



# Project R4 HES/HES-IE Process Evaluation and R31 Real-time Research

## Appendix C: Data Collection Instruments

FINAL

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**Table of Contents**

**APPENDIX C DATA COLLECTION INSTRUMENTS..... C-1**

- C.1 END-USER PARTICIPANT SURVEY..... C-2
- C.2 END-USER REAL-TIME PARTICIPANT SURVEY ..... C-30
- C.3 END-USER NONPARTICIPANT SURVEY ..... C-53
- C.4 HES-IE LANDLORD AND PROPERTY MANAGER INTERVIEW GUIDE..... C-68
- C.5 ON-SITE PERSISTENCE VISIT DATA COLLECTION FORM ..... C-82
- C.6 VENDOR INTERVIEW GUIDE..... C-95
- C.7 CCEC PROGRAM STAFF INTERVIEW GUIDE ..... C-107
- C.8 CCEC BEST PRACTICES INTERVIEW GUIDE ..... C-111



## Appendix C Data Collection Instruments

The following appendix includes the data collection instruments used in the R4, R31, R46, and R152 studies.

C.1 END-USER PARTICIPANT SURVEY

R4 Connecticut HES/HES-IE Participant Survey

Quotas and Variables

(For programmers and fielding staff)

There are five strata that we will assign to the sample frame cases under the variable “STRATUM.” The table below shows the quota for each stratum.

Program	Category	Stratum	Core Services	Tier II	Insulation	Targeted Completes
HES	Core only (a)	a	Two	Zero	No	190
		Tier II (b)	b1	One	One	No
	b2		Zero	Two	No	
	Insulation (c)	c1	One	Zero	Yes	70
		c2	Zero	One	Yes	
		c3	Zero	Zero	Yes	
	<b>Total</b>					
HES-IE	Core only (d)	d	Two	Zero	No	190
		Tier II and Insulation (e)	e1	One	One	No
	e2		Zero	Two	No	
	e3		One	Zero	Yes	
	e4		Zero	One	Yes	
	e5	Zero	Zero	Yes		
<b>Total</b>						<b>380</b>

*Note to reviewer:* These strata do not reflect exactly the number of measures that a respondent may have received; they reflect 1) the order in which we will prioritize them for the free ridership question series so that we ask about as many tier II measures (or insulation) as possible and 2) where respondents are not asked the free ridership series it will give us a way of tracking the sample.

There are six primary survey modules. Respondents will follow one of four survey tracks that indicate which modules they will be asked. The variable “TRACK” in the sample frame denotes which questions they will be asked. The table below summarizes.

Track	Module
Track 1	All modules except Non-Energy Impacts
Track 2	All modules except Free ridership and Spillover
Track 3	All modules
Track 4	All modules except Free ridership and Spillover

Unless otherwise specified, tracks will be assigned as follows.

Program	Type	Stratum	Track
HES	Core Services	a	Randomly assign half to Track 1 or 2
	Tier II	b	Randomly assign half to Track 1 or 2
	Insulation	c	Track 3
HES-IE	Core Services	d	Track 4
	Tier II	e	Track 4

Read-in variables include

Variable	Description
PROGRAM_TYPE	The program in which the respondent participated
UTILITY	The utility company of the respondent
MEASURE_1	First measure to ask about in free ridership modules
MEASURE_2	Second measure to ask about in free ridership modules
air_conditioning_equipment	High-level description of measure installed
air_sealing	High-level description of measure installed
air_source_heat_pump	High-level description of measure installed
appliance	High-level description of measure installed
clothes_washer	High-level description of measure installed
dehumidifier	High-level description of measure installed
duct_sealing	High-level description of measure installed
ductless_heat_pump	High-level description of measure installed
freezer	High-level description of measure installed
geothermal_heat_pump	High-level description of measure installed
heat_pump	High-level description of measure installed
heating_equipment	High-level description of measure installed
heating_system_maintenance	High-level description of measure installed
insulation	High-level description of measure installed
light_bulbs	High-level description of measure installed
lighting_equipment	High-level description of measure installed
refrigerator	High-level description of measure installed
water_heater	High-level description of measure installed
water_pipe_wrap	High-level description of measure installed
water_saving_equipment	High-level description of measure installed
windows	High-level description of measure installed

Logic-based sample variables

Variable	Description
STRATUM	Stratum for quotas (described above)
M1_TIER2	Yes or no responses indicating if measure 1 is a Tier II measure
M2_TIER2	Yes or no responses indicating if measure 2 is a Tier II measure

## Introduction

Hello, I am \_\_\_\_ calling behalf of the Connecticut Energy Efficiency Fund and [UTILITY]. This is not a sales call. May I please speak with [CONTACT\_NAME] or anyone else that might be familiar with your recent participation in the utility company's [PROGRAM] program? We recently sent you a letter notifying you that we would call you to ask you about your participation in the utility company's Home Energy Solutions program. Would you be willing to answer some questions about your experience in the program?

SC1. Before we begin, let me confirm that your household received a home energy assessment through the utility company in the past year or so. Is that correct?

**[IF NOT IMMEDIATELY FAMILIAR: "Do you recall having someone come to your home to evaluate its energy efficiency, provide you with information about ways to save energy, and possibly install some energy saving products such as light bulbs or weather-stripping materials?" [IF STILL "DON'T KNOW," ASK IF ANYONE ELSE IN THEIR HOUSEHOLD MIGHT KNOW; IF GIVEN TO A NEW RESPONDENT, REPEAT INTRODUCTION; IF REMAINS "DON'T KNOW," TERMINATE]**

1. Yes
2. No [TERMINATE]
3. Participated, but do not live in the home
98. (Don't know)
99. (Refused) [TERMINATE]

SC1a. **[ASK IF SC1=3]** Are you the property manager or landlord?

1. Yes
2. No [TERMINATE]
98. (Don't know) [TERMINATE]
99. (Refused) [TERMINATE]

SC1b. **[ASK IF SC1A=1]** Unfortunately, you are not eligible to complete THIS survey, but would it be alright if a member of my team contacted you at a different time about a separate study we are doing with property managers and landlords? **[If requested, provide NMR contact information]**

1. Yes [TERMINATE]
2. No [TERMINATE]

**[DRG, NMR WILL REQUEST A LIST OF CONTACTS WHERE SC1B=1]**

SC2. Are you the person in your household who knows what the auditor did during the assessment and what he or she recommended? **[IF NEEDED: There may have been more than one individual from the auditor's company]** **[IF NEEDED: "Do you recall having someone come to your home to evaluate its energy efficiency, provide you with information about ways to save energy, and possibly install some energy saving products such as light bulbs or weather-stripping materials?" [IF "NO" OR "DON'T KNOW," ASK IF ANYONE ELSE IN THEIR HOUSEHOLD MIGHT KNOW; IF GIVEN TO A NEW RESPONDENT, REPEAT INTRODUCTION; IF REMAINS "DON'T KNOW," TERMINATE]**

1. Yes
2. No **[ASK TO SPEAK WITH APPROPRIATE PERSON, OR ARRANGE FOR A CALL BACK TIME]**

## Process

CS1. Why did you decide to have the home energy assessment performed at your home?  
**[MULTIPLE RESPONSE; DON'T READ]**

1. (To find ways to make my home more comfortable)
2. (To learn about energy saving opportunities)
3. (To identify improvements to save the most money)
4. (To learn about where energy is used in my home)
5. (To see if I was eligible to receive an incentive or rebate)
6. (To see if I was eligible to receive any free energy upgrades)
7. (To understand if heating and cooling systems are operating effectively)
8. (Was recommended by the utility company)
55. (Other **[SPECIFY]**)
  
98. (Don't know)
99. (Refused)

CS1a. **[IF CS1=5]** When you first signed up for the assessment, was there a specific type of

upgrade you were interested in? **[MULTIPLE RESPONSE; DON'T READ]**

1. (Insulation)
2. (Boiler)
3. (Furnace)
4. (Central Air Conditioner)
5. (Windows)
6. (Heat Pump)
7. (Clothes Washers)
8. (Refrigerators)
9. (Light bulbs or lighting equipment)
10. (Other, specify **[Open-ended response in words]**)
11. (No specific upgrade in mind)
98. (Don't know)
99. (Refused)

AW1. How did you hear about the home energy assessment offered by the utility company?

**[MULTIPLE RESPONSE; DON'T READ]**

1. During the home energy assessment
2. From the utility company website
3. From the utility company bill insert
4. From the utility company advertisement
5. From family or friends
6. From a community action agency or organization
55. (Other **[SPECIFY]**)

- 98. (Don't know)
- 99. (Refused)

AW2. How did you FIRST hear about the rebates or incentives offered by the utility company?

**[SINGLE RESPONSE; DON'T READ]**

- 1. During the home energy assessment
- 2. From the utility company website
- 3. From the utility company bill insert
- 4. From the utility company advertisement
- 5. From family or friends
- 6. From a community action agency or organization
- 55. (Other **[SPECIFY]**)
- 98. (Don't know)
- 99. (Refused)

## Health and Safety

HS1. During the energy assessment, did the auditor tell you that your home had any of the following problems that kept them from completing the full energy audit?

**[RANDOMIZE AND READ A-G]**

- a. Gas leak
- b. Carbon monoxide leak
- c. Radon
- d. Asbestos insulation
- e. Vermiculite insulation
- f. Mold
- g. Knob and tube wiring

**[FOR EACH A-G]**

- 1. Yes
- 2. No
- 98. (Don't know)
- 99. (Refused)

HS1\_h. Did they find any other health or safety problems in your home?

- 1. Yes **[SPECIFY PROBLEM FOUND]**
- 2. No
- 98. (Don't know)
- 99. (Refused)

**[IF ALL HS1> 1 SKIP TO NEXT MODULE]**

**[CYCLE THROUGH HS2 and HS4, TOPIC BY TOPIC WHERE HS1=1]**

- HS2. **[ASK FOR EACH HS1a-c,h=1]** Have you had the **[HS1a-c, h]** fixed?  
**[ASK FOR EACH HS1d-g=1]** Have you had the **[HS1d-g]** removed?
1. Yes
  2. No
  3. Partially
  98. (Don't know)
  99. (Refused)
- HS4. **[ASK FOR EACH HS2a-c=2]** Do you have a sense of why the **[HS1a-c, h]** hasn't been fixed yet?  
**[ASK FOR EACH HS2g-d=2]** Do you have a sense of why the **[HS1d-g]** hasn't been removed yet?
- [DO NOT READ; ALLOW MULTIPLE RESPONSE]**
1. (Too expensive/don't have the money)
  2. (Haven't gotten around to it)
  3. (Couldn't find a contractor)
  4. (Have the repair/removal scheduled but hasn't happened yet)
  5. (Too much trouble/hassle)
  6. (Not physically possible)
  55. (Other [specify])
  98. (Don't know)
  99. (Refused)

## Short-term Persistence

- EU1. Our records show that the following energy efficiency measures were installed in your home through the Home Energy Solutions program either during the initial energy assessment or after the assessment, possibly using a program rebate or low-interest financing.
- [ASK ABOUT EACH MEASURE INDIVIDUALLY WHERE XX\_FLAG=1; EACH MEASURE INSTALLED=1; FOR EACH MEASURE A-U, READ: [A-U]** Is this correct?

**[NOTE: IF RESPONDENT SAYS THAT THEY REMOVED THE MEASURE, STILL CODE AS 1 = YES.]**

(Core measures)

- a. **[IF air\_sealing=1]** Air Sealing
- b. **[IF duct\_sealing=1]** Duct Sealing
- c. **[IF heating\_system\_maintenance=1]** Heating System Maintenance
- d. **[IF light\_bulbs=1]** Light Bulbs
- e. **[IF lighting\_equipment=1]** Lighting Equipment
- f. **[IF water\_pipe\_wrap=1]** Water Pipe Wrap
- g. **[IF water\_saving\_equipment=1]** Water Saving Equipment

(Tier II measures)

- h. **[IF air\_conditioning\_equipment=1]** Air Conditioning Equipment
- i. **[IF air\_source\_heat\_pump=1]** Air Source Heat Pump
- j. **[IF appliance=1]** Appliance **[SPECIFY APPLIANCE]**
- k. **[IF clothes\_washer=1]** Clothes Washer
- l. **[IF dehumidifier=1]** Dehumidifier
- m. **[IF ductless\_heat\_pump=1]** Ductless Heat Pump
- n. **[IF freezer=1]** Freezer
- o. **[IF geothermal\_heat\_pump=1]** Geothermal Heat Pump
- p. **[IF heat\_pump=1]** Heat Pump
- q. **[IF heating\_equipment=1]** Heating Equipment
- r. **[IF water\_heater=1]** Water Heater
- s. **[IF refrigerator=1]** Refrigerator
- t. **[IF windows=1]** Windows

(Insulation)

- u. **[IF insulation=1]** Insulation

**[FOR EACH]**

- 1. Yes (installed/performed)
- 2. No (not installed/performed)
- 98. (Don't know)
- 99. (Refused)

**[IF NO EU1 A TO U= 1, GO TO NEXT MODULE]**

**[CYCLE THROUGH EU2-EU4 LOGIC FOR EACH EU1 MEASURE WHERE EU1=1]**

EU2. Have you removed the **[MEASURE]** Error! Reference source not found.?

- 1. Yes
- 2. No
- 3. (Some/Part)
- 98. (Don't know)
- 99. (Refused)

EU3. **[ASK IF EU2=1 OR 3]** Why did you remove the **[MEASURE]**?

1. (Did not like the product)
2. (Broke)
3. (Did not work right)
4. (Needed repairs)
5. (Did not like installation)
55. (Other [Specify])
98. (Don't know)
99. (Refused)

EU4. **[ASK IF EU2=1 OR 3]** Approximately how many MONTHS after it was installed did you remove the **[MEASURE]**?

[IF NEEDED: Please, do your best to estimate]

[Open-end numeric 0 to 24]

98. Don't know
99. Refused

## Free ridership – Tier II or Core Services

**[SKIP TO SO1 IF (TRACK = 2 OR 4) OR (ALL EU1 > 1)]**

**[SKIP TO NEXT MODULE IF STRATUM = C3]**

### STRATUM A:

- RECEIVE THIS SERIES TWICE THEN SKIP TO SO1
- ASK ABOUT TWO CORE MEASURES (VARIABLES M1\_TIER2 AND M2\_TIER2 WILL INDICATE IF THE MEASURE IS TIER II OR CORE)

### STRATUM B1:

- ASK ABOUT ONE CORE MEASURE AND ONE TIER II MEASURE

### STRATUM B2:

- ASK ABOUT TWO TIER II MEASURES (NO CORE)

### REMAINING STRATA:

- THESE STRATA RECEIVE THIS SERIES ONCE, AND THEN SKIP TO INS4
- STRATUM C1: ASK SERIES ONCE, FOR ONE CORE MEASURES
- STRATUM C2: ASK SERIES ONCE, FOR ONE TIER II MEASURE

**[PRIOR TO FIELDING, NMR WILL RANDOMLY SELECT THE READ-INS FOR THE "MEASURE" ABOUT WHICH TO ASK]**

M2. How satisfied are you with the performance of the **[MEASURE]**? Indicate the number that corresponds with your satisfaction, with 1 indicating "not at all satisfied" and 5 indicating "very satisfied".

- 1. Not at all satisfied
- 2. Somewhat unsatisfied
- 3. Neither satisfied nor unsatisfied
- 4. Somewhat satisfied, or
- 5. Very satisfied
- 97. (Do not recall having installed)
- 98. (Don't know)
- 99. (Refused)

**[IF M2=97, SKIP REST OF SERIES FOR THAT MEASURE]**

- M3. **[ASK FOR ONLY TIER II UPGRADES (VARIABLES M1\_TIER2 AND M2\_TIER2)]**  
 Please consider how influential the following elements were on your decision to install the **[MEASURE]**. Please base your answer on scale of 1 to 5, with 1 indicating "No influence on your decision to install the **[MEASURE]**" and 5 indicating "had a great influence on your decision to install the **[MEASURE]**."

How influential were the following:

- M3a. the utility company's incentive or rebate
- M3b. Installation contractor, if used
- M3c. Information from the utility company

- 1. Not at all influential
- 2. Somewhat uninformal
- 3. Neither influential nor un- influential
- 4. Somewhat influential, or
- 5. Very influential
- 97. (Not applicable)
- 98. (Don't know)
- 99. (Refused)

- M4. Before learning about the Home Energy Solutions program, did you have any **specific** plans to purchase and install the **[MEASURE]** that you installed through the program?
- 1. Yes
  - 2. No
  - 98. (Don't know)
  - 99. (Refused)

**[IF M4=1, SKIP M5 THROUGH M7]**

- M5. **[SKIP M5 IF MEASURE=heating system maintenance, air sealing, duct sealing, OR water pipe wrap]** If you had not participated in the **[PROGRAM]** program, would you have purchased a **[MEASURE]** that was a more efficient model, a model with the same efficiency level, or a model that was less efficient? **[IF NEEDED: "Compared to what was installed/performed through the program"]**

1. More efficient model
2. Model with the same efficiency
3. Less efficient model
4. (Would not have purchased/ installed)
98. (Don't know)
99. (Refused)

M5a. **[ASK ONLY IF MEASURE=air sealing, duct sealing, OR water pipe wrap]** If you had not participated in the **[PROGRAM]** program, would you have had more **[MEASURE]** done, the same amount of it done, less of it done, or not have done it at all? **[IF NEEDED: "Compared to what was installed/performed through the program"]**

1. More done
2. Same amount done
3. Less of it done
4. Not have done it at all
98. (Don't know)
99. (Refused)

**[IF M5=4 OR M5a=4, SKIP REMAINDER BATTERY FOR SELECTED MEASURE]**

M6. If you had not participated in the Home Energy Solutions program, would you have purchased/installed a **[MEASURE]** at the same time as you did through the program, would you have purchased it at a different time, or would you not have purchased or installed it at all?

1. Would have purchased at same time
2. Would have purchased at different time
3. (Would not have purchased/ installed)
98. (Don't know)
99. (Refused)

**[IF M6=3, SKIP REMAINDER BATTERY FOR SELECTED MEASURE]**

M7. **[ASK IF M6=2]** If you had not participated in the Home Energy Solutions program, when would you have purchased/installed the **[MEASURE]**? **[READ]**

1. Would have purchased sooner
2. Postponed purchase or installation by about three months
3. Postponed purchase or installation by about six months
4. Postponed purchase or installation by about a year
5. Postponed purchase or installation more than one year
98. (Don't know)
99. (Refused)

## Free ridership – Insulation

[ASK IF TRACK = 1 OR 3 AND STRATUM = C AND IF EU1u=1]

INS4. Please consider how influential the following elements were on your decision to install insulation. Please base your answer on a scale of 1 to 5, with 1 indicating “No influence on your decision to install the insulation” and 5 indicating “had a great influence on your decision to install the insulation.”

How influential were the following:

INS4a. The utility company’s incentive or rebate

INS4b. Installation contractor, if used

INS4c. Information from the utility company

[FOR EACH]

1. No influence
2. Very little influence
3. Neither influential or un-influential
4. Somewhat influential
5. Great influence
96. (Not applicable)
98. (Don’t know)
99. (Refused)

INS6. Before learning about the Home Energy Solutions program, did you have any **specific** plans to install the insulation that you had installed through the program?

1. Yes
2. No
98. (Don’t know)
99. (Refused)

[IF INS6=1, SKIP INS7 THROUGH INS9]

INS7. If you had not participated in the Home Energy Solutions program, would you have had MORE insulation installed, the same amount of insulation installed, less of the insulation installed, or not installed any insulation at all?

1. Would have installed more insulation
2. Would have installed the same amount of the insulation
3. Would have installed less insulation
4. Would not have installed any insulation [GO TO NEXT MODULE]
98. (Don’t know) [GO TO NEXT MODULE]
99. (Refused) [GO TO NEXT MODULE]

INS8. [IF INS7= 1, 2, OR 3] If you had not participated in the Home Energy Solutions program, would you have installed the insulation at the same time as you did through the program, at a different time, or would you not have purchased or installed it at all?

1. Would have installed insulation at same time
2. Would have installed insulation at different time
3. Would not have installed any insulation
98. (Don't know)
99. (Refused)

INS9. **[ASK IF INS8=2]** If you had not participated in the Home Energy Solutions program, when would you have purchased the insulation? **[READ]**

1. Would have installed sooner
2. Postponed installation by about three months
3. Postponed installation by about six months
4. Postponed installation by about a year
5. Postponed installation more than one year
98. (Don't know)
99. (Refused)

## Spillover

### **[SKIP TO NEXT MODULE IF TRACK = 2]**

The next few questions are about any additional energy upgrades you may have made after having participated in the Home Energy Solutions program.

SO1. Did you make any additional energy efficiency home improvements AFTER you received your rebate or incentive or had a home energy assessment? Please only think of products or services for which you did not receive a rebate from the utility company. For example, did you replace lighting or change heating equipment?

1. Yes
2. No
98. (Don't know)
99. (Refused)

SO2. **[ASK IF SO1=1]** Which energy efficient products or services did you purchase AFTER you received your rebate or had a home energy assessment from the utility company? **[DO NOT READ; ACCEPT MULTIPLE RESPONSE]**

(Core measures)

- a. Air Sealing
- b. Duct Sealing
- c. Heating System Maintenance
- d. Light Bulbs
- e. Lighting Equipment
- f. Water Pipe Wrap
- g. Water Saving Equipment

(Tier II measures)

- h. Air Conditioning Equipment
- i. Air Source Heat Pump
- j. Appliance **[SPECIFY APPLIANCE]**
- k. Clothes Washer
- l. Dehumidifier
- m. Ductless Heat Pump
- n. Freezer
- o. Geothermal Heat Pump
- p. Heat Pump
- q. Heating Equipment
- r. Water Heater
- s. Refrigerator
- t. Windows
- u. Some other upgrade **[SPECIFY]**

(Insulation)

- v. Insulation

SO3. **[ASK FOR EACH SO2 MEASURE LISTED]** Please consider how influential your participation with the utility company program was on your purchase or installation of **[SO2\_MEASURE]**. Please base your answer on scale of 1 to 5, with 1 indicating "No influence" and 5 indicating "had a great influence."

**[NUMERIC 1 TO 5]**

- 98. (Don't know)
- 99. (Refused)

## Non-Energy Impacts

**[SKIP TO NEXT MODULE IF TRACK = 1 OR NO MEASURES INSTALLED (ALL EU1 > 1)]**

We'd like to learn if the energy upgrades that you installed under the Home Energy Solutions program had any effects aside from changing your home's energy consumption. I'm going to read you a list of things and ask you to tell me if the combination of all the upgrades that were installed positively affected it, negatively affected it, or did not affect it at all.

NE1. **[SHOW ON ALL SCREENS]** Did the program have a positive effect, negative effect, or no effect on  
 [IF NEEDED: "No effect" can mean either that the change occurred and the program did not affect it or that the change did not occur at all]

**[REACH EACH; RANDOMIZE]**

- a. Comfort
- b. Outside noise
- c. Appliance or heating/cooling system noise
- d. Family illnesses and missed days from work or school and associated medical care
- e. Ability to pay energy bills
- f. Equipment maintenance and/or durability
- g. Home value or the ability to sell the home
- h. Home's appearance
- i. Ability to pay non-energy bills such as water or sewer
- j. Home safety
- k. Light quality
- l. Any other elements **[SPECIFY]**

**[FOR EACH A-L]**

1. Positive effect
2. Negative effect
3. No effect
96. Not applicable
98. Don't know
99. Refused

**[IF ALL NE1 > 2 SKIP TO NE10]**

**[CYCLE THROUGH NE2 AND NE3 EACH NE1=1 OR 2]**

**[READ-INS:** a "your home's comfort"; b "outside noise"; c "system noise"; d "illnesses, missed days, and medical care"; e "ability to pay energy bills"; f "your equipment's maintenance or durability"; g "your home's value"; h "your home's appearance"; i "your ability to pay non-energy bills"; j "your home's safety"; l "the other element you mentioned"]

NE2. **[ASK FOR EACH NE1a-I=1]** How does the value of the positive effect on **[NE1a-I]** compare to the value of the expected energy savings? Does the positive effect have

[IF NEEDED: If you compared the positive impact that you said that the program had on **[NE1a-I]**, would you say that change has much less value, somewhat less value, the same value, somewhat more value or much more value to you than the energy savings you might receive?]

1. Much less value
2. Somewhat less value
3. Same value
4. Somewhat more value OR
5. Much more value?
98. (Don't know)
99. (Refused)

NE3. **[ASK FOR EACH NE1a-I=2]** How does the value of the negative effect on **[NE1a-I]** compare to the value of the expected energy savings? Does the negative effect have

[IF NEEDED: We are wondering what you think the energy savings you might get from the program were worth compared to the negative value the energy upgrade had on your **[NE1a-I]**.]

1. Much more negative value than the possible energy savings value
2. Somewhat more negative value than the possible energy savings value
3. Same value or balances out the possible energy savings value
4. Somewhat less negative value than the possible energy savings value
5. Much less negative value than the possible energy savings value
98. (Don't know)
99. (Refused)

NE4. **[SKIP TO NE10 IF ONLY ONE NE1=1 OR 2]** Thinking about all these effects that you have mentioned, are there any that you think "overlap" or that you had a hard time separating out? If so, which effects?

1. Yes **[SPECIFY EFFECTS]**
2. No
96. (Only one effect)
98. (Don't know)
99. (Refused)

NE5. **[ASK IF (ONE OR MORE NE1=1) AND (ONE OR MORE NE1=2)]** Now, think about the combination of all the positive and negative effects that you received from the program not including possible energy savings. Would you say that the combination of these effects is overall positive, negative, or had no effect?

1. Positive effects
2. Negative effects
3. No effect
98. (Don't know)
99. (Refused)

NE6. **[ASK IF NE5=1]** Thinking about the combination of all the positive and negative effects from the program How does the overall **positive** value of the combination of these effects compare to the value of the expected energy savings? Does the combination of effects have

[IF NEEDED: If you compared the positive and negative impacts that you said that the program had on things other than energy use, would you say that change has much less value, somewhat less value, the same value, somewhat more value or much more value to you than the energy savings you might receive?]

1. Much less value
2. Somewhat less value
3. Same value
4. Somewhat more value OR
5. Much more value
98. (Don't know)
99. (Refused)

NE7. **[ASK IF NE5=1]** Again, I'd like to ask you to think about how the overall **positive** value of the combination of these effects compares to the value of the expected energy savings. If you were to estimate its value as a fraction, percentage, or multiple, by about what amount more or less valuable is the combination of effects? We'd like to know a value relative to the average energy bill savings.

[INTERVIEWER: Encourage respondent to answer in a full sentence]

[IF NEEDED: As an example, is the positive value of the combined effects twice as valuable as the bill savings? One-third as valuable? Another multiplier?]

[IF FURTHER CLARIFICATION NEEDED: If you compared the positive and negative impacts that you said that the program had on things other than energy use, how much more or less value does it have to you than the energy savings you might receive?]

**[NON-NUMERIC OPEN END; RECORD EXACT VERBATIM]**

98. Don't know
99. Refused

NE8. **[ASK IF NE5=2]** Thinking about the combination of all the positive and negative effects from the program How does the overall **negative** value of the combination of these effects compare to the value of the expected energy savings? Does the combination of effects have

[IF NEEDED: We are wondering if you think that the energy savings you might get from the program were worth the negative impact that you think it had on all of the other things you mentioned.]

1. Much more negative value than the possible energy savings value
2. Somewhat more negative value than the possible energy savings value
3. Same value or balances out the possible energy savings value
4. Somewhat less negative value than the possible energy savings value
5. Much less negative value than the possible energy savings value
98. (Don't know)
99. (Refused)

NE9. **[ASK IF NE5=2]** Again, I'd like to ask you to think about how the overall **negative** value of the combination of these effects compares to the value of the expected energy savings. If you were to estimate its cost as a fraction, percentage, or multiple, by about what amount more or less **negative** is the value of the combination of effects? We'd like to know a value relative to the average energy bill savings.

[INTERVIEWER: Encourage respondent to answer in a full sentence]

[IF NEEDED: As an example, is the negative value of the combined effects twice the cost of the bill savings? One-third of the cost? Another multiplier?]

[IF FURTHER CLARIFICATION NEEDED: If you compared the positive and negative impacts that you said that the program had on things other than energy use, how much more or less value does it have to you than the energy savings you might receive?]

**[NON-NUMERIC OPEN END; RECORD EXACT VERBATIM]**

98. Don't know
99. Refused

NE10. Since the upgrades were performed what percentage of energy savings have you seen on your monthly utility bill? That is, by about what percent has your energy use gone down since participating in the program?

[Open-ended numeric response (0% to 100%)]

- 997. Increased
998. Don't know
- 999. Refused

NE10a. **[IF NE10 = -997]** By about what percentage has your monthly energy use increased?

[Open-ended numeric response (0% to 500%)]

- 996. Have not yet received a utility bill since participating in the program
- 998. Don't know
- 999. Refused

NE11. **[IF ALL NE1 > 2 OR NE5 > 2, SKIP TO NEXT MODULE]** Is the overall **positive** OR **negative** value of the combination of these energy and non-energy effects less than, equal to, or higher than what you expected at the time of participation in the program?

1. Less than expected
2. Equal to what was expected
3. Higher than what was expected
4. (Did not know what to expect at time of program)
98. (Don't know)
99. (Refused)

## Financing and Decision-Making

### [SKIP TO NEXT MODULE (SATISFACTION) IF HES-IE (TRACK=4)]

The next few questions focus on how you make decisions about which energy-efficient products to install in your home.

- CS2. After the auditor completed the home energy assessment, did he or she sit down with you to discuss any additional recommended energy upgrades?
1. Yes
  2. No
  98. (Don't know)
  99. (Refused)
- D1. **[ASK IF CS2=1]** About how many of these additional improvements did you make?
1. All of them
  2. Some of them
  3. None of them
  98. (Don't know)
  99. (Refused)
- D1A. **[ASK IF D1=3 AND ANY TIER 2/INSULATION MEASURES VERIFIED IN EU1]** Earlier you confirmed that you made improvements after the home assessment. Are you certain that you did not make any improvements based on the auditor's recommendations?
1. Yes
  2. No
  98. (Don't know)
  99. (Refused)

**[IF D1A=2, RETURN TO D1]**

**COMPUTE THREE BINARY VARIABLES [0 OR 1]: IF D1=1, INSTALLER=1; IF D1=2, PARTIAL\_INSTALLER=1; IF D1=3, NON\_INSTALLER=1]**

- D2. **[ASK IF PARTIAL\_INSTALLER=1]** How did you pick which improvements to make?
- [DO NOT READ; MULTIPLE RESPONSE]**
1. (Least expensive)
  2. (Easiest to install)
  3. (Biggest energy/utility bill savers)
  4. (Easiest to find)
  55. (Other [Specify])

- 98. (Don't know)
- 99. (Refused)

D3. **[ASK IF NON\_INSTALLER=1]** What are the main reasons why you haven't made the improvements that the auditor suggested?

**[DO NOT READ; MULTIPLE RESPONSE]**

- 1. (Too expensive)
- 2. (Too complicated to install)
- 3. (Haven't had time/gotten around to it)
- 4. (Too much of a hassle)
- 5. (Thought it wasn't necessary)
- 55. (Other [Specify])
- 98. (Don't know)
- 99. (Refused)

D4. **[ASK IF NON\_INSTALLER=1]** Do you have plans to make all, some, or none of the improvements that the auditor suggested within the next year?

- 1. All
- 2. Some
- 3. None
- 98. (Don't know)
- 99. (Refused)

D5. **[ASK IF INSTALLER=1 OR PARTIAL\_INSTALLER=1]** What were the main reasons you decided to make the improvements that the auditor suggested?

**[DO NOT READ; MULTIPLE RESPONSE]**

- 1. (Save energy)
- 2. (Save money on energy bill)
- 3. (Be "green"/help environment)
- 4. (Health/safety)
- 55. (Other [Specify])
- 98. (Don't know)
- 99. (Refused)

**Financing**

CS4. **[ASK ALL]** Did the auditor who completed the home energy assessment talk to you about any financing options, such as zero interest loans or on-bill repayments, to help with the financing of any of the energy upgrades that he or she had recommended?

- 1. Yes
- 2. No
- 3. (No upgrades recommended)
- 98. (Don't know)
- 99. (Refused)

D6. How aware are you of options to help you pay for improvements such as zero- or low-interest financing, on-bill financing, or other loan options that are available through Home Energy Solutions? Would you say...

- 1. Not at all aware
- 2. Somewhat unaware
- 3. Somewhat aware
- 4. Very aware
- 98. (Don't know)
- 99. (Refused)

D6a. [ASK IF CS4=1]How helpful was the information that the auditor provided on the financing options? Would you say it was

- 1. Not at all helpful
- 2. Somewhat helpful
- 3. Very helpful
- 97. (Did not provide information on it)
- 98. (Don't know)
- 99. (Refused)

D6b. [IF D6a ≤ 3] Why do you say this? [RECORD VERBATIM]

CS5. [SKIP IF D6=1] Have you or are you planning to apply for any financing options to help with the financing of any of the energy upgrades that were recommended during the home energy assessment?

- 1. Yes
- 2. No
- 98. (Don't know)
- 99. (Refused)

CS5a. [ASK IF CS5=1] For which energy upgrades are you or will you be applying for financing? [ACCEPT MULTIPLE RESPONSE; DO NOT READ]

(Tier II upgrades)

- h. Air Conditioning Equipment
- i. Air Source Heat Pump
- j. Appliance **[SPECIFY APPLIANCE]**
- k. Clothes Washer
- l. Dehumidifier
- m. Ductless Heat Pump
- n. Freezer
- o. Geothermal Heat Pump
- p. Heat Pump
- q. Heating Equipment
- r. Water Heater
- s. Refrigerator
- t. Windows
- u. Some other upgrade **[SPECIFY]**

(Insulation)

- v. Insulation

**D7\_NEW** **[ASK IF CS5=1]** Which of the following financing options did you or do you plan to utilize?

**Commented [NDR1]:** Please add

**[READ, RANDOMIZE 1-7, MULTIPLE RESPONSE]**

- 1. Residential Energy Efficiency Financing
- 2. On-bill financing
- 3. Energize CT heating loan
- 4. Smart-E loan
- 5. Cozy Home Loan
- 6. Zero percent payment plan
- 7. Financing offered by my contractor
- 55. Something else **[Specify]**
- 96. (None)
- 98. (Don't know)
- 99. (Refused)

**D7.** **[ASK IF (INSTALLER OR PARTIAL\_INSTALLER=1) AND D6 = 2, 3, OR 4] [SKIP IF CS5 = 1, 98, 99]** Why didn't you use the Home Energy Solutions finance options to help pay for the additional improvements?

**[DO NOT READ; MULTIPLE RESPONSE]**

- 1. (Too confusing)
- 2. (Would not have been enough)
- 3. (Do not want debt)
- 4. (Too much of a hassle)
- 5. (Did not have enough for upfront cost)
- 6. (Application not approved)
- 55. (Other **[Specify]**)
- 97. (Did not want to make the improvements anyway)
- 98. (Don't know)
- 99. (Refused)

- D8. **[ASK IF NON\_INSTALLER=1]** Which of the following would you be MOST likely to choose if you were going to consider moving forward with any of the additional energy saving improvements that the auditor recommended?  
**[READ; SINGLE RESPONSE]**
1. Zero or low-interest financing
  2. On-bill financing
  3. Other loan options OR
  4. None of them
  98. (Don't know)
  99. (Refused)
- D9. **[ASK IF INSTALLER OR PARTIAL\_INSTALLER=1]** How important were financing options to you when you were deciding to move forward with the improvements? Please, use a scale from one to five where 1 equals "not at all important" and 5 equals "very important."  
**[NUMERIC 1 TO 5]**
98. (Don't know)
  99. (Refused)

**Rebates**

- D10. **[ASK ALL]** Did the Home Energy Solutions auditor discuss rebates with you by reviewing things like how they work, how to apply, and how much they are?
1. Yes
  2. No
  98. (Don't know)
  99. (Refused)
- CS7. Have you or are you planning to apply for any utility incentives or rebates to help with the financing of any of the energy upgrades that were recommended during the home energy assessment?
1. Yes
  2. No
  98. (Don't know)
  99. (Refused)

CS7A. **[ASK IF CS7=1]** For which energy upgrades have you or will you be applying for incentives or rebates through the Home Energy Solutions program? **[ACCEPT MULTIPLE RESPONSE; DO NOT READ]**

(Tier II upgrades)

- h. Air Conditioning Equipment
- i. Air Source Heat Pump
- j. Appliance **[SPECIFY APPLIANCE]**
- k. Clothes Washer
- l. Dehumidifier
- m. Ductless Heat Pump
- n. Freezer
- o. Geothermal Heat Pump
- p. Heat Pump
- q. Heating Equipment
- r. Water Heater
- s. Refrigerator
- t. Windows
- u. Some other upgrade **[SPECIFY]**

(Insulation)

- v. Insulation

D11. **[ASK CS7 > 1]** Why haven't you used any of the rebates to help pay for the additional improvements?

**[DO NOT READ; MULTIPLE RESPONSE]**

- 1. (Too confusing)
- 2. (Would not have been enough)
- 3. (Too much of a hassle)
- 4. (Did not have enough for upfront cost)
- 5. (Application not approved)
- 55. (Other [Specify])
- 97. (Do want to make the improvements anyway)
- 98. (Don't know)
- 99. (Refused)

D12. **[NON\_INSTALLER=1 OR PARTIAL\_INSTALLER=1]** What portion of the cost would the Home Energy Solutions rebates need to cover to have encouraged you to move forward with **[IF PARTIAL\_INSTALLER=1, "all of"]** the additional work that the auditor recommended?

[INTERVIEWER: Encourage respondent to answer in a full sentence]

**[OPEN-END NON-NUMERIC]**

- 96. (Auditor did not make recommendations)
- 97. (Would not move forward regardless of rebates)
- 98. (Don't know)
- 99. (Refused)

**Clarification**

D13. **[ASK IF CS5=1 AND CS7=1]** Which of the following sentences BEST describes your motivations to move forward with the work? **[READ; SINGLE RESPONSE]**

1. The availability of utility rebates and incentives was very important
2. The availability of utility financing options was very important
3. The availability of utility rebates and incentives IN COMBINATION WITH the availability of utility financing options was very important
4. Or neither of these was very important
98. (Don't know)
99. (Refused)

**Follow-up**

- D14. **[ASK ALL]** Did the Home Energy Solutions auditor follow-up with you on any occasions after their initial visit?
1. Yes
  2. No
  98. (Don't know)
  99. (Refused)
- D15. **[ASK IF D14 > 1 AND (NON\_INSTALLER=1 OR PARTIAL\_INSTALLER=1)]** If the Home Energy Solutions auditor had followed-up with you after their initial visit to answer any questions you had, how likely would you have been to move forward with **[IF PARTIAL\_INSTALLER=1, "all of"]** the additional work? Please, use a scale from one to five, with 1 indicating "Not at all likely" and 5 indicating "Very likely."  
**[NUMERIC 0 TO 100]**
- 98. (Don't know)
  - 99. (Refused)

## Satisfaction

For each of the following elements, please think of your participation with the utility company, and indicate the number that corresponds to your satisfaction, with 1 indicating "not at all satisfied" and 5 indicating "very satisfied".

How satisfied are you with:

- SAT1a. Your overall experience with the Home Energy Solutions program?
- SAT1b. The information provided to you about the energy savings opportunities associated with the Home Energy Solutions program?
- SAT1c. The QUALITY of information you were provided by the utility company about the amount of the rebates or incentives available from the Home Energy Solutions program?
- SAT1d. **[IF CS7 =1]** How easy it was to fill out the Home Energy Solutions program application form?
- SAT1e. **[IF CS5 =1]** How easy it was to fill out the financing application form?

SAT1f. **[IF CS7=1]** How quickly you received the Home Energy Solutions program rebate or incentive?

SAT1g. The products that were installed or the services that you received for free from the Home Energy Assessment?

INS2b. **[IF MEASURE=INSULATION AND IF EU1L=1]** The comfort of your home after insulation was installed?

**[FOR EACH]**

- 1. Not at all satisfied
- 2. Somewhat unsatisfied
- 3. Neither satisfied nor unsatisfied
- 4. Somewhat satisfied, or
- 5. Very satisfied
- 96. (Not applicable)
- 98. (Don't know)
- 99. (Refused)

INS5. **[IF MEASURE=INSULATION AND IF EU1L=1]** For each of the following elements, please think of your experience with your contractor who installed the insulation, and indicate the number that corresponds with your satisfaction, with 1 indicating "not at all satisfied" and 5 indicating "very satisfied".

How satisfied are you with:

INS5a. The contractor's punctuality

INS5b. The cleanliness of your home after the insulation was installed

INS5c. The quality of installation work

INS5d. The contractor overall

**[FOR EACH]**

- 1. Not at all satisfied
- 2. Somewhat unsatisfied
- 3. Neither satisfied nor unsatisfied
- 4. Somewhat satisfied, or
- 5. Very satisfied
- 96. (Not applicable)
- 98. (Don't know)
- 99. (Refused)

## Demographics and Household Characteristics

These last questions are about your home and the people who live in it. Please remember that all your responses will be kept completely confidential. No one will be able to trace your responses back to you personally.

- H1. What is your age? Are you
1. 18 to 24 years old
  2. 25 to 44 years old
  3. 45-64 years old
  4. 65 years or older
  98. (Don't know)
  99. (Refused)
- H2. Do you own or rent your home?
1. Own
  2. Rent
  98. Don't know
  99. Refused
- H3. Which of the following best describes your home? Is it a  
**[READ]**
1. Single family home
  2. Two to four unit building
  3. Multifamily building with five or more units
  4. Townhouse OR
  5. Mobile home
  55. (Other, [Specify])
  98. (Don't know)
  99. (Refused)
- H4. How long have you lived in your current home or apartment?
1. Less than one year
  2. One or two years
  3. Three to five years
  4. Six to seven years
  5. Eight to ten years
  6. Eleven to fifteen years
  7. Sixteen to twenty years
  8. More than twenty years
  98. Don't know
  99. Refused

- H5. What is the highest level of education or schooling you received?
1. Less than a high school diploma
  2. High school diploma or GED
  3. Some college, but no degree
  4. Associate's or technical school degree
  5. Bachelor's degree
  6. Graduate or professional degree
  98. Don't know
  99. Refused

SC3. Including you, how many people live in your home for most of the year?

**[OPEN END NUMERIC]**

98. (Don't know)
99. (Refused)

H6. Which category best describes your total household income before taxes? Please stop me when I get to the appropriate category. **[READ LIST; SELECT ONE RESPONSE]**

1. Less than \$10,000
2. \$10,000 to \$14,999
3. \$15,000 to \$24,999
4. \$25,000 to \$34,999
5. \$35,000 to \$49,999
6. \$50,000 to \$74,999
7. \$75,000 to \$99,999
8. \$100,000 to \$149,999
9. \$150,000 to \$199,999
10. \$200,000 or more
98. (Don't know)
99. (Refused)

**[GENERATE V\_LI=0; IF BOTH CONDITIONS IN TABLE 1 ARE SATISFIED, THEN V\_LI=1]**

**TABLE 1**

<b>IF</b> <b>Number of occupants</b> <b>(SC3)</b>	<b>AND</b> <b>Income range</b> <b>(H6)</b>
ANY	<5
2	<6
3	<6
4	<6
5	<6
6	<7
7	<7
8 or more	<7

TABLE 2

IF Number of occupants (SC3)	AND Income range (H6)	SC4 READ-IN LIMIT (80% AMI)
1	5	\$46,000
2	6	\$53,000
3	6	\$59,000
4	6	\$66,000
5	6	\$71,000
6	7	\$76,000
7	7	\$82,000
8 or more	7	\$87,000

<https://sites.google.com/site/connecticutmortgagelimits/hud-median-income-limits>  
 (Calculated the median across counties, and rounded to the nearest 1,000)

SC4. **[ASK IF RESPONDENT FALLS INTO ANY CATEGORIES IN TABLE 2]** Before taxes, is your total annual household income less than **[LIMIT]** or is it **[LIMIT]** or more?

- 1. Less than **[LIMIT]**
- 2. Equal to or more than **[LIMIT]**
- 98. (Don't know)
- 99. (Refused)

**[IF SC4 = 1, THEN V\_LI=1]**

**[DON'T ASK BUT RECORD SEX]**

- Female
- Male

Those are all of the questions that I have for you. Thank you so much for your time.

## C.2 END-USER REAL-TIME PARTICIPANT SURVEY

### R31 Connecticut Real Time Data Collection Participant Survey

#### Quotas and Variables

(For programmers and fielding staff)

There are four strata that we will assign to the sample frame cases under the variable “STRATUM.” The table below shows the quota for each stratum.

Type	Stratum	Targeted Completes
HES or HES-IE core services	a	60
HES or HES-IE Tier II	b	60
HES or HES-IE insulation	c	60
Non-HES participants (rebates only)	d	60
<b>Total</b>		240

Read-in variables include

Variable	Description
UTILITY	The utility company of the respondent
PROGRAM_TYPE	The program in which the respondent participated
PROGRAM	The program name that is most familiar to the respondent
MEASURE_1	First measure to ask about in free ridership modules
MEASURE_2	Second measure to ask about in free ridership modules
M1_QUANTITY	The quantity of measure 1 installed by the respondent
M2_QUANTITY	The quantity of measure 2 installed by the respondent
air_conditioning_equipment	High-level description of measure installed
air_sealing	High-level description of measure installed
air_source_heat_pump	High-level description of measure installed
appliance	High-level description of measure installed
clothes_washer	High-level description of measure installed
dehumidifier	High-level description of measure installed
duct_sealing	High-level description of measure installed
ductless_heat_pump	High-level description of measure installed
freezer	High-level description of measure installed
geothermal_heat_pump	High-level description of measure installed
heat_pump	High-level description of measure installed
heating_equipment	High-level description of measure installed

heating_system_maintenance	High-level description of measure installed
insulation	High-level description of measure installed
light_bulbs	High-level description of measure installed
lighting_equipment	High-level description of measure installed
refrigerator	High-level description of measure installed
water_heater	High-level description of measure installed
water_pipe_wrap	High-level description of measure installed
water_saving_equipment	High-level description of measure installed
windows	High-level description of measure installed

Logic-based sample variables

Variable	Description
STRATUM	Stratum for quotas (described above)
M1_TIER2	Yes or no responses indicating if measure 1 is a Tier II measure
M2_TIER2	Yes or no responses indicating if measure 2 is a Tier II measure

## Introduction

Hello, I am \_\_\_\_ calling from Discovery Research Group on behalf of the Connecticut Energy Efficiency Fund and [UTILITY]. This is not a sales call. May I please speak with [CONTACT\_NAME] or anyone else that might be familiar with your recent participation in the utility company's [PROGRAM] program? Would you be willing to answer some questions about your experience in the program?

SC1. [ASK IF PROGRAM\_TYPE=HES OR HES-IE] Before we begin, let me confirm that your household received a Home Energy Assessment through the utility company in the past year or so. Is that correct?

[IF NOT IMMEDIATELY FAMILIAR:] "Do you recall having someone come to your home to evaluate its energy efficiency, provide you with information about ways to save energy, and possibly install some energy saving products such as light bulbs or weather-stripping materials?" [IF STILL "DON'T KNOW," ASK IF ANYONE ELSE IN THEIR HOUSEHOLD MIGHT KNOW; IF GIVEN TO A NEW RESPONDENT, REPEAT INTRODUCTION; IF REMAINS "DON'T KNOW," TERMINATE]

1. Yes
2. No [TERMINATE]
3. Participated, but do not live in the home
98. (Don't know)
99. (Refused) [TERMINATE]

SC1a. [ASK IF SC1=3] Are you the property manager or landlord?

1. Yes
2. No [TERMINATE]
98. (Don't know) [TERMINATE]
99. (Refused) [TERMINATE]

SC1b. **[ASK IF SC1A=1]** Unfortunately, you are not eligible to complete THIS survey, but would it be alright if a member of my team contacted you at a different time about a separate study we are doing with property managers and landlords? **[If requested, provide NMR contact information]**

1. Yes **[TERMINATE]**
2. No **[TERMINATE]**

**[DRG, NMR WILL REQUEST A LIST OF CONTACTS WHERE SC1B=1]**

SC2. **[ASK IF PROGRAM\_TYPE=HES OR HES-IE]** Are you the person in your household who knows what the auditor did during the assessment and what he or she recommended? **[IF NEEDED:** There may have been more than one individual from the auditor's company]

1. Yes
2. No **[ASK TO SPEAK WITH APPROPRIATE PERSON, OR ARRANGE FOR A CALL BACK TIME]**

SC5. **[ASK IF PROGRAM\_TYPE =REBATE]** Before we begin, let me confirm that your household received a rebate or incentive from the utility company for purchasing or installing qualifying energy efficient equipment in the past year or so. Is that correct?

1. Yes
2. No
98. (Don't know)
99. (Refused)

## Process

CS1. **[ASK IF PROGRAM\_TYPE = HES OR HES-IE]** Why did you decide to have the Home Energy Assessment performed at your home?

**[MULTIPLE RESPONSE; DON'T READ]**

1. (To find ways to make my home more comfortable)
2. (To learn about energy saving opportunities)
3. (To identify improvements to save the most money)
4. (To learn about where energy is used in my home)
5. (To see if I was eligible to receive an incentive or rebate)
6. (To see if I was eligible to receive any free energy upgrades)
7. (To understand if heating and cooling systems are operating effectively)
8. (Was recommended by the utility company)
55. (Other **[SPECIFY]**)
98. (Don't know)
99. (Refused)

CS1a. **[IF CS1=5]** When you first signed up for the assessment, was there a specific type of upgrade you were interested in? **[MULTIPLE RESPONSE; DON'T READ]**

1. (Insulation)
2. (Boiler)
3. (Furnace)
4. (Central Air Conditioner)
5. (Windows)
6. (Heat Pump)
7. (Clothes Washers)
8. (Refrigerators)
9. (Light bulbs or lighting equipment)
10. (Other, specify **[Open-ended response in words]**)
11. (No specific upgrade in mind)
98. (Don't know)
99. (Refused)

AW1a. **[ASK IF PROGRAM\_TYPE = REBATE]** Before this call, were you aware that the utility company offers a Home Energy Assessment in which an auditor will visit your home and suggest ways that you can save energy?

1. Yes
2. No **[GO TO AW2]**
98. (Don't know) **[GO TO AW2]**
99. (Refused) **[GO TO AW2]**

AW1. **[IF PROGRAM\_TYPE = HES or HES-IE or IF AW1A = 1]** How did you hear about the Home Energy Assessment offered by the utility company? **[MULTIPLE RESPONSE; DON'T READ]**

1. During the home energy assessment
2. From the utility company website
3. From the utility company bill insert
4. From the utility company advertisement
5. From family or friends
6. From a community action agency or organization
55. (Other **[SPECIFY]**)
98. (Don't know)
99. (Refused)

AW2. **[IF PROGRAM\_TYPE = REBATE]** How did you FIRST hear about the rebates or incentives offered by the utility company? **[SINGLE RESPONSE; DON'T READ]**

1. During the Home Energy Assessment
2. From the utility company website
3. From the utility company bill insert
4. From the utility company advertisement
5. From family or friends
6. From a community action agency or organization
55. (Other **[SPECIFY]**)
98. (Don't know)
99. (Refused)

EU1. **[ASK IF PROGRAM\_TYPE = ALL]** Our records show that the following energy efficiency upgrades were installed in your home through the [PROGRAM] program either during an initial energy assessment or after the assessment, possibly using a program rebate or low-interest financing.

**[ASK ABOUT EACH MEASURE INDIVIDUALLY WHERE EACH HIGH-LEVEL MEASURE INSTALLED=1; FOR EACH MEASURE A-U, READ: [A-U]** Is this correct?

**[NOTE: IF RESPONDENT SAYS THAT THEY REMOVED THE MEASURE, STILL CODE AS 1 = YES.]**

(Core measures)

- a. **[IF air\_sealing=1]** Air Sealing
- b. **[IF duct\_sealing=1]** Duct Sealing
- c. **[IF heating\_system\_maintenance=1]** Heating System Maintenance
- d. **[IF light\_bulbs=1]** Light Bulbs
- e. **[IF lighting\_equipment=1]** Lighting Equipment
- f. **[IF water\_pipe\_wrap=1]** Water Pipe Wrap
- g. **[IF water\_saving\_equipment=1]** Water Saving Equipment

(Tier II measures)

- h. **[IF air\_conditioning\_equipment=1]** Air Conditioning Equipment
- i. **[IF air\_source\_heat\_pump=1]** Air Source Heat Pump
- j. **[IF appliance=1]** Appliance **[SPECIFY APPLIANCE]**
- k. **[IF clothes\_washer=1]** Clothes Washer
- l. **[IF dehumidifier=1]** Dehumidifier
- m. **[IF ductless\_heat\_pump=1]** Ductless Heat Pump
- n. **[IF freezer=1]** Freezer
- o. **[IF geothermal\_heat\_pump=1]** Geothermal Heat Pump
- p. **[IF heat\_pump=1]** Heat Pump
- q. **[IF heating\_equipment=1]** Heating Equipment
- r. **[IF water\_heater=1]** Water Heater
- s. **[IF refrigerator=1]** Refrigerator
- t. **[IF windows=1]** Windows

(Insulation)

- u. **[IF insulation=1]** Insulation

**[FOR EACH]**

- 1. Yes (installed/performed)
- 2. No (not installed/performed)
- 98. (Don't know)
- 99. (Refused)

**[IF NO EU1 A TO U= 1, GO TO NEXT MODULE]**

## Free ridership – Tier II or Core Services

[ASK BATTERY IF PROGRAM\_TYPE = HES OR REBATE; DO NOT ASK ABOUT INSULATION (SKIP IF EU1u=1)] [SKIP TO FINANCING AND DECISION MAKING MODULE IF PROGRAM = IF ALL EU1>1]

[RUN THROUGH SURVEY BATTERY FOR MEASURE\_1 AND MEASURE\_2; IF MEASURE\_1=100 (INSULATION), ASK ABOUT IT IN THE NEXT MODULE, BUT MAKE SURE TO ASK ABOUT MEASURE\_2 IN THIS MODULE BEFORE MOVING FORWARD]

M2. How satisfied are you with the performance of the [MEASURE]? Indicate the number that corresponds with your satisfaction, with 1 indicating “not at all satisfied” and 5 indicating “very satisfied”.

1. Not at all satisfied
2. Somewhat unsatisfied
3. Neither satisfied nor unsatisfied
4. Somewhat satisfied, or
5. Very satisfied
96. (Did not have installed)
98. (Don't know)
99. (Refused)

[IF M2=96, SKIP REMAINDER BATTERY FOR SELECTED MEASURE]

M3. [ASK FOR ONLY TIER II UPGRADES (VARIABLES M1\_TIER2 = 1 AND M2\_TIER2 = 1 WILL INDICATE IF THE MEASURE IS TIER II OR NOT)] Please consider how influential the following elements were on your decision to install the [MEASURE]. Please base your answer on scale of 1 to 5, with 1 indicating “No influence on your decision to install the [MEASURE]” and 5 indicating “had a great influence on your decision to install the [MEASURE].”

How influential were the following:

- M3a. the utility company's incentive or rebate
- M3b. Installation contractor, if used
- M3c. Information from the utility company

1. Not at all influential
2. Somewhat uninfluential
3. Neither influential nor un- influential
4. Somewhat influential, or
5. Very influential
97. (Not applicable)
98. (Don't know)
99. (Refused)

- M4. Before learning about the [PROGRAM] program, did you have any **specific** plans to purchase and install the [MEASURE] that you installed through the program?
1. Yes
  2. No
  98. (Don't know)
  99. (Refused)

**[IF M4=1, SKIP M5 THROUGH M7]**

- M5. **[SKIP M5 IF MEASURE=heating system maintenance, air sealing, duct sealing, OR water pipe wrap]** If you had not participated in the [PROGRAM] program, would you have purchased a [MEASURE] that was a more efficient model, a model with the same efficiency level, or a model that was less efficient? **[IF NEEDED: "Compared to what was installed/performed through the program"]**
1. More efficient model
  2. Model with the same efficiency
  3. Less efficient model
  4. (Would not have purchased/ installed)
  98. (Don't know)
  99. (Refused)

- M5a. **[ASK ONLY IF MEASURE=air sealing, duct sealing, OR water pipe wrap]** If you had not participated in the [PROGRAM] program, would you have had more [MEASURE] done, the same amount of it done, less of it done, or not have done it at all? **[IF NEEDED: "Compared to what was installed/performed through the program"]**
1. More done
  2. Same amount done
  3. Less of it done
  4. Not have done it at all
  98. (Don't know)
  99. (Refused)

**[IF M5=4 OR M5a=4, SKIP REMAINDER BATTERY FOR SELECTED MEASURE]**

- M6. If you had not participated in the [PROGRAM] program, would you have purchased or installed a [MEASURE] at the same time as you did through the program, would you have purchased it at a different time, or would you not have purchased or installed it at all?
1. Would have purchased at same time
  2. Would have purchased at different time
  3. (Would not have purchased/ installed)
  98. (Don't know)
  99. (Refused)

**[IF M6=3, SKIP REMAINDER BATTERY FOR SELECTED MEASURE]**

- M7. **[AKS IF M6=2]** If you had not participated in the [PROGRAM] program, when would you have purchased the [MEASURE]? **[READ]**

1. Would have purchased sooner
2. Postponed purchase or installation by about three months
3. Postponed purchase or installation by about six months
4. Postponed purchase or installation by about a year
5. Postponed purchase or installation more than one year
98. (Don't know)
99. (Refused)

## Free ridership – Insulation

**[ASK BATTERY IF PROGRAM\_TYPE = HES AND IF INSULATION=1] [SKIP TO FINANCING AND DECISION MAKING MODULE IF INSULATION NOT CONFIRMED IN EU1 (where u >1)]**

INS1. Our records indicate that you received an incentive or rebate from the utility company for insulation work that was performed at your home. Is that correct?

1. Yes
2. No **[GO TO NEXT MODULE]**
98. (Don't know) **[GO TO NEXT MODULE]**
99. (Refused) **[GO TO NEXT MODULE]**

INS2b. **[IF INS1=1]** How satisfied are you with the comfort of your home after the insulation was installed? Please base your answer on a scale of 1 to 5, with 1 indicating “not at all satisfied” and 5 indicating “very satisfied”.

1. Not at all satisfied
2. Somewhat unsatisfied
3. Neither satisfied nor unsatisfied
4. Somewhat satisfied, or
5. Very satisfied
98. (Don't know)
99. (Refused)

INS4. Please consider how influential the following elements were on your decision to install insulation. Please base your answer on a scale of 1 to 5, with 1 indicating “No influence on your decision to install the insulation” and 5 indicating “had a great influence on your decision to install the insulation.”

How influential were the following:

- INS4a. The utility company incentive or rebate
- INS4b. Installation contractor, if used
- INS4c. Information from the utility company

**[FOR EACH]**

1. No influence
2. Very little influence

- 3. Neither influential or un-influential
- 4. Somewhat influential
- 5. Great influence
- 98. (Don't know)
- 99. (Refused)

INS5. For each of the following elements, please think of your experience with your contractor who installed the insulation, and indicate the number that corresponds with your satisfaction, with 1 indicating "not at all satisfied" and 5 indicating "very satisfied".

How satisfied are you with:

- INS5a. The contractor's punctuality
- INS5b. The cleanliness of your home after the insulation was installed
- INS5c. The quality of installation work
- INS5d. The contractor overall

**[FOR EACH]**

- 1. Not at all satisfied
- 2. Somewhat unsatisfied
- 3. Neither satisfied nor unsatisfied
- 4. Somewhat satisfied, or
- 5. Very satisfied
- 96. (Not applicable)
- 98. (Don't know)
- 99. (Refused)

INS6. Before learning about the **[PROGRAM]** program, did you have any **specific** plans to install the insulation that you had installed through the program?

- 1. Yes
- 2. No
- 98. (Don't know)
- 99. (Refused)

**[IF INS6=1, SKIP INS7 THROUGH INS9]**

INS7. If you had not participated in the **[PROGRAM]** program, would you have had MORE insulation installed, the same amount of insulation installed, less of the insulation installed, or not installed any insulation at all?

- 1. Would have installed more insulation
- 2. Would have installed the same amount of the insulation
- 3. Would have installed less insulation
- 4. Would not have installed any insulation **[GO TO NEXT MODULE]**
- 98. (Don't know) **[GO TO NEXT MODULE]**
- 99. (Refused) **[GO TO NEXT MODULE]**

INS8. **[IF INS7= 1, 2, OR 3]** If you had not participated in the **[PROGRAM]** program, would you have installed the insulation at the same time as you did through the program, at a different time, or would you not have purchased or installed it at all?

- 1. Would have installed insulation at same time

- 2. Would have installed insulation at different time
- 3. Would not have installed any insulation
- 98. (Don't know)
- 99. (Refused)

INS9. **[AKS IF INS8=2]** If you had not participated in the **[PROGRAM]** program, when would you have purchased the insulation? **[READ]**

- 1. Would have installed sooner
- 2. Postponed installation by about three months
- 3. Postponed installation by about six months
- 4. Postponed installation by about a year
- 5. Postponed installation more than one year
- 98. (Don't know)
- 99. (Refused)

## Non-Energy Impacts

**[SKIP TO NEXT MODULE IF NO MEASURES INSTALLED (ALL EU1 > 1)]**

We'd like to learn if the energy upgrades that you installed under the **[PROGRAM]** program had any effects aside from changing your home's energy consumption.

I'm going to read you a list of things and ask you to tell me if the combination of all the upgrades that were installed positively affected it, negatively affected it, or did not affect it at all.

NE1. **[SHOW ON ALL SCREENS]** Did the program have a positive effect, negative effect, or no effect on

[IF NEEDED: "No effect" can mean either that the change occurred and the program did not affect it or that the change did not occur at all]

**[REACH EACH; RANDOMIZE]**

- a. Comfort
- b. Outside noise
- c. Appliance or heating/cooling system noise
- d. Family illnesses and missed days from work or school and associated medical care
- e. Ability to pay energy bills
- f. Equipment maintenance and/or durability
- g. Home value or the ability to sell the home
- h. Home's appearance
- i. Ability to pay non-energy bills such as water or sewer
- j. Home safety
- k. Light quality
- l. **[INTERVIEWER NOTE: ONLY READ NE1\_L IF PARTICIPANT MENTIONS ANOTHER ELEMENT; OTHERWISE MARK AS "NOT APPLICABLE"]**  
Any other elements **[SPECIFY]**

**[FOR EACH a-l]**

- 1. Positive effect
- 2. Negative effect
- 3. No effect
- 96. Not applicable
- 98. Don't know
- 99. Refused

**[IF ALL NE1 > 2 SKIP TO NE10]**

**[CYCLE THROUGH NE2 AND NE3 EACH NE1=1 OR 2]**

**[READ-INS:** a “your home’s comfort”; b “outside noise”; c “system noise”; d “illnesses, missed days, and medical care”; e “ability to pay energy bills”; f “your equipment’s maintenance or durability”; g “your home’s value”; h “your home’s appearance”; i “your ability to pay non-energy bills”; j “your home’s safety”; l “the other element you mentioned”]

NE2. **[ASK FOR EACH NE1a-I=1]** How does the value of the positive effect on **[NE1a-I]** compare to the value of the expected energy savings? Does the positive effect have

[IF NEEDED: If you compared the positive impact that you said that the program had on **[NE1a-I]**, would you say that change has much less value, somewhat less value, the same value, somewhat more value or much more value to you than the energy savings you might receive?]

- 1. Much less value
- 2. Somewhat less value
- 3. Same value
- 4. Somewhat more value OR
- 5. Much more value?
- 98. (Don't know)
- 99. (Refused)

NE3. **[ASK FOR EACH NE1a-I=2]** How does the value of the negative effect on **[NE1a-I]** compare to the value of the expected energy savings? Does the negative effect have

[IF NEEDED: We are wondering what you think the energy savings you might get from the program were worth compared to the negative value the energy upgrade had on your **[NE1a-I]**.]

- 1. Much more negative value than the possible energy savings value
- 2. Somewhat more negative value than the possible energy savings value
- 3. Same value or balances out the possible energy savings value
- 4. Somewhat less negative value than the possible energy savings value
- 5. Much less negative value than the possible energy savings value
- 98. (Don't know)
- 99. (Refused)

NE4. **[SKIP TO NE10 IF ONLY ONE NE1=1 OR 2]** Thinking about all these effects that you have mentioned, are there any that you think “overlap” or that you had a hard time separating out? If so, which effects?

- 1. Yes [**SPECIFY EFFECTS**]
- 2. No
- 96. (Only one effect)
- 98. (Don't know)
- 99. (Refused)

NE5. [**ASK IF (ONE OR MORE NE1=1) AND (ONE OR MORE NE1=2)**] Now, think about the combination of all the positive and negative effects that you received from the program **not** including possible energy savings. Would you say that the combination of these effects is overall positive, negative, or had no effect?

- 1. Positive effects
- 2. Negative effects
- 3. No effect
- 98. (Don't know)
- 99. (Refused)

NE6. [**ASK IF NE5=1**] Thinking about the combination of all the positive and negative effects from the program How does the overall **positive** value of the combination of these effects compare to the value of the expected energy savings? Does the combination of effects have

[IF NEEDED: If you compared the positive and negative impacts that you said that the program had on things other than energy use, would you say that change has much less value, somewhat less value, the same value, somewhat more value or much more value to you than the energy savings you might receive?]

- 1. Much less value
- 2. Somewhat less value
- 3. Same value
- 4. Somewhat more value OR
- 5. Much more value
- 98. (Don't know)
- 99. (Refused)

NE7. [**ASK IF NE5=1**] Again, I'd like to ask you to think about how the overall **positive** value of the combination of these effects compares to the value of the expected energy savings. If you were to estimate its value as a fraction, percentage, or multiple, by about what amount more or less valuable is the combination of effects? We'd like to know a value relative to average energy bill savings.

[INTERVIEWER: Encourage respondent to answer in a full sentence]

[IF NEEDED: As an example, is the positive value of the combined effects twice as valuable as the bill savings? One-third as valuable? Another multiplier?]

[IF FURTHER CLARIFICATION NEEDED: If you compared the positive and negative impacts that you said that the program had on things other than energy use, how much more or less value does it have to you than the energy savings you might receive?]

**[NON-NUMERIC OPEN END; RECORD EXACT VERBATIM]**

- 98. Don't know
- 99. Refused

- NE8. **[ASK IF NE5=2]** Thinking about the combination of all the positive and negative effects from the program How does the overall **negative** value of the combination of these effects compare to the value of the expected energy savings? Does the combination of effects have
- [IF NEEDED: We are wondering if you think that the energy savings you might get from the program were worth the negative impact that you think it had on all of the other things you mentioned.]
- 1. Much more negative value than the possible energy savings value
  - 2. Somewhat more negative value than the possible energy savings value
  - 3. Same value or balances out the possible energy savings value
  - 4. Somewhat less negative value than the possible energy savings value
  - 5. Much less negative value than the possible energy savings value
  - 98. (Don't know)
  - 99. (Refused)

- NE9. **[ASK IF NE5=2]** Again, I'd like to ask you to think about how the overall **negative** value of the combination of these effects compares to the value of the expected energy savings. If you were to estimate its cost as a fraction, percentage, or multiple, by about what amount more or less **negative** is the value of the combination of effects? We'd like to know a value relative to average energy bill savings.
- [INTERVIEWER: Encourage respondent to answer in a full sentence]
- [IF NEEDED: As an example, is the negative value of the combined effects twice the cost of the bill savings? One-third of the cost? Another multiplier?]
- [IF FURTHER CLARIFICATION NEEDED: If you compared the positive and negative impacts that you said that the program had on things other than energy use, how much more or less value does it have to you than the energy savings you might receive?]

**[NON-NUMERIC OPEN END; RECORD EXACT VERBATIM]**

- 98. Don't know
- 99. Refused

- NE10. Since the upgrades were performed what percentage of energy savings have you seen on your monthly utility bill? That is, by about what percent has your energy use gone down since participating in the program?
- [Open-ended numeric response (0% to 100%)]
- 996. Have not yet received a utility bill since participating in the program
  - 997. Increased
  - 998. Don't know
  - 999. Refused

NE10a. **[IF NE10 = -997]** By about what percentage has your monthly energy use increased?

[Open-ended numeric response (0% to 500%)]

- 998. Don't know
- 999. Refused

NE11. **[IF ALL NE1 > 2 OR NE5 > 2, SKIP TO NEXT MODULE]** Is the overall **positive** OR **negative** value of the combination of these energy and non-energy effects less than, equal to, or higher than what you expected at the time of participation in the program?

- 1. Less than expected
- 2. Equal to what was expected
- 3. Higher than what was expected
- 4. (Did not know what to expect at time of program)
- 98. (Don't know)
- 99. (Refused)

## Financing and Decision-Making

**[SKIP TO NEXT MODULE (SATISFACTION) IF PROGRAM\_TYPE = REBATE OR HES-IE]**

The next few questions focus on how you make decisions about which energy-efficient products to install in your home.

CS2. After the auditor completed the home energy assessment, did he or she sit down with you to discuss any additional recommended energy upgrades?

- 1. Yes
- 2. No
- 98. (Don't know)
- 99. (Refused)

D1. **[ASK IF CS2=1]** About how many of these additional improvements did you make?

- 1. All of them
- 2. Some of them
- 3. None of them
- 98. (Don't know)
- 99. (Refused)

D1A. **[ASK IF D1=3 AND WHERE ANY EU1 h - u = 1 (WHERE ANY TIER 2/INSULATION MEASURES VERIFIED IN EU1=1)]** Earlier you confirmed that you made improvements after the home assessment. Are you certain that you did not make any improvements based on the auditor's recommendations?

- 1. Yes

- 2. No
- 98. (Don't know)
- 99. (Refused)

**[IF D1A=2, RETURN TO D1]  
 COMPUTE THREE BINARY VARIABLES [0 OR 1]: IF D1=1, INSTALLER=1; IF D1=2,  
 PARTIAL\_INSTALLER=1; IF D1=3, NON\_INSTALLER=1]**

- D2. **[ASK IF PARTIAL\_INSTALLER=1]** How did you pick which improvements to make?  
**[DO NOT READ; MULTIPLE RESPONSE]**
- 1. (Least expensive)
  - 2. (Easiest to install)
  - 3. (Biggest energy/utility bill savers)
  - 4. (Easiest to find)
  - 55. (Other [Specify])
  - 98. (Don't know)
  - 99. (Refused)
- D3. **[ASK IF NON\_INSTALLER=1]** What are the main reasons why you haven't made the improvements that the auditor suggested?  
**[DO NOT READ; MULTIPLE RESPONSE]**
- 1. (Too expensive)
  - 2. (Too complicated to install)
  - 3. (Haven't had time/gotten around to it)
  - 4. (Too much of a hassle)
  - 5. (Thought it wasn't necessary)
  - 55. (Other [Specify])
  - 98. (Don't know)
  - 99. (Refused)
- D4. **[ASK IF NON\_INSTALLER=1]** Do you have plans to make all, some, or none of the improvements that the auditor suggested within the next year?
- 1. All
  - 2. Some
  - 3. None
  - 98. (Don't know)
  - 99. (Refused)
- D5. **[ASK IF INSTALLER=1 OR PARTIAL\_INSTALLER=1]** What were the main reasons you decided to make the improvements that the auditor suggested?  
**[DO NOT READ; MULTIPLE RESPONSE]**
- 1. (Save energy)
  - 2. (Save money on energy bill)
  - 3. (Be "green"/help environment)
  - 4. (Health/safety)
  - 55. (Other [Specify])
  - 98. (Don't know)
  - 99. (Refused)

**Financing**

- CS4. **[ASK ALL]** Did the auditor who completed the home energy assessment talk to you about any financing options, such as zero interest loans or on-bill repayments, to help with the financing of any of the energy upgrades that he or she had recommended?
1. Yes
  2. No
  3. (No upgrades recommended)
  98. (Don't know)
  99. (Refused)
- D6. How aware are you of options to help you pay for improvements such as zero- or low-interest financing, on-bill financing, or other loan options that are available through Home Energy Solutions? Would you say...
1. Not at all aware
  2. Somewhat unaware
  3. Somewhat aware
  4. Very aware
  98. (Don't know)
  99. (Refused)
- D6a. **[ASK IF CS4=1]** How helpful was the information that the auditor provided on the financing options? Would you say it was
1. Not at all helpful
  2. Somewhat helpful
  3. Very helpful
  97. (Did not provide information on it)
  98. (Don't know)
  99. (Refused)
- D6b. **[IF D6a ≤ 3]** Why do you say this? **[RECORD VERBATIM]**
- CS5. **[SKIP IF D6=1]** Have you or are you planning to apply for any financing options to help with the financing of any of the energy upgrades that were recommended during the home energy assessment?
1. Yes
  2. No
  98. (Don't know)
  99. (Refused)
- CS5a. **[ASK IF CS5=1]** For which energy upgrades are you or will you be applying for financing? **[ACCEPT MULTIPLE RESPONSE; DO NOT READ]**

(Tier II upgrades)

- h. Air Conditioning Equipment
- i. Air Source Heat Pump
- j. Appliance **[SPECIFY APPLIANCE]**
- k. Clothes Washer
- l. Dehumidifier
- m. Ductless Heat Pump
- n. Freezer
- o. Geothermal Heat Pump
- p. Heat Pump
- q. Heating Equipment
- r. Water Heater
- s. Refrigerator
- t. Windows
- u. Some other upgrade **[SPECIFY]**

(Insulation)

- v. Insulation

D7. **[ASK IF (INSTALLER OR PARTIAL\_INSTALLER=1) AND D6 = 2, 3, OR 4] [SKIP IF CS5 = 1, 98, 99]** Why didn't you use the Home Energy Solutions finance options to help pay for the additional improvements?

**[DO NOT READ; MULTIPLE RESPONSE]**

- 1. (Too confusing)
- 2. (Would not have been enough)
- 3. (Do not want debt)
- 4. (Too much of a hassle)
- 5. (Did not have enough for upfront cost)
- 6. (Application not approved)
- 55. (Other **[Specify]**)
- 97. (Did not want to make the improvements anyway)
- 98. (Don't know)
- 99. (Refused)

D8. **[ASK IF NON\_INSTALLER=1]** Which of the following would you be MOST likely to choose if you were going to consider moving forward with any of the additional energy saving improvements that the auditor recommended?

**[READ; SINGLE RESPONSE]**

- 1. Zero or low-interest financing
- 2. On-bill financing
- 3. Other loan options OR
- 4. None of them
- 98. (Don't know)
- 99. (Refused)

- D9. **[ASK IF INSTALLER OR PARTIAL\_INSTALLER=1]** How important were financing options to you when you were deciding to move forward with the improvements? Please, use a scale from one to five where 1 equals “not at all important” and 5 equals “very important.”  
**[NUMERIC 1 TO 5]**  
 98. (Don't know)  
 99. (Refused)

**Rebates**

- D10. **[ASK ALL]** Did the Home Energy Solutions auditor discuss rebates with you by reviewing things like how they work, how to apply, and how much they are?  
 1. Yes  
 2. No  
 98. (Don't know)  
 99. (Refused)
- CS7. Have you or are you planning to apply for any utility incentives or rebates to help with the financing of any of the energy upgrades that were recommended during the home energy assessment?  
 1. Yes  
 2. No  
 98. (Don't know)  
 99. (Refused)

- CS7A. **[ASK IF CS7=1]** For which energy upgrades have you or will you be applying for incentives or rebates through the Home Energy Solutions program? **[ACCEPT MULTIPLE RESPONSE; DO NOT READ]**

(Tier II upgrades)

- h. Air Conditioning Equipment
- i. Air Source Heat Pump
- j. Appliance **[SPECIFY APPLIANCE]**
- k. Clothes Washer
- l. Dehumidifier
- m. Ductless Heat Pump
- n. Freezer
- o. Geothermal Heat Pump
- p. Heat Pump
- q. Heating Equipment
- r. Water Heater
- s. Refrigerator
- t. Windows
- u. Some other upgrade **[SPECIFY]**

(Insulation)

- v. Insulation

- D11. **[ASK CS7 > 1]** Why haven't you used any of the rebates to help pay for the additional improvements?  
**[DO NOT READ; MULTIPLE RESPONSE]**
1. (Too confusing)
  2. (Would not have been enough)
  3. (Too much of a hassle)
  4. (Did not have enough for upfront cost)
  5. (Application not approved)
  55. (Other [Specify])
  97. (Do want to make the improvements anyway)
  98. (Don't know)
  99. (Refused)
- D12. **[NON\_INSTALLER=1 OR PARTIAL\_INSTALLER=1]** What portion of the cost would the Home Energy Solutions rebates need to cover to have encouraged you to move forward with **[IF PARTIAL\_INSTALLER=1, "all of"]** the additional work that the contractor recommended?  
**[INTERVIEWER: Encourage respondent to answer in a full sentence]**  
**[OPEN-END NON-NUMERIC]**
- 96. (Auditor did not make recommendations)
  - 97. (Would not move forward regardless of rebates)
  - 98. (Don't know)
  - 99. (Refused)

#### **Clarification**

- D13. **[ASK IF CS5=1 AND CS7=1]** Which of the following sentences BEST describes your motivations to move forward with the work? **[READ; SINGLE RESPONSE]**
1. The availability of utility rebates and incentives was very important
  2. The availability of utility financing options was very important
  3. The availability of utility rebates and incentives IN COMBINATION WITH the availability of utility financing options was very important
  4. Or neither of these was very important
  98. (Don't know)
  99. (Refused)

## **Satisfaction**

For each of the following elements, please think of your participation with the utility company, and indicate the number that corresponds with your satisfaction, with 1 indicating "not at all satisfied" and 5 indicating "very satisfied" **[REPEAT SCALE AS NEEDED]**.

How satisfied are you with:

- SAT1a. Your overall experience with the **[PROGRAM]** program?
- SAT1b. The information provided to you about the energy savings opportunities associated with the **[PROGRAM]** program?

- SAT1c. The QUALITY of information you were provided by the utility company about the amount of the rebates or incentives available from the **[PROGRAM]** program?
- SAT1d. **[IF CS7 =1 AND PROGRAM\_TYPE = HES, OR IF PROGRAM\_TYPE = REBATE]** How easy it was to fill out the **[PROGRAM]** program application form?
- SAT1e. **[IF CS5 =1 AND PROGRAM\_TYPE = HES, OR IF PROGRAM\_TYPE = REBATE]** How easy it was to fill out the financing application form?
- SAT1f. **[IF CS7=1 AND PROGRAM\_TYPE = HES, OR PROGRAM\_TYPE = REBATE]** How quickly you received the **[PROGRAM]** program rebate or incentive?
- SAT1g. **[IF PROGRAM\_TYPE =HES OR HES-IE, OTHWERISE SKIP TO NEXT BATTERY]** The products that were installed or the services that you received for free from the Home Energy Assessment?
1. Not at all satisfied
  2. Somewhat unsatisfied
  3. Neither satisfied nor unsatisfied
  4. Somewhat satisfied, or
  5. Very satisfied
  96. (Not applicable)
  98. (Don't know)
  99. (Refused)

## Additional Feedback

### [ASK BATTERY OF ALL PARTICIPANTS]

- AF1. Do you have any other feedback about your experience with the utility company or suggestions on how to improve their services?
1. Yes **[SPECIFY]**
  2. No
  98. Don't know
  99. Refused
- AF2. Is there any other information about the utility company services or incentives or rebates that they should provide?
1. Yes **[SPECIFY]**
  2. No
  98. Don't know
  99. Refused

AF3. Do you have any additional comments to add about the utility company or the [PROGRAM] program?

1. Yes [SPECIFY]
2. No
98. Don't know
99. Refused

## Demographics and Household Characteristics

### [ASK BATTERY OF ALL PARTICIPANTS]

These last questions are about your home and the people who live in it. Please remember that all your responses will be kept completely confidential. No one will be able to trace your responses back to you personally.

H1. What is your age? Are you

1. 18 to 24 years old
2. 25 to 44 years old
3. 45-64 years old
4. 65 years or older
98. (Don't know)
99. (Refused)

H2. Do you own or rent your home?

1. Own
2. Rent
98. Don't know
99. Refused

H3. Which of the following best describes your home? Is it a [READ]

1. Single family home
2. Two to four unit building
3. Multifamily building with five or more units
4. Townhouse OR
5. Mobile home
55. (Other, [SPECIFY])
98. (Don't know)
99. (Refused)

- H5. What is the highest level of education or schooling you received?
- 1. Less than a high school diploma
  - 2. High school diploma or GED
  - 3. Some college, but no degree
  - 4. Associate's or technical school degree
  - 5. Bachelor's degree
  - 6. Graduate or professional degree
  - 98. Don't know
  - 99. Refused

- SC3. Including you, how many people live in your home for most of the year?

**[OPEN END NUMERIC]**

- 98. (Don't know)
- 99. (Refused)

- H6. Which category best describes your total household income before taxes? Please stop me when I get to the appropriate category. **[READ LIST; SELECT ONE RESPONSE]**

- 1. Less than \$10,000
- 2. \$10,000 to \$14,999
- 3. \$15,000 to \$24,999
- 4. \$25,000 to \$34,999
- 5. \$35,000 to \$49,999
- 6. \$50,000 to \$74,999
- 7. \$75,000 to \$99,999
- 8. \$100,000 to \$149,999
- 9. \$150,000 to \$199,999
- 10. \$200,000 or more
- 98. (Don't know)
- 99. (Refused)

**[GENERATE V\_LI=0; IF BOTH CONDITIONS IN TABLE 1 ARE SATISFIED, THEN V\_LI=1]**

**TABLE 1**

<b>IF</b>	<b>AND</b>
<b>Number of occupants (SC3)</b>	<b>Income range (H6)</b>
ANY	<5
2	<6
3	<6
4	<6
5	<6
6	<7
7	<7
8 or more	<7

TABLE 2

IF Number of occupants (SC3)	AND Income range (H6)	SC4 READ-IN LIMIT (80% AMI)
1	5	\$46,000
2	6	\$53,000
3	6	\$59,000
4	6	\$66,000
5	6	\$71,000
6	7	\$76,000
7	7	\$82,000
8 or more	7	\$87,000

<https://sites.google.com/site/connecticutmortgagelimits/hud-median-income-limits>  
 (Calculated the median across counties, and rounded to the nearest 1,000)

SC4. **[ASK IF RESPONDENT FALLS INTO ANY CATEGORIES IN TABLE 2]** Before taxes, is your total annual household income less than **[LIMIT]** or is it **[LIMIT]** or more?

- 1. Less than **[LIMIT]**
- 2. Equal to or more than **[LIMIT]**
- 98. (Don't know)
- 99. (Refused)

**[IF SC4 = 1, THEN V\_LI=1]**

**[DON'T ASK BUT RECORD SEX]**

- Female
- Male

Those are all of the questions that I have for you. Thank you so much for your time.

### C.3 END-USER NONPARTICIPANT SURVEY

## R4 Connecticut HES/HES-IE Nonparticipant Survey

### Quotas and Variables

(For programmers and fielding staff)

There are two strata for the surveys. The assignments will be based on survey responses about household income. After the series of questions determining income level, the variable V\_LI will be generated. This flag will be used to determine the quotas shown below.

Program	Low Income (V_LI)	Targeted Completes
Market-rate	0	96
Low-income	1	96
<b>Total</b>		192

Read-in variables include

Variable	Description
UTILITY	The utility company of the respondent

### Introduction

Hello, I am \_\_\_\_ calling on behalf of the Connecticut Energy Efficiency Fund and [UTILITY] [IF UTILITY=Eversource, READ “formerly known as CL&P”]. May I please speak with [CUSTOMER\_NAME] or anyone else involved with the decision-making in your home? This is not a sales call. Recently, we sent your household a letter indicating that we were going to call and ask you some questions to help with a study that we are conducting for the Connecticut Energy Efficiency Fund and the utility company. As a token of our appreciation, we will offer a \$5 pre-paid gift card to those who complete this important survey.

**[IF NEEDED:** May I please speak with the person who is primarily responsible for your household’s energy-related decisions? This would be the person who is responsible for paying the utility bills or selecting new lighting and appliances.]

SC1. Before we begin, did your household receive a home energy assessment through the utility company in the past year or so?

1. Yes
2. No
98. (Don't know)
99. (Refused)

**[IF SC1 = 1 THEN THANK AND TERMINATE]**

**[IF GIVEN TO A NEW RESPONDENT, REPEAT INTRODUCTION; IF REMAINS “DON’T KNOW,” TERMINATE]**

SC2. Are you involved in the decision making process about upgrading your home’s energy-related equipment, such as appliances or heating systems?

- 1. Yes
- 2. No
- 98. (Don’t know)
- 99. (Refused)

SC2A. **[SKIP IF SC2=1]** Does someone else in your household make those decisions or does your landlord or property manager make those decisions?

- 1. Other person in household
- 2. Landlord/property manager
- 3. (Other)
- 98. (Don’t know)
- 99. (Refused)

**[IF SC2A=1, OBTAIN CORRECT RESPONDENT AND START OVER; IF SC2A > 1 THEN THANK AND TERMINATE]**

**[GREAT BLUE, NMR WILL REQUEST A LIST OF THE SAMPLE PIECES WHERE SC2A=2]**

SC3. Including you, how many people live in your home for most of the year?

**[OPEN END NUMERIC]**

- 98. (Don’t know)
- 99. (Refused)

H6. Which category best describes your total household income before taxes? Please stop me when I get to the appropriate category. **[READ LIST; SELECT ONE RESPONSE]**

- 1. Less than \$10,000
- 2. \$10,000 to \$14,999
- 3. \$15,000 to \$24,999
- 4. \$25,000 to \$34,999
- 5. \$35,000 to \$49,999
- 6. \$50,000 to \$74,999
- 7. \$75,000 to \$99,999
- 8. \$100,000 to \$149,999
- 9. \$150,000 to \$199,999
- 10. \$200,000 or more
- 98. (Don’t know)
- 99. (Refused)

**[GENERATE V\_LI=0; IF BOTH CONDITIONS IN TABLE 1 ARE SATISFIED, THEN V\_LI=1]**

TABLE 1

IF Number of occupants (SC3)	AND Income range (H6)
ANY	<5
2	<6
3	<6
4	<6
5	<6
6	<7
7	<7
8 or more	<7

TABLE 2

IF Number of occupants (SC3)	AND Income range (H6)	SC4 READ-IN LIMIT (80% AMI)
1	5	\$46,000
2	6	\$53,000
3	6	\$59,000
4	6	\$66,000
5	6	\$71,000
6	7	\$76,000
7	7	\$82,000
8 or more	7	\$87,000

<https://sites.google.com/site/connecticutmortgagelimits/hud-median-income-limits>  
 (Calculated the median across counties, and rounded to the nearest 1,000)

SC4. **[ASK IF RESPONDENT FALLS INTO ANY CATEGORIES IN TABLE 2]** Before taxes, is your total annual household income less than **[LIMIT]** OR **[LIMIT]** or more?

1. Less than **[LIMIT]**
2. Equal to or more than **[LIMIT]**
98. (Don't know)
99. (Refused)

**[IF SC4 = 1, THEN V\_LI=1]**

**[IF V\_LI QUOTA IS REACHED, THANK AND TERMINATE]**

## Process

P1. Have you heard of the Home Energy Solutions program offered by the utility company and other utility companies?

1. Yes
2. No
98. (Don't know)
99. (Refused)

- P2. **[ASK IF P1>1]** The Home Energy Solutions program is a program that the utility companies offer where they evaluate your home's energy efficiency, provide you with information about ways to save energy, and possibly install some energy saving products such as light bulbs or weather-stripping materials. Does this sound familiar?
1. Yes
  2. No
  98. (Don't know)
  99. (Refused)

**[GENERATE AWARE: IF P1=1 OR P2=1, AWARE=1; ELSE AWARE=0]  
[IF AWARE=0, SKIP TO NEXT MODULE]**

- P3. Where did you learn about the program? **[MULTIPLE RESPONSE; DON'T READ]**
1. [BLANK]
  2. From the utility company website
  3. From the utility company bill insert
  4. From the utility company advertisement
  5. From family or friends
  6. From a community action agency or organization
  55. (Other **[SPECIFY]**)
  98. (Don't know)
  99. (Refused)

- P4. Why haven't you participated in it?  
**[DO NOT READ; MULTIPLE RESPONSE]**
1. (Too expensive)
  2. (Don't know \*how\*)
  3. (Haven't had time/gotten around to it)
  4. (Too much of a hassle)
  5. (Unnecessary)
  55. (Other **[Specify]**)
  98. (Don't know)
  99. (Refused)

## Health and Safety

- HS1. In the past year, have you or anyone else noticed any of the following problems in your home?

**[RANDOMIZE AND READ]**

- a. Gas leak
- b. Carbon monoxide leak
- c. Radon
- d. Asbestos insulation
- e. Vermiculite insulation
- f. Mold
- g. Knob and tube wiring

**[FOR EACH A-G]**

- 1. Yes
- 2. No
- 98. (Don't know)
- 99. (Refused)

HS1\_h. Have any other health or safety issues like these been discovered in your home?

- 1. Yes **[SPECIFY PROBLEM FOUND]**
- 2. No
- 98. (Don't know)
- 99. (Refused)

**[IF ALL HS1> 1 SKIP TO NEXT MODULE]**

**[CYCLE THROUGH HS2-HS4, TOPIC BY TOPIC WHERE HS1a-h=1]**

HS2. **[ASK FOR EACH HS1a-c=1]** Have you had the **[HS1a-c, h]** fixed?  
**[ASK FOR EACH HS1d-g=1]** Have you had the **[HS1d-g]** removed?

- 1. Yes
- 2. No
- 3. Partially
- 98. (Don't know)
- 99. (Refused)

HS4. **[ASK FOR EACH HS2a-c=2]** Do you have a sense of why the **[HS1a-c, h]** hasn't been fixed yet?  
**[ASK FOR EACH HS2d-g=2]** Do you have a sense of why the **[HS1d-g]** hasn't been removed yet?

**[DO NOT READ; ALLOW MULTIPLE RESPONSE]**

- 1. (Too expensive/don't have the money)
- 2. (Haven't gotten around to it)
- 3. (Couldn't find a contractor)
- 4. (Have the repair/removal scheduled but hasn't happened yet)
- 5. (Too much trouble/hassle)
- 6. (Not physically possible)
- 55. (Other [specify])
- 98. (Don't know)
- 99. (Refused)

## Non-Energy Impacts

I'd like you to think for a minute about participation in a program like Home Energy Solutions. **As a reminder**, this is a program that the utilities offer where they evaluate your home's energy efficiency and provide you with information about ways to save energy. In it you would be most likely to receive some energy-saving light bulbs and a low-flow shower

head for free as well as a substantial rebate on wall insulation. Households that install these upgrades typically save about 10 to 15% on their energy bills.

NE1. Thinking about these three upgrades and the possible energy savings you would receive from installing them, are there any other impacts—both positive and negative—other than energy savings that you think you might expect to receive from installing light bulbs, low-flow shower heads and insulation in your home? [DO NOT READ; ALLOW MULTIPLE RESPONSES]

1. (Comfort)
2. (Outside noise)
3. (Appliance or heating/cooling system noise)
4. (Family illnesses and missed days from work or school)
5. (Ability to pay energy bills)
6. (Equipment maintenance and/or durability)
7. (Home value or the ability to sell the home)
8. (Home's appearance)
9. (Ability to pay non-energy bills such as water or sewer)
10. (Home safety)
11. (Light quality)
12. (Other \_SPECIFY\_\_\_\_\_)
97. (Nothing mentioned)
98. (Don't know)
99. (Refused)

NE2. I'm going to read you a list of possible impacts from installing energy saving light bulbs, low-flow shower heads, and insulation through the HES program. For each one, could you please tell me if you think installing energy saving light bulbs, low-flow shower heads, and insulation would have a positive effect, negative effect, or no effect on these impacts:

**[REACH EACH; RANDOMIZE]**

- a. Comfort
- b. Outside noise
- c. Appliance or heating/cooling system noise
- d. Family illnesses and missed days from work or school
- e. Ability to pay energy bills
- f. Equipment maintenance and/or durability
- g. Home value or the ability to sell the home
- h. Home's appearance
- i. Ability to pay non-energy bills such as water or sewer
- j. Home safety
- k. Light quality
- l. **[IF NE1=12] [NE1 OPEN-END RESPONSE]**

**[FOR EACH A-K]**

1. Positive effect
2. Negative effect
3. No effect

- 98. Don't know
- 99. Refused

**[IF ALL NE2 > 2 SKIP TO NEXT MODULE]**

**[CYCLE THROUGH NE3 AND NE4 EACH NE1=1 OR 2]**

**[READ-INS:** a "your home's comfort"; b "outside noise"; c "system noise"; d "illnesses, missed days, and medical care"; e "ability to pay energy bills"; f "your equipment's maintenance or durability"; g "your home's value"; h "your home's appearance"; i "your ability to pay non-energy bills"; j "your home's safety"; k "light quality"; l "the other element you mentioned"]

NE3. **[ASK FOR EACH NE2a-l=1]** Typically, people that participate in the program see a 10 to 15% reduction in their energy bill after receiving program upgrades.

How would the value of the positive effect on **[NE2a-l]** compare to the value of the energy savings you might expect from installing these three upgrades? Would the positive effect have

[IF NEEDED: If you compared the positive impact that you expect the program would have on **[NE2a-l]**, would you say that change has much less value, somewhat less value, the same value, somewhat more value or much more value to you than the 10% to 15% energy savings you might receive?]

- 1. Much less value
- 2. Somewhat less value
- 3. Same value
- 4. Somewhat more value OR
- 5. Much more value?
- 98. (Don't know)
- 99. (Refused)

N4. **[ASK FOR EACH NE2a-I=2]** Typically, people that participate in the program see a 10 to 15% reduction in their energy bill after receiving program upgrades.

How would the value of the negative effect on **[NE2a-I]** compare to the value of the expected energy savings from installing these three upgrades? Would the negative effect have

[IF NEEDED: We are wondering if you think that the 10% to 15% energy savings you might get from the program were worth the negative impact the upgrade had on your **[NE2a-I]**.]

1. Much more negative value than the possible energy savings value
2. Somewhat more negative value than the possible energy savings value
3. Same value or balances out the possible energy savings value
4. Somewhat less negative value than the possible energy savings value
5. Much less negative value than the possible energy savings value
98. (Don't know)
99. (Refused)

NE5. **[ASK IF (ONE OR MORE NE2=1) AND (ONE OR MORE NE2=2)]** Now, think about the combination of all the positive and negative effects that you might expect to receive from the program not including possible energy savings. Would you say that the combination of these effects would overall be positive, negative, or have no effect?

1. Positive effects
2. Negative effects
3. No effect
98. (Don't know)
99. (Refused)

NE6. **[ASK IF NE5=1]** Again, thinking about this combination of all the expected positive and negative effects from the program How would the overall **positive** value of the combination of these effects compare to the value of the expected energy savings? Would the combination of effects have

[IF NEEDED: If you compared the positive and negative impacts that you said that the program had on things other than energy use, would you say that change has much less value, somewhat less value, the same value, somewhat more value or much more value to you than the 10% to 15% energy savings you might receive?]

1. Much less value
2. Somewhat less value
3. Same value
4. Somewhat more value OR
5. Much more value
98. (Don't know)
99. (Refused)

NE7. **[ASK IF NE5=1]** Again, I'd like to ask you to think about how the overall **positive** value of the combination of these effects compares to the value of the expected energy savings.

If you were to estimate its value as a fraction, percentage, or multiple, by about what amount more or less valuable would the combination of effects be? We'd like to know a value relative to the bill savings.

[INTERVIEWER: Encourage respondent to answer in a full sentence]

[IF NEEDED: As an example, is the positive value of the combined effects twice as valuable as the bill savings? One-third as valuable? Another multiplier?]

[IF FURTHER CLARIFICATION NEEDED: If you compared the positive and negative impacts that you said that the program had on things other than energy use, how much more or less value does it have to you than the energy savings you might receive?]

**[NON-NUMERIC OPEN END; RECORD EXACT VERBATIM]**

98. Don't know

99. Refused

NE8. **[ASK IF NE5=2]** Again, thinking about this combination of all the expected positive and negative effects from the program How would the overall negative value of the combination of these effects compare to the value of the expected energy savings? Would the combination of effects have

[IF NEEDED: We are wondering if you think that the 10% to 15% energy savings you might get from the program would be worth the negative impact that you think it would have on all of the other things you mentioned.]

1. Much more negative value than the possible energy savings value
  2. Somewhat more negative value than the possible energy savings value
  3. Same value or balances out the possible energy savings value
  4. Somewhat less negative value than the possible energy savings value
  5. Much less negative value than the possible energy savings value
98. (Don't know)  
99. (Refused)

NE9. **[ASK IF NE5=2]** Again, I'd like to ask you to think about how the overall **negative** value of the combination of these effects would compare to the value of the expected energy savings. If you were to estimate its cost as a fraction, percentage, or multiple, by about what amount more or less **negative** would the value of the combination of effects be? We'd like to know a value relative to the bill savings.

[INTERVIEWER: Encourage respondent to answer in a full sentence]

[IF NEEDED: As an example, is the negative value of the combined effects twice the cost of the bill savings? One-third of the cost? Another multiplier?]

[IF FURTHER CLARIFICATION NEEDED: If you compared the positive and negative impacts that you said that the program would have on things other than energy use, how much more or less value would it have to you than the energy savings you might receive?]

**[NON-NUMERIC OPEN END; RECORD EXACT VERBATIM]**

- 98. Don't know
- 99. Refused

## Financing and Decision-Making

The next few questions focus on how you make decisions about which energy-efficient products to install in your home.

- D1. In the past year, have you made or had any improvements done to your home that were intended to increase its energy efficiency? For example, did you install any energy efficient lighting, add insulation, or purchase energy efficient appliances?
- 1. Yes
  - 2. No
  - 98. (Don't know)
  - 99. (Refused)

- D1a. **[ASK IF D1=1]** What improvements have you made that were intended to increase your home's energy efficiency? **[MULTIPLE RESPONSE; DON'T READ]**
- 1. (Insulation)
  - 2. (Boiler)
  - 3. (Furnace)
  - 4. (Central Air Conditioner)
  - 5. (Windows)
  - 6. (Heat Pump)
  - 7. (Clothes Washers)
  - 8. (Refrigerators)
  - 9. (Light bulbs or lighting equipment)
  - 55. (Other **[SPECIFY]**)
  - 97. (No specific upgrade in mind)
  - 98. (Don't know)
  - 99. (Refused)

**[COMPUTE TWO BINARY VARIABLES [0 OR 1]: IF D1=1, INSTALLER=1; IF D1 > 1, NON\_INSTALLER=1]**

- D2. **[ASK IF INSTALLER=1]** How did you pick which energy efficiency improvements to make?
- [DO NOT READ; MULTIPLE RESPONSE]**
- 1. (Least expensive)
  - 2. (Easiest to install)
  - 3. (Biggest energy/utility bill savers)

- 4. (Easiest to find)
- 55. (Other [Specify])
- 98. (Don't know)
- 99. (Refused)

D3. **[ASK IF NON\_INSTALLER=1]** What are the main reasons why you haven't made any energy efficiency improvements in the past year?

**[DO NOT READ; MULTIPLE RESPONSE]**

- 1. (Too expensive)
- 2. (Too complicated to install)
- 3. (Haven't had time/gotten around to it)
- 4. (Too much of a hassle)
- 5. (Unnecessary)
- 55. (Other [Specify])
- 98. (Don't know)
- 99. (Refused)

D4. **[ASK IF NON\_INSTALLER=1]** Do you have plans to make any home improvements to increase your home's energy efficiency within the next year?

- 1. Yes
- 2. No
- 98. (Don't know)
- 99. (Refused)

D5. **[ASK ALL]** How aware are you of options to help you pay for improvements such as zero- or low-interest financing, on-bill financing, or other loan options that the utility company offers? Would you say...

- 1. Not at all aware
- 2. Somewhat unaware
- 3. Somewhat aware
- 4. Very aware
- 98. (Don't know)
- 99. (Refused)

D6. **[ASK IF D5=3 OR 4]** Why didn't you pursue any of those finance options to make energy saving improvements?

**[DO NOT READ; MULTIPLE RESPONSE]**

- 1. (Too confusing)
- 2. (Would not have been enough money)
- 3. (Do not want debt)
- 4. (Too much of a hassle)
- 5. (Did not have enough for upfront cost)
- 6. (Application not approved)
- 7. (Did not receive audit)
- 55. (Other [Specify])
- 96. (Used utility financing)
- 97. (Did not want to make the improvements anyway)
- 98. (Don't know)
- 99. (Refused)

- D7. **[ASK IF NON\_INSTALLER=1]** If you knew more about the opportunities for zero- and low-interest financing, on-bill financing or other loan options that the utility company offers; would you reconsider moving forward with any energy saving improvements?
1. Yes
  2. No
  98. (Don't know)
  99. (Refused)
- D8. **[ASK IF (D5=1 OR 2) AND INSTALLER=1]** If you knew more about the opportunities for zero- and low-interest financing, on-bill financing or other loan options that the utility company offers; would you have pursued using them for the energy saving improvements you made?
1. Yes
  2. No
  98. (Don't know)
  99. (Refused)
- D9. **[ASK ALL]** How aware are you of the rebates that the utility company offers to help people pay for energy efficiency improvements in their homes? Would you say...
1. Not at all aware
  2. Somewhat unaware
  3. Somewhat aware
  4. Very aware
  98. (Don't know)
  99. (Refused)
- D16. **[ASK IF INSTALLER=1]** Did you utilize any available rebates to help pay for the improvements that you made?
1. Yes
  2. No
  98. (Don't know)
  99. (Refused)

**[IF D16=1, SKIP TO D12]**

- D10. **[ASK IF INSTALLER=1 AND (D9=3 OR 4)]** Why didn't you use the utility rebates to help pay for the improvements that you made?
- [DO NOT READ; MULTIPLE RESPONSE]**
1. (Too confusing)
  2. (Would not have been enough)
  3. (Too much of a hassle)
  4. (Did not have enough for upfront cost)
  5. (Application not approved)
  6. (Upgrade not covered by the program)
  55. (Other [Specify])
  96. (Used utility rebates)
  97. (Did not want to make the improvements anyway)
  98. (Don't know)
  99. (Refused)

- D11. **[ASK IF D9=1 OR 2]** If you knew more about the rebates that are available to help you pay for energy saving improvements, how influential would that have been in your decision to move forward with **[IF INSTALLER=1, “the”; IF NON\_INSTALLER=1, “any”]** work? Please, use a scale from one to five where 1 equals “not at all influential” and 5 equals “very influential.”  
**[NUMERIC 1 TO 5]**  
98. (Don’t know)  
99. (Refused)

**[IF NON\_INSTALLER=1, SKIP TO NEXT MODULE]**

- D12. What were the main reasons you decided to make the improvements that you did?  
**[DO NOT READ; MULTIPLE RESPONSE]**  
1. (Save energy)  
2. (Save money on energy bill)  
3. (Be “green”/help environment)  
4. (Health/safety)  
55. (Other [Specify])  
98. (Don’t know)  
99. (Refused)

- D13. Did you utilize any financing or loan options, such as a home equity loan, to help pay for the improvements that you made?  
1. Yes  
2. No  
98. (Don’t know)  
99. (Refused)

- D14. **[ASK IF D13=1]** Which of the following financing options did you or do you plan to utilize?  
**[READ, RANDOMIZE 1-7, MULTIPLE RESPONSE]**  
1. Residential Energy Efficiency Financing  
2. On-bill financing  
3. Energize CT heating loan  
4. Smart-E loan  
5. Cozy Home Loan  
6. Zero percent payment plan  
7. Financing offered by my contractor  
55. Something else [Specify]  
96. (None)  
98. (Don’t know)  
99. (Refused)

- D17. Using a scale from one to five where 1 equals “not at all important” and 5 equals “very important,” while making your decision to move forward,
- [ASK IF D13=1 OR 2]** How important was the **general** availability of rebates in your decision to move forward?
  - [ASK IF D16=1 OR 2]** How important were **general** financing options in your decision to move forward?
- [NUMERIC 1 TO 5]**
- (Don't know)
  - (Refused)
- D18. **[ASK IF D5>1 OR D9>1 (AWARE)]** Even though you did not use **the utility company** financing and incentive opportunities, how influential was your knowledge of them in your decision to move forward? Please, use a scale from one to five, with 1 indicating “No influence” and 5 indicating “a great deal of influence.”
- [NUMERIC 1 TO 5]**
- (Don't know)
  - (Refused)

## Demographics and Household Characteristics

These last questions are about your home and the people who live in it. Please remember that all your responses will be kept completely confidential. No one will be able to trace your responses back to you personally.

- H1. What is your age? Are you
- 18 to 24 years old
  - 25 to 44 years old
  - 45-64 years old
  - 65 years or older
  - (Don't know)
  - (Refused)
- H2. Do you own or rent your home?
- Own
  - Rent
  - (Don't know)
  - (Refused)
- H3. Which of the following best describes your home? Is it in a **[READ]**
- Single family
  - Two to three family
  - Multifamily with three or more units
  - Townhouse OR
  - Mobile home
  - (Other, [Specify])
  - (Don't know)
  - (Refused)

H4. How long have you lived in your current home or apartment?

1. Less than one year
2. One or two years
3. Three to five years
4. Six to seven years
5. Eight to ten years
6. Eleven to fifteen years
7. Sixteen to twenty years
8. More than twenty years
98. Don't know
99. Refused

H5. What is the highest level of education or schooling you received?

1. Less than a high school diploma
2. High school diploma or GED
3. Some college, but no degree
4. Associate's or technical school degree
5. Bachelor's degree
6. Graduate or professional degree
98. Don't know
99. Refused

## Gift Card Confirmation

GC1. As mentioned at the beginning, as a token of our appreciation, we are offering a \$5 pre-paid gift card for your help in completing this survey. What name and *mailing* address should we use to mail you the gift card?

- a. First name
- b. Last name
- c. Street address
- d. Apartment number, if needed
- e. City
- f. State
- g. Zip Code

**[FOR EACH a-g: NON-NUMERIC OPEN END]**

97. Do not want to be sent gift card
98. Don't know
99. Refused

**[READ IF GC1 <> 97, 98, 99]** The gift card will be mailed to you within 2-4 weeks. Please note that when you receive the gift card, the envelope it will arrive in will have a return address from Great Blue.

**[DON'T ASK BUT RECORD SEX]**

- Female
- Male

Those are all of the questions that I have for you. Thank you so much for your time.

## C.4 HES-IE LANDLORD AND PROPERTY MANAGER INTERVIEW GUIDE

### R4 Connecticut HES-IE Multifamily Landlord Participants In-Depth Interview Guide

#### Background

The team will conduct up to 30 semi-structured qualitative interviews with landlords of multifamily buildings (i.e., more than four units) that participated in HES-IE. Interviews, conducted via telephone, will last 15 minutes or fewer. The interviews will also be used to recruit for the Task 3b: HES-IE Portable Measure On-site Persistence component of this evaluation. For Eversource (formerly CL&P) participants, the team will sample landlords from among the Subprogram 3 participants, whereas for UI participants, the team will identify multifamily landlords based on other identifiers in the data. The interviews will largely result in qualitative findings that will help the team offer context for the findings from quantitative surveys with occupants. This approach assumes that contact information will be available for the landlord or management company that engaged in multifamily services through the HES-IE study.

The team will develop a sample frame of landlords using the HES-IE participation lists. During the interviews, interviewers will also attempt to recruit the interviewees to participate in the study's on-site persistence visits. The questions below are not intended to be asked verbatim but instead to be used as a guide for the interview process. **Interviewees that complete the interview will receive a check for \$50.**

#### Introduction

Interview Details	<i>Attempt to complete fields prior to interview</i>
Interviewer	
Interviewee (Landlord)	
Date of interview	
Utility	
Address(es) of participation	
Number of units/buildings participating	
Types of measures installed ( <i>from program data</i> )	
Rebates and financing used ( <i>from program data</i> )	
Date(s) of participation	

*Prior to beginning interview, confirm that 1) the selected project has five or more units, 2) the project participated, and 3) the interviewee is involved in the decision making for upgrades to the building(s)'s energy-related equipment. If contact person was not involved in decision making, ask for the name and contact info of the person who was. Inform interviewee that his/her responses will be confidential and reported in aggregate. At the start of the interview, ask if the interviewee is willing to be recorded.*

Thank you for agreeing to speak with me today. I would like to ask you about your building(s)'s participation in **[UTILITY]**'s Home Energy Solutions – Income Eligible program. To confirm, I am speaking about the building at **[ADDRESS]** served by this program in the month[s] of **[INSERT DATE(S)]**. Throughout the interview, I will refer to the Home Energy Solutions – Income Eligible Program as *the program*. When I say this, I mean the program in which a representative or vendor working with **[UTILITY]** came to the building and discussed upgrades to help you and your tenants save energy. They may have worked with you to decide which upgrades to adopt and may have provided some of the upgrades for free or reduced the cost by directing you to program incentives.

INT1. My records show that **[number of units]** units in **[number of buildings]** buildings were assessed through the program. Is this correct? *(If not, clarify amount(s))*

INT2. It appears that you had the following types of measures installed through the program: **[list measures]**. Is that correct?

- a. *(If no)* Could you clarify what was actually installed, what was free during the assessment, and what later improvements received support from the program?
- b. Is there anything I'm missing?

## Process

PR1. I'd like to ask you to rate your level of satisfaction with some aspects of the program. You can use a scale of one to five where 1 equals "not at all satisfied" and 5 equals "very satisfied." How satisfied were you with

*(Record number. For any ratings of 1 or 5, probe: Why do you give that rating?)*

- a. The information that **[UTILITY]** provided about the energy savings opportunities associated with the program
- b. The information that **[UTILITY]** provided about the incentives and financing options available from the program
- c. The quality of the audit report that the auditor shared with you
- d. The quality of the free improvements that the auditor made during the energy assessment
- e. The quality of the additional equipment or improvements that received incentives or financing from the program

- f. The energy savings resulting from the program supported improvements
- g. The quality of the contractor's work
- h. Your interactions with that contractor
- i. Your overall experience with the program
  - i. Why do you give the program that overall rating? [*Probe no matter the rating*]

PR2. Do you have any suggestions for ways that the program could improve? Do you have any comments about the program that you would like to make?

## Persistence

- PE1. Have any of the improvements that were made through the program been removed?
- a. Yes
  - b. No (*Go to next section*)
  - c. Don't know (*Go to next section*)
  - d. Refused (*Go to next section*)
- PE2. What was removed? [*Use table below if helpful*](*For each removed measure type*)
- a. Who removed it/them? (e.g., respondent, tenant, owner, property manager)
  - b. Why was it/they removed? (e.g., broken, did not like appearance, worked poorly)
  - c. How many months after it/they were installed were it/they removed?
  - d. Where were they put after they were removed?
  - e. Did you or do you have plans to replace it/them? (*If yes*) What did you/do you plan to do?

Measures	Removed?	Who?	Why?	When?	Replace?
Faucet aerators					
Showerheads					
Light bulbs					
Light fixtures					
Pipe insulation					
Other [specify]					

## Health and Safety

I want to remind you that everything we're discussing is confidential.

HS1. During the energy assessment, did the auditor notice any health and safety problems like gas or carbon monoxide leaks, asbestos or vermiculite insulation, mold, or knob and tube wiring?

- a. Yes
- b. No
- c. Don't know
- d. Refused

*(If b-d, skip to next module.)*

HS2. What did the auditor find? *[check all that apply]*

- a. Gas leak
- b. Carbon monoxide
- c. Asbestos insulation
- d. Vermiculite insulation
- e. Mold
- f. Knob and tube wiring
- g. Other [SPECIFY]

HS3. Did any of these problems initially delay the assessment? *(If yes)* Can you explain what happened?

HS4. Has/have the problem(s) been taken care of since the initial visit?

## Decision Making and Financing

FD1. How did you originally get involved with the program? Did you or your staff contact the utility, did the utility contact you, or did someone else such as a tenant make the contact?

- a. Landlord/management staff contacted the utility
- b. Utility contacted landlord/management staff
- c. Tenant contacted the utility
- d. Other [SPECIFY]

FD2. Why did you/your company want to participate in the program? Were there any challenges or hurdles that you had to overcome in making the decision to participate in the program?

FD3. During or after the audit, what types of measures did you and the auditor discuss installing or conducting in the building(s)? Please name those you discussed even if you did not install them? *[do not read – listed common ones but may be others]*

Measures	Discussed?	Program incentives? (asked after next question)
Air sealing		
Duct sealing		
Insulation		
Boilers		
Furnaces		
Lighting (units/common areas?)		
Water saving measures		
Refrigerators		
Windows		
Heat pump (type?)		
Other [specify]		

FD4. Of the upgrades that the auditor suggested, how did you decide which improvements to make? (*Probe*) What were the most important factors in your decision-making process?

FD5. Did you receive rebates or incentives from the program? (*If yes*) For which measures? [*Use table above*]

FD6. Did the auditor discuss possible ways of financing the measures with you?

- a. If so, what options did you discuss? [PROBE FOR SPECIFICS: Utility/program financing, bank financing outside of the program, other lending sources, grants from foundations, etc.]

FD7. (*If discussed financing*) Did you use any of those financing options?

- a. (*If yes*) Which financing option(s) did you use and for which improvements?
- b. (*If no*) Was there a particular reason why you didn't use any financing options?

FD8. If you were going to make more/any improvements that the contractor recommended, what financing options would you be MOST likely to choose, either those offered through the program or through other entities?

## Net-to-Gross

### Free-ridership – Tier 2 Measures

*(Select a maximum of two measures to ask about; cycle through battery for each.)*

**(Special instruction for insulation:** *Insulation series is below. If they had insulation installed, always include it as one of the two measures you ask about.*

- FR1. Prior to taking part in the program, had you considered installing this measure in any of your units in this building?
- Yes
  - No *(Go to next section)*
  - Don't know *(Go to next section)*
  - Refused *(Go to next section)*
- FR2. *(If yes)* Did you have specific plans to install this measure prior to taking part in the program? *[If no to this question, skip battery; will not be considered a free rider.]*
- Yes
  - No *(Go to next section)*
  - Don't know *(Go to next section)*
  - Refused *(Go to next section)*
- FR3. If you had not participated in the program, please think about how your decisions might have changed regarding installation of the [MEASURE]
- Number of units OF THE MEASURE installed
    - Installed none *[If this, mark for all and go to instructions at end of this section]*
    - Installed fewer *[Probe for number or percentage fewer]*
    - Installed same number
    - Installed more *[Probe for number or percentage more]*
  - Number of HOUSING UNITS receiving the measure *[skip for common area measures such as common area lighting].*
    - Installed in no housing units *[If selected for b but not a, ask respondent to clarify]*
    - Installed in fewer housing units *[Probe for number or percentage fewer]*
    - Installed the same number of housing units
    - Installed in more housing units more *[Probe for number or percentage more]*

- c. Level of efficiency installed
  - i. Installed none
  - ii. Installed a lower level of efficiency [*Probe for efficiency level, or approximate*]
  - iii. Installed same level of efficiency
  - iv. Installed a higher level of efficiency [*Probe for efficiency level, or approximate*]
  
- d. Timeline of installation? [*Which best fits*]
  - 1. Would have purchased sooner
  - 2. Postponed purchase or installation by three months
  - 3. Postponed purchase or installation by six months
  - 4. Postponed purchase or installation by a year
  - 5. Postponed purchase or installation more than one year

INSTRUCTIONS: If second measure *THAT IS NOT INSULATION* and *TIME ALLOWS*, repeat series asking about second measure then continue to SPILLOVER. IF *INSULATION*, continue to FREE RIDERSHIP – INSULATION. IF *NO INSULATION*, continue to SPILLOVER,

### Free ridership – Insulation

*(Skip sub-section if they did not install insulation.)*

- FRI1. If you had not participated in the program, would you have installed any insulation in this building?
- a. Yes
  - b. No (*Go to next section*)
  - c. Don't know (*Go to next section*)
  - d. Refused (*Go to next section*)
- FRI2. Would you have installed the same type of insulation?
- a. Yes
  - b. No (*Probe for type they would have installed*)
  - c. Don't know
  - d. Refused
- FRI3. Would you have installed less insulation, the same amount, or more?
- FRI4. [*If would have installed less or more*] You say that you would have installed [LESS/MORE] insulation? Can you explain what you mean by that? [*Probe regarding depth of insulation, resulting R-value, area of the building(s) served, etc. Especially ask if they have any idea of what the R-value would have been if they had not gone through the program. Unlikely they will know but we should ask*]

FRI5. Would you have installed the insulation later, about the same time, or earlier than you did? Specifically

1. Would have purchased sooner
2. Postponed purchase or installation by three months
3. Postponed purchase or installation by six months
4. Postponed purchase or installation by a year
5. Postponed purchase or installation more than one year

**Spillover**

SO1. Have you made any additional energy-saving improvements that did NOT receive incentives or support from this program since having your building served by the program? This could be in the building that participated in the program or other buildings that you own or manage in Connecticut.

- a. Yes
- b. No (*Go to next section*)
- c. Don't know (*Go to next section*)
- d. Refused (*Go to next section*)

SO2. What was done after the assessment? [*Do not read – list below includes common measures*]

SO3. Did you receive any grants, financing, or other financial assistance in funding the installation of these measures? [*If yes*] From whom did you receive this assistance?

SO4. How influential was participating in the [UTILITY] program on your/their decision to make the energy saving improvements? Please base your answer on scale of 1 to 5, with 1 indicating “No influence” and 5 indicating “had a great influence.” Why do you give that rating?

SO5. Was there a particular reason why you did not go through the [UTILITY] program for this improvement? (*If yes, probe*)

Measures	Installed outside of program?	This site/ other sites/ both?	Any/type financial assistance?	Program influence rating
Air sealing				
Duct sealing				
Insulation				

Boilers				
Furnaces				
Lighting (units/common areas?)				
Water saving measures				
Refrigerators				
Windows				
Heat pump (type?)				
Other [specify]				

## Non-Energy Impacts

Let's talk about various factors that may have influenced your decision to participate.

- NE1. Usually, property owners or managers weigh the importance of expected savings to themselves and their tenants. On a scale of 1 to 5 where 1 equals "not at all important" and 5 equals "very important," how important were the savings that you expected in your overall building energy bill in your decision to participate? What about the importance of the savings your tenants were expected to experience? (Get rating for both)
- a. At the time that the utility gave you an estimate of the expected savings your overall building energy bill, how accurate did you think that estimate was?
  - b. Did you think the actual savings would be higher or lower?
    - i. (If different) What percentage lower/higher than the utility representative's estimate did you think the savings would have been? [CLARIFY HIGHER OR LOWER THAN THEY ESTIMATED]
    - ii. How did you factor this difference in what you expected versus what the utility expected into your expected return on investments in these energy savings upgrades?
- NE2. Let's talk about any rebates, reduced prices, or "deals" that the utility offered on the measures installed in your units. On a scale of 1 to 5 where 1 equals "not at all important" and 5 equals "very important," how important were the rebates in your decision to participate?
- a. Can you describe how you factored rebates into your consideration about the expected return on investments in these energy savings upgrades?
  - b. How if it at all, did this vary by measure type?
- NE3. Now, let's think about the non-energy impacts of having your units served by the program. For example, non-energy impacts might include the comfort of the residents, a need for outreach and marketing, tenant complaints, payment of rent,

the amount of other bills (e.g., water bills), safety, property value or the ability to sell units/building.

- a. On a scale of 1 to 5 where 1 equals “not at all important” and 5 equals “very important,” how important were the non-energy benefits you expected to experience in your decision to participate? What about the benefits your tenants were expected to experience? (Get rating for both and probe for ratings for particular NEIs)
- b. What were some of the benefits that the utility discussed with you?
- c. Do you think that the benefits you actually achieved have been more, less, or about equal to what the utility said you could expect?
- d. Why do you say this?
- e. What about possible drawbacks? Did the utility discuss any with you?
  - iii. (If yes) Do you think the drawbacks have actually been more, less, or about equal to what the utility representative said you could expect? Why do you say this?
- f. Can you describe how you factored these non-energy benefits and drawbacks into your considerations about the expected return on investments in these energy savings upgrades?

NE4. We'd like to know if there were any *actual* non-energy benefits or drawbacks after having your building(s) served by the program. Did the program have a positive effect, negative effect, or no effect on

- c. The comfort of the residents
- d. Operations and maintenance
- e. Tenant complaints
- f. Payment of rent
- g. The amount of other bills (e.g., water bills)
- h. Safety from improved lighting
- i. Safety from other improvements or new equipment
- j. Property value or the ability to sell units/building

NE5. Are you aware if there were any other benefits or drawbacks that I didn't mention? (if yes, probe for details and clarify positive vs. negative)

NE6. **[ASK FOR EACH POSITIVE]** How does the value of the positive effect on **[NEI]** compare to the value of the expected energy savings? Does the positive effect have

1. Much less value
2. Somewhat less value
3. Same value
4. Somewhat more value OR
5. Much more value?

NE7. **[ASK FOR EACH NEGATIVE]** How does the value of the negative effect on **[NEI]** compare to the value of the expected energy savings? Does the negative effect have

1. Much more negative value than the possible energy savings value
2. Somewhat more negative value than the possible energy savings value
3. Same value or balances out the possible energy savings value
4. Somewhat less negative value than the possible energy savings value
5. Much less negative value than the possible energy savings value

NE8. Now, think about the positive and negative effects all together , not including possible energy savings. Would you say that the overall net effect of the combination of these effects is positive, negative, or balanced out?

1. Net positive effects
2. Net negative effects
3. Balanced out (positives cancel the negative)

NE9. *[Ask if combination of effects is positive]* Again, thinking about this combination of all the positive and negative effects from the program How does the overall positive value of the combination of these effects compare to the return on your investment? Does the combination of effects have

[IF NEEDED: If you compared the positive and negative impacts that you said that the program had on things other than energy use, would you say that change has much less value, somewhat less value, the same value, somewhat more value or much more value to you than the return on your investment?]

1. Much less value
2. Somewhat less value
3. Same value
4. Somewhat more value OR
5. Much more value

NE10. *[Ask if combination of effects is positive]* If you were to estimate its value as a fraction, percentage, or multiple, by about what amount more or less valuable is the combination of effects? We'd like to know a value relative to the bill savings.

[IF NEEDED: As an example, is the positive value of the combined effects twice as valuable as the bill savings? One-third as valuable? Another multiplier?]

NE11. *[Ask if combination of effects is negative]* Again, thinking about this combination of all the positive and negative effects from the program How does the overall negative value of the combination of these effects compare to the value of the expected energy savings? Does the combination of effects have

[IF NEEDED: We are wondering if you think that the energy savings you might get from the program were worth the negative impact that you think it had on all of the other things you mentioned.]

1. Much more negative value than the possible energy savings value
2. Somewhat more negative value than the possible energy savings value
3. Same value or balances out the possible energy savings value
4. Somewhat less negative value than the possible energy savings value
5. Much less negative value than the possible energy savings value

NE12. *[Ask if combination of effects is negative]* If you were to estimate its cost as a fraction, percentage, or multiple, by about what amount more or less negative is the value of the combination of effects? We'd like to know a value relative to the bill savings.

[IF NEEDED: As an example, is the negative value of the combined effects twice the cost of the bill savings? One-third of the cost? Another multiplier?]

## Firmographics

I have just a few more questions for you.

FM1. How many employees are in your company?

FM2. How many buildings with five or more units do you manage/own in Connecticut?

FM3. How many units in total are in those/the building(s)?

FM5. [If more than one building] In what parts of Connecticut are your properties?

**COLLECT ADDRESS FOR MAILING \$50 CHECK BEFORE READING RECRUITMENT SCRIPT**

## Recruitment

*Notes for Interviewer in case Respondent asks: The on-site engineer will need to be accompanied by someone with access to the all units in the building. The engineer will have a pre-arranged list of units to visit including reserves in case of vacancies or no access. The tenants will only receive an incentive if they are present to answer a short survey. In each visited unit, the engineer will primarily be recording the quantity and applicable nameplate information for the products installed through the program. The engineer will take applicable photos with the tenant's approval.*

Those are all of the questions that I have for you about the program. In the next few weeks, our research team is also conducting some site visits at a select number of buildings that participated in the program to see how many measures remain in place in common areas and in a subset of housing units and to understand any reasons for removals. For each property manager that participates, we will be able to provide a \$100 Visa® Gift Prepaid Card or \$100 to you or a charity of your choice. We will also offer a \$25 Visa® Gift Prepaid Card for tenants who are present during the visit and are able to answer a short survey. The visits would last between 20 and 30 minutes for each unit.

- R1. Would you or your company/organization be interested in this? It would really help [UTILITY] in their future program planning.
- R2. (If yes) We would need to be able to enter at least 5-10 units. Would that be possible? (If not, thank and explain that they are not eligible.)
- R3. (If eligible) Excellent! Someone from The Cadmus Group, a member of our research team, will contact you/them within the next few weeks to schedule an appointment. We will also provide you with an [UTILITY] approved letter to leave with your tenants to inform them of our planned site visits. (Confirm the best way to contact.)

On behalf of [UTILITY], thank you so much for your time today.

### **Additional background on entering tenant units:**

*There is clear state law in Connecticut about when a landlord can enter a tenant unit (section Sec. 47a-16 of the Rights and Responsibilities of Tenants and Landlords). These are the situations in which a landlord can enter:*

1. *to enter without advanced notice:*
  - o *landlord has reasonable cause to believe there is an emergency; does not need to provide advance notice*
  - o *if the tenant is away for an extended period of time for a vacation, etc. An emergency is not needed for them to enter.*
  - o *Court order*
  - o *Tenant has abandoned property*
2. *Enters with advance notice:*
  - o *landlord gives written or oral advance notice to the tenant that they will enter the apartment. Notice must be given at least 48 hrs in advance. After providing advance notice, if tenants are not home at the time of entry, landlord can enter but has to leave a written note describing why entered and when*

3. *One other possibility: an individual's lease might grant permission to a landlord to enter without consent*

## C.5 ON-SITE PERSISTENCE VISIT DATA COLLECTION FORM

### Home Energy Services – Income-Eligible: Multifamily Site Visit Protocol

#### Program Background

Through the HES-IE program, the majority of homes received a set of core measures installed at the time of an in-home audit, including compact fluorescent light bulbs (CFLs), hot-water savings measures (e.g., faucet aerators, low-flow showerheads), and air and duct sealing. The program has add-on measures (identified as audit recommendations) that are installed in HES-IE homes at no cost to the participant (although landlords often are subject to co-pays).

#### General On-Site Protocols

##### Preparation for the Site Visit

- Call the landlord before visit
  - Call either the night before or at least 30 minutes prior to visit. Establish familiarity and ensure landlord is available and prepared. Always be courteous when speaking with the landlord and tenants.
- Call ahead if running late or need to reschedule.
  - Check that you have all necessary gear: iPad, ladder, tools, camera, gift cards
- Record gift card number with recipient's name (important if issues arise and charges need to be viewed or the card canceled).

##### Appearance

- Wear a collared shirt with the Cadmus logo (if available). Jeans/work pants are acceptable (no holes/rips); no shorts. Tuck in shirt and look otherwise presentable and wear ID badge during site visits.
- Be courteous and professional.

##### Arrival at the Site

- Clearly communicate to landlord or tenant:
  - Who you are and who you work for
    - e.g.: "Hi I'm \_\_\_\_\_ representing [Eversource or UI] Energy, I spoke with you earlier on the phone, I'm here to verify measures installed in your building"
  - Convey why you are there and how long you expect to be there

- Display badge.
- Do not enter the home unless the homeowner appears comfortable with you doing so.
- Give a business card and explain what you will be doing during the site visit .
  - The tenant will have already received a letter explaining who Cadmus is and why the utilities are conducting site visits.
- Ask if they have any questions or concerns.

### Safety

- Always use common sense.
- Leave the site visit if you encounter:
  - Unaccompanied minors
  - Drugs
  - Weapons
  - Confrontational/aggressive occupants
  - Aggressive dogs
  - Severely ill occupants
- Be careful when
  - Working around electric outlets (electrical and trip hazards)
  - Carrying and climbing on ladders
  - Moving furniture, fixtures or fixture covers (always ask homeowner first)
- If you're unsure about a situation call your project lead or manager.

### On-Site Protocol

- Always ask for permission from the tenant before you begin the examination for measures or photographing installed measures.
- Leave everything as you found it.
  - Turn off lights if they were off originally.
  - Replace furniture if moved.
  - Close doors if opened
- Use your own equipment:
  - Ladder (purchase step ladder)
  - Tools
- If damage to home occurs, use your judgment.
  - ALWAYS notify Mike Vehar or Scott Reeves.
  - If small: e.g. ding in drywall, offer an extra gift card to compensate homeowner (document in your notes).
  - If large: e.g. damaged fixture or lamp, call your manager and assess, be proactive, DO NOT leave without taking steps to resolve the issue.

- Be courteous and avoid controversial conversation topics – talk about the weather or your travel to the site!
- Answer any questions homeowner may have about what you are doing .

### **Complete the Site Visit**

- Collect all tools and equipment.
  - Explain any necessary follow up and who to call if any issues arise.
- Ask the tenant if they are willing to answer some questions in return for a \$25 Visa® Prepaid Card. The interview will take 5-15 minutes.

### **Measure Verification**

During Cadmus' site visits, our primary goal is to verify the presence of the installed measures. The data collection iPad tool contains the quantities per unit installed by HES-IE contractor. Residents may not have knowledge of which specific measures were installed in their house during the HES-IE audit. Here are a few basic guidelines while on site:

- Ask the resident or property manager specific questions for each measure to help differentiate an existing lamp or showerhead from one installed under the program.
- If a measure was removed by the resident after the HES-IE audit, record that the measure was removed by resident.
- If you are unable to verify the presence of the measures or are unsure of the true quantity installed through the HES-IE audit program, take notes on the situation.
- Field staff will be sensitive in cases where measures are missing and convey that any answer is acceptable and everything they say is confidential (e.g., selling on eBay).
- For interviews, we will want to talk to tenants alone to make sure they are comfortable and provide anonymous responses.

### **CFLs and LEDs (photograph lamps' make and model)**

Verifying program CFLs and LEDs from other non-program CFLs and LEDs may be difficult on-site. Prompt the resident or property manager on where the HES-IE audit personnel was in the home to help determine which lamps are program CFLs or LEDs. CFLs and LEDs are a major energy saver for this program so take extra care in verifying quantities. While on site:

- Record how many program CFLs/LEDs were installed in each room type: living, kitchen, bath, bedroom, or specify other room type.
- Record how many program CFLs/LEDs are in storage.
- Record how many program CFLs/LEDs are uninstalled.
- Follow up with occupant regarding reasons for removal.

**Faucet Aerators (photograph installation)**

During the site visit:

- Verify and record the number of program faucet aerators installed by each room type: kitchen, bath, utility room, etc.
- Record how many program aerators are uninstalled and follow up with occupant regarding reasons for removal.

**Showerheads (photograph installation)**

During the site visit:

- Verify and record the number of program showerheads installed by primary shower, secondary shower or third shower.
- Record how many program showerheads are uninstalled and follow up with occupant regarding reasons for removal.

**Air Conditioners (photograph installation and nameplate)**

During the site visit:

- Verify and record the program air conditioning unit if listed in the iPad. Make sure the make and model match what is listed in the iPad from the tracking data, if available.
- If applicable, follow up with occupant regarding reasons for removal.

**Refrigerators (photograph installation and nameplate)**

During the site visit:

- Verify and record the program refrigerator if listed in the iPad. Make sure the make and model match what is listed in the iPad from the tracking data, if available.
- If applicable, follow up with occupant regarding reasons for removal.

## On-Site Interview

### Lighting - CFLs

**A1.** Our records show that the energy technician installed **[CFL COUNT] new energy-saving CFL bulbs**. We verified that **[VERIFIED CFL COUNT]** energy-saving CFL bulbs are currently installed and operable in your home. Are all of the bulbs we counted today the same energy-saving CFL bulbs the energy technician installed previously?

1. Yes **[IF CFL COUNT = VERIFIED CFL COUNT, SKIP TO A8, ELSE SKIP TO 0]**
2. No
3. I didn't receive new light bulbs **[SKIP TO 0]**
- 98. DON'T KNOW **[SKIP TO 0]**
- 99. REFUSED **[SKIP TO 0]**

**A2. [ASK IF 0 = 2]** How many of the **[VERIFIED CFL COUNT]** energy-saving CFL bulbs were installed by someone other than the technician (This may include yourself, your landlord, or the previous tenant)?

**[RECORD NUMBER VERBATIM; dk=Don't know]** \_\_\_\_\_

**A3. [ASK IF 0 = 1 AND CFL COUNT > VERIFIED CFL COUNT]** Our records show that the technician installed more CFL bulbs than those we could verify during our visit today. Did you remove the **[CFL COUNT – VERIFIED CFL COUNT]** CFL bulb(s) that the technician installed? **[DO NOT READ LIST]**

4. Yes
5. No **[SKIP TO 0]**
3. Someone else removed them
4. They were never installed/the number in the records is wrong
5. I only removed some of them
- 98. DON'T KNOW **[SKIP TO 0]**
- 99. REFUSED **[SKIP TO 0]**

**A4. [ASK IF 0 = 5]** How many CFL bulbs did you take out or replace?

**[RECORD NUMBER VERBATIM; DK=DON'T KNOW]** \_\_\_\_\_

**A5. [ASK IF 0 = 1 OR 5]** Why did you remove those CFL bulb(s) [DO NOT READ LIST, ALLOW UP TO 3 RESPONSES]?

QTY: \_\_\_\_\_ REASON: \_\_\_\_\_

QTY: \_\_\_\_\_ REASON: \_\_\_\_\_

QTY: \_\_\_\_\_ REASON: \_\_\_\_\_

- 6. Burned out/stopped working
- 7. Bulb is too bright/not bright enough
- 8. Delay in light coming on
- 9. Doesn't fit properly or stuck out of fixture
- 10. Did not work with dimmer or 3-way switch
- 11. No savings/savings not obvious
- 12. Safety concern
- 13. Flicker
- 14. Light color
- 15. Interference with radio, TV, other electronic devices
- 16. Landlord removed them
- 17. **OTHER [SPECIFY]**
- 98. DON'T KNOW
- 99. REFUSED

**A6. [ASK IF 0 = 1]** When you removed the CFL bulb(s) that were installed by the technician, what did you do with them? [DO NOT READ LIST; IF THEY CANNOT REMEMBER THEN PROBE GENTLY AND MAKE SURE THEY FEEL COMFORTABLE TELLING YOU THE TRUTH]

- 18. Threw them away
- 19. Recycled them
- 20. Gave them to someone else
- 21. Sold them to someone else
- 5. **OTHER [SPECIFY]**
- 98. DON'T KNOW
- 99. REFUSED

**A7. [ASK IF 0 = 1]** When you removed the CFL bulb(s) did you replace **[IT/THEM]** with another energy-saving CFL bulb or with a regular light bulb? **[DO NOT READ LIST]**

- 6. Energy-saving CFL bulb **[CONFIRM CFL INSTALLATION]**
- 7. Energy-saving LED bulb **[CONFIRM LED INSTALLATION]**
- 8. Regular light bulb (incandescent or halogen)
- 9. Both energy saving bulbs and regular bulbs
- 10. Other **[SPECIFY]**
- 11. Did not replace
- 98. DON'T KNOW
- 99. REFUSED

**Lighting - LEDs**

**A8.** Our records show that the energy technician installed **[LED COUNT]** new energy-saving LED bulbs. We verified that **[VERIFIED LED COUNT]** energy-saving LED light bulbs are currently installed and operable in your home. Are all of the bulbs we counted today the same energy-saving LED light bulbs the energy technician installed previously?

- 12. Yes **[IF LED COUNT = VERIFIED LED COUNT, SKIP TO A15, ELSE SKIP TOA10]**
- 13. No
- 14. I didn't receive new light bulbs **[SKIP TO 015]**
- 98. DON'T KNOW **[SKIP TO 015]**
- 99. REFUSED **[SKIP TO 015]**

**A9. [ASK IF A8 = 2]** How many of the **[VERIFIED LED COUNT]** energy-saving LED bulbs were installed by someone other than the technician (This may include yourself, your landlord, or the previous tenant)?

[RECORD NUMBER VERBATIM; dk=Don't know]\_\_\_\_\_

**A10. [ASK IF 0 = 1 AND LED COUNT > VERIFIED LED COUNT]** Our records show that the technician installed more LED bulbs than those we could verify during our visit today. Did you remove the **[LED COUNT – VERIFIED LED COUNT]** LED bulb(s) that the technician installed? **[DO NOT READ LIST]**

- 15. Yes
- 16. No **[SKIP TO 0]**
- 3. Someone else removed them
- 4. They were never installed/the number in the records is wrong
- 5. I only removed some of them
- 98. DON'T KNOW **[SKIP TO 0]**
- 99. REFUSED **[SKIP TO 0]**

**A11. [ASK IF 010 = 5]** How many LED bulbs did you take out or replace?

**[RECORD NUMBER VERBATIM; DK=DON'T KNOW]** \_\_\_\_\_

**A12. [ASK IF A10 = 1 OR 5]** Why did you remove those LED bulb(s) [DO NOT READ LIST, ALLOW UP TO 3 RESPONSES]?

QTY: \_\_\_\_\_ REASON: \_\_\_\_\_

QTY: \_\_\_\_\_ REASON: \_\_\_\_\_

QTY: \_\_\_\_\_ REASON: \_\_\_\_\_

- 17. Burned out/stopped working
- 18. Bulb is too bright/not bright enough
- 19. Delay in light coming on
- 20. Doesn't fit properly or stuck out of fixture
- 21. Did not work with dimmer or 3-way switch
- 22. No savings/savings not obvious
- 23. Safety concern
- 24. Flicker
- 25. Light color
- 26. Interference with radio, TV, other electronic devices
- 27. Landlord removed them
- 28. **OTHER [SPECIFY]**
- 98. DON'T KNOW
- 99. REFUSED

**A13. [ASK IF 010 = 1]** When you removed the LED bulb(s) that were installed by the technician, what did you do with them? [DO NOT READ LIST; IF THEY CANNOT REMEMBER THEN PROBE GENTLY AND MAKE SURE THEY FEEL COMFORTABLE TELLING YOU THE TRUTH]

- 29. Threw them away
- 30. Recycled them
- 31. Gave them to someone else
- 32. Sold them to someone else
- 33. OTHER [SPECIFY]
- 98. DON'T KNOW
- 99. REFUSED

**A14. [ASK IF A10 = 1]** When you removed the light bulb(s) did you replace [IT/THEM] with another energy-saving LED bulb or with a regular light bulb? [DO NOT READ LIST]

- 34. Energy-saving CFL bulb [CONFIRM CFL INSTALLATION]
- 35. Energy-saving LED bulb [CONFIRM LED INSTALLATION]
- 36. Regular light bulb (incandescent or halogen)
- 37. Both energy saving bulbs and regular bulbs
- 38. Other [SPECIFY]
- 39. Did not replace
- 98. DON'T KNOW
- 99. REFUSED

**Efficient-flow Showerheads**

**A15.** Our records show that the energy technician installed [SH COUNT] new energy-saving showerhead(s). We verified that [VERIFIED SH COUNT] energy-saving showerhead(s) are currently installed and operable in your home. Are all of the showerhead(s) we counted today the same energy-saving showerhead(s) the energy technician installed previously?

- 40. Yes [IF SH COUNT = VERIFIED SH COUNT, SKIP TO A22, ELSE SKIP TO 0]
- 41. No
- 42. I didn't receive new showerhead(s) [SKIP TO 0]
- 98. DON'T KNOW [SKIP TO 0]
- 99. REFUSED [SKIP TO 0]

**A16. [ASK IF 0 = 2]** How many energy-saving showerhead(s) were installed by someone other than the technician?

[RECORD NUMBER VERBATIM; dk=Don't know]\_\_\_\_\_

**A17. [ASK IF A15 = 1 AND SH COUNT > VERIFIED SH COUNT]** Our records show that the technician installed more showerheads than those we could verify during our visit today. Did you remove the **[SH COUNT – VERIFIED SHCOUNT]** showerhead(s) that the technician installed? **[DO NOT READ LIST]**

- 43. Yes
- 44. No **[SKIP TO 0]**
- 45. Someone else removed them
- 46. They were never installed/the number in the records is wrong
- 47. I only removed some of them
- 98. DON'T KNOW **[SKIP TO 0]**
- 99. REFUSED **[SKIP TO 0]**

**A18. [ASK IF 0 = 5]** How many showerhead(s) did you remove?

**[RECORD NUMBER VERBATUM]** \_\_\_\_\_

**A19. [ASK IF 0 = 1 OR 5]** Why did you remove those showerhead(s) **[DO NOT READ LIST, ALLOW UP TO 3 RESPONSES]**?

- 48. Broke/stopped working
- 49. Pressure too light/too hard
- 50. Delay in turning on
- 51. Doesn't fit properly
- 52. No savings/savings not obvious
- 53. Safety concern
- 54. Landlord removed them
- 55. **OTHER [SPECIFY]**
- 98. DON'T KNOW
- 99. REFUSED

**A20. [ASK IF 0 = 1]** When you removed or replaced the showerhead(s), can you remember what happened to them? **[DO NOT READ LIST; IF THEY CANNOT REMEMBER THEN PROBE GENTLY AND MAKE SURE THEY FEEL COMFORTABLE TELLING YOU THE TRUTH]**

- 56. Threw them away
- 2. Gave them to someone else
- 3. Sold them to someone else
- 4. Other **[SPECIFY]**
- 98. DON'T KNOW
- 99. REFUSED

**A21. [ASK IF 0 = 1]** When you removed the showerhead(s) did you replace **[IT/THEM]** with another energy-saving showerhead or with a regular showerhead? **[DO NOT READ LIST]**

- 57. Energy-saving showerhead **[CONFIRM SH INSTALLATION]**
- 58. Regular showerhead
- 59. Other **[SPECIFY]**
- 60. Did not replace
- 98. DON'T KNOW
- 99. REFUSED

### Faucet Aerators

**A22.** Our records show that the energy technician installed **[FA COUNT]** new energy-saving faucet aerator(s). We verified that **[VERIFIED FA COUNT]** energy-saving faucet aerator(s) are currently installed and operable in your home. Are all of the faucet aerator(s) we counted today the same energy-saving faucet aerator(s) the energy technician installed previously?

- 61. Yes **[IF FA COUNT = VERIFIED FA COUNT, SKIP TO A28, ELSE SKIP TO 0]**
- 62. No
- 63. I didn't receive new faucet aerator(s) **[SKIP TO ERROR! REFERENCE SOURCE NOT FOUND.8]**
- 98. DON'T KNOW **[SKIP TO Error! Reference source not found.8]**
- 99. REFUSED **[SKIP TO Error! Reference source not found.8]**

**A23. [ASK IF 0 = 2]** How many energy-saving faucet aerator(s) were installed by someone other than the technician?

[RECORD NUMBER VERBATIM; dk=Don't know]\_\_\_\_\_

**A24. [ASK IF A22 = 1 AND FA COUNT > VERIFIED FA COUNT]** Our records show that the technician installed more faucet aerators than those we could verify during our visit today. Did you remove the **[FA COUNT – VERIFIED FA COUNT]** faucet aerator(s) that the technician installed? **[DO NOT READ LIST]**

- 64. Yes
- 65. No **[SKIP TO ERROR! REFERENCE SOURCE NOT FOUND.8]**
- 66. Someone else removed them
- 67. They were never installed/the number in the records is wrong
- 68. I only removed some of them
- 98. DON'T KNOW **[SKIP TO Error! Reference source not found.8]**
- 99. REFUSED **[SKIP TO Error! Reference source not found.8]**

**A25. [ASK IF A24 = 5]** How many faucet aerator(s) did you remove or replace?

**[RECORD NUMBER VERBATUM]**\_\_\_\_\_

**A26. [ASK IF A24 = 1 OR 5]** Why did you remove those faucet aerator(s) [DO NOT READ LIST, ALLOW UP TO 3 RESPONSES]?

- 69. Broke/stopped working
- 70. Pressure too light
- 71. Pressure too hard
- 72. Delay in turning on
- 73. Doesn't fit properly
- 74. No savings/savings not obvious
- 75. Safety concern
- 76. Landlord removed them
- 77. **OTHER [SPECIFY]**
- 98. DON'T KNOW
- 99. REFUSED

**A27. [ASK IF 0 = 1]** When you removed the faucet aerator(s), can you remember what happened to them? [DO NOT READ LIST; IF THEY CANNOT REMEMBER THEN PROBE GENTLY AND MAKE SURE THEY FEEL COMFORTABLE TELLING YOU THE TRUTH]

- 78. Threw them away
- 2. Gave them to someone else
- 3. Sold them to someone else
- 4. Other **[SPECIFY]**
- 98. DON'T KNOW
- 99. REFUSED

### Refrigerators

**A28. [ASK IF REFCOUNT > 0]** Our records show that the energy technician installed a new refrigerator(s). Do you remember this work?

- 79. Yes, I remember the energy technician replacing my refrigerator(s).
- 80. No, I don't remember the energy technician replacing my refrigerator(s).
- [THANK YOU AND END SURVEY]**
- 98. DON'T KNOW **[THANK YOU AND END SURVEY]**
- 99. REFUSED **[THANK YOU AND END SURVEY]**

**A29.** Before it was replaced, was your old refrigerator working properly?

- 81. Yes, it worked fine.
- 82. It worked but had problems.
- 83. No, it did not work at all.
- 98. DON'T KNOW
- 99. REFUSED

**Auditor Notes:**

- If you find that tenants are not aware of how measures were removed, please ask the landlord/property manager/building staff about this when you have left the tenant's apartment.
- Please note if you find the systematic removal of any of the direct install measures across the units in this building. After reviewing the data and notes, we may follow up with a phone call to the landlord to find out what happened to the measures.

C.6 VENDOR INTERVIEW GUIDE

R4/R151/157: HES/HES-IE Vendor Interview Guide

R151/R157 Modules

Interviewer: \_\_\_\_\_  
Date of Interview: \_\_\_\_\_  
Time Begun \_\_\_\_\_ Time Ended \_\_\_\_\_  
Respondent Name: \_\_\_\_\_  
Respondent Title: \_\_\_\_\_  
Phone Number(s): \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

[NOTE: NOT MEANT TO BE READ VERBATIM BUT AS ROUGH GUIDE]

Thank you for taking the time to talk with me today about [UTILITY NAME]'s the HES/HES-IE program. The EEB is interested in obtaining feedback from program vendors who have direct experience with the program. Your input will help identify the strengths and challenges with the program. Our interview for today has a particular focus on program practices related to three specific measures: specific measures: air sealing, duct sealing, and insulation. We also have some specific questions regarding the program as it relates to multifamily properties.

Does your company serve multifamily properties through HES/HES-IE? Are you the appropriate person with speak with about specific issues related to multifamily properties? [IF THEY SERVE MULTIFAMILY PROPERTIES, BUT THE INDIVIDUAL IS NOT THE APPROPRIATE PERSON GET CONTACT INFORMATION AND SKIP MULTIFAMILY QUESTIONS]

We also have some additional questions about customers' financing and decision-making, non-energy impacts, and potential market effects. If time allows, we can cover those at the end or schedule a separate time to cover those questions. Are you the appropriate person to discuss these issues? [IF NO, GET CONTACT INFORMATION]

We are offering a \$50 check for your time. The interview will take about 45 minutes to an hour. We can complete the interview now or schedule it for another time.

The information you provide will be treated as confidential. That is, I will not identify you or your responses individually; the information that you provide will be combined with

observations from other individuals and organizations and the results will be reported in aggregate.

Before we start, do you have any questions? I would like to record the interview so that I am sure to capture everything you say. Is that OK?

**R151/R157 – Respondent and Program Background**

- @\*R1. Are you involved with **both** the Home Energy Solutions program for market-rate customers and the Home Energy Solutions Income Eligible program? (IF NO, CLARIFY)
- a. IF YES: Thinking of HES and HES-IE combined, about what percentage of your work is in HES and what percentage is in HES-IE? Is this percentage share of your HES vs HES-IE work, the same for single family and multifamily properties?
  - b. IF NO: About what percentage of your multifamily work is in HES and what percentage is in HES-IE? And about what percentage of your single family work is in HES and what percentage is in HES-IE?

@\*R2. What are your specific responsibilities for the HES/HES-IE program, including administrative responsibilities?

- \*R3. Could you describe how the HES/HES-IE program works as a whole? SPECIFIC PROBES/ISSUES:
- a. Participants, with attention to underserved populations
  - b. Role of vendors
  - c. Measures recommended and installed
  - d. Working with utilities, customers, landlords
  - e. QA/QC
  - f. Marketing
  - g. Evaluation

\*R4. Is the process different for single-family vs. multifamily properties? In what way?

\*R5. Are you aware of the Multifamily Initiative that is a separate initiative of the utilities that combines HES / HES-IE and C&I programs to specifically focus on meeting the needs of multifamily (those with more than four units) properties? IF YES: Do you have to do anything different as part of the Multifamily Initiative?

**R151/R157 – Program Administration**

- @P1. Overall, how satisfied are you with your experience of working with the HES / HES-IE program?
- a. Why do you say that?
  - b. How does this differ by single family vs. multifamily properties?
  - c. IF AWARE OF MULTIFAMILY INITIATIVE: Is this any different with regard to your experience with the Multifamily Initiative?

- \*P2. Could you describe the interaction and communication between the utility and your organization (vendor staff)?
  - a. How closely do you work with utility staff members?
  - b. How frequently are you in communication? Have there been any breakdowns in communications? If so, how were they resolved and what steps have been taken to avoid future breakdowns?
  - c. Are current interactions adequate? Why or why not?
  - d. How can interactions/communication be improved?
  
- \*P3. How do you exchange applications, work orders, invoices, or other information with the utilities?
  - a. Are current methods of exchange adequate? Why or why not?
  - b. How can they be improved?

**R151/R157 – Participation Patterns, Drivers, and Barriers**

- @\*D1. How do customers typically learn about the program? SPECIFIC PROBES IF NEEDED
  - a. Vendor outreach
  - b. Representative from the utility contacted customer
  - c. Bill inserts
  - d. Internet, newspaper, or other advertisement
  - e. Customer (homeowner or landlord) contacted the utility
  
- \*D2. [IF MENTIONED A-D] How effective are these methods of marketing and outreach? Are there other ways that the program should consider marketing the program?
  
- \*D3. What are the primary reasons a customer decides to participate in HES/HES-IE? IF AWARE OF MULTIFAMILY INITIATIVE: In the Multifamily Initiative?
  - a. IF SERVES HES-IE: Is the process for securing permission any different by landlords, property managers, or public housing authorities?
  
- \*D4a. What differences, if any, are there in the approach your staff takes to conducting audits of single family versus multifamily properties?
  - i. What is the reason for this?
  - ii. Are there differences in your staff comfort level with conducting audits of single family versus multifamily properties? Why is that?
  
- \*D4b. When you audit multifamily buildings, are there are any differences in the approach your staff takes to assessing the individual units versus the common areas?
  - i. What is the reason for these differences?
  - ii. Are there any differences by staff person in the comprehensiveness of recommendations made for individual units versus the common areas? Why is that?
  
- D4c. How receptive are customers to the recommendations you provide in the audit report?
  - i. Are there any differences in receptivity to core services versus add-on measures?

- ii. Are there any differences in the receptivity to the audit report between single family and multifamily customers?
- \*D4d. Do customers receive ALL core measures for which they are eligible? In multifamily buildings, how does this vary by common areas and in-unit installations?
- D4e. How easy or difficult is it to schedule installations of core service measures in single family homes?
- i. How about for installations in multifamily property common areas and individual units?
  - ii. If difficulties cited: how do you think these can be addressed or overcome?
- \*D5. Are there ever instances when measures are not installed or savings are not pursued? If so, why?
- a. [IF AIR SEALING IS NOT MENTIONED] What about air sealing? What prevents you from conducting air sealing or pursuing greater levels of installation?
  - b. [IF DUCT SEALING IS NOT MENTIONED] What about duct sealing? What prevents you from conducting duct sealing or pursuing greater levels of installation?
- \*D5c\_R4. To what extent do health and safety issues prevent the installation of measures?
- i. Which issues are most prevalent?
  - ii. In what percent of homes do you encounter health and safety issues?
  - iii. In what percent of homes are the issues remediated to allow the project to move forward?
  - iv. We know that the age of the home relates to these problems, but do you find any other patterns in the types of homes where they tend to exist? For example, single or small multifamily? Particular parts of the state? [IF THEY SERVE HES-IE AS WELL AS HES] More prevalent in HES-IE eligible homes than HES?
- c. Are there challenges like these faced in providing services that are specific to multifamily buildings (i.e., those with more than four units)? What are the barriers to serving more multifamily buildings? What are some possible solutions to overcoming these barriers?
- @D6. In your experience, what proportion of eligible participants receive recommendations for add-on measures (insulation, ductless heat pumps, air conditioning equipment, refrigerators, or windows)?
- a. Are there differences between single-family versus multifamily properties? In multifamily buildings, how does this vary by common areas areas and in-unit installations?
- \*D6. What are some of the most common reasons that customers decide to implement recommended measures?

- a. Are there differences between single-family versus multifamily properties? In multifamily buildings, how does this vary by common areas areas and in-unit installations?
- b. What about add-on measures? Does it vary for insulation, ductless heat pumps, air conditioning equipment, refrigerators, or windows?

- \*D7. What are the primary reasons that customers **choose not** to implement recommended measures? [PROBE BEYOND THE COSTS OF DOING SO]
- a. Are there differences between single-family versus multifamily properties?
  - b. What reasons have you been given as to why landlords have not wanted HES/HES-IE services? [PROBES: LANDLORDS WHO PAY/DON'T PAY UTILITIES, OWN/DOWN'T OWN APPLIANCES, SMALL VS. LARGE MULTIFAMILY]
  - c. [IF NOT MENTIONED] To what extent do co-pays keep landlords from agreeing to HES/HES-IE services in their buildings?
  - d. [IF NOT MENTIONED] To what extent do concerns about adherence to building codes and health and safety regulators keep landlords from agreeing to HES/HES-IE services in their buildings?
  - e. In multifamily buildings, how does this vary by common areas areas and in-unit installations?

- @\*D8. What percentage of homes would you estimate have significant, cost effective, energy saving opportunities remaining after the program services are complete?
- a. What percentage of home opt out of add-on measures?
  - b. Of those who choose to install the add-on measures, what percentage still have opportunities for further energy savings?
  - c. What specific measures frequently are missed opportunities for further installation?
  - d. Are there differences between single-family versus multifamily properties?

- \*D9. What strategies do the HES and HES-IE program staff use to increase the installation of air sealing, duct sealing, or insulation either as a proportion of all participating homes or within a given home?
- a. What else could the program do to increase installation of these measures?
  - b. Are there differences between single-family versus multifamily properties?
  - c. In multifamily buildings, how does this vary by common areas areas and in-unit installations?

- @D10. Overall, how satisfied do you think customers are with HES / HES-IE program?
- a. Why do you say that?
  - b. How does this differ by single family vs. multifamily properties?
  - c. IF AWARE OF MULTIFAMILY INITIATIVE: How is this different for the multifamily initiative?

- D11. How does the program balance comprehensiveness and the high demand for services? In other words, how do you—or the program rules and procedures—decide whether to provide deeper services to fewer participants or more core or low-cost services to a greater number of participants?

**R151/R157 – Contractor Practices and QA-QC Protocols**

- \*QC1. What QA-QC protocols has the program established to ensure quality installation?  
[PROBE IF NEEDED]
- a. Inspection scoring process
  - b. QI Form
  - c. Post Inspection Report
  - d. Vendor Scorecard
  - e. In-progress inspections, Post inspections
- @\*QC2. Using a scale of 1 to 5, where 1 is “not at all effective” and 5 is very effective,” how would you rate the overall QA-QC process?
- a. Why do you give that rating?
- @\*QC3. What could be done to improve existing QA-QC?
- a. Are there any requirements that aren't really needed?
  - b. Are there quality checks that should be added?

**R151/R157 – Wrap Up**

- \*W1. What are the program's greatest strengths? [PROBE SPECIFICALLY ABOUT AIR SEALING, DUCT SEALING, INSULATION; MULTIFAMILY INITIATIVE]
- \*W2. What challenges or barriers does the program face? [PROBE SPECIFICALLY ABOUT AIR SEALING, DUCT SEALING, INSULATION; MULTIFAMILY INITIATIVE]
- W3. Are there any opportunities that the program is not taking advantage of? Or are there gaps in coverage—segments, measures, technologies, or anything else you can think of—that are currently not covered by the HES/HES-IE program? [PROBE SPECIFICALLY ABOUT: MEASURES OF INTEREST (AIR SEALING, DUCT SEALING, AND INSULATION); MULTIFAMILY INITIATIVE]
- a. What could the program do to take advantage of these opportunities or address these gaps in coverage? [CITE ISSUES MENTIONED; ASK SPECIFICALLY ABOUT EVALUATION TOPICS IF NOT MENTIONED]
- W4. Thinking about the Multifamily Initiative in general, are there any opportunities that the program is not taking advantage of? Or are there gaps in coverage—segments, measures, technologies, or anything else you can think of—that are currently not covered by the initiative, either through the HES/HES-IE program or the C&I program?
- a. What could the program do to address these gaps in coverage?
  - b. \* Do you have any suggestions for how the multifamily initiative can increase the number of participants from the market rate sector?

- i. Are there barriers in the market rate sector that it could focus on addressing?
- ii. Are there changes that the program could make that might make it more attractive to the market rate sector?

\*W5. Is there anything that came up during the course of our conversation that you want to emphasize OR is there anything that we did not cover that you want to be sure to mention?

## R151/R157 – Confirm Information for the Incentive

Name:  
Address:

## R4/R151 – On-Site and R4 Follow-up Interview Recruitment

**\*Our research team is also conducting site visits at a select number of properties that participated in the program to help us understand when energy savings are not fully pursued and determine additional barriers that homeowners face. We're offering a \$200 incentive for you or someone from your company to visit the property with one of our HERS raters during a mutually scheduled time.** We feel it's important to involve you in this portion of the research because you and/or staff at your company have first-hand knowledge of the properties served, and can help us identify barriers or other factors that may be beyond your control such as lack of access, health and safety issues, customers' cooperation, and scheduling. We also have some additional questions to ask either you or a colleague; these questions would be about customers' financing and decision-making, non-energy impacts, and potential market effects that we will want to discuss during the visit or we can schedule a separate time to discuss by telephone.

@O1. Would you or your company/organization be interested in this?

@O2. [IF NO] Do you think you or someone else from your company would at least like to respond to the additional questions in a telephone interview for an additional \$50? The person would need to be able to answer questions about HES financing and decision-making, non-energy impacts, and potential market effects. [IF YES, COLLECT CONTACT INFORMATION OF APPROPRIATE PERSON OR SCHEDULE APPOINTMENT]

@O3. [IF YES TO ON-SITE] Excellent! I will follow up you within the next few weeks to schedule an appointment and will provide more information about what will take place during the visit.

@O4. [MAYBE/DON'T KNOW TO ON-SITE] You do not have to decide now. Would it be okay if I called you back around the time that we're scheduling the visits to talk more about what would be involved?

@Let me confirm that the best way to contact you is [INSERT PHONE NUMBER, EMAIL]

On behalf of the utility companies I want to thank you for your time and insights. They will be very helpful for our evaluation. Feel free to email or call me if you think of anything else you think of that you would like to convey.

#### **R151 – On-site Frequently Asked Questions**

***We understand you are unsure about the on-site visit; here is some additional information to help make your decision -***

- **What's in it for me and how long will this take?**
  - We are offering \$200 for your time
  - The visit should take around one to one and half hours, depending on the size of the home
- **What does the visit involve?** The NMR technicians will walk around your home the technician from your company and discuss the initial audit, measures installed and recommended, and any missed opportunities for further energy savings.
- **When will the visits take place? Can I schedule a visit now?** We will be calling in the next two to six weeks to schedule the visits. The visits will happen in September and October.
- **Who we are?** The NMR Group, Inc. We have been hired as an independent third-party consultant by the Connecticut utilities and Energy Efficiency Board to perform this study.
- **What is the purpose of this study?**
  - This study will help identify missed opportunities for energy savings in the HES program, and will explore what barriers significantly prevent installation of cost-effective measures in participants' homes.
  - The results of the study will be used to inform future program design for the HES program in Connecticut

## R4 Modules

*Depending on respondents' roles and available time, this series of modules will be asked either at the same time as the R151/R157 interview questions with the same individual, at a different time with the same individual, or with a different individual at a different time. The interviewer should be aware of the results from the initial R151/R157 interview before asking these questions.*

*The R4 questions will be used for in-depth interviews (up to 15) with HES vendors to learn more about vendors' experiences promoting and explaining financing options to participants, participant reactions to the options, and their thoughts on ways to increase uptake of financing.*

*R4 questions are **not intended for HES-IE community action agency (CAA) vendors**, as they typically do not engage in work in the open market. It is our understanding that all non-CAA HES-IE vendors also work with the HES program, and, if they agree to an interview, we will make certain to ask them about both HES and HES-IE market effects.)*

### R4 – Program Market Effects

- \*ME1. What portion of the equipment that your company installs or services that it offers stems directly from HES? In other words, what portion comes from measures that you install during the initial HES assessment or that customers adopt based on HES recommendations?
  
- \*ME2. How often do customers that have gone through HES continue to use your services for **non-HES** services?
  - a. *(If at all)* To what extent do you think this can be attributed to their participation in HES?
  
- \*ME3. Has the number of staff that your company employs increased since it became involved with the HES program?
  - (If yes)*
    - a. By what percentage has the number of employees increased? *[Probe if needed: How many employees did you have before you become involved in the program? How many do you have now? [WE CAN CALCULATE THE %]*
    - b. To what degree would you attribute this to the HES program?
  
- \*ME4. Has your company's revenue increased since it became involved with HES?
  - (If increased)*
    - a. How much of this increase would you attribute to the HES program **directly**?

- b. How much of it would you attribute to the HES program **indirectly**, meaning that the business was not necessarily directly incented by HES (e.g., customers adopted non-HES measures with you; HES participants told friends who then called you for non-HES incented work)?

\*ME5. To date, what affect, if any, do you think the HES program has had on the market for energy efficiency services in Connecticut? Please tell me if you agree or disagree with each statement, using a scale from 0 to 10, where 0 is “strongly disagree” and 10 is “strongly agree.”

- a. There is more business for your company than there would have been without the program.
- b. There is more business in general in the marketplace than there would have been without the program.

*(If either greater than six, ask for details)*

\*ME6. What affect, if any, do you think the HES program will have on the market for energy efficiency services **in the next two years**? Please tell me if you agree or disagree with each statement, using a scale from 0 to 10, where 0 is “strongly disagree” and 10 is “strongly agree.”

- a. There will be more business for your company than there would have been without the program.
- b. There will be more business in general in the marketplace than there would have been without the program.

*(If either greater than six, ask for details)*

\*ME7. Before I ask this next question I want to emphasize that there are absolutely no plans to do away with the HES program. Hypothetically, if the HES program stopped operating, what impact would this have on your company in terms of services offered, types of measures you install, revenue, staffing, etc.? Please explain your responses.

#### **R4 – Financing and Decision Making**

\*FD1. What rebate and financing options do you typically discuss with your customers?

*(Probe: Utility/program financing, bank financing outside of the program, other lending sources, grants from foundations, etc.)*

*(Skip to FD8 if they do not discuss rebates or financing at all)*

- a. How does this vary by equipment type or customer type?
- b. *(If they discuss one but not the other)* Why do you only talk to customers about [rebates/financing]?

*(Unless otherwise directed, probe about rebates and financing separately, making sure they answer about both if they discuss both.)*

- \*FD2. At what point in your interactions with customers do you typically discuss HES rebates and financing? What about rebates and financing from other entities?
- \*FD3. What types of information and materials about program offerings do you provide them with on rebates and financing? *(Probe by program)*
- \*FD4. How do customers typically react when you describe **rebate** options to them? Do their reactions differ by type of measure? *(Probe for whether rebates make them more/less interested, comments on amounts, asking why not eligible for more, etc.)*
- \*FD5. What kinds of **rebates** do customers appear to be most attracted to (or interested in)?
  - a. What factors appear to make those options the most attractive?
- \*FD6. Let's talk about financing now. How do customers typically react when you first mention **financing** options to them?
  - a. If a customer initially says they are not interested in financing, what do you do?
  - b. What financing packages or options do customers appear to be most attracted to (or interested in)?
  - c. Based on your experience, what factors appear to make those options the most attractive?
- \*FD7. Do customers seem more interested in rebate opportunities, or do they seem more interested in financing opportunities?
- \*FD8. Using a scale of one to five where one is "very unclear" and five is "very clear," how clear are the HES program **rebate** requirements and processes to **you**? What about for **financing** option requirements and processes?
- \*FD9. Are there ways in which the HES program could improve its rebate and financing offerings or processes? *(If yes) How so?*

#### **R4 – Non-Energy Impacts**

\*NE1. Now, let's discuss potential **non**-energy impacts of the program. To what degree do you discuss potential non-energy impacts with customers?

*(Probe on the elements below if ample time available)*

- a. Comfort
- b. Outside noise
- c. Appliance or heating/cooling system noise
- d. Family illnesses and missed days from work or school and associated medical care
- e. Ability to pay energy bills
- f. Equipment maintenance and/or durability
- g. Home value or the ability to sell the home
- h. Home's appearance
- i. Ability to pay non-energy bills such as water or sewer
- j. Home safety
- k. Light quality
- l. Any other elements **[SPECIFY]**

\*NE2. *(If any a through l = no, ask) You say that you do not discuss [a through l] potential non-energy benefits with customers. Why not? (Probe: Not convinced they are an impact, an impact but not very important compared to energy savings or other benefits, customers not really interested, not enough time, etc.)*

\*NE3. In your opinion, which of the non-energy impacts I mentioned do you think customers are most likely to experience? Why?

\*NE3a. Which non-energy benefits do customers seem to value the most? Which non-energy drawbacks do they seem to be most concerned with?

NE4. At what point or points do you discuss the non-energy impacts? For example, do you discuss them during the audit, during the kitchen table wrap-up, during a follow-up call, before installing recommended measures, or at other times?

NE5. How do you communicate the non-energy impacts? For example, are there particular materials that you provide customers with to help explain the potential non-energy impacts?

On behalf of the utility companies I want to thank you for your time and insights. They will be very helpful for our evaluation. Feel free to email or call me if you think of anything else you think of that you would like to convey.

**C.7 CCEC PROGRAM STAFF INTERVIEW GUIDE**

**R152: Program Staff Interview Guide**

Interviewer: \_\_\_\_\_  
Date of Interview: \_\_\_\_\_  
Time Begun \_\_\_\_\_ Time Ended \_\_\_\_\_  
Respondent Name: \_\_\_\_\_  
Respondent Title: \_\_\_\_\_  
Phone Number(s): \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

[NOTE: THE QUESTIONS IN THIS INTERVIEW GUIDE WILL NOT NECESSARILY BE READ VERBATIM BUT MAY BE MODIFIED TO SUIT THE INTERVIEW. IN ADDITION, THE INTERVIEWERS MAY SKIP QUESTIONS THAT ARE LESS RELEVANT TO A PARTICULAR INTERVIEW]

**Introduction**

Hello, my name is [NAME] calling from NMR Group. We are a consulting firm that has been hired by the Connecticut Energy Efficiency Board to explore the impact of the Connecticut Clean Energy Communities program on participation and measure uptake in the Home Energy Solutions (HES) program. I'd like to ask you some questions about the Clean Energy Communities program as well as some of your perceptions of the program as a whole. Before we start, do you have any questions?

With your permission, I would like to record this call. The recording will be used to help me fill in any gaps in my notes and make sure I accurately understand your comments. Only evaluation staff at NMR will hear the recording. While your position at [EVERSOURCE/UI] means that I cannot guarantee anonymity or confidentiality, I will do my best to limit revealing your identity and to accurately reflect your responses in our evaluation report. Do I have your permission to record this call? Y/N

## Background

1. First, I'd like to get some details about you.
  - a. What is your title?
  - b. How long have you been with the CCEC program?
  - c. How long have you been with [EVERSOURCE/UI]?
2. I'd like to get your broad impressions of the CCEC program; the view from 30,000 feet. Can you just describe for me what the program is, in your own words? (follow up on comments as necessary)
3. And what is your role, or level of involvement, with the program?
4. In your own words, how would you describe the goals of the program?
  - a. Has the program been performing as expected overall?
  - b. Are there areas that have worked particularly well?
  - c. What areas haven't worked as well as hoped? (Why do you think that may be?)
  - d. How do you track programmatic activity vis-à-vis the program goals?
5. How has the program changed since its inception?
  - a. Have the goals or objectives changed in your view?
  - b. [if not already mentioned] How has the prioritization of clean energy and energy efficiency changed over the history of the program? Which of these has been more successful recently, and why?

## Communities

Moving to questions about the community participants in the program.

6. What are the characteristics of the communities that you perceive as being most successful under the program?
  - a. Are there certain individuals that drive that success?
  - b. Is there an institutional or organizational component that leads to successful engagement?
7. Which specific communities come to mind when you think of the most successful under the CCEC program?
  - a. Do these communities fit the description you made of those most successful, or do they have additional characteristics that make one or more of them unique in some way?
8. (*If not addressed above*) Do you find that the more successful communities tend to have residents who are more "environmental" in their outlook generally, or do other factors outside of an "environmentalists" ethic seem to be driving their success?

9. How about communities that are less successful under the program?
  - a. What are the characteristics of the communities that haven't had a successful engagement with the program?
  - b. Have there been any communities that started off well, but that success tapered off over time? (Why do you think that may have been?)
  
10. What kinds of data do you track regarding community activity? How do you track the data (*PROBE*., in a spreadsheet, in a utility-central reporting system, on paper, some other way)?
  - a. Are the kinds of data you described collected separately for renewable energy projects and energy efficiency projects?
  - b. What information about the program is best suited to describing how successful the program has been overall, and what information is best suited to describing which communities have been most engaged with the program?
  - c. What kinds of information do you think should be collected to better make these kinds of assessments in the future?
  - d. We may need to request data on the types of community outreach you engage in for our evaluation. How do you suggest we ask for the data to make sure we are getting the information we need?

## HES

11. Are you familiar with the HES, or Home-Energy Solutions, program?
  
12. What is your perception of the CCEC program on HES participation? What leads to your perception here (if any)?
  
13. (*If not mentioned earlier*) When working with communities, how much do you specifically bring up HES?
  - a. In what ways do you explicitly work to increase participation and measure uptake in HES?
  - b. What are less formal ways that CCEC may boost HES participation and measure uptake?
  
14. How do communities go about boosting HES participation? (*Probe for specific types of outreach such as booths at community fairs, lectures, canvassing by HES vendors, newspaper articles, etc.*)
  
15. How much does HES participation in terms of having an assessment performed factor into your assessment of what makes a "successful" community? How about HES deeper measure uptake?

## Forward Looking

16. What do you think could be done to make the CCEC program more effective at encouraging HES participation?
17. What do you think would make the CCEC program better overall?
18. Earlier we talked about some of the more successful communities. I'm also hoping to interview some of the individuals in those high-performing communities: Do you have contact information with people in those communities that you can share so I can follow up with them directly?
19. Thank you very much for taking the time to speak with me today. After reviewing your responses along with responses from other interviews, we may have some additional short follow-up questions. Can we email you those questions if they arise [Confirm best contact method phone/email]? Is there anything else you'd like to add about any of the topics we've discussed?

[If needed at some point in the interview: If you don't have time to go through all the questions now, we can break it up and I can call you back later or I can send you some of the questions via email.]

**C.8 CCEC BEST PRACTICES INTERVIEW GUIDE**

**R152: Community Member Interview Guide**

Interviewer: \_\_\_\_\_

Date of Interview: \_\_\_\_\_

Time Begun \_\_\_\_\_ Time Ended \_\_\_\_\_

Respondent Name: \_\_\_\_\_

Respondent Title: \_\_\_\_\_

Phone Number(s): \_\_\_\_\_

E-mail Address: \_\_\_\_\_

[NOTE: THE QUESTIONS IN THIS INTERVIEW GUIDE WILL NOT NECESSARILY BE READ VERBATIM BUT MAY BE MODIFIED TO SUIT THE INTERVIEW. IN ADDITION, THE INTERVIEWERS MAY SKIP QUESTIONS THAT ARE LESS RELEVANT TO A PARTICULAR INTERVIEW]

**Introduction**

Hello, my name is [NAME] calling from NMR Group. We are a consulting firm that has been hired by the Connecticut Energy Efficiency Board to explore the impact of the Connecticut Clean Energy Communities program on participation and measure uptake in the Home Energy Solutions (HES) program. I'd like to ask you some questions about your community's participation in the Clean Energy Communities program as well as some of your perceptions of the program as a whole. Before we start, do you have any questions?

With your permission, I would like to record this call. The recording will be used to help me fill in any gaps in my notes and make sure I accurately understand your comments. Only evaluation staff at NMR will hear the recording. Do I have your permission to record this call? Y/N

## Background

20. First, I'd like to get some details about you.
- In which town are you involved with the Clean Energy Communities program?
  - What is your role in your town's Clean Energy Communities engagement?
  - How long have you been in that role?

## Clean Energy Communities

21. I'd like to get your broad impressions of the CCEC program; the view from 30,000 feet. Can you please describe for me what the program is, in your own words? (follow up on comments as necessary)
22. Do you know who made the first contact with the program in your town? Did someone from your town contact the program or did they reach out to you? [IF NEEDED: If this was before your involvement, that's okay. We can move on.]
23. In your own words, how would you describe the goals of your town with relation to the CEC program?
- Would you say that your town focuses more on energy-efficiency or clean energy projects, or a mixture of the two? Please explain.
  - What activities has your community done in conjunction with CEC?
  - Which of these activities has been most successful in helping you achieve your goals? Why do you say that?
  - Are there any parts of the program or activities that you have tried that haven't worked as well as hoped? (What are they, and why do you think that may be? What would you do differently if you were to try them again?)

## Home Energy Services (HES)

24. Are you familiar with the Home Energy Services (HES) program?
- [if no] The Home Energy Services program is a utility-subsidized program that encourages homeowners to have a utility-certified technician evaluate their home's energy performance and install energy-saving measures. Are you familiar with a program like that? [if no, skip to 8]
25. Has your community worked with the CEC to increase participation in the HES program?
- [if yes] What specific activities of the CEC program that would have led to greater HES participation?

26. Do you think that these activities have succeeded in getting more members of your community to participate in the Home Energy Services (HES) program? Why do you say that?

## Best Practices

27. Your town has been identified by utility staff as one that has been among the most successful in the CEC program. We are hoping you could tell what you think might make your town stand out in their mind as a successful community. This will help us identify what we call “best practices” that could possibly be replicated by other towns in Connecticut and beyond. What about how your town participates with CEC do you think leads to its success with the program? Are there other things about your town apart from its CEC participation that contribute to its success? [PROBE: characteristics of residents, elected officials, municipal staff, community groups, leadership from businesses, schools, universities, etc.]?
28. What do you think could be done to make the CEC program more effective at encouraging HES participation by members in your community?
- Are there specific things you are thinking of changing regarding the program? If so, what changes and why?
  - [if needed as a prompt] Have you heard of good ideas from other towns that could be implemented in your town?
  - Have there been things that your town has tried that didn't work as well as hoped? If yes, why do you think that was?
  - Do you look to other towns for ideas or advice? Do other towns look to you for the same? If so, what are some of those towns?
  - Are there other towns you suggest we call to find out about their experiences with Clean Energy Communities? If so, do you have contact information for someone there?
29. What do you think would make the CEC program better overall?

## Wrap-Up

30. Thank you very much for taking the time to speak with me today. Is there anything else you'd like to add about any of the topics we've discussed?

[If needed at some point in the interview: If you don't have time to go through all the questions now, we can break it up and I can call you back later or I can send you some of the questions via email.]