

Measure Adoption Rate and Attitudinal Survey for Residential Energy Assessments and Rating Projects

Appendices

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APPRISE

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Information contained in this document, such as web page addresses, are current at the time of publication.

Appendix A. Customer Survey Instrument

NYSERDA MEASURE ADOPTION RATE AND ATTITUDINAL SURVEY FOR RESIDENTIAL ENERGY ASSESSMENTS AND RATING PROJECTS

PURPOSE

The evaluation team will survey Home Energy Score Rating Pilot participants, Pearl Certification Pilot participants, and Residential Energy Assessment Program participants to validate energy savings and ascertain program experience and decision making.

DATA COLLECTION APPROACH

Time 1 in the Table below means the initial evaluation period. The total population of pilot and program participants will grow year over year. Participants who have not responded to the first year's survey will be rolled over into the cohort surveyed in the second year, and so forth.

| Data Collection | Description |
|------------------------------------|---|
| Population Description | Participants of Home Energy Score Rating Pilot, Pearl Certification Pilot, and Residential Energy Assessments Program. |
| Population Size/Sample Frame | Home Energy Score Rating Pilot Population (Time 1) = ~183 Pearl Certification Pilot Population (Time 1) = ~518 Residential Energy Assessments Program (Time 1) = ~3,435 |
| Type of Sampling | Participants: Random rolling sample using cohort or incremental sampling approach. |
| Target Sample - Survey Completions | Participants: Enough completions to achieve 90/10 Confidence/Precision per each group referenced above. |
| Instrument Type | Web Survey and Follow-up calls (if needed) |
| Survey Length | 20-25 minutes |

Research Objectives Mapped to Survey Questions

| Objective | Question Numbers |
|---|--|
| Assess participant measure adoption rate (MAR) of energy efficiency (EE) home improvements | All questions in “Installation of recommended measures” |
| Assess cost of investment in EE home improvements made by participants | All questions in “Cost” section |
| Assess participants’ investments toward achieving clean energy goals –i.e., what are energy savings attributable to audit/pilots and associated with the EE investments | All questions in measure sections (insulation, air-sealing, etc.) , and program INFLUENCE question |
| Document demographics and decision making to inform CLCPA ¹ and NYSERDA’s response to COVID-19 | All questions in the “Covid-19” and “Demographics” sections |
| Assess non-energy benefits to customers | All questions in the “NEB” section |

¹ <https://legislation.nysenate.gov/pdf/bills/2019/S6599>

SURVEY INSTRUMENT

Screening

S0. Please enter your Access Code to begin. Your Access Code is included in the letter/postcard or email you received about the survey.

[OPEN-ENDED RESPONSE, FORCE RESPONSE]

1. Enter Access Code

[IF ENERGY AUDIT PROGRAM PARTICIPANTS]

S1. Our records show that your home at the address shown below received an energy audit in [YEAR]. This audit would have been completed by a certified auditor or contractor who may have been completing other work or job estimates for the home.

[ADDRESS]

Do you recall receiving this energy audit for the home at the address listed above?

- 1 YES [PROCEED TO S4]
- 2 NO – DO NOT RECALL [TERMINATE, GO TO TERMINATE SCRIPT 1]

[IF PEARL CERTIFICATION PILOT PARTICIPANTS]

S2. Our records show that your home at the address shown below received a Pearl Certification Report or rating in [YEAR]. This Pearl rating may have been completed by a contractor who was completing other work, job estimates, or an inspection of your home.

[ADDRESS]

Do you recall receiving this Pearl Certification Report or rating for the home at the address listed above?

- 1 YES [PROCEED TO S4]
- 2 NO – DO NOT RECALL [TERMINATE, GO TO TERMINATE SCRIPT 1]

[IF HOME ENERGY SCORE RATING PILOT PARTICIPANTS]

S3. Our records show that your home at the address shown below received a Home Energy Score report in [YEAR]. This report included home improvement recommendations based on an energy assessment of your home.

[ADDRESS]

Do you recall receiving this Home Energy Score report for the home at the address listed above?

- 1 YES [PROCEED TO S4]
- 2 NO – DO NOT RECALL [TERMINATE 1, GO TO TERMINATE SCRIPT 1]

[TERMINATION SCRIPT 1: Thank you for being willing to complete our survey. However, you are not eligible to take the survey because we are seeking out those who recall the home energy audit or receiving the home energy rating report.]

[THOSE THAT PASSED S1-S3 SCREENING QUESTIONS]

S4. Do you still reside at the same address where this energy audit/rating took place?

1. Yes
2. No (moved)

[THOSE THAT PASSED S1-S3 SCREENING QUESTIONS AND SAID YES IN S4]

S5. Are you generally familiar with any upgrades to the home or to major equipment in the home that may have occurred since the energy audit/rating took place?

1. Yes
2. No [TERMINATE, GO TO TERMINATE SCRIPT 2]

[THOSE THAT PASSED S1-S3 SCREENING QUESTIONS AND SAID NO (MOVED) IN S4]

S6. Thinking of the home at [INPUT ADDRESS], are you generally familiar with any upgrades to that home or to major equipment in that home at the time you lived in it and that occurred after the audit/rating took place?

1. Yes
2. No [TERMINATE, GO TO TERMINATE SCRIPT 2]

[TERMINATION SCRIPT 2: Thank you for being willing to complete our survey. However, you are not eligible to take the survey because we are seeking out those who recall the upgrades done to the home after home energy audit/rating took place.]

Installation of recommended measures

[FOR THE NEXT SET OF QUESTIONS, DISPLAY UP TO FIVE RECOMMENDED MEASURES. IF PARTICIPANTS RECEIVED MORE THAN 5 RECOMMENDED MEASURES, SELECT FIVE TOP SAVINGS MEASURES TO ASK ABOUT AND DISPLAY THOSE QUESTIONS.]

[DISPLAY THIS INSTRUCTION TO ONLY THOSE THAT MOVED AWAY AND ARE FAMILIAR WITH UPGRADES TO THE HOME IN QUESTION – PASSED THAT SCREEN] **The next set of questions ask about the upgrades in your prior home at [INPUT ADDRESS]. Please answer thinking of that home. When we say “your home” in any of the subsequent questions, we are referring to your prior home at the address shown above.**

[ASK ALL WHO PASSED SCREENING AND (ONLY IF RECEIVED AUDIT OR HOME ENERGY SCORE)] **M1A.** Our records show that the energy audit for your home recommended the energy efficiency upgrades listed below. For each item listed, please indicate if the recommended upgrade has or has not been completed in your home since the home energy audit took place.

| Audit Recommendation | Completed in the home since the audit took place? |
|----------------------|---|
| #1 Upgrade | Yes/Partially/No/ Not Sure |
| #2 Upgrade | Yes/Partially/No/ Not Sure |
| #3 Upgrade | Yes/Partially/No/ Not Sure |
| #4 Upgrade | Yes/Partially/No/ Not Sure |
| #5 Upgrade | Yes/Partially/No/ Not Sure |

MEASURE DESCRIPTIONS TO SHOW:

- Install or upgrade insulation (such as in walls, the floor, or the attic)
- Air seal home (filling cracks and caulking to reduce drafts or air leakage)
- Air seal ductwork (such as hot air for winter heating)
- Install energy-efficient windows
- Replace or install heating system with higher efficiency system or heat pump
- Install new central air conditioner

- Replace room or window air conditioner(s)
- Replace dehumidifier
- Install new programmable or smart thermostat
- Replace water heater with higher efficiency water heater
- Install water conservation measures (such as low flow showerheads or faucet aerators)
- Upgrade lighting to energy-efficient LED lighting
- Upgrade to a more energy-efficient refrigerator
- Upgrade to a more energy-efficient clothes washer
- Upgrade to a more energy-efficient dishwasher

[ASK IF OTHER/ADDITIONAL ENERGY EFFICIENCY MEASURES=1 & IN TOP FIVE MEASURES & IF RECEIVED AUDIT OR HOME ENERGY SCORE]

M1J. Are there any other upgrades that the energy audit recommended which have been completed in your home since the audit took place?

1 NO

2 YES (PLEASE DESCRIBE BELOW) [INPUT TEXT BOX]

97 DON'T KNOW

[IF RESPONDENT IS AUDIT OR HOME ENERGY SCORE PARTICIPANT AND NOT PEARL RATING PARTICIPANT, AND THEY INDICATES THEY HAVEN'T DONE ANYTHING POST AUDIT OR HOME ENERGY SCORE REPORT (I.E., DID NOT SELECT YES ON ANY OF THE MEASURES ABOVE) SKIP TO M4 QUESTION.]

[ASK ALL WHO PASSED SCREENING AND IF RECEIVED PEARL REPORT]

PEARL1. For each item listed, please indicate if the action listed has or has not been completed in your home since the Pearl report or rating took place.

| Actions | Completed in the home since the rating took place? |
|--|--|
| Install or upgrade insulation (such as in walls, the floor, or the attic) | Yes/Partially/No/ Not Sure |
| Air seal home (filling cracks and caulking to reduce drafts or air leakage) | Yes/Partially/No/ Not Sure |
| Air seal ductwork (such as hot air for winter heating) | Yes/Partially/No/ Not Sure |
| Install energy-efficient windows | Yes/Partially/No/ Not Sure |
| Replace or install heating system with higher efficiency system or heat pump | Yes/Partially/No/ Not Sure |
| Install new central air conditioner | Yes/Partially/No/ Not Sure |
| Replace room or window air conditioner(s) | Yes/Partially/No/ Not Sure |
| Replace dehumidifier | Yes/Partially/No/ Not Sure |
| Install new programmable or smart thermostat | Yes/Partially/No/ Not Sure |
| Replace water heater with higher efficiency water heater | Yes/Partially/No/ Not Sure |

| | |
|---|----------------------------|
| Install water conservation measures (such as low flow showerheads or faucet aerators) | Yes/Partially/No/ Not Sure |
| Upgrade lighting to energy-efficient LED lighting | Yes/Partially/No/ Not Sure |
| Upgrade to a more energy-efficient refrigerator | Yes/Partially/No/ Not Sure |
| Upgrade to a more energy-efficient clothes washer | Yes/Partially/No/ Not Sure |
| Upgrade to a more energy-efficient dishwasher | Yes/Partially/No/ Not Sure |

[ASK IF RECEIVED PEARL RATING REPORT]

PEARL2. Are there any other upgrades that you did since the Pearl rating took place?

- 1 NO
- 2 YES (PLEASE DESCRIBE BELOW) [INPUT TEXT BOX]
- 97 DON'T KNOW

[IF RESPONDENT ONLY RECEIVED PEARL RATING AND NOT AUDIT OR HOME ENERGY SCORE, AND INDICATED THEY HAVEN'T DONE ANYTHING POST PEARL REPORT (I.E., DID NOT SELECT YES ON ANY OF THE MEASURES ABOVE) SKIP TO M4 QUESTION.]

Insulation

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR INSULATION MEASURE]

MD1. You reported that **insulation** was installed or upgraded in your home since the audit/rating took place. Where in your home was the insulation installed or upgraded? Select all that apply.

- 1. Attic
- 2. Basement/crawlspace
- 3. Walls
- 4. Floors
- 5. Other, please describe: [TEXT BOX]
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR INSULATION MEASURE]

MD14A_1. Which of the following best describes when you or your household decided to install or upgrade the **insulation**?

- 1 Already had decided to do this before the audit/rating took place
- 2 Decided to do this based on the audit/rating recommendations or findings

- 3 Decided to do this after the audit/rating took place for other reasons besides the audit/rating. Please explain: [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR INSULATION MEASURE]

MD14B_1. What motivated you or your household to install or upgrade the **insulation**? [RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Improving comfort (making home less cold or hot)
2. Saving money on energy bills
3. Correcting issues caused by aging insulation such as mold or moisture issues
4. Increasing value of home
5. Other Reason [Please Describe]: [TEXT BOX]

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR INSULATION MEASURE]

MD14C_1. Did you receive any rebates, tax credits or other incentives to help pay for the **insulation**?

1. No
2. Yes

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR INSULATION MEASURE AND MD14C_1=YES]

M15_1. Who provided the rebate, tax credit or other incentive for the **insulation**? Select all that apply.

1. A utility company
2. The New York State Energy Research and Development Authority (aka NYSERDA)
3. Federal government
4. Insulation Manufacturer
5. Other (Specify): [text box]

97 DON'T KNOW

Air Sealing Air Leaks

[ASK IF M1A OR PEARL1=YES OR PARTIALLY ON AIR SEALING AIR LEAKS MEASURE]

MD14A_2. You reported that **air sealing** was done in your home since the audit/rating took place. Which of the following best describes when you or your household decided to **air seal your home to reduce drafts/air leakage**?

- 4 Already had decided to do this before the audit/rating took place
- 5 Decided to do this based on the audit/rating recommendations or findings
- 6 Decided to do this after the audit/rating took place for other reasons besides the audit/rating. Please explain: [TEXT BOX]
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY ON AIR SEALING AIR LEAKS MEASURE]

MD14B_2. What motivated you or your household to **air seal to reduce drafts/air leakage**?

[RANDOMIZE ORDER, MULTIPLE RESPONSE]

- 1. Improving comfort (making home less cold or hot)
- 2. Saving money on energy bills
- 3. Correcting issues caused by air leakage such as moisture issues
- 4. Increasing value of home
- 5. Other [Please Describe]: [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY ON AIR SEALING AIR LEAKS MEASURE]

MD14C_2. Did you receive any rebates, tax credits or other incentives to help pay for **air sealing**?

- 1. Yes
- 2. No

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY ON AIR SEALING AIR LEAKS MEASURE AND MD14C_2=YES]

M15_2. Who provided the rebate, tax credit or other incentive for the **air sealing**? Select all that apply.

- 1. Utility company
- 2. New York State Energy Research and Development Authority (aka NYSERDA)
- 3. Federal government
- 4. Manufacturer

5. Other (Specify): [text box]

97. DON'T KNOW

Air Seal Ducts

[ASK IF M1A OR PEARL1= YES OR PARTIALLY ON AIR SEALING DUCTS MEASURE]

MD14AA_2. You reported that **sealing of the ducts** was performed in your home since the audit/rating took place. Which of the following best describes when you or your household decided to **air seal ducts**?

- 1 Already had decided to do this before the audit/rating took place
- 2 Decided to do this based on the audit/rating recommendations or findings
- 3 Decided to do this **after** the audit/rating took place for other reasons besides the audit/rating. Please, explain: [TEXT BOX]
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY ON AIR SEALING DUCTS MEASURE]

MD14BB_2. What motivated you or your household to **air seal ducts**? [RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Improving comfort (making home less cold or hot)
2. Saving money on energy bills
3. Correcting issues caused by leaks in ducts such as insufficient air flow or poor indoor air quality
4. Increasing value of home
5. Other [Please Describe]: [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY ON AIR SEALING DUCTS MEASURE]

MD14CC_2. Did you receive any rebates, tax credits or other incentives to help pay for **air sealing of the ducts**?

1. Yes
2. No

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY ON AIR SEALING DUCTS MEASURE AND MD14CC_2=YES]

M15_2a. Who provided the rebate, tax credit or other incentive for the **air sealing of the ducts**? Select all that apply.

1. Utility company
2. New York State Energy Research and Development Authority (aka NYSERDA)
3. Federal government
4. Manufacturer
5. Other (Specify): [text box]
97. DON'T KNOW

Windows

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR ENERGY-EFFICIENT WINDOW MEASURE]

MD3. What percentage of windows did you replace with energy efficient windows since the audit/rating took place? Your best estimate is fine.

Percent of Windows Replaced: [TEXT BOX]

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR ENERGY-EFFICIENT WINDOW MEASURE]

MD14A_3. Which of the following best describes when you or your household decided to **install energy efficient windows**?

- 1 Already had decided to do this before the audit/rating took place
- 2 Decided to do this based on the audit/rating recommendations or findings
- 3 Decided to do this after the audit/rating took place for other reasons besides the audit/rating.
Please, explain: [TEXT BOX]
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR ENERGY-EFFICIENT WINDOW MEASURE]

MD14B_3. What motivated you to install **energy-efficient windows**? [RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Improving comfort (making home less cold or hot)
2. Saving money on energy bills
3. Correcting issues caused by inefficient windows such as water or air leaks
4. Increasing value of home
5. Other (Please Describe): [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR ENERGY-EFFICIENT WINDOW MEASURE]

MD14C_3. Did you receive any rebates, tax credits or other incentives to help pay for the **energy-efficient windows**?

1. Yes
2. No
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR ENERGY-EFFICIENT WINDOW MEASURE AND MD14C_3=YES]

M15_3. Who provided the rebate, tax credit or other incentive for the **energy-efficient windows**? Select all the apply.

1. Utility company
2. New York State Energy Research and Development Authority (aka NYSERDA)
3. Federal government
4. Manufacturer
5. Other (Please Specify): [TEXT BOX]
- 97 DON'T KNOW

Heating System

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY HEATING MEASURE]

MD5. What type of higher efficiency heating system did you install since the audit/rating took place?
[RECORD ONE]

1. Furnace, with hot air distribution
2. Boiler, with hot water baseboard, radiant heat or steam radiators
3. Heat pump with electric back up
4. Heat pump with natural gas back up
5. Heat pump with other fuel back up (not electricity or natural gas)
6. Heat pump without any backup

7. Or something else, please specify: [TEXT BOX]

97 Don't Know

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY HEATING MEASURE]

MD6. Which of the following best describes the efficiency level of the higher efficiency heating system that was selected and installed in your home since the audit/rating took place?

1. The new system was the exact efficiency level the audit/rating had recommended
2. The new system had a lower efficiency level than the audit/rating recommended
3. The new system had a higher efficiency level than the audit/rating had recommended

97 I am not sure

[ASK IF MD6=2 OR 3]

MD6a. What was the efficiency level of the new heating system installed in your home since the audit/rating took place? You can find this information on a yellow sticker on your heating equipment and will have AFUE (annual fuel utilization efficiency) word next to it. If you see HSPF (heating seasonal performance factor) word next to efficiency rating of your equipment or something else, please input what you see in the text box below.

Example of the yellow sticker on your equipment where you can find the information. [INSERT PICTURE OF ENERGY GUIDE YELLOW STICKER WITH AFUE #]

1. Less than 80% AFUE
2. 80% - 85% AFUE
3. 85% - 90% AFUE
4. More than 90% AFUE
5. If not AFUE rating, input efficiency info here: [TEXT BOX]

97 Don't Know

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY HEATING MEASURE]

MD6b. When the new heating system was installed, was the prior heating system removed?

1. Yes
2. No – kept the old system as back up or for extra heat

3. No – kept the old system as primary and new system as back up or for extra heat

97 Don't Know

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY HEATING MEASURE]

MD6c. What fuel is used by the newer heating system installed in your home since the audit/rating took place?

1. Natural Gas
2. Fuel oil
3. Propane
4. Electricity
5. Other, please specify: [TEXT BOX]

97 Don't Know

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY HEATING MEASURE]

MD6d. What fuel was or is used by the previous heating system that was already in your home prior to when the audit/rating took place?

1. Natural Gas
2. Fuel oil
3. Propane
4. Electricity
5. Other (please specify) [TEXT BOX]

97 Don't Know

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY HEATING MEASURE]

ER_Heat_1. To the best of your recollection, how old was the previous heating system prior to the installation of your new high efficiency heating system or heat pump?

1. AGE IN YEARS: [NUMERIC TEXT]

97 Don't Know

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY HEATING MEASURE AND THE PRIOR SYSTEM WAS REMOVED (MD6b=1)]

ER_Heat_2. Which of the following best describes the condition of the previous heating system that was replaced? [RANDOMIZE 1,2,3,4,5]

1. It was in good working condition
 2. It was inefficient
 3. It required frequent maintenance
 4. It had serious defects and would probably have been replaced within the next couple of years
 5. It had failed or was about to fail
 6. Or something else? Please specify [TEXT BOX]
97. Don't Know

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY HEATING MEASURE]

MD14A_4. Which of the following best describes when you or your household decided to **install a higher efficiency heating system or heat pump?**

- 1 Already had decided to do this before the audit/rating took place
 - 2 Decided to do this based on the audit/rating recommendations or findings
 - 3 Decided to do this after the audit/rating took place for other reasons besides the audit/rating. Please, explain: [TEXT BOX]
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY HEATING MEASURE]

MD14B_4. What motivated you to install a **higher efficiency heating system or heat pump?**

[RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Improving comfort (making home less cold or hot)
2. Saving money on energy bills
3. The system was failing or old
4. Increasing value of home
5. Other, please describe: [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY HEATING MEASURE]

MD14C_4. Did you receive any rebates, tax credits or other incentives to help pay for the **higher efficiency heating system or heat pump?**

1. Yes

2. No

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY HEATING MEASURE AND MD14C_4=YES]

M15_4. Who provided the rebate, tax credit or other incentive for the **higher efficiency heating system or heat pump**? Select all that apply.

1. Utility company

2. New York State Energy Research and Development Authority (aka NYSERDA)

3. Federal government

4. Manufacturer

5. Other (Please Specify): [TEXT BOX]

97 DON'T KNOW

Room ACs

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR ROOM/WINDOW AC MEASURE]

M1_NEW2a. How many room/window air conditioners were replaced in your home since the audit/rating took place?

1. [NUMERIC VALUE]

[ASK IF M1A/PEARL1= YES OR PARTIALLY FOR ROOM/WINDOW AC MEASURE]

MD14AA_5. Which of the following best describes when you or your household decided to **replace room/window air conditioner(s)**?

- 1 Already had decided to do this before the audit/rating took place
- 2 Decided to do this based on the audit/rating recommendations or findings
- 3 Decided to do this after the audit/rating took place for other reasons besides the audit/rating. Please, explain: [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR ROOM/WINDOW AC MEASURE]

MD14BB_5. What motivated you to replace the **room/window air conditioner**? [RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Improving comfort (making home less hot)

2. Saving money on energy bills
3. Increasing value of home
4. Other (Please Describe): [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR ROOM/WINDOW AC MEASURE]

MD14CC_5. Did you receive any rebates, tax credits or other incentives to help pay for the **room/window air conditioner**?

1. Yes
2. No

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR ROOM/WINDOW AC MEASURE AND MD14CC_5=YES]

M15_5a. Who provided the rebate, tax credit or other incentive for the **room/window air conditioner**? Select all that apply.

1. Utility company
2. New York State Energy Research and Development Authority (aka NYSERDA)
3. Federal government
4. Manufacturer
5. Other (Please Specify): [TEXT BOX]

97 DON'T KNOW

Dehumidifier

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR DEHUMIDIFIER]

MD14AAA_5. You reported that a **dehumidifier** was replaced in your home since the audit/rating took place. Which of the following best describes when you or your household decided to **replace the dehumidifier**?

1. Already had decided to do this before the audit/rating took place
 2. Decided to do this based on the audit/rating recommendations or findings
 3. Decided to do this after the audit/rating took place for other reasons besides the audit/rating. Please explain: [TEXT BOX]
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR DEHUMIDIFIER]

MD14BBB_5. What motivated you to install the **dehumidifier**? [RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Improving comfort (making home less hot)
2. Saving money on energy bills
3. Correcting issues such as moisture in the air
4. Increasing value of home
5. Other (Please Describe): [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR DEHUMIDIFIER]

MD14CCC_5. Did you receive any rebates, tax credits or other incentives to help pay for the **dehumidifier**?

1. Yes
2. No

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR DEHUMIDIFIER AND MD14CCC_5=YES]

M15_5b. Who provided the rebate, tax credit or other incentive for the **dehumidifier**? Select all that apply.

1. Utility company
2. New York State Energy Research and Development Authority (aka NYSERDA)
3. Federal government
4. Manufacturer
5. Other (Please Specify): [TEXT BOX]

97 DON'T KNOW

Thermostats

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR PROGRAMMABLE THERMOSTATS]

MD8. How many programmable thermostats were installed in your home since the audit/rating took place?

RANGE 1-100 [NUMBER BOX]

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR PROGRAMMABLE THERMOSTATS]

MD8a. What is/were the brand(s) of the programmable thermostat(s) that was/were installed?
Please select all that apply. [MULTIPLE RESPONSE]

1. Google Nest
2. Honeywell
3. ecobee
4. Lennox
5. Emerson
6. Lux/Geo
7. White Rodgers
8. Other, please specify _____
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR PROGRAMMABLE THERMOSTATS]

MD8b. Were the programmable thermostat(s) that were installed in your home WiFi enabled?

- 1 Yes
- 2 No
- 97 Don't Know

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR PROGRAMMABLE THERMOSTATS]

MD14A_6. Which of the following best describes when you or your household decided to **install (the) programmable thermostat(s)**?

- 1 Already had decided to do this before the audit/rating took place
- 2 Decided to do this based on the audit/rating recommendations or findings
- 3 Decided to do this after the audit/rating took place for other reasons besides the audit/rating. Please explain: [TEXT BOX]
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR PROGRAMMABLE THERMOSTATS]

MD14B_6. What motivated you to install the **programmable thermostat(s)**? [RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Improving comfort by programming heating and cooling
2. Saving money on energy bills
3. Increasing value of home
4. Other (Please Describe): [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR PROGRAMMABLE THERMOSTATS]

MD14C_6. Did you receive any rebates, tax credits or other incentives to help pay for **programmable thermostat(s)**?

1. Yes
2. No

97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR PROGRAMMABLE THERMOSTATS=1 AND MD14C_6=YES]

M15_6. Who provided the rebate, tax credit or other incentive for the **programmable thermostat(s)**? Select all that apply.

1. Utility company
2. New York State Energy Research and Development Authority (aka NYSERDA)
3. Federal government
4. Manufacturer
5. Other (Please Specify): [TEXT BOX]

97 DON'T KNOW

Water Heater

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR HIGHER EFFICIENCY WATER HEATER]

MD9. What type of **higher efficiency water heater** was installed in your home since the audit/rating took place?

1. Storage
2. Instantaneous or tankless

97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY WATER HEATER]

ER_waterheat_1. To the best of your recollection, how old was the previous water heater prior to the installation of your new higher efficiency water heater?

1. AGE IN YEARS: [NUMERIC TEXT BOX]

97 Don't Know

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR HIGHER EFFICIENCY WATER HEATER]

ER_waterheat_2. Which of the following best describes the condition of the previous water heater that was replaced? [RANDOMIZE 1,2,3,4,5]

1. It was in good working condition

2. It was inefficient

3. It required frequent maintenance

4. It had serious defects and would probably have been replaced within the next couple of years

5. It had failed or was about to fail

6. Or something else? Please specify [TEXT BOX]

97. Don't Know

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR HIGHER EFFICIENCY WATER HEATER]

MD14A_7. Which of the following best describes when you or your household decided to **install the higher efficiency water heater**?

1 Already had decided to do this before the audit/rating took place

2 Decided to do this based on the audit/rating recommendations or findings

3 Decided to do this after the audit/rating took place for other reasons besides the audit/rating. Please explain: [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR HIGHER EFFICIENCY WATER HEATER]

MD14B_7. What motivated you to install the **higher efficiency water heater**? [RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Prior water heater had a small capacity, not adequate for our household needs

2. Saving money on energy bills

3. Increasing value of home

4. Other (Please Describe): [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR HIGHER EFFICIENCY WATER HEATER]

MD14C_7. Did you receive any rebates, tax credits or other incentives to help pay for **higher efficiency water heater**?

1. Yes

2. No

97 DON'T KNOW

[ASK IF M1A OR RATING=YES OR PARTIALLY FOR HIGHER EFFICIENCY WATER HEATER AND MD14C_7=YES]

M15_7. Who provided the rebate, tax credit or other incentive for the **higher efficiency water heater**? Select all that apply.

1. Utility company

2. New York State Energy Research and Development Authority (aka NYSERDA)

3. Federal government

4. Manufacturer

5. Other (Please Specify): [TEXT BOX]

97. DON'T KNOW

Lighting

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR EFFICIENT LIGHT BULBS]

MD10. Thinking of those **energy-efficient light bulbs** that were installed since the audit/rating took place, what percent are they out of all **light bulbs** in your home? Your best guess is fine.

Installed lighting Percent: [TEXT BOX]

97 DON'T KNOW

[ASK IF MD10=1-95]

MD11. Which types of **energy-efficient bulbs** were installed in your home? Select all that apply.

1. Regular LED

2. Smart LEDs (adjustable from a device)

3. CFLs (that is, curly/swirly bulbs)

4. Linear fluorescent (that is, longer linear tubes)
5. Other, please describe: [TEXT BOX]

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR EFFICIENT LIGHT BULBS]

MD14A_9. Which of the following best describes when you or your household decided to **install energy-efficient lighting**?

- 1 Already had decided to do this before the audit/rating took place
- 2 Decided to do this based on the audit/rating recommendations or findings
- 3 Decided to do this after the audit/rating took place for other reasons besides the audit/rating. Please explain: [TEXT BOX]
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR EFFICIENT LIGHT BULBS]

MD14B_9. What motivated you to install **energy-efficient lighting**? [RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Improving light quality
2. Saving money on energy bills
3. Increasing value of home
4. Other (Please Describe): [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR EFFICIENT LIGHT BULBS]

MD14C_9. Did you receive any rebates, tax credits or other incentives to help pay for **energy-efficient lighting**?

1. Yes
2. No

97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR EFFICIENT LIGHT BULBS AND MD14C_9=YES]

M15_9. Who provided the rebate, tax credit or other incentive for the **energy-efficient lighting**? Select all that apply.

1. Utility company
2. New York State Energy Research and Development Authority (aka NYSERDA)
3. Federal government
4. Manufacturer
5. Other (Please Specify): [TEXT BOX]

97 DON'T KNOW

Cooling System

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR EFFICIENT COOLING SYSTEM MEASURE]

MD12. Which of the following best describes the efficiency level of the central air conditioner that was selected and installed in your home since the audit/rating took place?

3. The new system was the exact efficiency level the audit/rating had recommended
 4. The new system had a lower efficiency level than the audit/rating recommended
 5. The new system had a higher efficiency level than the audit/rating had recommended
- 97 I am not sure

[ASK IF MD12=2 OR 3]

MD12a. What was the efficiency level of the cooling/air conditioning system you installed? You can find this information on a yellow sticker on your central air conditioning system next to the word "SEER" (seasonal energy efficiency rating). If you see "EER" listed next to efficiency number or something else, please input what you see in the text box below.

Example of the yellow sticker on your equipment where you can find the information. [INSERT PICTURE OF ENERGY GUIDE YELLOW STICKER WITH SEER #]

1. 13 to 14 SEER
2. 15 to 16 SEER
3. 17 to 18 SEER
4. 19 to 20 SEER
5. HIGHER THAN 20 SEER
6. If not SEER rating, input efficiency info here: [TEXT BOX]

97 Don't Know

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR EFFICIENT COOLING SYSTEM MEASURE]

MD14A_5. Which of the following best describes when you or your household decided to **install the new central air conditioner**?

- 1 Already had decided to do this before the audit/rating took place
 - 2 Decided to do this based on the audit/rating recommendations or findings
 - 3 Decided to do this after the audit/rating took place for other reasons besides the audit/rating. Please explain: [TEXT BOX]
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR EFFICIENT COOLING SYSTEM MEASURE]

ER_cool_1. To the best of your recollection, how old was the previous central air conditioner prior to the installation of your new central air conditioner?

2. AGE IN YEARS: [NUMERIC TEXT BOX]

97 Don't Know

[ASK IF M1A OR PEARL1= YES OR PARTIALLY FOR EFFICIENT COOLING SYSTEM MEASURE]

ER_cool_2. Which of the following best describes the condition of the previous central air conditioner that was replaced? [RANDOMIZE 1,2,3,4,5]

1. It was in good working condition
2. It was inefficient
3. It required frequent maintenance
4. It had serious defects and would probably have been replaced within the next couple of years
5. It had failed or was about to fail
6. Or something else? Please specify [TEXT BOX]

97. Don't Know

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR EFFICIENT COOLING SYSTEM MEASURE]

MD14B_5. What motivated you to replace the **central air conditioner**? [RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Improving comfort (making home less hot or cold)
2. Saving money on energy bills
3. The system was failing or old
4. Increasing value of home
5. Other (Please Describe): [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR EFFICIENT COOLING SYSTEM MEASURE]

MD14C_5. Did you receive any rebates, tax credits or other incentives to help pay for the **new central air conditioner**?

1. Yes
2. No
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR EFFICIENT COOLING SYSTEM MEASURE AND MD14C_5=YES]

M15_5. Who provided the rebate, tax credit or other incentive for the **new central air conditioner**? Select all that apply.

1. Utility company
2. New York State Energy Research and Development Authority (aka NYSERDA)
3. Federal government
4. Manufacturer
5. Other (Please Specify): [TEXT BOX]
- 97 DON'T KNOW

Low Flow Water Conservation Measures

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR LOW FLOW SHOWERHEADS OR FAUCET AERATORS]

MD13. You reported that you installed water conservation measures recommended by the audit/rating. How many low flow showerheads and/or faucet aerators were installed?

Low Flow Showerhead Quantity: RANGE 0-95 [NUMBER BOX]

Low Flow Faucet Aerators Quantity: RANGE 0-95 [NUMBER BOX]

97 Don't Know

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR LOW FLOW SHOWERHEADS OR FAUCET AERATORS]

MD14A_8. Which of the following best describes when you or your household decided to **install hot water conservation measures**?

1. Already had decided to do this before the audit/rating took place
2. Decided to do this based on the audit/rating recommendations or findings

- 3 Decided to do this after the audit/rating took place for other reasons besides the audit/rating. Please explain: [TEXT BOX]
- 97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR LOW FLOW SHOWERHEADS OR FAUCET AERATORS]

MD14B_8. What motivated you to install **hot water conservation measures**? [RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Saving water
2. Saving money on energy bills
3. Increasing value of home
4. Other (Please Describe): [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR LOW FLOW SHOWERHEADS OR FAUCET AERATORS]

MD14C_8. Did you receive any rebates, tax credits or other incentives to help pay for **hot water conservation measures**?

1. Yes
2. No

97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR LOW FLOW SHOWERHEADS OR FAUCET AERATORS1 AND MD14C_8=YES]

M15_8. Who provided the rebate, tax credit or other incentive for the **hot water conservation measures**? Select all that apply.

1. Utility company
2. New York State Energy Research and Development Authority (aka NYSERDA)
3. Federal government
4. Manufacturer
5. Other (Please Specify): [TEXT BOX]

97 DON'T KNOW

Appliances

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR REFRIGERATOR, CLOTHES WASHER, OR DISHWASHER]

M1_NEW4a. Please select which of the appliances that you bought and installed since the audit/rating took place are ENERGY STAR? [INSERT PICTURE OF ENERGY STAR LOGO]

1. Refrigerator [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED]
2. Clothes Washer [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED]
3. Dishwasher [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED]

97 Don't Know

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR REFRIGERATOR]

M1_NEW4b. Is the ENERGY STAR refrigerator you installed since the audit/rating took place your main refrigerator in the home or is it an extra refrigerator used for additional storage?

1. Main Refrigerator
2. Extra Refrigerator

97 Don't Know

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR REFRIGERATOR, CLOTHES WASHER, OR DISHWASHER]

ER_appliance_1. To the best of your recollection, how old was the previous appliance prior to the installation of your new appliance?

1. [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED] Age of the prior refrigerator in years: [NUMERIC TEXT]
2. [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED] Age of the clothes washer in years: [NUMERIC TEXT]
3. [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED] Age of the dishwasher in years: [NUMERIC TEXT]

97 Don't Know

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR REFRIGERATOR, CLOTHES WASHER, OR DISHWASHER]

ER_appliance_2. Are you still using your prior appliance(s)?

| | | | |
|---|------------------------------|-----------------------------|-------------------------------------|
| [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED] Refrigerator | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't Know |
| [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED] Clothes Washer | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't Know |
| [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED] Dishwasher | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't Know |

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR REFRIGERATOR, CLOTHES WASHER, OR DISHWASHER]

ER_appliance_3. Which of the following best describes the condition of the previous appliance that was replaced? [RANDOMIZE RESPONSE OPTIONS EXCEPT SOMETHING ELSE AND DK – KEEP AT THE END]

| [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED] Refrigerator | [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED] Clothes Washer | [DISPLAY IF THEY SAID THEY BOUGHT AND INSTALLED] Dishwasher |
|---|---|---|
| <input type="checkbox"/> It was in good working condition | <input type="checkbox"/> It was in good working condition | <input type="checkbox"/> It was in good working condition |
| <input type="checkbox"/> It was inefficient | <input type="checkbox"/> It was inefficient | <input type="checkbox"/> It was inefficient |
| <input type="checkbox"/> It required frequent maintenance | <input type="checkbox"/> It required frequent maintenance | <input type="checkbox"/> It required frequent maintenance |
| <input type="checkbox"/> It had serious defects and would probably have been replaced within the next couple of years | <input type="checkbox"/> It had serious defects and would probably have been replaced within the next couple of years | <input type="checkbox"/> It had serious defects and would probably have been replaced within the next couple of years |
| <input type="checkbox"/> It had failed or was about to fail | <input type="checkbox"/> It had failed or was about to fail | <input type="checkbox"/> It had failed or was about to fail |
| <input type="checkbox"/> Or something else? Please specify [TEXT BOX] | <input type="checkbox"/> Or something else? Please specify [TEXT BOX] | <input type="checkbox"/> Or something else? Please specify [TEXT BOX] |
| <input type="checkbox"/> Don't Know | <input type="checkbox"/> Don't Know | <input type="checkbox"/> Don't Know |

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR REFRIGERATOR, CLOTHES WASHER, OR DISHWASHER AND BOUGHT ENERGY STAR APPLIANCE]

MD14A. Which of the following best describes when you or your household decided to **buy ENERGY STAR (or efficient) appliance(s) (either refrigerator, clothes washer, or dishwasher)?**

- 1 Already had decided to do this before the audit/rating took place
- 2 Decided to do this based on the audit/rating recommendations or findings

- 3 Decided to do this after the audit/rating took place for other reasons besides the audit/rating. Please explain: [TEXT BOX]

97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR REFRIGERATOR, CLOTHES WASHER, OR DISHWASHER AND BOUGHT ENERGY STAR APPLIANCE]

MD14B. What motivated you to purchase the ENERGY STAR appliance as opposed to non-ENERGY STAR appliance? [RANDOMIZE ORDER, MULTIPLE RESPONSE]

1. Quality of the product
2. Saving money on energy bills
3. Increasing value of home
4. Other [Please Describe]: [TEXT BOX]

96 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR REFRIGERATOR, CLOTHES WASHER, OR DISHWASHER]

MD14C. Did you receive any rebates, tax credits or other incentives to help pay for the appliance you bought since the audit/rating took place? [MULTIPLE RESPONSE]
Select all that apply.

1. Received incentive for refrigerator
2. Received incentive for clothes washer
3. Received incentive for dishwasher
4. No incentive received at all

97 DON'T KNOW

[ASK IF M1A OR PEARL1=YES OR PARTIALLY FOR REFRIGERATOR, CLOTHES WASHER, OR DISHWASHER AND MD14C=1-3]

M15. Who provided the rebate, tax credit or other incentive for the [INSERT MEASURE]?
Select all that apply.

1. Utility company
2. New York State Energy Research and Development Authority (aka NYSERDA)
3. Federal government
4. Manufacturer

5. Other (Specify): [TEXT BOX]

97 DON'T KNOW

Time of the Installation

[ASK IF MORE THAN ONE MEASURE IS SELECTED IN M1A OR PEARL1]

M2c. Based on our records, your [INPUT "audit" if Energy Audits Program participants or INPUT "home inspector's energy score report and/or audit" if Energy Score Rating Pilot participant or INPUT "Pearl Certification home energy report and/or rating" if Pearl Certification Pilot participant] was completed in [YEAR OR REPORT YEAR].

After the audit/rating was done, about when did work first begin on any of the upgrades you described earlier in the survey? Your best estimate is fine.

1. Within 1 month of the audit/rating
1. Within 6 months
2. Within 1 year
3. More than 1 year since audit/rating
- 97 Don't Know

[ASK IF MORE THAN ONE MEASURE IS SELECTED IN M1A OR PEARL1]

M2d. About when was the work finished on the most recent upgrade you described earlier in the survey?

1. Within 1 month of the audit/rating
2. Within 6 months
3. Within 1 year
4. More than 1 year since audit/rating
- 97 Don't Know

[ASK IF ONLY ONE MEASURE IS SELECTED IN M1A OR PEARL1]

M2e. Based on our records, your [INPUT "audit" if Energy Audits Program participants or INPUT "home inspector's energy score report and/or audit" if Energy Score Rating Pilot participant or INPUT "Pearl Certification home energy report and/or rating" if Pearl Certification Pilot participant] was completed in [YEAR OR REPORT YEAR].

After the audit or rating was done, about when did the work first begin on the recommended upgrade project you described earlier in the survey? Your best estimate is fine.

1. Within 1 month of the audit/rating
2. Within 6 months
3. Within 1 year
4. More than 1 year since audit/rating
- 97 Don't Know

[ASK IF ONLY ONE MEASURE IS SELECTED IN M1A OR PEARL1]

M2f. About when was the work on this upgrade project finished?

1. Within 1 month of the audit/rating
2. Within 6 months
3. Within 1 year
4. More than 1 year since audit/rating
- 97 Don't Know

Behaviors Because of the Audit

[ASK ALL WHO PASSED SCREENING]

M4. Which of the following, if any, have you done differently because of what you learned from your [INPUT "audit" If Energy Audits Program participants or INPUT "home inspector's energy score report" if Energy Score Rating Pilot participant or INPUT "Pearl Certification home energy report" if Pearl Certification Pilot participant]? [MULTIPLE RESPONSE, RANDOMIZE]

1. Changed thermostat settings
2. Reduced use of hot water
3. Added "smart" home controls
4. Turned off lights/devices when not in use
5. Scheduled regular servicing or tune ups of my heating system
6. Replaced filters as directed by my contractor
7. None of the Above [SKIP TO COVID-19 SECTION]
- 97 Don't Know [SKIP TO COVID-19 SECTION]

Indirect Benefits / Non-Routine Events

IB1. Since the audit/rating was completed, have you implemented energy efficiency or other home projects that would impact your home energy use that were not recommended in the audit/rating assessment?

1. Yes
2. No [SKIP TO COVID-19 SECTION]
- 98 Don't know [SKIP TO COVID-19 SECTION]

IB2. Which of the following best describes the home project(s) not recommended in the audit/rating assessment that you completed? (Select all that apply)

- a. Installed LED lighting
- b. Installed ENERGY STAR washing machine
- c. Installed ENERGY STAR dishwasher
- d. Installed ENERGY STAR refrigerator
- e. Installed other appliance
- f. Added insulation
- g. Replaced windows
- h. Home addition
- i. Remodeled existing space
- j. installed solar PV panels
- k. Installed solar hot water
- l. Purchased an electric vehicle
- m. Other [Please describe]
- n. Don't Know [SKIP TO COVID-19 SECTION]

IB3. Thinking of completed project(s), please select project(s) for which you received an incentive?

3. [PROGRAMMER LIST SELECTED RESPONSES IN PRIOR Q]

Program Influence / Decision Making

[ASK IF THEY NOTED IMPLEMENTING AT LEAST ONE MEASURE IN M1A AND PEARL1]

INFLUENCE. How influential was the [INPUT “audit” if Energy Audits Program participants or INPUT “home inspector’s energy score report” if Energy Score Rating Pilot participant or INPUT “Pearl Certification home energy report” if Pearl Certification Pilot participant] on your decision to make the energy efficiency upgrade(s) you reported? Please answer on a scale of 0 to 10 where 0 is Not at all Influential and 10 is Highly Influential.

1. [INSERT 0-10 SCALE WHERE 0=Not at all influential and 10=Highly influential AND INSERT DON'T KNOW OPTION]

[ASK IF THEY NOTED IMPLEMENTING AT LEAST ONE MEASURE IN M1A AND PEARL1 AND SAID THEY RECEIVED AN INCENTIVE]

INFLUENCE. How influential was the incentive(s) on your decision to make the energy efficiency upgrade(s) you reported? Please answer on a scale of 0 to 10 where 0 is Not at all Influential and 10 is Highly Influential.

1. [INSERT 0-10 SCALE WHERE 0=Not at all influential and 10=Highly influential AND INSERT DON'T KNOW OPTION]

NEBs

[ASK IF THEY NOTED IMPLEMENTING AT LEAST ONE MEASURE FROM THE AUDIT/RATING REPORT OR NOTED DOING ACTIONS IN M4 (1-6)]

NEB_1. As a result of the upgrades made in your home after the audit/rating, how have the following aspects of your home changed?

| | Much better | A little better | No changes | A little worse | Much worse |
|--|-------------|-----------------|------------|----------------|------------|
| Comfort Levels (temperature, drafts, even temperatures between rooms) | | | | | |
| Level of outside noise | | | | | |
| Home Moisture or Pest Issues | | | | | |
| Frequency of allergies for people living in the home | | | | | |
| Frequency of colds or flu for people living in the home | | | | | |
| Odor Issues (either from outside or from equipment using gas, propane, etc.) | | | | | |

[ASK IF THEY NOTED IMPLEMENTING AT LEAST ONE MEASURE FROM THE AUDIT/RATING REPORT OR NOTED DOING ACTIONS IN M4 (1-6)]

NEB_2. What other changes in your home have you noticed that you would attribute to the energy efficiency improvements or actions you made?

1. [OPEN-END / TEXT BOX]

[ASK IF THEY NOTED IMPLEMENTING AT LEAST ONE MEASURE FROM THE AUDIT/REPORT OR NOTED DOING ACTIONS IN M4 (1-6)]

NEB_3. Since making/implementing your energy efficiency improvements, have you or anyone in your household experienced a change in the number of sick days you/they take from work and / or school? (If no one in your household attends work or school, please select "N/A".)

1. Yes, fewer sick days from work and / or school.
2. Yes, more sick days from work and / or school.
3. No, the same number of sick days from work and / or school.
4. N/A

Contractor Information

[ASK IF THEY NOTED IMPLEMENTING AT LEAST ONE MEASURE FROM THE AUDIT/RATING REPORT]

CON1. How many contractors did you hire to perform the work?

1. None – did it myself/ourselves
2. One
3. More than one
- 97 DON'T KNOW

Cost

[ASK IF THEY NOTED IMPLEMENTING AT LEAST ONE MEASURE FROM THE AUDIT/RATING REPORT]

Cost1. Thinking of the home improvements or efficiency upgrade(s) you completed after the [INPUT "home energy audit" if Energy Audits Program participants or INPUT "home inspector's energy score report" if Energy Score Rating Pilot participant or INPUT "Pearl Certification home energy report" if Pearl Certification Pilot participant], what was the total (labor and equipment) cost of that/those upgrade(s)? Your best estimate is fine.

1. [NUMERIC OPEN-END RESPONSE]

Covid-19 Working From Home Influencing Home Upgrades

[ASK ALL WHO PASSED SCREENING]

Covid1. How many days per week did you work from home on average?

| In 2019? | In 2020? | In 2021? |
|--|--|--|
| <input type="checkbox"/> 0 days or Never | <input type="checkbox"/> 0 days or Never | <input type="checkbox"/> 0 days or Never |
| <input type="checkbox"/> 1 day per week | <input type="checkbox"/> 1 day per week | <input type="checkbox"/> 1 day per week |
| <input type="checkbox"/> 2 days per week | <input type="checkbox"/> 2 days per week | <input type="checkbox"/> 2 days per week |
| <input type="checkbox"/> 3 days per week | <input type="checkbox"/> 3 days per week | <input type="checkbox"/> 3 days per week |
| <input type="checkbox"/> 4 days per week | <input type="checkbox"/> 4 days per week | <input type="checkbox"/> 4 days per week |
| <input type="checkbox"/> 5 or more days per week | <input type="checkbox"/> 5 or more days per week | <input type="checkbox"/> 5 or more days per week |

[ASK ALL WHO PASSED SCREENING AND THEY NOTED IMPLEMENTING AT LEAST ONE MEASURE FROM THE AUDIT/ REPORT]

Covid3. Did anyone else in your household work from home?

2. Others in my household worked from home in 2019
3. Others in my household worked from home in 2020
4. Others in my household worked from home in 2021
5. No – No one else in my household worked from home in 2019, 2020 or 2021
6. Don't Know

[IF THEY OR OTHERS IN THEIR HOUSEHOLD WORKED FROM HOME AND THEY NOTED IMPLEMENTING AT LEAST ONE MEASURE FROM THE AUDIT/ REPORT]

Covid4. How influential was working from home on the decision to invest in the home improvements or upgrade projects you reported earlier? Please answer on a scale of 0 to 10 where 0 is Not at all Influential and 10 is Highly Influential.

1. [INSERT SCALE FROM 0 TO 10 WHERE 0= Not at all influential and 10=Highly influential]

Satisfaction

[ASK ALL WHO PASSED SCREENING]

Satisfaction1. How satisfied are you with each of the following items related to the audit or report you received?

| NYSERDA Program Element | 1 Very Dissatisfied | 2 Somewhat Dissatisfied | 3 Neither Satisfied nor Dissatisfied | 4 Somewhat Satisfied | 5 Very Satisfied | Don't recall |
|---|------------------------------------|--|---|-------------------------------------|---------------------------------|-------------------------|
| <i>1. Ease of scheduling the audit or rating</i> | | | | | | |
| <i>4. Thoroughness of the audit or rating assessment</i> | | | | | | |
| <i>2. [DISPLAY IF ASSESEMENT/AUDIT OR HOME ENERGY SCORE PARTICIPANTS ONLY] Quality and value of the recommendations the audit or rating report included</i> | | | | | | |
| <i>3. Professionalism of the auditor, inspector, or contractor who conducted the audit or rating</i> | | | | | | |

| | | | | | | |
|---|--|--|--|--|--|--|
| 5. Overall Satisfaction with the audit/rating | | | | | | |
|---|--|--|--|--|--|--|

[ASK ALL WHO SAID VERY OR SOMEWHAT DISSATISFIED IN SATISFACTION1 Q]

Satisfaction2. Please further explain or elaborate on any Dissatisfaction ratings (indicated by a '1' or a '2') noted in the prior question.

- 2. [OPEN-END RESPONSE]

[ASK ALL WHO PASSED SCREENING]

Satisfaction3. Would you recommend the audit/rating to a friend, family member, or neighbor??

- 3. Yes
- 4. No
- 97. Don't Know

[ASK ALL WHO SAID EITHER YES OR NO IN SATISFACTION3 Q]

Satisfaction 4. Why would you not recommend the audit/rating to a friend, family member, or neighbor?

- 98. [OPEN-END RESPONSE]

Demographics

[ASK ALL WHO PASSED SCREENING]

Finally, we have a few questions to help make sure we have reached a variety of households and people.

DEMO1. In what year were you born?

- 1. [SINGLE RESPONSE, DROP DOWN MENU RESPONSE WITH YEARS]

[ASK ALL WHO PASSED SCREENING]

DEMO2. Which category best describes the total yearly income of your household?

[SINGLE RESPONSE]

- 2. Less than \$25,000
- 3. \$25,000 to \$49,999
- 4. \$50,000 to \$74,999
- 5. \$75,000 to \$99,999
- 6. \$100,000 to \$149,999
- 7. \$150,000 to \$200,000

8. Over \$200,000
9. Prefer not to say

Utility Account Information

[ASK ALL WHO PASSED SCREENING AND HAVE NOT MOVED]

ACCNUM1. We are hoping to review energy usage for households like yours. We will provide an additional \$10 if you can share information to help us access your utility usage data for your home. Would you be interested in participating?

By selecting "Yes" below, I authorize the New York State Energy Research and Development Authority (NYSERDA), and its designated representatives, to access energy billing and consumption data for the site identified. As an authorized representative of the site, I authorize NYSEDA, and its designated representatives, to access and use any available energy consumption information and data. I understand this information will be used to evaluate energy use patterns for the purpose of measuring energy performance and determining the potential and actual energy savings resulting from evaluated or implemented energy projects. I understand that NYSEDA is subject to the NYS Freedom of Information Law, Public Officers law, Article 6, and that NYSEDA cannot guarantee confidentiality of any information submitted.

1. Yes
2. No

[ASK ONLY THOSE THAT CONSENTED IN ACCNUM1 QUESTION]

ACCNUM2. We need some information on your electricity utility. Please indicate which option you prefer to provide this. You can either:

1. Upload a recent electric bill now
2. Enter your electric utility company name and account number (found on your bill or when you log in to your electricity customer account)
3. Receive an email with a link to upload or provide this information later

[ONLY THOSE THAT SAID UPLOAD A BILL IN ACCNUM2 QUESTION]

ACCNUM3. Click on the upload button to start the bill uploading process.
[SET UP UPLOAD, MAKE IT EASY]

[ASK ONLY THOSE THAT SAID ENTER INFO NOW IN ACCNUM2 QUESTION]

ACCNUM4. Please provide your electric utility account information below.

[IF FEASIBLE, PROGRAMMING INPUT:]

ELECTRIC UTILITY NAME: [TEXT BOX]

ELECTRIC UTILITY ACCOUNT NUMBER (Please do not include spaces or dashes): [TEXT BOX]

[ASK ONLY THOSE THAT CONSENTED IN ACCNUM1 QUESTION AND REPORTED USING NATURAL GAS IN HEATING MEASURE SECTION ABOVE]

ACCNUM5. You noted previously that you use natural gas for heating. Is your gas provider the same as your electricity provider?

1. YES
2. NO

[ASK ONLY THOSE THAT CONSENTED IN ACCNUM1 QUESTION]

ACCNUM6. We need some information on your gas utility. Please indicate which option you prefer to provide this. You can either:

3. Upload a recent gas bill now
4. Enter your gas utility company name (if different from your electric provider) and account number (found on your bill or when you log in to your gas customer account)
5. Receive an email with a link to upload or provide this information later

[ONLY THOSE THAT SAID UPLOAD A BILL IN ACCNUM6 QUESTION]

ACCNUM7. Click on the upload button to start the bill uploading process.

[SET UP UPLOAD, MAKE IT EASY]

[ASK ONLY THOSE THAT SAID ENTER INFO NOW IN ACCNUM6 QUESTION]

ACCNUM8. Please provide your natural gas utility account information below.

IF GAS AND ELECTRIC UTILITY ARE DIFFERENT, PLEASE NAME YOUR NATURAL GAS

UTILITY NAME: [TEXT BOX]

NATURAL GAS UTILITY ACCOUNT NUMBER (Please do not include spaces or dashes): [TEXT BOX]

[DISPLAY TO ALL THAT PASSED SCREENING]

CLOSE. Thank you for participating in the survey! The information you provided will be helpful in evaluating and improving the program. To collect your \$10 gift card for completing this survey (and another \$10 if you shared information to help us access your utility usage data), please follow the link to confirm your email address below or select the home delivery option to provide your home mailing address if you would prefer a physical card be sent to your home.

1 Confirm email address

2 Home delivery option

[ASK IF CLOSE=1]

EMAIL_X. Is [EMAIL] the correct email for where you'd like the gift code sent:

1 Yes

2 No - The correct email is: [TEXT BOX]

[DISPLAY HOMEDELIVERY THROUGH ZIPCODE ON SAME SCREEN]

[ASK IF CLOSE=2]

HOMEDELIVERY. Please provide your home mailing address for where you'd like the gift card sent.

Street Address: [TEXT BOX]

City: [TEXT BOX]

State: [TEXT BOX]

Zip Code: [NUMBER BOX]

Appendix B. MAR and RR Contractor and Inspector Breakout

The following show the breakout of values for contractors and inspectors for Tables 2-10 through 2-13.

Table 2-10B Program Reported Savings Contractor and Inspector Breakout

| Program | Fuel* | Component | Reported | | | | |
|--|-------------|------------|---------------------------|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| | | | Total Savings | Total Participants | Measure Adoption Rate ² | Recommended Savings per Participant | Installed Savings per Participant |
| | | | A (per Reporting data) | B (per Reporting data) | C (per Reporting data) | D (E/C) | E (A/B) |
| Residential Energy Assessments Program (2020-2021) | Electricity | Overall | 2,025,715 | 3,209 | 46% | 1,372 | 631 |
| | Fossil Fuel | Overall | 49,383 | 3,209 | 46% | 33 | 15 |
| Home Energy Score Pilot (2019-2021) | Electricity | Contractor | 31,717 | 137 | 45% | 516 | 232 |
| | | Inspector | 4,747 | 26 | 30% | 598 | 179 |
| | | Overall | 36,464 | 163 | 42% | 529 | 224 |
| | Fossil Fuel | Contractor | 1,626 | 137 | 45% | 26 | 12 |
| | | Inspector | 480 | 26 | 30% | 60 | 18 |
| | | Overall | 2,105 | 163 | 40% | 32 | 13 |
| Pearl Certification Pilot (2019-2021) | Electricity | Contractor | 24,046 | 123 | 45% | 435 | 196 |
| | | Inspector | 62,695 | 332 | 30% | 629 | 189 |
| | | Overall | 86,741 | 455 | 33% | 577 | 191 |
| | Fossil Fuel | Contractor | 1,508 | 123 | 45% | 27 | 12 |
| | | Inspector | 3,050 | 332 | 30% | 31 | 9 |
| | | Overall | 4,559 | 455 | 34% | 30 | 10 |

*Savings for electricity are shown in kWh. Savings for fossil fuel are shown in MMBtu.

² Measure Adoption Rates based on a prior evaluation: <https://www.nyscrda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2016-2018-GJGNY-Audit-Only-MAR-Impact-Evaluation-Report.pdf>

Table Error! No text of specified style in document.-1B. Evaluated savings Contractor and Inspector Breakout

| Program | Fuel* | Component | Evaluated | | | | |
|--|-------------|--------------------------|---------------|---------------------------|---|---|---|
| | | | Total Savings | Total Participants | Long Term Measure Adoption Rate | Implied Recommended Savings per Participant | Long Term Installed Savings per Participant |
| | | | A (B x E) | B (per program roster) | C (per customer surveys, Error! Reference source not found.) | D (E/C) | E (per billing analysis, Error! Reference source not found.) |
| Residential Energy Assessments Program (2020-2021) | Electricity | Overall | (1,732,777) | 3,397 | 0.51 | (1,005) | (510) |
| | | Standard Error (Overall) | 3,741,747 | | 0.06 | | 1,101 |
| | Fossil Fuel | Overall | 40,418 | 3,397 | 0.38 | 32 | 12 |
| | | Standard Error (Overall) | 9,319 | | 0.02 | | 3 |
| Home Energy Score Pilot (2019-2021) | Electricity | Contractor | | 146 | 0.52 | | |
| | | Inspector | | 28 | 0.13 | | |
| | | Overall | (88,756) | 174 | 0.47 | (1,078) | (510) |
| | | Standard Error (Overall) | 191,659 | | 0.12 | | 1,101 |
| | Fossil Fuel | Contractor | | 146 | 0.48 | | |
| | | Inspector | | 28 | 0.12 | | |
| | | Overall | 2,070 | 174 | 0.39 | 30 | 12 |
| | | Standard Error (Overall) | 478 | | 0.09 | | 3 |
| Pearl Certification Pilot (2019-2021) | Electricity | Contractor | | 141 | 0.46 | | |
| | | Inspector | | 377 | 0.22 | | |
| | | Overall | (264,227) | 518 | 0.38 | (1,346) | (510) |
| | | Standard Error (Overall) | 570,570 | | 0.05 | | 1,101 |
| | Fossil Fuel | Contractor | | 141 | 0.46 | | |
| | | Inspector | | 377 | 0.22 | | |
| | | Overall | 6,163 | 518 | 0.38 | 31 | 12 |
| | | Standard Error (Overall) | 1,421 | | 0.05 | | 3 |

*Savings for electricity are shown in kWh. Savings for fossil fuel are shown in MMBtu.

Table Error! No text of specified style in document.-2B. Realization rates Contractor and Inspector Breakout

| Program | Fuel | Component | Realization Rates | | | | |
|--|-------------|--------------------------|-------------------|--------------------|-----------------------|-------------------------------------|-----------------------------------|
| | | | Total Savings | Total Participants | Measure Adoption Rate | Recommended Savings per Participant | Installed Savings per Participant |
| Residential Energy Assessments Program (2020-2021) | Electricity | Overall | (0.86) | 1.06 | 1.10 | (0.73) | (0.81) |
| | | Standard Error (Overall) | 1.85 | | 0.13 | | 1.74 |
| | Fossil Fuel | Overall | 0.82 | 1.06 | 0.82 | 0.94 | 0.77 |
| | | Standard Error (Overall) | 0.19 | | 0.04 | | 0.18 |
| Home Energy Score Pilot (2019-2021) | Electricity | Contractor | | 1.07 | 1.15 | | |
| | | Inspector | | 1.06 | 0.42 | | |
| | | Overall | (2.43) | 1.07 | 1.12 | (2.04) | (2.28) |
| | | Standard Error (Overall) | 5.26 | | 0.28 | | 4.92 |
| | Fossil Fuel | Contractor | | 1.07 | 1.06 | | |
| | | Inspector | | 1.06 | 0.39 | | |
| | | Overall | 0.98 | 1.07 | 0.98 | 0.94 | 0.92 |
| | | Standard Error (Overall) | 0.23 | | 0.22 | | 0.21 |
| Pearl Certification Pilot (2019-2021) | Electricity | Contractor | | 1.15 | 1.03 | | |
| | | Inspector | | 1.13 | 0.75 | | |
| | | Overall | (3.05) | 1.14 | 1.15 | (2.33) | (2.68) |
| | | Standard Error (Overall) | 6.58 | | 0.16 | | 5.78 |
| | Fossil Fuel | Contractor | | 1.15 | 1.03 | | |
| | | Inspector | | 1.13 | 0.75 | | |
| | | Overall | 1.35 | 1.14 | 1.12 | 1.06 | 1.19 |
| | | Standard Error (Overall) | 0.31 | | 0.16 | | 0.27 |

Appendix C. Billing Analysis Fit Summary

The billing analysis modeling process has two stages. The first occurs at the site level for the pre- and post-installation periods. This modeling is changepoint modeling to facilitate weather normalizing all consumption to TMY weather. These models locate and correlate between load and degree days, cumulative temperatures above and below assigned base temperatures. These models identify portions of consumption that are correlated with either heating degree days or cooling degree days and allow just those portions of consumption to be adjusted to reflect those TMY temperatures.

The figures below provide a histogram for the r-squared values for the models for gas and electric. The pre- and post-implementation models for participants and comparison group customers are grouped into r-square bins. For gas, where the correlation of heating consumption is strong and there are limited other end-uses, the majority of the models have R-square above 90%. For electric, there are more models that explain a more limited degree of variation, as is typical. This is to be expected because in NY not all households will have strong heating or cooling correlations. Importantly, the distribution of r-square across the two time periods and two groups are roughly similar within each r-square bin. For electric, the portion of consumption that is weather correlated is low compared to gas so the possibility for error entering through the weather normalization process is also limited.

The second stage of the billing analysis compares the difference between pre- and post-installation consumption for the participant and comparison groups in a difference in difference (DID) framework. The DID framework means that any shortcomings in site-level modeling will be balanced out across the timeframes and groups. The calculations of precisions for the final impact estimates take into consideration the residual error of the site-level models via the across site aggregation process. For this billing analysis, the sources of error from the site-level models are limited and the DID structure addresses any error that is present explicitly.





