1. [ENTER ANSWER 0-100]
2. Don't Know
3. Refused

SBFR17c. Halogen or incandescent lamps

1. [ENTER ANSWER 0-100]
2. Don't Know
3. Refused

[SBFR17A + SBFR17B + SBFR17C MUST EQUAL 100%, WHEN ALL SUM TO 100% MOVE TO SBFR18]

SBFR18. On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did reduction in cost from <PA> have on your company's decision to purchase the screw-based LEDs?

1. **[ENTER ANSWER 0-10]**
2. Don't Know
3. Refused

Program Awareness

SBPA1. Prior to purchasing LED equipment through <istributor1> [if applicable] and <istributor2>; in 2016-2017, had your business ever participated in <PA>'s programs or offerings for any energy-related equipment purchases?

1. Yes
2. No
3. Don't Know
4. Refused

[IF SBPA1= NO, DON'T KNOW, REFUSED]

SBPA2. Before this conversation today, were you aware of <PA> programs or offerings that support energy efficient lighting?

1. Yes
2. No
3. Don't Know
4. Refused

[IF SBPA1= YES]

SBPA3. I'm going to read you several statements. For each statement, please tell me whether you agree or disagree that this statement applies to your business. There are no right or wrong answers, we just want your honest opinion.

Our previous experience implementing energy efficiency projects through the <PA> offerings has...

SBPA3a. Made our firm more likely to consider energy efficient equipment

- a. Agree
- b. Disagree

SBPA3b. Made our firm more likely to install energy efficient equipment

- a. Agree
- b. Disagree

SBPA3c. Given us more confidence in the financial benefits of energy efficient equipment

- a. Agree
- b. Disagree

SBPA3d. Given us more confidence in the nonfinancial benefits of energy efficient equipment **[IF NEEDED: LOWER MAINTENANCE COSTS, INCREASED PRODUCTIVITY, REDUCED HEAT OUTPUT]**

- a. Agree
- b. Disagree

Like Spillover

[IF SBPA2 = NO, DON'T KNOW, REFUSED AND LINEAR=YES SKIP TO LFR1, ELSE IF SBPA2 = NO, DON'T KNOW, REFUSED SKIP TO OR1]

SBSO1. Other than the transaction we've been discussing today, has your company purchased any screw-based LEDs **[IF ACTOR = BUYER]** for this facility in Connecticut; **[IF ACTOR = BUYER OR CONTRACTOR]** on your own, that is, without a rebate or discount from **<PA>?**

1. Yes
2. No **[IF LINEAR=YES SKIP TO LFR1, ELSE SKIP TO LP1]**
3. Don't Know **[IF LINEAR=YES SKIP TO LFR1, ELSE SKIP TO LP1]**
4. Refused **[IF LINEAR=YES SKIP TO LFR1, ELSE SKIP TO LP1]**

SBSO2. How many screw-based LEDs would you say you purchased on your own without support from a **<PA>** program?

1. **[RECORD NUMBER]**
2. Don't Know
3. Refused

[IF SBSO2 = 2]

SBSO3. Would you say this was more, less, or the same amount of screw-based LEDs as what you purchased with **<PA>**'s assistance?

1. More - How much more? **[ENTER PERCENTAGE 0-100%]**
2. Less - How much less? **[ENTER PERCENTAGE 0-99%]**
3. Same amount
4. Don't Know
5. Refused

SBSO4. Did a recommendation from a **[IF ACTOR = BUYER]** contractor; **[IF ACTOR = BUYER OR CONTRACTOR]** distributor, engineer, or designer who you worked with

in the <PA> Program influence your decision to purchase some or all of the additional screw-based LEDs on your own?

1. Yes
2. No
3. Don't Know
4. Refused

[IF SBPA1 = YES]

SBSO5. Did your participation in any past <PA> offerings influence you to purchase some or all of this equipment on your own?

1. Yes
2. No
3. Don't Know
4. Refused

SBSO6. Did your experience with the screw-based LEDs received with <PA>'s assistance influence your decision to purchase some or all of the additional LEDs on your own?

1. Yes
2. No
3. Don't Know
4. Refused

SBSO7. On a scale of 0 to 10, where 0 is "no influence at all" and 10 is "a great deal of influence", how much influence did the **[IF AWARE=YES]** <PA>'s assistance; **[IF AWARE=NO]** reduction in purchase cost due to <PA>'s assistance; have on your decision to purchase the additional screw-based LEDs without an incentive?

1. **[ENTER ANSWER 0-10]**
2. Don't Know
3. Refused

SBSO8. Why didn't you purchase these additional screw-based LEDs through <PA>? **[DO NOT READ. SELECT ALL THAT APPLY]**

1. Too much paperwork
2. Cost savings not worth the effort of applying
3. Takes too long for approval
4. The equipment would not qualify
5. Vendor does not participate in program
6. Outside the <PA>'s service territory
7. No time, needed equipment immediately
8. Thought the program ended
9. Didn't know the equipment qualified under another program
10. Just didn't think of it

11. Unable to get rebate- unsure why
12. Other- Specify **[IF "EQUIPMENT WOULD NOT QUALIFY, CODE AS SBSO8 = 4]**
13. Don't Know
14. Refused

[IF SBSO8=4]

SBSO8a. Why didn't the equipment qualify?

1. **[RECORD ANSWER]**
2. Don't Know
3. Refused

Section E: LEDs for Linear Applications Net-to-Gross

[IF <LINEAR = 1>, ELSE SKIP TO OR1]

Free Ridership

Now I'd like to ask you about your decision to purchase LED fixtures or tubular LED lamps from **<DISTRIBUTOR1> [IF APPLICABLE]** and **<DISTRIBUTOR2>**; in 2016-2017. This equipment is typically used to replace linear lighting applications that may have previously included linear fluorescent tube lighting. In this section, we will refer to this equipment as "linear LED equipment".

LFFR1. Who was most responsible for actually recommending or specifying the linear LED equipment we are discussing? **[DO NOT READ LIST. ONLY SELECT ONE]**

1. Respondent
2. Someone else in the company
3. Third-party design professional
4. Third-party engineer
5. Distributor
6. Contractor
7. Energy Services Company **[RECORD NAME]**
8. Manufacturer's representative
9. **<PA>** account manager
10. Someone else **[SPECIFY]**
11. Don't Know
12. Refused

[IF LFFR1= 3,4,5,6,7,8,9]

LFFR2. On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did **<LFFR1RESPONSE>** have on your company's decision to purchase the linear LED equipment?

1. **[ENTER ANSWER 0-10]**
2. Don't Know

3. Refused

Free Ridership (Aware of discount from PA)

[IF AWARE=YES, ELSE SKIP TO LFFR11]

LFFR3. On a scale of 0 to 10, with 0 being 'not at all likely' and 10 being 'very likely', how likely is it that your business would have purchased the same quantity of linear LED equipment at that same time if <PA> had not provided this program assistance?

1. **[RECORD ANSWER 0 TO 10]**
2. Don't Know
3. Refused

LFFR4. If <PA> had not paid a portion of the purchase cost would your business have purchased any type of linear equipment or fixtures **at the same time**?

1. Yes
2. No
3. Don't Know
4. Refused

[IF LFFR4 = 2,3,4]

LFFR5. Would you have purchased the linear equipment or fixtures earlier than you did, at a later date, or never?

1. Earlier
2. Same Time **[RECODE LFFR4 = YES]**
3. Later
4. Never
5. Don't Know
6. Refused

[If LFFR5 = 1,3]

LFFR6. How much <EARLIER/LATER> would you have purchased the linear equipment or fixtures?

1. **[ENTER NUMBER OF YEARS]**
2. **[ENTER NUMBER OF MONTHS]**
3. Don't know
4. Refused

LFFR7. Without the price discount provided by <PA> would your business have purchased the exact same quantity of linear equipment or fixtures **[IF LFFR4=YES]** at that same time **[IF LFFR4=NO]** within <LFFR6 TIMEFRAME>?

1. Yes

2. No
3. Don't Know
4. Refused

[IF LFFR7= NO]

LFFR8. Compared to the amount of linear equipment or fixtures that you purchased through the <PA> program, what percent do you think your business would have purchased **[IF LFFR4=YES]** at that same time **[IF LFFR4=NO]** within <LFFR6 TIMEFRAME>?

1. **[ENTER ANSWER 0-100]**
2. Don't Know
3. Refused

LFFR9. You said your business would have purchased **[IF LFFR7= YES]** all; **[IF LFFR7= NO]** <LFFR8 %>; **[IF LFFR7= DON'T KNOW, REFUSED]** some; of the linear equipment or fixtures on its own if the <PA> price discount had not been available.

Thinking about the lighting you would have purchased on your own, what percent of this equipment would have been....?

LFFR9a. Linear LED equipment?

1. **[ENTER ANSWER 0 TO 100]**
2. Don't Know
3. Refused

LFFR9b. Equipment between code and the linear LED equipment you purchased. This includes equipment such as T5 or High performance T8 linear fluorescent lamps.

1. **[ENTER ANSWER 0 TO 100]**
2. Don't Know
3. Refused

LFFR9c. Equipment that meets minimum code such as Standard T8s or T12 linear fluorescent lamps.

1. **[ENTER ANSWER 0 TO 100]**
2. Don't Know
3. Refused

**[LFFR9A + LFFR9B + LFFR9C MUST EQUAL 100%, WHEN ALL SUM TO 100%
[MOVE TO LFFR10]]**

LFFR10. On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did the price discount you received from <PA> have on your company's decision to install the linear LED equipment?

1. **[ENTER ANSWER 0 TO 100]**
2. Don't Know
3. Refused **[MOVE TO LFPA1]**

Free Rider (Not aware of discount from PA)

[IF AWARE=NO]

LFRR11. According to our records you received a discount of **<TOTAL LINEAR INCENTIVE>** from **<PA>** and Energize Connecticut Incentives for your linear LED equipment purchases through **<DISTRIBUTOR1> [IF APPLICABLE]** and **<DISTRIBUTOR2>**; in 2016-2017. Would your organization have purchased the same quantity of linear LED equipment at the same time if they had cost **<TOTAL LINEAR INCENTIVE>** more?

1. Yes
2. No
3. Don't Know
4. Refused

LFRR12. If **<PA>** had not discounted the cost of these lamps, would your business have purchased any type of linear equipment or fixtures **at the same time**?

1. Yes
2. No
3. Don't Know
4. Refused

[IF LFRR12 = 2,3,4]

LFRR13. Would you have purchased the linear equipment or fixtures earlier than you did, at a later date, or never?

1. Earlier
2. Same Time **[RECODE LFRR12 = YES]**
3. Later
4. Never
5. Don't Know
6. Refused

[IF LFRR13 = 1,3]

LFRR14. How much **<EARLIER/LATER>** would you have purchased the linear equipment or fixtures?

1. **[ENTER NUMBER OF YEAR]**
2. **[ENTER NUMBER OF MONTHS]**
3. Don't know
4. Refused

LFFR15. Without the price discount provided by <PA> would your business have purchased the exact same quantity of linear equipment or fixtures **[IF LFFR12=YES]** at that same time **[IF LFFR12=NO]** within **<LFFR14 TIMEFRAME>**?

1. Yes
2. No
3. Don't Know
4. Refused

[If LFFR15= No]

LFFR16. Compared to the amount of linear equipment or fixtures that you purchased from **<DISTRIBUTOR1>** **[IF APPLICABLE]** and **<DISTRIBUTOR2>**; with the price discount provided by **<PA>** what percent do you think your business would have **PURCHASED [IF LFFR12=YES]** at that same time **[IF LFFR12=NO]** within **<LFFR14 TIMEFRAME>**?

1. **[ENTER ANSWER 0 TO 100]**
2. Don't Know
3. Refused

LFFR17. You said your business would have purchased **[IF LFFR15= YES]** all; **[IF LFFR15= NO]** **<LFFR16 %>**; **[IF LFFR15= DON'T KNOW, REFUSED]** some; of the linear equipment or fixtures on its own if the **<PA>** price discount had not been available.

Thinking about the lighting you would have purchased on your own, what percent of this equipment would have been....?

LFFR17a. Linear LED equipment

1. **[ENTER ANSWER 0 TO 100]**
2. Don't Know
3. Refused

LFFR17b. Equipment between code and the linear LED equipment you purchased.

This

includes equipment such as T5 or High performance T8 linear fluorescent lamps.

1. **[ENTER ANSWER 0 TO 100]**
2. Don't Know
3. Refused

LFFR17c. Equipment that meets minimum code such as Standard T8s or T12 linear fluorescent lamps

1. **[ENTER ANSWER 0 TO 100]**
2. Don't Know

3. Refused

[LFFR17A + LFFR17B + LFFR17C MUST EQUAL 100%, WHEN ALL SUM TO 100% MOVE TO LFFR18]

LFFR18. On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did reduction in cost from <PA> have on your company's decision to purchase the linear LED equipment?

1. **[ENTER ANSWER 0 TO 10]**
2. Don't Know
3. Refused

Program Awareness

[IF SCREW-BASED = 1, SKIP TO LFSO1]

LFPA1. Prior to purchasing LED equipment through <DISTRIBUTOR1> **[IF APPLICABLE]** and <DISTRIBUTOR2>; in 2016-2017, had your business ever participated in <PA>'s programs or offerings for any energy-related equipment purchases?

1. Yes
2. No
3. Don't Know
4. Refused

[IF LFPA1= NO, DON'T KNOW, REFUSED]

LFPA2. Before this conversation today, were you aware of <PA>'s programs or offerings that support energy efficient lighting?

1. Yes
2. No
3. Don't Know
4. Refused

[If LFPA1= Yes]

LFPA3. I'm going to read you several statements. For each statement, please tell me whether you agree or disagree that this statement applies to your business. There are no right or wrong answers, we just want your honest opinion.

Our previous experience implementing energy efficiency projects through the <PA> offerings has...

LFPA3a. Made our firm more likely to consider energy efficient equipment

- a. Agree

- b. Disagree

LFP3b. Made our firm more likely to install energy efficient equipment

- a. Agree
- b. Disagree

LFP3c. Given us more confidence in the financial benefits of energy efficient equipment

- a. Agree
- b. Disagree

LFP3d. Given us more confidence in the nonfinancial benefits of energy efficient equipment [**IF NEEDED: LOWER MAINTENANCE COSTS, INCREASED PRODUCTIVITY, REDUCED HEAT OUTPUT**]

- a. Agree
- b. Disagree

Like Spillover

[IF SBPA2 OR LFP2 = NO, DON'T KNOW, REFUSED SKIP TO LP1]

LFSO1. Other than the transaction we've been discussing today, has your company purchased any linear LED equipment [**IF ACTOR = BUYER**] for this facility in Connecticut; [**IF ACTOR = BUYER OR CONTRACTOR**] **on your own**, that is, without a rebate or discount from **<PA>**?

- 1. Yes
- 2. No [**SKIP TO OR1**]
- 3. Don't Know [**SKIP TO OR1**]
- 4. Refused [**SKIP TO OR1**]

LFSO2. How many linear LEDs would you say you installed on your own without support from a **<PA>** program.

- 1. [**RECORD NUMBER**]
- 2. Don't Know
- 3. Refused

[IF LFSO2 = 2]

LFSO3. Would you say this was more, less, or the same amount of LEDs as what you purchased with **<PA>**'s assistance?

1. More. How much more? **[ENTER PERCENTAGE 0 - 100%]**
2. Less. How much less? **[ENTER PERCENTAGE 0 - 99%]**
3. Same amount
4. Don't Know
5. Refused

LFSO4. Did a recommendation from a [if actor = buyer] contractor; **[IF ACTOR = BUYER OR CONTRACTOR]** distributor, engineer, or designer who you worked with in the <PA> Program influence your decision to purchase some or all of the additional linear LED equipment on your own?

1. Yes
2. No
3. Don't Know
4. Refused

[IF SBPA1 OR LFPA1 = YES]

LFSO5. Did your participation in any past <PA> offerings influence you to purchase some or all of this equipment on your own?

1. Yes
2. No
3. Don't Know
4. Refused

LFSO6. Did your experience with the linear LED equipment received with <PA>'s assistance influence your decision to purchase some or all of the additional LEDs on your own?

1. Yes
2. No
3. Don't Know
4. Refused

LFSO7. On a scale of 0 to 10, where 0 is "no influence at all" and 10 is "a great deal of influence", how much influence did **THE [IF AWARE=YES] <PA> assistance; [IF AWARE=NO]** reduction in purchase cost due to <PA> assistance; have on your decision to purchase the additional linear LED equipment without an incentive?

1. **[ENTER ANSWER 0 TO 10]**
2. Don't Know
3. Refused

LFSO8. Why didn't you purchase this additional linear LED equipment through <PA>? **[DO NOT READ. SELECT ALL THAT APPLY]**

1. Too much paperwork

2. Cost savings not worth the effort of applying
3. Takes too long for approval
4. The equipment would not qualify
5. Vendor does not participate in program
6. Outside the <PA>'s service territory
7. No time, needed equipment immediately
8. Thought the program ended
9. Didn't know the equipment qualified under another program
10. Just didn't think of it
11. Unable to get rebate- unsure why
12. Other **[SPECIFY] [If "Equipment would not qualify, code as LFSO8 = 4]**
13. Don't Know
14. Refused

[IF LFSO8=4]

LFSO8a. Why didn't the equipment qualify?

1. **[RECORD ANSWER]**
2. Don't Know
3. Refused

[IF ACTOR = CONTRACTOR, SKIP TO MULTI1]

Section F: Lighting Purchasing Practices

[IF ACTOR = CONTRACTOR, SKIP TO MULTI1]

LP1. Where does your firm make the MAJORITY of your light bulb purchases? **[DO NOT READ LIST, SELECT ONLY ONE]**

1. Drug Stores (CVS, Walgreens) **[SKIP TO LP2]**
2. Grocery Stores (ShopRite, Whole Foods, Stop and Shop) **[SKIP TO LP2]**
3. Convenience Stores (Seven-Eleven, Henny-Penny, Cumberland Farms) **[SKIP TO LP2]**
4. Small Hardware Stores (Ace or True Value) **[SKIP TO LP2]**
5. Large Hardware Stores (Home Depot, Lowes) **[SKIP TO LP2]**
6. Club Stores (Costco, Sam's Club) **[SKIP TO LP2]**
7. Online **[SKIP TO LP2]**
8. Distributor
9. Contractor
10. Energy Services Company
11. Mass merchandise stores (Target/Walmart/Staples) **[SKIP TO LP2]**
12. Lighting stores **[SKIP TO LP2]**
13. Electronic stores (Best buy) **[SKIP TO LP2]**
14. Discount stores (Dollar General, 99 Cents store) **[SKIP TO LP2]**
15. OPEN\Other **[RECORD] [SKIP TO LP2]**
16. Don't Know **[SKIP TO LP2]**
17. Refused **[SKIP TO LP2]**

LP1a. Do you recall the name of this <RESPONSE FROM LP1>?

1. Yes [**RECORD NAME**]
2. No
3. Refused

LP2. Now I'd like you to think specifically about the LED bulbs and fixtures you purchased for use at this facility. Where did your firm purchase the MAJORITY of the screw-based LED bulbs installed at this facility? [**DO NOT READ LIST, SELECT ONLY ONE**]

1. Drug Stores (CVS, Walgreens) [**SKIP TO LP3**]
2. Grocery Stores (ShopRite, Whole Foods, Stop and Shop) [**SKIP TO LP3**]
3. Convenience Stores (Seven-Eleven, Henny-Penny, Cumberland Farms) [**SKIP TO LP3**]
4. Small Hardware Stores (Ace or True Value) [**SKIP TO LP3**]
5. Large Hardware Stores (Home Depot, Lowes) [**SKIP TO LP3**]
6. Club Stores (Costco, Sam's Club) [**SKIP TO LP3**]
7. Online [**SKIP TO LP3**]
8. Distributor
9. Contractor
10. Energy Services Company
11. Mass merchandise stores (Target/Walmart/Staples) [**SKIP TO LP3**]
12. Lighting stores [**SKIP TO LP3**]
13. Electronic stores (Best buy) [**SKIP TO LP3**]
14. Discount stores (Dollar General, 99 Cents store) [**SKIP TO LP3**]
15. No screw-based LEDs at facility
16. OPEN\Other-record [**SKIP TO LP3**]
17. Don't Know [**SKIP TO LP3**]
18. Refused [**SKIP TO LP3**]

LP2a. Do you recall the name of this <RESPONSE FROM LP2>?

1. Yes, also <RESPONSE FROM LP1A>
2. Yes, Other [**RECORD NAME**]
3. No
4. Refused

LP3. Where did your firm purchase the MAJORITY of the LED fixtures or tubular LED lamps installed at this facility? [**DO NOT READ LIST, SELECT ONLY ONE**]

1. Drug Stores (CVS, Walgreens) [**SKIP TO OR1**]
2. Grocery Stores (ShopRite, Whole Foods, Stop and Shop) [**SKIP TO OR1**]
3. Convenience Stores (Seven-Eleven, Henny-Penny, Cumberland Farms) [**SKIP TO OR1**]
4. Small Hardware Stores (Ace or True Value) [**SKIP TO OR1**]
5. Large Hardware Stores (Home Depot, Lowes) [**SKIP TO OR1**]

6. Club Stores (Costco, Sam's Club) [**SKIP TO OR1**]
7. Online [**SKIP TO OR1**]
8. Distributor
9. Contractor
10. Energy Services Company
11. Mass merchandise stores (Target/Walmart/Staples) [**SKIP TO OR1**]
12. Lighting stores [**SKIP TO OR1**]
13. Electronic stores (Best buy) [**SKIP TO OR1**]
14. Discount stores (Dollar General, 99 Cents store) [**SKIP TO OR1**]
15. No LED fixtures or linear lamps at facility
16. OPEN\Other-record [**SKIP TO OR1**]
17. Don't Know [**SKIP TO OR1**]
18. Refused [**SKIP TO OR1**]

LP3a. Do you recall the name of this <Response from LP3>?

1. Yes, also <RESPONSE FROM LP1A>
2. Yes, also <RESPONSE FROM LP2A>
3. Yes, Other [**RECORD NAME**]
4. No
5. Refused

Section G: Multi-site

[IF MULTI= 1, ELSE SKIP TO OR1]

Multi1. Our records indicate you also purchased LED lamps from <PA> and the Energy Connecticut Incentives program for <SUM OF ALL ACCOUNTS> sites in Connecticut. Is this correct?

1. Yes
2. No, purchased for a different number of sites
3. No, did not purchase any LEDs for any other sites [**SKIP TO OR1**]
4. Don't Know [**SKIP TO OR1**]
5. Refused [**SKIP TO OR1**]

Multi2. Was your decision-making process for these LEDs the same as the decision-making process for the LEDs purchased for <SITE_ADDRESS>? [**If needed**] This is the site we've been discussing today.

1. Yes
2. No [**SKIP TO OR1**]
3. Don't Know [**SKIP TO OR1**]
4. Refused [**SKIP TO OR1**]

Multi3. How was your decision different for these sites?

OR1. Those are all the questions we have for you today. I'd like to thank you for your time and assistance in our research efforts. We would like to get a little information so that we can send you your \$25 Tango Gift Card.

[RECORD EMAIL]

Email: _____

APPENDIX B: ENERGY OPPORTUNITIES DOWNSTREAM PROGRAM PARTICIPANT NET-TO-GROSS SURVEY INSTRUMENT

B.1 Introduction

EMI Consulting is conducting research to estimate program attribution for the Connecticut (CT) Energy Efficiency Board's (EEB) Energy Opportunities (EO) program in order to support the EEB in improving the design of the EO program, inform regulatory reporting, and support EO program planning. The EO Program is the flagship commercial and industrial (C&I) program for the Connecticut Energy Efficiency Board (EEB) and provides Connecticut businesses with financial incentives and technical assistance to encourage the replacement of outdated, less energy efficient equipment with high efficiency alternatives.

As part of this study, EMI Consulting will conduct survey research to establish free-ridership and spillover estimates for the custom and prescriptive elements of the program. This research will follow the standardized methodology developed for the Massachusetts Program Administrators in 2011.² To develop the net-to-gross ratio, EMI Consulting will use self-report data from end-users, contractors, and distributors to determine the impact of the EO program on purchase decisions and business practices.

This document represents survey questions that will be asked of end-users of the Energy Opportunities program.

Survey variables

The following table describes the variables that will be included as inputs into the survey. These variables will be derived from program tracking data.

Table A-5: Sample Variables Used as Inputs in the Survey Instrument

Variable Name	Description
INTERVIEWER	Interviewer name
CONTACT	Customer contact name
PROGRAM	Program name
PA	Program administrator
PA CONTACT INFO	PA contact name and phone number

² Tetrattech (April, 2011). Massachusetts Program Administrators. Cross-Cutting C&I Free-Ridership and Spillover Methodology Study Final Report.

Variable Name	Description
CUST	Customer / Facility name
DATE	Date of participation
YEAR	Year of participation
FUEL	Electric or natural gas
ADDR	Service address where measure was installed
MEASCAT1, MEASCAT2	End-use Category (e.g., lighting)
QTY1, QTY2	0 = Quantity is not applicable for this measure category (measure count = 1 or quantity is not relevant as in delamping, recycling) 1 = Quantity is greater than 1
EFF1, EFF2	0 = Efficiency is not applicable for this measure category (e.g., insulation, VFD, delamping, recycling, occupancy sensors) 1 = Efficiency is applicable
EQUIP1, EQUIP2	0 = Installed measure is not equipment that is operational (e.g., insulation) 1 = Installed measure is operational
MEAS1A-MEAS1h, MEAS2a-MEAS2h	Detailed measure descriptions
STUDY	Technical assessment study
TOINC	Total incentive
INC1, INC2	PA incentive for specific measure categories
STUDY INC	Incentive paid for study
ALL ASSISTANCE	Description of all technical assistance, financing, and rebates for measures installed through program
FINANCE	Project received interest-free financing

B.2 Survey

INTRO1. I'm with the Blackstone Group, an independent research firm working on behalf of <PA>. We are following up with customers who participated in the <PROGRAM> in <YEAR> to learn about their experiences. You or someone at your facility may have received a letter from <PA> letting you know to expect this call. I'm not selling anything, I'd just like to ask about the energy efficiency project you implemented through this program at <ADDR>. Your individual responses will be kept confidential by the Blackstone Group and <PA> This survey should take about 15 minutes to complete. If you qualify for this survey, you will receive a \$25 gift card in appreciation of your time spent with us.

Before we start, your participation is voluntary and please know that the interview may be monitored and recorded for quality assurance purposes. We will not share the recording with

any other entities, it will be used solely to ensure that we did not make any errors in data entry. With your permission, I'd like to record our conversation. May I continue?

1. Yes [**BEGIN RECORDING**]
2. No

READ FOLLOWING ONLY AS NEEDED:

Sales concern: I am not selling anything; I simply want to understand what factors were important to your company when deciding to implement this new energy efficiency project and receive an incentive through this program. Your responses will be kept confidential by our firm and <PA>. If you would like to talk with someone from <PA>, you can call <PA CONTACT INFO>.

Who is doing this study: <PA> and the Connecticut Department of Energy and Environmental Protection has hired our firm to evaluate the program. As part of the evaluation, we're talking with customers that participated in the program to better understand their experiences with the program.

Why are you conducting this study: Studies like this help <PA> better understand customers' need for and interest in energy efficiency programs and services, and to improve the effectiveness of their programs.

Timing: This survey should take about 15 minutes of your time. Is this a good time for us to speak with you? IF NOT, SET UP CALL BACK APPOINTMENT OR OFFER TO LET THEM CALL US BACK AT [BLACKSTONE GROUP PHONE NUMBER]

Section A: Introduction

- I0. Hello, my name is <INTERVIEWER>, and I'm calling on behalf of <PA> regarding your firm's participation in their <PROGRAM>. May I please speak with <CONTACT>?
1. Yes
 2. No [**ATTEMPT TO CONVERT. MENTION ADVANCE LETTER THEY SHOULD HAVE RECEIVED REGARDING THE CALL**]
- I1. Are you the person who was most involved in making the decision to get <ALL ASSISTANCE> through the <PROGRAM> in <DATE> at <ADDR> in <CITY>?
1. Yes [**SKIP TO I2**]
 2. No
 - D. Don't know [**PROBE TO IDENTIFY SOMEONE RESPONSIBLE FOR MAKING DECISIONS ABOUT ENERGY USING EQUIPMENT AT THAT FACILITY; IF DK, THANK AND TERMINATE**] [**IF TERMINATE - TRY ALTERNATIVE CONTACT NUMBER FOR THIS CONTACT**]
 - R. Refused [**THANK AND TERMINATE**]

I1a. Who was primarily responsible for making the decision to get <**ALL ASSISTANCE**> through the program?

[**RECORD NAME AND DISPOSITION**]

1. Transfers you
2. Can only give contact information [**RECORD CONTACT INFO; THANK AND TERMINATE**]
3. Don't know [**THANK AND TERMINATE**]
4. Refused [**THANK AND TERMINATE**]

I2. Are you employed by <**CUST**> or are you a contractor who provides design and/or installation services for <**CUST**>?

INTERVIEWER NOTE: CODE UNPAID MEMBERS OF AN ADVISORY BOARD OR COMMITTEE AS EMPLOYEES)

1. Work directly for company / employee / volunteer
2. Vendor / Contractor [**TERMINATE AND USE VENDOR SURVEY**]

Decision Making

INTRO2. In the remainder of this interview, I'd like to focus on the <**MEASCAT1, MEASCAT2**> project you implemented through the <**PROGRAM**>

EMI1. To start, I would like to ask you to briefly describe the overall decision and equipment selection process: how the idea behind the project originated, what factors drove the design, and the equipment selection process, and how the project was brought to completion.
(**RECORD RESPONSE**)

[**REPEAT R1A THROUGH R1D FORM MEASCAT1 AND MEASCAT2**]

R1a. According to our records, the [**EFFICIENCY IS APPLICABLE (IF EFF1, EFF2 = 1): energy efficient**] <**MEASCAT1, MEASCAT2**> project you implemented through the program included <**MEAS1a-MEAS1h, MEAS2a-MEAS2h**>.

Were you highly involved in the decision-making process when the <**MEASCAT1, MEASCAT2**> project was being considered for this facility?

1. Yes
2. No
- D. Don't know
- R. Refused

R1b. I'd like to know more about any other individuals, if any, who were involved in the decision of whether or not to purchase the [**EFFICIENCY IS APPLICABLE (IF EFF1,**

EFF2 = 1): energy efficient] <MEASCAT1, MEASCAT2> equipment through the <PROGRAM>. Were there any other individuals within or outside your company who was involved in the decision to purchase the [EFFICIENCY IS APPLICABLE (IF EFF1, EFF2 = 1): energy efficient] <MEASCAT1, MEASCAT2> equipment through the <PROGRAM>?

**[MULTIPLE RESPONSE ACCEPTED - SELECT ALL THAT APPLY]
[1 IS MUTUALLY EXCLUSIVE]**

1. No one else
2. Others inside the company
3. Others outside the company

[IF R1b = 1, SKIP TO R1c.]

[IF 2 R1b includes 2]

R1b2. Can you give me the positions or titles of others within the company who were involved in the decision?

Name: _____
Title: _____
Phone: _____
Role in decision: _____

[IF R1b includes 3]

R1b3. Which of the following best describe the organizations or individuals you worked with outside of the company?

[SELECT ALL THAT APPLY]

1. Contractor
2. Design / architectural firm
3. Engineer
4. An Energy Consultant (e.g., Energy Service Company (ESCO), energy management contractors, energy auditor)
5. Other (Specify): _____

[IF R1b3 is > 1 SELECTION]

R1b4. Which of the individuals or organizations you listed had the greatest influence on your decision to implement the <MEASCAT1, MEASCAT2> project?

(RECORD RESPONSE - OPEN END)

R1b5. On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did (R1b3 [IF R1b3 # Responses = 1], R1b4 RESPONSE [IF R1b3 # Responses > 1]) have on your company's decision to implement the [IF EFFICIENCY IS APPLICABLE; IF EFF1, EFF2 = 1: high efficiency] <MEASCAT1, MEASCAT2> project?

___ (ENTER INFLUENCE RANKING)

R1b6. Before this call, were you aware that the rebate you received came from <PA>

1. Yes
2. No
- D. Don't know
- R. Refused

R1c. Is this <MEASCAT1, MEASCAT2> equipment at least partially installed [**IF INSTALLED MEASURE IS OPERATIONAL; (IF EQUIP1, EQUIP2=1)**]: and operating at this facility?

1. Yes [**SKIP TO NEXT MEASURE**]
2. No
- D. Don't know
- R. Refused

R1d. Why is the <MEASCAT1, MEASCAT2> equipment no longer installed [**IF INSTALLED MEASURE IS OPERATIONAL; (IF EQUIP1, EQUIP2=1)**]: or no longer operating at this facility?
(**RECORD VERBATIM RESPONSE**)

R3. Does your company have any corporate policies related to energy efficiency standards that you need to consider when purchasing new equipment or making improvements to this facility?

1. Yes
2. No [**Skip to R6i**]
- D. Don't know [**Skip to R6i**]
- R. Refused [**Skip to R6i**]

R4. Which of the following best describes this policy? (**READ LIST; SINGLE RESPONSE**)

1. Purchase the energy efficient option of the measure regardless of cost
2. Purchase the energy efficient option of the measure if it meets payback or return on investment criteria
3. Purchase standard efficiency version of the measure that meet code
4. Something else (**SPECIFY**)
- D. Don't know
- R. Refused

[**IF STUDY = 0 SKIP TO R9**]

R6. <PA> paid <STUDY INC> to conduct a <STUDY> at your facility to determine the savings and cost-effectiveness of installing energy efficient <MEASCAT1 and MEASCAT2> project.

If <PA> had not paid a portion of the cost, would your company have paid to have a similar <STUDY> done at the same time?

1. Yes [**SKIP TO R9**]

- 2. No
- D. Don't know [**SKIP TO R9**]
- R. Refused [**SKIP TO R9**]

R7. Would you have paid to have the study done earlier than you did, at a later date, or never?

- 1. Earlier
- 2. Same time (**REPEAT R6 for next measure**)
- 3. Later
- 4. Never
- D. Don't know
- R. Refused

R8. [**IF R7 = 1 OR R7 = 3**] How much [**earlier / later**] would you have had the study done?

___ YEARS (AND/OR) ___ MONTHS

- D. Don't know
- R. Refused

C2. [**IF <PA> HAD NOT PAID A PORTION OF THE COST OF THE <STUDY>, COMPANY WOULD HAVE PAID FOR STUDY (R6=NO)**]

On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did the information provided by the <**STUDY**> have on your decision to implement the [**IF EFFICIENCY IS APPLICABLE; IF EFF1, EFF2=1**: high efficiency] <**MEASCAT1, MEASCAT2**> project?

(**REPEAT FOR EACH MEASURE**)

___ (**ENTER INFLUENCE RANKING**)

- D. Don't know
- R. Refused

R9. Did you receive interest-free financing from <**PA**> which allowed you to pay for your portion of the project cost over time?

- 1. Yes
- 2. No
- D. Don't know

Free-Ridership

FRO. Please think back to the time when you were considering implementing the specific <**MEASCAT1 and MEASCAT2**> projects in <**YEAR**>

What factors motivated your business to consider implementing new <**MEASCAT1 and MEASCAT2**> project(s)?

(**PROBE:** What other factors did you consider?)

DO NOT READ LIST. PLEASE CHOOSE ALL THAT APPLY.

1. Old equipment failed
2. Old equipment working poorly
3. Old equipment scheduled for replacement
4. Wanted to reduce maintenance costs
5. The incentive being offered through the program
6. The technical assistance offered through the program
7. Wanted to reduce energy bills
8. Wanted to save energy
9. Recommendation of third party contractor / engineer / design professional
10. Recommendation of <PA> staff
11. Recommendation of internal staff
12. Past experience with the program
13. Other (**SPECIFY**) _____
- D. Don't know
- R. Refused

[START OF MEASURE LOOP]

FR1 - C9 will be asked of each measure category recalled that are still installed and operating - up to TWO measure categories

INTRO3a. Now I'd like to ask you about your decision to implement the <MEASCAT1> project. [**IF A SECOND MEASURE:** Then, I'll repeat these questions for the <MEASCAT2> project]

INTRO3b. [**IF SECOND MEASURE**] Now I'd like to review the <MEASCAT2> project you implemented.

FR1. On a scale of 0 to 10, with 0 being not at all likely and 10 being very likely, how likely is it that your business would have implemented the same [**IF QUANTITY IS GREATER THAN (IF QTY1, QTY2 = 1):** quantity] [**IF EFFICIENCY IS APPLICABLE (IF EFF1, EFF2 = 1):** and efficiency of] the <MEASCAT1, MEASCAT2> equipment at that same time if the <PA> had not provided the <ALL ASSISTANCE>?

___ (**ENTER LIKELIHOOD**)

- D. Don't know
- R. Refused

FR2. Did your company have any funds allocated to implement the <MEASCAT1, MEASCAT2> project before you talked with anyone about the program?

1. Yes
2. No [**SKIP TO FR4**]
- D. Don't know [**SKIP TO FR4**]
- R. Refused [**SKIP TO FR4**]

FR3a. Was it necessary to change the timing of the implementation, [**IF QUANTITY IS GREATER THAN 1 (if QTY1, QTY2 = 1):** the quantity of equipment] [**IF EFFICIENCY IS APPLICABLE (IF EFF1, EFF2 = 1):** or the efficiency level] of the <**MEASCAT1, MEASCAT2**> in order to qualify for the <**PROGRAM**>?

1. Yes
2. No [**SKIP TO FR4**]
- D. Don't know [**SKIP TO FR4**]
- R. Refused [**SKIP TO FR4**]

FR3b. What changes were necessary?

[**DO NOT READ; SELECT ALL THAT APPLY**]

1. Installation occurred SOONER than planned
2. Installation occurred LATER than planned
3. Installed MORE equipment than planned
4. Installed LESS equipment than planned
5. Equipment was MORE efficient than planned
6. Equipment was LESS efficient than planned
7. Removed MORE equipment than planned
8. Removed LESS equipment than planned
9. Other [**SPECIFY**] _____
- D. Don't know
- R. Refused

FR4. Who was MOST responsible for actually recommending or specifying the [**IF EFFICIENCY IS APPLICABLE (IF EFF1, EFF2 = 1):** high efficiency] <**MEASCAT1, MEASCAT2**> project that was implemented through the <**PROGRAM**>?

[**DO NOT READ LIST, RECORD ONLY ONE**]

1. Respondent
2. Someone else in company (**SPECIFY: _____**) (**PROBE TO DETERMINE IF SHOULD BE SPEAKING WITH A DIFFERENT RESPONDENT**)
3. Third-party design professional
4. Third-party engineer
5. Contractor
6. Manufacturer's representative
7. <**PA**> account manager
8. Someone else [**SPECIFY**] _____
- D. Don't know
- R. Refused

C1. [**IF FR4 = 3, 4, 5, 6, OR 7**] On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did (**FR4 response**) have on your company's decision to implement the [**IF EFFICIENCY IS APPLICABLE; IF EFF1, EFF2 = 1:** high efficiency] <**MEASCAT1, MEASCAT2**> project so that it would qualify for the program?

___ (ENTER INFLUENCE RANKING from 0-10)

- D. Don't know
- R. Refused

FR5. I'd like to go over all the assistance you received from <PA>.

According to our records, <PA> paid about <INC1, INC2> of the total cost of the [IF EFFICIENCY IS APPLICABLE; IF EFF1, EFF2 = 1: energy efficient] <MEASCAT1, MEASCAT2> project implemented through the <PROGRAM> in <DATE>.

[IF NO <STUDY>: you may have also received some technical assistance from a <PA> rep, engineer, or equipment vendor.]

[IF <STUDY>: As I previously mentioned, <PA> paid <STUDY INC> for a <STUDY>.]

[IF <FINANCE> = Yes] <PA> also provided interest-free financing for your portion of the project costs.

If <PA> had not paid a portion of the implementation cost OR provided any technical assistance or education [IF <FINANCE> = Yes: OR provided interest-free financing], would your business have implemented any type of <MEASCAT1, MEASCAT2> project at the same time?

- 1. Yes [SKIP TO FR7a]
- 2. No
- D. DK
- R. Refused

FR6a. Would you have implemented the <MEASCAT1, MEASCAT2> project earlier than you did, at a later date, or never?

- 1. Earlier
- 2. Same time [REPEAT FR5]
- 3. Later
- 4. Never [SKIP TO C3]
- D. Don't know [SKIP TO C3]
- R. Refused [SKIP TO C3]

FR6b. How much [earlier / later] would you have implemented the <MEASCAT1, MEASCAT2> project?

___ YEARS

___ MONTHS

- D. Don't know
- R. Refused

[IF QUANTITY IS NOT APPLICABLE FOR THIS MEASURE CATEGORY (IF QTY1, QTY2 = 0), SKIP TO FR8D]

FR7a. Without the program incentive, technical assistance, or financing, would your business have implemented the exact same quantity of <MEASCAT1, MEASCAT2> project [IF FR5 = YES or DK: at that same time; IF FR5=2: within (TIMEFRAME IN FR6b)]?

1. Yes [**SKIP TO FR8**]
2. No
- D. Don't know
- R. Refused

[IF FR7a = DK OR R, SKIP TO C3]

FR7b. Compared to the amount of <MEASCAT1, MEASCAT2> that you implemented through the program, what percent of the project do you think your business would have purchased on its own during that timeframe?

(**PROBE:** Would you have purchased about one-fourth (25%), one-half (50%), three-fourths (75%) or all (100%) ` of what you installed through the program?)

___ (**ENTER PERCENTAGE: 0-100%**)

- D. Don't know
- R. Refused

[IF EFFICIENCY IS NOT APPLICABLE FOR THIS MEASURE CATEGORY (IF EFF1, EFF2 = 0) SKIP TO C3]

FR8. You said your business would have installed [IF FR7a = YES: all; IF FR7a = NO: (FILL WITH FR7b %)] of the equipment on its own if the program had not been available. [ALL] Thinking about the <MEASCAT1, MEASCAT2> equipment you would have installed on your own, what percent of this equipment would have been...?

(**PROBE:** Would about one-fourth (25%), one-half (50%), three-fourths (75%) been of equal efficiency?)

- a. of the same high efficiency as what was installed through the program?
___ (**ENTER PERCENTAGE 0-100%**)
D. Don't know
- b. lower efficiency than what was purchased, but higher than standard efficiency or code?
___ (**ENTER PERCENTAGE 0-100%**)
D. Don't know
- c. Standard efficiency or code
___ (**ENTER PERCENTAGE 0-100%**)
D. Don't know

(**NOTE: CHECK THAT THE THREE %'s SUM TO 100%; PROBE TO CLARIFY**)

[IF QUANTITY IS GREATER THAN 1 (IF QTY1, QTY2 = 1), SKIP TO C3]

FR8d. Thinking about the <MEASCAT1, MEASCAT2> project you would have implemented on your own if the program had not been available, would it have been of the same high efficiency as what was installed through the program, lower efficiency than what was purchased but higher than standard efficiency, or standard efficiency or code?

1. Of the same high efficiency as what was installed through the program
2. Lower efficiency than what was purchased, but higher than standard efficiency
3. Standard efficiency or code
- D. Don't know
- R. Refused

C3. On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did the <INC1, INC2> you received from <PA> have on your decision to implement the [IF EFFICIENCY IS APPLICABLE; IF EFF1, EFF2 = 1: high efficiency] <MEASCAT1, MEASCAT2> project?

___ (ENTER INFLUENCE RANKING)

- D. Don't know
- R. Refused

Consistency Checks

100% Free-Ridership Consistency Check

[IF WOULD HAVE PURCHASED AT THE SAME TIME, IN THE SAME QUANTITY, AND OF THE SAME EFFICIENCY LEVEL; IF FR5=1 AND FR7A=1 AND (FR8A=100% OR FR8D=1) ASK C4A - C7C, ELSE SKIP TO C8]

C4a. Now I want to focus on what it would have cost your business to implement this project on its own without the program. On a scale of 0 to 10, with 0 being not at all likely and 10 being very likely, how likely is it that your business would have paid the additional <INC1, INC2> on top of the amount you already paid, to implement the same quantity and efficiency of <MEASCAT1, MEASCAT2> equipment at that same time?

1. ___ (0 to 10)
- D. Don't know
- R. Refused

C4b. (ASK IF C4a < 8) You said that you would have installed the same quantity and efficiency of equipment at that same time, but you also just said that there was a (FILL WITH C4a SCORE) in 10 likelihood of you paying the additional incentive provided by the <PA> program. Which of these is more accurate?

1. Installed same quantity and efficiency at same time [SKIP TO C9]

2. Likelihood of installing this without the program assistance was (**C4a SCORE**)
3. Something else (**SPECIFY**): _____

C5. How would your project have changed if **<PROGRAM>** had not contributed to the cost of the **<MEASCAT1, MEASCAT2>** project?

(INDCATE ALL THAT APPLY) (DO NOT READ)

1. Would not have changed [**SKIP TO C8**]
2. Would have postponed the project (**SPECIFY # OF MONTHS**) _____
3. Would have cancelled the project altogether
4. Would have repaired existing equipment
5. Kept using existing equipment
6. Purchased less efficient equipment (**ASK C7**)
7. Purchased fewer quantity (**ASK C6**)
8. Installed DIFFERENT type of equipment than planned (**SPECIFY**) _____
9. Other (**SPECIFY**) _____
- D. Don't know
- R. Refused

C6. [**IF C5 = PURCHASED FEWER QUANTITY; IF C5=7**] Compared to the amount of **<MEASCAT1, MEASCAT2>** equipment that you implemented through the program, what percent do you think your business would have purchased on its own at that same time?

(PROBE: Would you have purchased about one-fourth (25%), one-half (50%), three-fourths (75%) of the quantity of efficient equipment that you installed through the program?)

___ (**ENTER PERCENTAGE: 0-100%**)

- D. Don't know
- R. Refused

C7. [**IF C5 = PURCHASED LESS EFFICIENT EQUIPMENT; IF C5=6**] Thinking about the equipment you would have implemented on your own, what percent of this equipment would have been...?

(PROBE: Would about one-fourth (25%), one-half (50%), three-fourths (75%) been of equal efficiency?)

a. of the same high efficiency as what was installed through the program?

___ (**ENTER PERCENTAGE: 0-100%**)

- D. Don't know

b. lower efficiency than what was purchased but higher than standard efficiency or code?

___ (**ENTER PERCENTAGE: 0-100%**)

- D. Don't know

- c. standard efficiency or code
 ___ (ENTER PERCENTAGE: 0-100%)
- D. Don't know

(CHECK THAT THE THREE % SUM TO 100%; PROBE TO CLARIFY)

0% Free-Ridership Consistency Check

C8. ASK IF AT LEAST SOMEWHAT LIKELY TO HAVE INSTALLED THE MEASURE WITHOUT THE PROGRAM BUT LATER STATES WOULD HAVE WAITED AT LEAST FOUR YEARS (FR1 > 3 AND FR6b > 48 MONTHS OR NEVER)

Earlier in the interview, you said there was a **(FR1 SCORE)** in 10 likelihood that you would have implemented the same quantity and efficiency of **<MEASCAT1, MEASCAT2>** equipment at that same time in the absence of the program assistance. But, you also said you would not have implemented the **<MEASCAT1, MEASCAT2>** project within **<2 to 4>** years of when you did. Which of these is more accurate?

- 1. The likelihood of installing this without the program assistance was **(FR1 SCORE)**
- 2. Would not have installed anything within 2/4 years
- 3. Something else (**SPECIFY**): _____
- D. Don't know
- R. Refused

Additional Consistency Check

C9. (IF 100% FREE-RIDER; IF FR5=1 AND FR7A = 1 AND (FR8a=100% OR FR8D = 1) AND C4B = 1 AND (C2 > 6 OR C3 > 6))

(100% FREE-RIDER) PROMPT: Previously you stated that you would have installed the exact same equipment at the same time without the program. But, you also stated that the...

- (IF C2 > 6 FILL: program-sponsored study)
- (IF C3 > 6 FILL: program incentive and financing options)
- (IF C2 > 6 & C3 > 6 FILL: program-sponsored study, incentive, and financing options)

... was (were) influential in your decision.

(IF 0% FREE-RIDER: IF FR6a = NEVER OR DK AND (C2 < 5 OR C3 < 5))

(0% FREE-RIDER) PROMPT: Previously you stated that you would not have installed any equipment without the program. You also stated that the...

- (IF C2 < 5 FILL: program-sponsored study)

(**IF C3 < 5 FILL:** program incentive and financing options)
(**IF C2 < 5 & C3 < 5 FILL:** program sponsored study, incentive, and financing options)

... was (were) not influential in your decision.

(ASK OF ALL) I'd like to better understand your purchase decision. In your own words, please describe what impact, if any, all the assistance you received through the program had on your decision to install the amount of energy efficient <**MEASCAT1, MEASCAT2**> equipment at the time you did?

RECORD VERBATIM RESPONSE: _____

SKIP1. (REPEATS QUESTIONS BEGINNING FROM INTRO3B FOR SECOND MEASURE - IF NO OTHER MEASURES - CONTINUE)

[**IF MEAS2 = 1 GO TO INTRO3B**]
[**IF MEAS2 = 0 GO TO PP1**]

Impact of Previous Program Participation

[IF NEVER WOULD HAVE INSTALLED OR ALL EQUIPMENT WOULD HAVE BEEN OF STANDARD EFFICIENCY AND UNLIKELY TO HAVE PURCHASED WITHOUT PROGRAM ((IF FR6a = NEVER OR FR8a = 0% OR FR8D <> 1) AND FR1 < 4) SKIP TO S1a]

PP1. Had your business participated in <**PA**>'s <**PROGRAM**> before you implemented the energy efficient project in <**DATE**>?

1. Yes
2. No [**SKIP TO S1a**]
- D. Don't know [**SKIP TO S1a**]
- R. Refused [**SKIP TO S1a**]

PP2. On a scale of 0 to 10, with 0 being "not at all important" and 10 being "very important", how important was your previous experience with a <**PA**> program when making the decision to implement the <**MEASCAT1, MEASCAT2**> project at this facility around <**DATE**>?

ENTER RATING (0 - 10) _____

D. Don't know

PP3. I'm going to read you several statements. For each statement, please tell me whether you agree or disagree that this statement applies to your business. There are no right or wrong answers; we just want your honest opinion.

(REPEAT IF NECESSARY)

1. Agree
2. Disagree

- D. Don't know
- R. Refused

Our previous experience implementing energy efficient projects through the <PROGRAM>...

a. Has made our firm more likely to consider energy efficient equipment

- 1. Agree
- 2. Disagree
- D. Don't know
- R. Refused

b. Has made our firm more likely to install energy efficient equipment

- 1. Agree
- 2. Disagree
- D. Don't know
- R. Refused

c. Has given us more confidence in the financial benefits of energy efficient equipment

- 1. Agree
- 2. Disagree
- D. Don't know
- R. Refused

d. Has given us more confidence in the nonfinancial benefits of energy efficient equipment

- 1. Agree
- 2. Disagree
- D. Don't know
- R. Refused

Like Spillover

START OF MEASURE LOOP

S1a - S4b will be asked of each measure category recalled - up to TWO measure categories

S1a. Now I'd like you to think of the time since you participated in the <PROGRAM> in <DATE>.

Has your company implemented any <MEASCAT1, MEASCAT2> projects for this or other facilities in Connecticut on your own, that is without a rebate from <PA>?

- 1. Yes
- 2. No [**SKIP TO SKIP2**]
- D. Don't know [**SKIP TO SKIP2**]

[**IF EFFICIENCY IS NOT APPLICABLE; IF EFF1, EFF2 = 0, SKIP TO S2a**]

S1b. Was this equipment of the same efficiency level or a higher level of efficiency as the equipment you installed through the program?

1. Yes [**SKIP TO S2a**]
2. No
- D. Don't know

S1c. Was this equipment more energy efficient than standard efficiency or code equipment?

1. Yes
2. No [**SKIP TO SKIP2**]
- D. Don't know [**SKIP TO SKIP2**]

S2a. Thinking of the <**MEASCAT1, MEASCAT2**> equipment that you installed on your own, how does the quantity compare to what you installed through the program? Did you install more, less, or the same amount of <**MEASCAT1, MEASCAT2**> equipment?

(PROBE: We're looking for a percent compared to the amount installed through the program. For example, was it about one-fourth of what you installed through the program, one-half of what you installed through the program, the same (100%) amount as you installed through the program, twice as much as what you installed through the program (200%) or some other amount?)

1. More (How much more?) **ENTER PERCENTAGE:** ____ (0 - 100%)
2. Less (How much less?) **ENTER PERCENTAGE:** ____ (0 - 100%)
3. Same
- D. Don't know

S2b. [**IF S2a <> SAME AMOUNT OF <MEASCAT1, MEASCAT2>; IF S2a <> 3]** So, the additional energy efficient equipment you bought on your own was <**PERCENTAGE FROM S2a**> as much as you got through the program?

1. Yes
2. No [**ASK FOR CORRECT VALUE AND CORRECT S2a**]

S3a. Did a recommendation by the contractor, engineer, or designer who you worked with under the <**PROGRAM**> influence your decision to implement some or all of this additional [**IF EFFICIENCY IS APPLICABLE; (IF EFF1, EFF2 = 1): efficient**] <**MEASCAT1, MEASCAT2**> equipment you installed on your own?

1. Yes
2. No
- D. Don't know
- R. Refused

S3b. Did your experience with the energy efficient projects implemented through the <**PROGRAM**> influence your decision to implement some or all of this [**IF EFFICIENCY IS APPLICABLE; (IF EFF1, EFF2 = 1): efficient**] <**MEASCAT1, MEASCAT2**> equipment on your own?

1. Yes
2. No
- D. Don't know

R. Refused

S3c. Did your participation in any past program offered by <PA> influence your decision to implement some or all of this [**IF EFFICIENCY IS APPLICABLE; (IF EFF1, EFF2 = 1):** efficient] <MEASCAT1, MEASCAT2> equipment on your own?

- 1. Yes
- 2. No
- D. Don't know
- R. Refused

[IF at least 2 of S3a, S3b, S3c = Yes]

S3e. Of the influences you mentioned, [Contractors, engineers, or designers], [energy efficient projects implemented through the EO program], [participation in past program offered by <PA>], which most strongly influenced your decision to purchase additional equipment?

- 1. Contractors, engineers, or designers
- 2. Energy efficient projects implemented through the EO program
- 3. Participation in past program(s) offered by <PA>
- D. Don't know
- R. Refused

S3d. On a scale of 0 to 10, where 0 is "no influence at all" and 10 is "a great deal of influence", how much influence did your participation in the <PA> program have on your decision to install this equipment without an incentive?

ENTER RATING (0 - 10) _____

D. Don't know

S4a. Why didn't you implement this <MEASCAT1, MEASCAT2> project through a <PA> program?

[DO NOT READ - SELECT ALL THAT APPLY]

- 1. Too much paperwork
- 2. Cost savings no worth the effort of applying
- 3. Takes too long for approval
- 4. The equipment would not qualify
- 5. Vendor does not participate in program
- 6. Outside of <PA>'s service territory
- 7. No time - needed equipment immediately
- 8. Thought the program ended
- 9. Didn't know the equipment qualified under another program
- 10. Just didn't think of it
- 11. Unable to get rebate -- unsure why
- 12. Other (**SPECIFY**): _____
- D. Don't know

S4b. [IF S4a = THE EQUIPMENT WOULD NOT QUALIFY; IF S4a = 4] Why wouldn't the equipment qualify?

RECORD VERBATIM RESPONSE: _____

SKIP2. (REPEATS SPILLOVER QUESTIONS FOR SECOND MEASURE - IF NO OTHER MEASURES - CONTINUE)

[IF MEAS2 = 1 GO TO S1a]

[IF MEAS2 = 0 GO TO S5]

Unlike Spillover

S5. Since participating in <PROGRAM>, has your company purchased, installed, or implemented any other type of energy efficiency equipment on your own, that is without a rebate from <PA>?

1. Yes
2. No [**SKIP TO NE1**]
- D. Don't know [**SKIP TO NE1**]

S6. What did you install?

RECORD TYPE: _____

RECORD QUANTITY: _____

RECORD SIZE / CAPACITY: _____

S7a. Would this project have qualified for an incentive through the <PROGRAM>?

1. Yes
2. Yes, implemented through a program [**SKIP TO NE1**]
3. No [**SKIP TO NE1**]
- D. Don't know [**SKIP TO NE1**]

S7b. Did a recommendation by the contractor, engineer, or designer who you worked with under the <PROGRAM> influence your decision to implement some or all of this equipment on your own?

1. Yes
2. No
- D. Don't know
- R. Refused

S7c. Did your experience with the energy efficient projects implemented through the <PROGRAM> influence your decision to implement some or all of this equipment on your own?

1. Yes
2. No
- D. Don't know
- R. Refused

S7d. Did your participation in any past program offered by <PA> influence your decision to implement some or all of this equipment on your own?

- 1. Yes
- 2. No
- D. Don't know
- R. Refused

S7e. On a scale of 0 to 10, where 0 is "no influence at all" and 10 is "a great deal of influence", how much influence did your participation in the <PA> program have on your decision to install this equipment without an incentive?

ENTER RATING (0 - 10) ____

- D. Don't know

S8a. Why didn't you implement this project through a <PA> program?

DO NOT READ - SELECT ALL THAT APPLY

- 1. Too much paperwork
- 2. Cost savings not worth the effort of applying
- 3. Takes too long for approval
- 4. The equipment would not qualify
- 5. Vendor does not participate in program
- 6. Outside <PA>'s service territory
- 7. No time - needed equipment immediately
- 8. Thought the program ended
- 9. Didn't know the equipment qualified under another program
- 10. Just didn't think of it
- 11. Unable to get rebate -- unsure why
- 12. Other (**SPECIFY**): _____
- D. Don't know
- R. Refused

S8b. [IF S8a = EQUIPMENT WOULD NOT QUALIFY (IF S8a = 4)] Why wouldn't the project qualify?

RECORD VERBATIM RESPONSE: _____

Expected NEI

NE1. Prior to participating in the program, did you expect any impacts other than energy savings?

- 1. Yes
- 2. No [**SKIP TO COM**]
- D. Don't know [**SKIP TO COM**]

NE2. Did you view these effects as a negative or positive benefit? [SINGLE RESPONSE]

1. Negative [**SKIP TO COM**]
2. Positive
- D. Don't know

NE3. What were the positive benefits (**SELECT ALL THAT APPLY**)
[Read List]

1. Sales increase
2. Production / productivity increase
3. Equipment life increase
4. Maintenance costs decrease
5. Waste generation decrease
6. Personnel needs decrease
7. Injury / illness decrease
8. Other (**SPECIFY**): _____

NE4. [**IF POSITIVE BENEFIT, NE2 = 2**] Did the expected positive benefits influence your decision to participate in the program?

1. Yes
2. No
- D. Don't know

NE5. Did the program influence your expectations of the positive benefits?

1. Yes
2. No
- D. Don't know

Wrap-up

COM. Do you have any comments or suggestions for the program?

RECORD VERBATIM RESPONSE: _____

QRNAME. For verification purposes, would you spell your first and last name for me?

RECORD VERBATIM RESPONSE: _____

CLARIFY. If we would need to clarify some of the information I asked you, would it be alright if we called you back?

1. Yes
2. No

A4. [**ASK IF C1 > 6 AND / OR R1b5 > 6**] We would like to talk to the person who was most influential in recommending or specifying the efficient <**MEASCAT1, MEASCAT2**> equipment to install through the program. Earlier you mentioned that this was [**FILL WITH FR4 AND / OR R1b4 RESPONSE**]. Could you give me the name(s) and telephone number(s) of this (these) person (people)?

1. Yes (**RECORD CONTACT INFORMATION**) (**IF MULTIPLE NAMES, INDICATE SOURCE [FR4 or R1b4]**)
2. No, REFUSED to give this information

3. No, no outside advisor involved
 4. **[IF SECOND MEASURE] (SAME CONTACT INFO AS PREVIOUS MEASURE)**
- D. Don't know

END. Those are all the questions I have for you. I'd like to thank you for your time with this important evaluation. We will mail you your \$25 gift card within six weeks, or, if you prefer, we can email you a \$25 electronic gift card within 3 weeks.

Would you prefer that we mail or email you, your incentive?
Programming: please display options below:

1. Mail
2. Email

[IF END = Mail]

ASK FOR AND ENTER ADDRESS:

Name: _____
Address: _____
City: _____
State: _____
Zip: _____

[IF END = Email]

ASK FOR AND ENTER EMAIL:

Email: _____

APPENDIX C: INFLUENTIAL DESIGN PROFESSIONAL/VENDOR SURVEY

C.1 Introduction

EMI Consulting is conducting research to estimate program attribution for the Connecticut (CT) Energy Efficiency Board's (EEB) Energy Opportunities (EO) program in order to support the EEB in improving the design of the EO program, inform regulatory reporting, and support EO program planning. The EO Program is the flagship commercial and industrial (C&I) program for the Connecticut Energy Efficiency Board (EEB) and provides Connecticut businesses with financial incentives and technical assistance to encourage the replacement of outdated, less energy efficient equipment with high efficiency alternatives.

As part of this study, EMI Consulting will conduct survey research to establish free-ridership and spillover estimates for the custom and prescriptive elements of the program. This research will follow the standardized methodology developed for the Massachusetts Program Administrators in 2011.³ To develop the net-to-gross ratio, EMI Consulting will use self-report data from end-users, contractors, and distributors to determine the impact of the EO program on purchase decisions and business practices.

This document represents survey questions that will be asked of influential design professionals when triggered by participant free-ridership and spillover instrument.

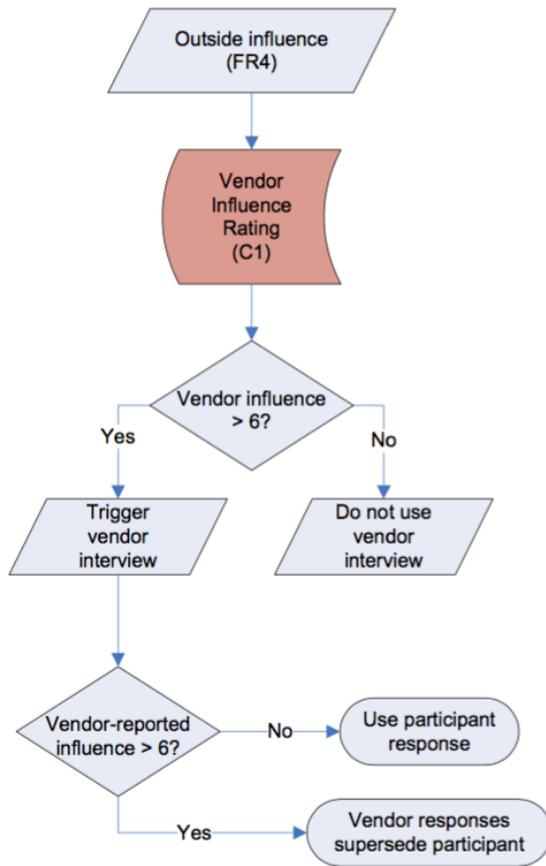
Survey triggers

This section details when the Influential Design Professional / Vendor Free-Ridership Survey is triggered by the Participant Free-ridership and Spillover Survey. The survey logic largely follows the standardized methodology developed for the Massachusetts Program Administrators in 2011.⁴ However, based on additions to that survey the Influential Design Professional / Vendor Free-Ridership Survey, this survey may also be triggered by another question.

Following the 2011 standardized methodology, the survey at-hand is triggered if a respondent reports a significant "outside" influence on their decision to implement the energy efficiency project. "Outside" influences are defined as either a: third-party design professional, third-party engineer, contractor, manufacturer's representative, or utility account manager. Significant influence is defined as a rating of a 6 or higher on a 0 ("no influence") to 10 ("a great deal of influence") scale. Figure A-1 displays the logic for how the Influential Design Professional / Vendor Free-Ridership Survey is triggered by responses to the Participant Free-ridership and Spillover Survey.

³ Tetrattech (April, 2011). Massachusetts Program Administrators. Cross-Cutting C&I Free-Ridership and Spillover Methodology Study Final Report.

⁴ Tetrattech (April, 2011). Massachusetts Program Administrators. Cross-Cutting C&I Free-Ridership and Spillover Methodology Study Final Report.

Figure A-1: Vendor Interview Trigger Flowchart

In addition to the above, EMI Consulting added another question that triggers the Influential Design Professional / Vendor Free-Ridership Survey. Specifically, EMI Consulting added a question to the Participant Free-ridership and Spillover Survey asking respondents to indicate *any* internal and external influences on their ultimate decision to pursue the energy efficiency project they are being interviewed about (questions R1b through R1b3 in the Participant Free-ridership and Spillover Survey). If respondents provide more than one source of influence, they are asked to pick which source of influence was most influential on their decision (question R1b4 in the Participant Free-ridership and Spillover Survey). Finally, and like the standardized methodology, respondents are asked to rank the magnitude of influence of the individual they listed as having the most influence (question R1b5 in the Participant Free-ridership and Spillover Survey). Respondents who rank the source of influence as a 6 or higher on the 0 ("no influence") to 10 ("a great deal of influence") scale (also) trigger the Influential Design Professional / Vendor Free-Ridership Survey.

Survey variables

The following table describes the variables that will be included as inputs into the survey. These variables will be derived from program tracking data.

Table A-6: Sample Variables Used as Inputs in the Survey Instrument

Variable Name	Description
INTERVIEWER	Interviewer name
CUST	Customer / Facility name
ADDR	Service address where equipment was installed
MEASCAT1, MEASCAT2	End-use Category (e.g., lighting)
MEASTCAT1a- MEASCAT1h MEASCAT2a- MEASCAT2h	Detailed measure descriptions
TA	"1" if a Technical Assessment Study was conducted
INC1, INC2	Utility / sponsored incentive for Measure categories
STUDY INC	Incentive paid for study
QTY1, QTY2	0 = is not applicable for this measure category (measure qty = 1 or quantity is not relevant as in delamping, recycling), 1 = quantity greater than 1
EFF1, EFF2	0=efficiency is not applicable for this measure category (e.g., insulation, VFD, delamping, recycling), 1=efficiency is applicable
EQUIP1, EQUIP2	0 if installed measure isn't equipment that is operational (e.g., insulation), 1 = installed measure is operational
PROGRAM	Utility / sponsor programs the vendor has been involved with
PA	Utility / sponsor name

C.2 Survey

Section A: Introduction

Hello, my name is **<INTERVIEWER>**, and I am calling on behalf of **<PA>**. We are talking with some of the design professionals and contactors who were involved with the **<PROGRAM>** in 2016 - 2017. I'm not selling anything; I'd just like to ask you about the types of equipment that your firm recommended, sold, or installed through this/these program(s) in 2016 and 2017.

Before we start, I would like to inform you that for quality control purposes, this call will be recorded and monitored.

[READ IF RESPONDENT HAS QUESTIONS ABOUT INTERVIEW LENGTH]

Timing: This survey will take less than 15 minutes of your time.

[IF NOT A GOOD TIME, SET UP CALL BACK APPOINTMENT OR OFFER TO LET THEM CALL US BACK AT PHONE NUMBER]

[READ IF RESPONDENT EXPRESSSS SALES CONCERN]

Sales concern: I am not selling anything. Your responses will be kept confidential by our firm and the <PA>. If you would like to talk with someone from there, you can call **[CONTACT NAME AND PHONE NUMBER FOR SPONSORS INCLUDED IN THIS CALL]**.

Section B: Free-Ridership Questions

INTRO2

I'd like to review the <MEASCAT1, MEASCAT2> you recommended or specified through the <PROGRAM> for <PA>.

VR1. Do you recall recommending <MEASCAT1>, which included <DESC1> for <CUST> at <ADDR> through the <PROGRAM> in <YEAR>?

1. Yes **[IF VR1 = YES, SKIP TO V1a]**
2. No
3. This equipment was never installed **[IF NUMBER OF MEASURE CATEGORIES=2, SKIP TO VR2; ELSE SKIP TO END]**
- D (DK)
- R (REFUSED)

VR1a. Is there someone else at your firm who would be more familiar with this equipment?

1. Yes - Continue **[ENTER CONTACT INFO & TRANSFER. GO THROUGH INTERVIEW WITH OTHER CONTACT IF AVAILABLE, OTHERWISE SET CALLBACK AND UPDATE CONTACT INFORMATION.]**
2. Yes – Not available **[ENTER CONTACT INFO & EXIT]**
3. No – Continue
4. Contact no longer with the company **[ASK FOR CURRENT EMPLOYEE WITH MOST FAMILIARITY]**

V1a. First, I'd like to ask you about your decisions to recommend <MEASCAT1> through the <PROGRAM>. Were you involved in the decision-making process at the design stage when the <MEASCAT1> equipment was specified and agreed upon for this facility?

1. Yes **[IF # OF MEASURE CATEGORIES = 2, SKIP TO VR2, ELSE SKIP TO VP1a]**
2. No
- D DK

V1b. At what point in the process did you become involved?

[RECORD VERBATIM RESPONSE]

- D. DK
- R. Refused

V1c. What was your role?

[RECORD VERBATIM RESPONSE]

- D. DK
- R. Refused

[IF NO SECOND MEASURE, SKIP TO INTRO3a]

VR2. Do you recall recommending <MEASCAT2> which included <DESC2> for <CUST> at <ADDR> through the <PROGRAM> in <YEAR>?

- 1. Yes [**SKIP TO V2a**]
- 2. No
- 3. This equipment was never installed [**SKIP TO INTRO3a IF INSTALLED MEASURE CATEGORY 1; ELSE SKIP TO END**]
- D. DK

VR2a. Is there someone else at your firm who would be more familiar with this equipment?

- 1. Yes - Continue [**ENTER CONTACT INFO & TRANSFER IF NO CONTACT FOR MEASURE1**]
- 2. Yes - Not available [**ENTER CONTACT INFO & EXIT IF NOT CONTACT FOR MEASURE 1**]
- 3. No - Continue
- 4. Contact no longer with the company [**ASK FOR CURRENT EMPLOYEE WITH MOST FAMILIARITY**]

[IF DIDN'T RECALL MEASURE 1, MEASURE 1 WAS NOT INSTALLED, OR RESPONDENT WAS NOT THE CONTACT FOR MEASURE 1, SKIP TO END; ELSE SKIP TO INTRO3a AND ONLY ASK QUESTIONS FOR MEASURE 1]

V2a. Were you involved in the decision-making process at the design stage when the <MEASCAT2> equipment was specified and agreed upon for this facility?

- 1. Yes [**SKIP TO VP1a**]
- 2. No
- D. DK

V2b. At what point in the process did you become involved?

[RECORD VERBATIM RESPONSE]

- D. DK
- R. Refused

V2c. What was your role?

[RECORD VERBATIM RESPONSE]

- D. DK
- R. Refused

[ASK IF TA = 1]

VP1a. According to our records, <PA> paid <STUDY INC> to conduct a <STUDY> for <CUST> to determine the savings and cost-effectiveness of installing <MEASCAT1, MEASCAT2> equipment.

If <PA> had not paid a portion of the cost, do you think <CUST> would have paid the same cost of the study to have a similar <STUDY> done at the same time?

- 1. Yes
- 2. No
- D. DK

VR9. To the best of your knowledge, did <CUSTOMER> receive interest-free financing from <PA> which allowed them to pay for their portion of the project cost over time?

- 1. Yes
- 2. No

[INTERVIEWER: START OF MEASURE LOOPS. VA3 THROUGH VF10 WILL BE ASKED OF EACH MEASURE CATEGORY RECALLED - UP TO TWO MEASURES.]

[FIRST MEASURE]

INTRO3a

Now, I'd like to ask you some questions about your decision to recommend <MEASCAT1> equipment. **[IF THERE IS ALSO A SECOND MEASURE: Then, I'll repeat these questions for <MEASCAT2> equipment.]**

[IF SECOND MEASURE]

INTRO3b

Now I'd like to review the <MEASCAT2> equipment you recommended.

VA1. On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did your firm have on specifying the efficiency levels or features of <MEASCAT1, MEASCAT2> so that it would qualify for the program?

- D. ___ [ENTER NUMBER: 0 – 10]
 DK

[IF VA1 < 7 AND NO OTHER MEASURE, SKIP TO END; IF VA1<7 AND ANOTHER MEASURE CATEGORY, REASK VA1 OF SECOND MEASURE CATEGORY; IF TWO MEASURES AND BOTH < 7 SKIP TO END]

VPI. The next set of questions ask about <CUST>'s planning and installation decisions through <PROGRAM> in <YEAR>.

VP1a. As far as you know, did <CUST> have funds allocated to install any of this equipment before you talked with them about the program?

1. Yes
2. Yes, but don't remember specifics
3. No [**SKIP TO ATXT3**]
- D. DK [**SKIP TO ATXT3**]
- R. Refused [**SKIP TO ATXT3**]

[IF YES]

VP1b. What plans existed? [**RECORD VERBATIM RESPONSE**]

- D. DK
- R. Refused

VP2a. Was it necessary to change the timing of the installation, the quantity of equipment installed or the efficiency level of the <MEASCAT1, MEASCAT2> equipment installed in order to qualify for the <PROGRAM>?

1. Yes
2. Yes, but don't remember specifics [**SKIP TO ATXT3**]
3. No [**SKIP TO ATXT3**]
- D. DK [**SKIP TO ATXT3**]
- R. Refused [**SKIP TO ATXT3**]

VP2b. What changes were necessary? [**INDICATE ALL THAT APPLY**]

1. Installation occurred SOONER than planned
2. Installation occurred LATER than planned
3. Installed MORE equipment than planned
4. Installed LESS equipment than planned
5. Equipment was MORE efficient than planned
6. Equipment was LESS efficient than planned
7. Other [**SPECIFY**]
- D. DK
- R. Refused

VATXT3. According to our records, <PA> paid about <InC1, INC2> of the total cost of the <MEASCAT1, MEASCAT2>.

<CUST> may have also received some technical assistance from <PA> or a contribution toward the cost of a technical assessment study.

VF1. If <PA> had not paid a portion of the implementation cost, would your company have recommended or specified any type of <MEASCAT1, MEASCAT2> equipment to <CUST> at the same time?

- 1. Yes
- 2. No [**SKIP TO VC2**]
- D. DK [**SKIP TO VC2**]

[IF QTY1, QTY2 = 0, SKIP TO VF3d]

VF2a. Without the program incentive, technical assistance, or education, would your company have recommended or specified the exact same quantity of <MEASCAT1, MEASCAT2> for <CUST> at the same time?

- 1. Yes [**SKIP TO VF3**]
- 2. No
- D. DK

VF2b. Compared to the amount that you recommended through the program, what percentage of the overall quantity of <MEASCAT1, MEASCAT2> equipment do you think your company would have recommended or specified without assistance from <PA>?

[PROBE: Would you have recommended / specified about one-fourth (25%), one-half (50%), three-fourths (75%) of what was installed through the program?]

___ ENTER PERCENTAGE [0 - 100%, 998 = DK]

[IF VF2b = 0, SKIP to VC2]

[IF EFF1, EFF2 = 0, SKIP TO VC2]

VF3. You said you would have recommended or **specified [IF VF2a = 1: all the] [IF VF2a OR D SHOW: at least some]** <MEASCAT1, MEASCAT2> for <CUST> if the program had not been available.

What percent of the equipment that you would have recommended would have been...

- a. of the same high efficiency as what was installed through the program?

___ [**ENTER PERCENTAGE: 0 - 100%**]

- D. DK

- b. lower efficiency than what was purchased, but higher than standard efficiency or code?

___ **[ENTER PERCENTAGE: 0 - 100%]**
D. DK

- c. standard efficiency or code?

___ **[ENTER PERCENTAGE: 0 - 100%]**
D. DK

[IF QTY1, QTY2 = 1, SKIP TO VC2]
[IF EFF1, EFF2 = 0, SKIP TO VC2]

VF3d. Thinking about the **<MEASCAT1, MEASCAT2>** equipment you would have recommended if the program had not been available, would it have been of the same high efficiency as what was installed through the program, lower efficiency than what was purchased but higher than standard efficiency, or standard efficiency or code?

1. Of the same high efficiency as what was installed through the program?
 2. Lower efficiency than what was purchased, but higher than standard efficiency
 3. Standard efficiency or code
- D. DK
R. Refused

VC2. **[IF STUDY=1]** On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did the information provided by the **<STUDY>** have on your decision to recommend the **[IF EFF1, EFF2 = 1: high efficiency]** **<MEASCAT1, MEASCAT2>** project?

___ **[ENTER INFLUENCE RANKING: 0 – 10]**
D. DK
R. Refused

VC3. On a scale of 0 to 10, with 0 being no influence and 10 being a great deal of influence, how much influence did the **<INC1, INC2>** the **<CUST>** received from **<PA>** have on your decision to recommend the **[IF EFF1, EFF2 = 1, high efficiency]** **<MEASCAT1, MEASCAT2>** project?

___ **[ENTER INFLUENCE RANKING: 0 – 10]**
D. DK
R. Refused

[IF VF1 = 1 AND VF2a = 1 AND VF3a = 100%, ASK VF4 - VF7; ELSE SKIP TO VF8]

VF4a. Now I want to focus on what it would have cost <CUST> to install this equipment on its own without the program. On a scale of 0 to 10, with 0 being not at all likely and 10 being very likely, how likely would they have been to pay the additional <INC1, INC2> on top of the amount they already paid, to implement the same quantity and efficiency of <MEASCAT1, MEASCAT2> equipment at the same time?

- ___ [ENTER NUMBER: 0 – 10]
- D. DK
 - R. Refused

[IF VF4a > 7 SKIP TO VF8]

VF5. How would their project have changed if <PROGRAM> had not contributed to the cost of the <MEASCAT1, MEASCAT2>?
[INDICATE ALL THAT APPLY] [DO NOT READ]

- 1. Would not have changed **[SKIP TO VF8]**
- 2. Would have postponed the project **[SPECIFY # MONTHS]**
- 3. Would have cancelled the project altogether
- 4. Would have repaired existing equipment
- 5. Kept using existing equipment
- 6. Purchased less efficient equipment **[ASK VF7]**
- 7. Purchased fewer quantity **[ASK VF6]**
- 8. Installed DIFFERENT type of equipment than planned **[SPECIFY]**
- 9. Other **[SPECIFY]**
- D (DK)
- R (REFUSED)

[IF VF5=7]

VF6. Compared to the amount of <MEASCAT1, MEASCAT2> that <CUST> implemented through the program, what percent do you think they would have purchased on their own at that same time?

[PROBE: Would you have purchased about one- fourth (25%), one-half (50%), three fourths (75%) of what you installed through the program?]

- ___ [ENTER PERCENTAGE: 0-99%]
- D. Don't know
 - R. Refused

[IF VF6 = 0 SKIP TO VF8]
[IF QTY1, QTY2 = 0 SKIP TO VF8]

[IF VF5=6]

VF7. Thinking about the equipment <CUST> would have implemented on your own, what percent of this equipment would have been . . . ?

[PROBE: Would about one-fourth (25%), one-half (50%), three fourths (75%) been of equal efficiency?]

VF7a. Of the same high efficiency as what was installed through the program?

_____ **[ENTER PERCENTAGE: 0-100%]**

D. Don't know

VF7b. Lower efficiency than what was purchased but higher than standard efficiency or code?

_____ **[ENTER PERCENTAGE: 0-100%]**

D. Don't know

VF7c. Standard efficiency or code?

_____ **[ENTER PERCENTAGE: 0-100%]**

D. Don't know

[CHECK THAT THE THREE % SUM TO 100%; PROBE TO CLARIFY.]

VF8. On a scale of 1 to 10, with 1 being 'not at all important and 10 being 'very important', how important was your previous experience with a <PA> program when making the decision to recommend or install <MEASCAT1, MEASCAT2> for this customer?

_____ **[ENTER NUMBER: 0 – 10]**

D. Don't know

N. NA – No previous program experience

[IF VF1=1 AND VF2a=1 AND (VF3a=100% or VF3d = 1) AND VF5 = 1 AND (VC2 > 6 OR VC3 > 6)]

VF9a. Previously you stated that <CUST> would have recommended the exact same equipment at the same time without the program. But, you also stated that the ...

[IF VC2 > 6 FILL: program-sponsored study]

[IF VC3 > 6 FILL: program incentive]

[IF VC2 > 6 & VC3 > 6 FILL: program-sponsored study and incentive]

... was influential in your decision to make the recommendations that you did.

[IF VF1 = NO OR DK AND (VC2 < 5 OR VC3 < 5)]

VF9b. Previously you stated that <CUST> would not have installed any equipment without the program. You also stated that the ...

[IF VC2 < 5 FILL: program-sponsored study]

[IF VC3 < 5 FILL: program incentive]

[IF VC2 < 5 & VC3 < 5 FILL: program-sponsored study and incentive]

... was not influential in their decision.

VF9c. I'd like to better understand <CUST>'s purchase decision. Please describe what impact, if any, the program had on <CUST>'s decision to install the energy efficient <MEASCAT1,MEASCAT2> equipment at the time they did?

[RECORD VERBATIM RESPONSE]

D. Don't know

R. Refused

END. We are almost finished calling customers about their experience with the program. If another customer identifies you as being influential in their decision to install energy efficient equipment, would it be alright for us to call you back for just a couple of questions?

1. Yes

2. No

VRNAME. For verification purposes, would you spell your first and last name for me?

[RECORD VERBATIM RESPONSE]

COMMENTS. That is all the questions I have for you. Thank you for your participation. Do you have any comments? **[RECORD VERBATIM RESPONSE]**

APPENDIX D: UPSTREAM LIGHTING QUALITATIVE DISTRIBUTOR INTERVIEWER GUIDE

D.1 Introduction

EMI Consulting is conducting research to estimate program attribution for the Connecticut (CT) Energy Efficiency Board's (EEB) Energize CT upstream lighting initiative in order to support the EEB in improving the design the EO program, inform regulatory reporting, and support program planning.

As part of this study, EMI Consulting will conduct survey research to establish free-ridership and spillover estimates for the Energize CT upstream lighting initiative. Estimates for the upstream element of the program will follow the methodology developed for the Massachusetts Program Administrators and Advisory Council in 2018⁵ to the extent that the program data allows. The survey at hand is aimed at supplementing the information collected from end-users by providing additional insights and context from distributors.

This document represents survey questions that will be asked of distributors of the Energize CT upstream lighting initiative.

D.2 Survey

Section A: Introduction

Intro1.: Hello, my name is <**INTERVIEWER NAME**> from <**FIRM NAME**>, calling on behalf of the Energize Connecticut Incentives Program (also referred to as Energize CT Incentives, the upstream lighting program, the Energize Connecticut Commercial and Industrial Upstream Lighting Initiative, the instant rebate program, and the distributor rebate program) sponsored by <**PA**> and the Connecticut Department of Energy and Environmental Protection. THIS IS NOT A SALES CALL NOR A SERVICE CALL. May I please speak with <**CONTACT**>?

[IF NEEDED] We're not selling anything, we are interested in your experiences with the Energize Connecticut Incentives Program. This survey is authorized by the <**PA**>.

5. Yes [**SKIP TO PERSON 1**]
6. Make Appointment [**SKIP TO APPT**]
7. No longer works here [**SKIP TO INTRO1A**]
8. Refused [**THANK & TERMINATE**]

⁵ DNV-GL (July, 2018). Massachusetts Program Administrators and Energy Efficiency Council. Massachusetts C&I Upstream Lighting Net-to-Gross Study - Draft Report.

INTRO1A. Could you give me the name and telephone number of someone else at your facility who is knowledgeable about your lighting equipment?

77. Record name and telephone number [**CALL CONTACT AND REPEAT INTRO PROCESS**]
88. Refused [**THANK AND TERMINATE**]
99. Don't know [**THANK AND TERMINATE**]

PERSON1. According to our records, you participated in the Energize Connecticut Incentives Program in 2017. Today we're conducting an important study on the energy needs and perceptions of organizations like yours with an emphasis on efficient lighting. We are interested in how your experiences with the program as well as its influence on your sales and stocking practices. The survey should take less than 15 minutes and at no time will we try to sell you anything. Your input will allow <PA> to build and maintain better energy savings offerings and improve future program offerings. Would you be willing to answer a few questions for us?

1. Yes [CONTINUE]
2. Make Appointment [**SKIP BACK TO APPT**]
3. No [THANK AND TERMINATE]

Before we start, I would like to ask if it is okay if I record this conversation. Your data will be kept confidential; the recording is only for note taking purposes and to ensure I do not miss anything during our conversation.

Section A. Bulb Types

To begin, we would like to ask you about the types of bulbs you sold through the Energize Connecticut Incentives Program.

T1. In 2017, did you receive buydowns or markdown discounts for linear LEDs from <PA>? The program would have paid an average buydown / markdown discount of \$32-\$40 per linear LED fixture you sold.

1. Yes
2. No
3. Don't know

A1. In 2017, did you receive buydowns or markdown discounts for screw-in LEDs from <PA>? The program would have paid an average buydown / markdown discount of \$4 - \$8 per screw-in fixture you sold.

1. Yes
2. No
3. Don't know

Section B. Linear LEDs

[**COMPLETE SECTION IF T1 = Yes**]

T1. If <PA> did not offer the program buydown / markdown discounts and program promotional materials had not been available during 2017, do you think your sales of linear LED bulbs in Connecticut would have been lower, about the same, or higher?

1. Lower
2. About the same
3. Higher
98. DK
99. REF

[IF T1 = LOWER]

T2. About what percentage fewer linear LEDs do you think you would have sold in Connecticut if <PA> had not provided the program buydowns / markdowns and the promotional materials had not been available?

[ENTER PERCENTAGE] _____ Less linear LEDs

T3. Why do you think you would have sold **[IF T1 = 1, Fewer; IF T1 = 2, About the same; IF T1 = 3, More]** linear LEDs had the program buydowns / markdowns and promotional materials not been available?

[RECORD RESPONSE] _____

T4. During 2017, did you sell any linear LED fixtures in Connecticut for which you did NOT receive the buydown / discount amount?

1. Yes
2. No
3. DK

[IF T4 = Yes]

T5. About what percentage of your linear LED sales in 2017 were not buydown / discount bulbs?

[ENTER PERCENTAGE] _____

T6. Why did you not receive the buydown / discount amount for those LEDs?

[RECORD RESPONSE] _____

T7. Did your participation in the Energy Connecticut Incentives Program have any influence on your sales of the linear LEDs you sold that were not discounted through the program?

1. Yes
2. No
3. DK

[IF T7 = Yes]

T8. On a scale of 0 to 10, where 0 is "No influence at all" and 10 is "A great deal of influence", how much influence did your participation in the Energize Connecticut Incentives Program have on your sales of linear LED fixtures in Connecticut for which you did not receive a buydown?

0. (No influence at all) - - - - - 10. (A great deal of influence)

T9. Is there anything else you would like to mention about your experience with the Energy Connecticut Incentives Program and the linear LED bulbs you sold through the program or the programs influence on your stocking practices or other sales?

[RECORD RESPONSE]

Section C. Screw-in LEDs

[COMPLETE SECTION IF A1 = Yes]

A1. If <PA> did not offer the program buydown / markdown discounts and program promotional materials had not been available during 2017, do you think your sales of screw-in LED bulbs in Connecticut would have been lower, about the same, or higher?

- 1. Lower
- 2. About the same
- 3. Higher
- 98. DK
- 99. REF

[IF A1 = LOWER]

A2. About what percentage fewer screw-in LEDs do you think you would have sold in Connecticut if <PA> had not provided the program buydowns / markdowns and the promotional materials had not been available?

[ENTER PERCENTAGE] _____ Less screw-in LEDs

A3. Why do you think you would have sold [**IF A1 = 1, Fewer; IF A1 = 2, About the same; IF A1 = 3, More**] screw-in LEDs had the program buydowns / markdowns and promotional materials not been available?

[RECORD RESPONSE]

A4. During 2017, did you sell any screw-in LED fixtures in Connecticut for which you did NOT receive the buydown / discount amount?

- 1. Yes
- 2. No

3. DK

[IF A4 = Yes]

A5. About what percentage of your screw-in LED sales in 2017 were not buydown / discount bulbs?

[ENTER PERCENTAGE] _____

A6. Why did you not receive the buydown / discount amount for those LEDs?

[RECORD RESPONSE] _____

A7. Did your participation in the Energy Connecticut Incentives Program have any influence on your sales of the screw-in LEDs you sold that were not discounted through the program?

1. Yes
2. No
3. DK

[IF A7 = Yes]

A8. On a scale of 0 to 10, where 0 is "No influence at all" and 10 is "A great deal of influence", how much influence did your participation in the Energize Connecticut Incentives Program have on your sales of screw-in LED fixtures in Connecticut for which you did not receive a buydown?

0. (No influence at all) - - - - - 10. (A great deal of influence)

A9. Is there anything else you would like to mention about your experience with the Energy Connecticut Incentives Program and the screw-in LED bulbs you sold through the program or the programs influence on your stocking practices or other sales?

[RECORD RESPONSE]

Section D. Closing

C1. Those are all the questions we have for you today. But I'd like to offer you an opportunity to provide any additional thoughts you have about the Energy Connecticut Incentives Program. Do you have anything else you would like us to know?

[RECORD RESPONSE]

[END]. Thank you very much for your time. Have a nice day.

APPENDIX E: MEASURE DESCRIPTIONS IN END USE CATEGORIES

This appendix presents detailed information regarding the specific measure descriptions contained in the end-use categories designed for this study. The sample design was developed at the project level and is based on a prioritization of measure categories. Each measure was assigned to one of nine measure groups for electric measures (plus a separate stratum for upstream lighting) and one of five measure groups for gas measures. Tables that display each measure category and the measure descriptions contained within it for gas and electric measures are shown in Table A-8 and A-9, respectively.

A-8. Measure Categories and Measure Descriptions (Gas)

Measure Category	Measure Description
Controls	EMS - Heating
	EMS - Heating and Cooling
	Energy Management Systems (EMS)
Custom	CNI Custom Other
	Custom, Custom
	HVAC, Custom
Domestic hot water	CNI Custom Domestic Hot Water
	DHW, Custom
Heating	CNI Custom Heating
	Energy Recovery from Exhaust Air - Heating
	Heat Recovery from Process
	Heating, Custom
Weatherization - Heating	
Other	Kitchen Hood Control
Process	CNI Custom Process
	Process, Custom

Table A-9. Measure Categories and Measure Descriptions (Electric)

Measure Category	Measure Description
Controls	EMS - Cooling
	EMS - Heating
	EMS - Heating and Cooling
	Energy Management System (EMS)
Cooling	CNI Custom Cooling
	Cooling, Custom
	Dehumidification

Measure Category	Measure Description
	Dual Enthalpy Economizer
	DX HVAC EER / SEER - Air Cooled
	Envelop-Glazing
	Envelope-Insulation
	VFD on Chilled Water Pump
Custom	CNI Custom Other
	Custom, Custom
	HVAC, Custom
Heating	CNI Custom Heating
	CNI Custom HVAC
	Heating, Custom
	VFD on Hot Water Pump
Lighting	Advanced Lighting Control
	CNI Custom Lighting
	Daylighting Control
	Enhanced - Aggregated Network LED controls
	Exterior Lighting
	High Perf - Aggregated LED with Controls
	Interior Lighting
	Lighting Rebate
	Lighting, Custom, Advanced Controls
	Lighting, Custom, Controls
	Lighting, Custom, CSP
	Lighting, Custom, Exterior, LED / Induction
	Lighting, Custom, Interior
	Lighting, Custom, Interior, LED / Induction
	Lighting, Express Service
	Lighting, Express Service, Fixtures
	Lighting, Express Service, Lamps
	Lighting, Standard
	Lighting, Standard, Cooler LED Replacement
	Occ Sensor - Room
	Refrigeration Case Lighting
	Standard - Aggregated Lighting measure
	Standard - Exterior Lighting
	Standard - Interior Lighting
TLED - Exterior Lighting	
TLED - Interior Lighting	

Appendix A: EVALUATION PLANNING DOCUMENTS

Measure Category	Measure Description
Motor	CNI Custom Motor
	EC Motor or Fan
Other	Kitchen Hood Control
	Variable Frequency Drives
Process	CNI Custom Process
	Custom Process
	Process, Custom
Refrigeration	CNI Custom Refrigeration
	Custom Refrigeration
	Door Heater Control - Refrigeration
	EC Motor - Refrigeration
	Evaporator fan control - Refrigeration
	Floating Head Pressure Control
	Night Covers - Refrigeration
	Refrigeration, Custom
	Vending Miser - Refrigeration
	VFD on Condenser Fans

APPENDIX F: WEIGHTING METHODOLOGY

This appendix details the weighting methodology for both the net participant free-ridership and net spillover results. The methodology for determine these weights is detailed below, along with specific measure weights in and associated savings in Table A-10 (electric) and Table A-11 (gas) below.

F.1 Sample Weight Calculation

The evaluation team first determined sample weights for each end-use category. Results from each end-use were weighted in order to represent population savings and correct for disproportional sampling and non-response to the survey. If these weights were not applied to savings in the net free-ridership and spillover calculations, the rates would be skewed. Additionally, large energy savings could potentially have significant impacts on the net free-ridership and spillover rates, particularly when sample sizes are small. These weights, which will be referred to as “measure weights” for ease of discussion, were applied to the final free-ridership and spillover results.

Our population of interest in this study was technically the population of savings in each end-use category. Therefore we used measure category savings in order to determine the weight that should be applied to each case. Table A-10 and Table A-11 represent the measure weights applied to each sample stratum by end-use and fuel type for the Energy Opportunities program. The measure-related savings are shown in the population column. The corresponding savings account for by completed surveys and weights are listed under the “surveyed savings” and “measure weight” columns. To calculate the measure weight for a given measure type, we divided the population of savings by the surveyed savings.

Table A-10. Weighting Calculations by End-Use Category (Electric)

Sample Stratum	Population	Total Savings (kWh)	Surveyed Projects	Surveyed Savings (kWh)	Measure Weight
Controls	43	2,947,223	6	1,543,016	1.91
Cooling	153	12,980,074	52	4,009,364	3.24
Custom	89	5,316,081	22	1,965,339	2.70
Heating	39	1,885,558	5	182,644	10.32
Lighting	2,851	254,580,178	177	31,713,569	8.03
Motor	75	7,220,257	20	650,885	11.09
Other	9	347,383	5	95,393	3.64
Process	66	12,424,185	20	3,785,907	3.28
Refrigeration	120	12,092,573	76	9,938,868	1.22
Upstream Lighting	507	2,483,565	12	159,434	15.58
Total	3,952	312,277,077	395	54,044,421	

Table A-11. Weighting Calculations by End-Use Category (Gas)

Sample Stratum	Population	Total Savings (CCF)	Surveyed Projects	Surveyed Savings (CCF)	Measure Weight
Controls	35	250,632	17	73,647	3.40
Custom	23	562,936	11	153,383	3.67
Heating/DHW	136	1,578,666	31	239,542	6.59
Other	3	49,081	1	5,015	9.79
Process	29	1,586,902	10	460,417	3.45
Total	226	4,028,218	70	932,004	

Measure weights are then applied to savings and the respective free-ridership and spillover rate in order to determine the net spillover and net free-ridership rate, as shown in Equations A-1 and A-2 below.

Equation A-1. Net Free-Ridership Calculation

$$\text{Net Free Ridership} = \frac{\sum(\text{Program Savings}_i * \text{Free Ridership Rate}_i * \text{Measure Weight}_i)}{\sum(\text{Program Savings}_i * \text{Measure Weight}_i)}$$

Equation A-2. Net Spillover Program Calculation

$$\begin{aligned} \text{Net Spillover} = & \frac{\sum(\text{Program Savings}_i * \text{Like Spillover Rate}_i * \text{Measure Weight}_i)}{\sum(\text{Program Savings}_i * \text{Measure Weight}_i)} \\ & + \frac{\sum(\text{Program Savings}_i * \text{Unlike Spillover Rate}_i * \text{Measure Weight}_i)}{\sum(\text{Program Savings}_i * \text{Measure Weight}_i)} \end{aligned}$$