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NYSERDA

# 2022 MULTIFAMILY BUILDING STOCK ASSESSMENT

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# ACKNOWLEDGEMENTS

The Cadmus project team would like to express sincere gratitude and appreciation for NYSERDA Project Managers Elizabeth Boulton and Tracey DeSimone, whose thoughtful and incisive leadership provided essential support and guidance throughout the project.

We also thank members of the broader NYSERDA project team, including Jennifer Meissner, Victoria Engel-Fowles, and Patricia Gonzales, all of whom provided leadership and guidance critical to the success of the project.

Cadmus would like to thank Res-Intel and especially Hal Nelson for supporting our effort to gather initial data about the full population of statewide multifamily buildings. Gross, Daniel, & Solomon Associates, Steven Winter Associates and Ridgeline Energy Analytics played an invaluable role in facilitating site visits across the state. We would especially like to thank Jennifer Thornton, Elihu Dietz, and David Korn for their leadership of their project teams. Cadmus would also like to thank Leede Research and the Applied Public Policy Research Institute for Study and Evaluation, including Terry Schimmel, Lynda Rose, and David Carroll, for their assistance in conducting surveys.

Finally, Cadmus expresses wholehearted appreciation for the field technicians who completed the 434 site visits. This report would not be possible without their contributions.

# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| **AC** | Air conditioning |
| **AMI** | Area median income |
| **APPRISE** | Applied Public Policy Research Institute for Study and Evaluation |
| **CCFL** | Cold cathode fluorescent light |
| **CFL** | Compact fluorescent light |
| **CRT** | Cathode ray tube |
| **DAC** | Disadvantaged community |
| **EER** | Energy Efficiency Ratio |
| **EF** | Energy Factor |
| **EUI** | Energy use intensity |
| **GDS** | Gross, Daniel, and Solomon Associates |
| **HVAC** | Heating, ventilation, and air conditioning |
| **IOU** | Investor-owned utility |
| **KSV** | Kelliher Samets Volk Agency |
| **LCD** | Liquid crystal display |
| **LED** | Light emitting diode |
| **LiDAR** | Light detection and ranging |
| **LMI** | Low- to moderate-income |
| **NYSERDA** | New York State Energy Research and Development Authority |
| **OLED** | Organic LED |
| **SMBS** | Statewide Multifamily Baseline Study |
| **SEER** | Seasonal Energy Efficiency Ratio |
| **SWA** | Steven Winter Associates |

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# EXECUTIVE SUMMARY

## KEY FINDINGS

### ABOUT THIS STUDY

The 2022 NYSERDA *Statewide Multifamily Building Study* (SMBS) is the first multifamily building stock assessment to characterize the estimated 2.6 million multifamily dwelling units throughout New York State (NYS). The SMBS collected data about New York buildings through two primary means—online and phone surveys and site visits.

This report presents a high-level overview of findings from the surveys and site visits conducted for the 2022 SMBS. Appendix A provides more-detailed results across all collected building and dwelling unit characteristics in roughly 750 tables. A total of 1,337 building representatives and 135 building occupants completed the online and phone surveys statewide. Under the leadership of Cadmus as prime contractor, phone surveys were conducted primarily by Leede Research, with additional support from Applied Public Policy Research Institute for Study and Evaluation (APPRISE) under the leadership of NYSERDA. Field technicians working under the guidance of Cadmus with subcontractors Steven Winter Associates (SWA), GDS Associates (GDS), and Ridgeline Energy Analytics (Ridgeline) completed site visits at 434 multifamily buildings that comprised buildings sampled within each of the State's major investor-owned utility (IOU) territories by building size and ownership type.

The project also encompassed two additional components—a market assessment to inform a baseline understanding of industry practices, market drivers, and barriers in the State multifamily market, and an image analysis study, which used machine learning to analyze aerial imagery, estimating externally visible characteristics of every multifamily building in the State. Documenting the results of these two components falls outside the scope of this report, which presents findings solely for the building assessment component. Separate reports and findings are available for the market assessment and image analysis components.

### PRIMARY OBJECTIVE

The primary objectives of the SMBS are to provide a profile of multifamily buildings in the State based on data from a representative sample of buildings and dwelling units and to provide baseline data on building and equipment stock, including changes in the saturation of energy-consuming equipment (electric, natural gas, and other fuels), building characteristics, and energy management practices to stakeholders in the industry such as utilities, contractors, and other service providers. The SMBS also collected occupant household and demographic information.

Information provided by this study will be used by NYSERDA, the New York State Department of Public Service, energy efficiency program administrators throughout the State, and other interested parties for a variety of purposes, such as informing program planning and setting baselines for savings calculations. This information also provided necessary inputs to the market assessment and image analysis components of the project.

# KEY FINDINGS

The following section highlights several key findings from the NYSERDA SMBS. All results are weighted to provide estimates representative of multifamily buildings throughout the State.

This study defines a multifamily building as any house or living unit in a building with five or more living units. Tables present findings by stratification that include geographic region, building size, ownership type, building vintage, dwelling unit meter type, and disadvantaged community (DAC) distinction. The table below presents details on segments within each stratum. Throughout this report, findings not presented for a specific stratification apply to the statewide population of multifamily buildings.

| CHARACTERISTICS | REPORTING SEGMENTS |
|---|---|
| **Geographic Region** | New York City (Climate Zone 4A)<br>Long Island + Westchester County (Climate Zone 4B)<br>Climate Zone 5<br>Climate Zone 6 |
| **Building Size** | Low-Rise (1 to 3 floors)<br>Mid-Rise (4 to 7 floors)<br>High-Rise (8+ floors) |
| **Ownership Type** | Affordable Subsidized<br>Affordable Census Block<br>Co-ops and Condos<br>Market-Rate Rentals |
| **Building Vintage** | Pre-1940<br>1940 to 1978<br>1979 to 2006<br>2007 to Present |
| **Dwelling Unit Meter Type** | Building-Level Metered, Direct Metered |
| **Disadvantaged Community** | Yes, No |

### AFFORDABLE SUBSIDIZED HOUSING:

Buildings receiving subsidies to buildings, such as those through NYC Housing Preservation & Development, NYS Homes and Community Renewal, the New York City Housing Development Corporation, and U.S. Department of Housing and Urban Development.

### DISADVANTAGED COMMUNITY (DAC) HOUSING:

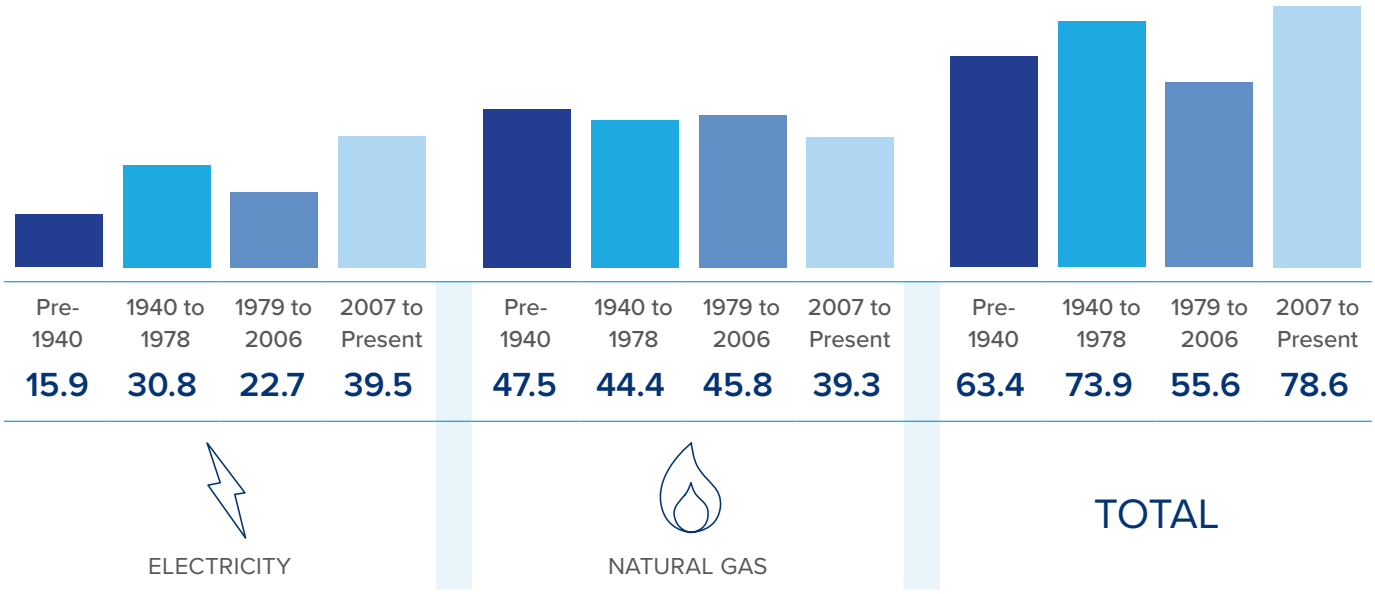
Buildings in a census tract identified by the NYS DAC criteria, which can be found on the NYSERDA website.

### AFFORDABLE CENSUS BLOCK HOUSING:

Buildings not previously categorized as affordable subsidized that (a) are represented in NYSERDA LMI data as low or moderate income or (b) are located within census block groups with an estimated average household income below 80% of the Area Median Income (AMI), based on a 2019 income threshold table provided by NYSERDA, which was the most recent data accessible at the time when defining this strata.

NEW BUILDINGS USE MORE ENERGY THAN OLD BUILDINGS

## Buildings built after 2006 have a higher total building energy use intensity (EUI)[1] than older buildings, measured in kBtu/sq ft.

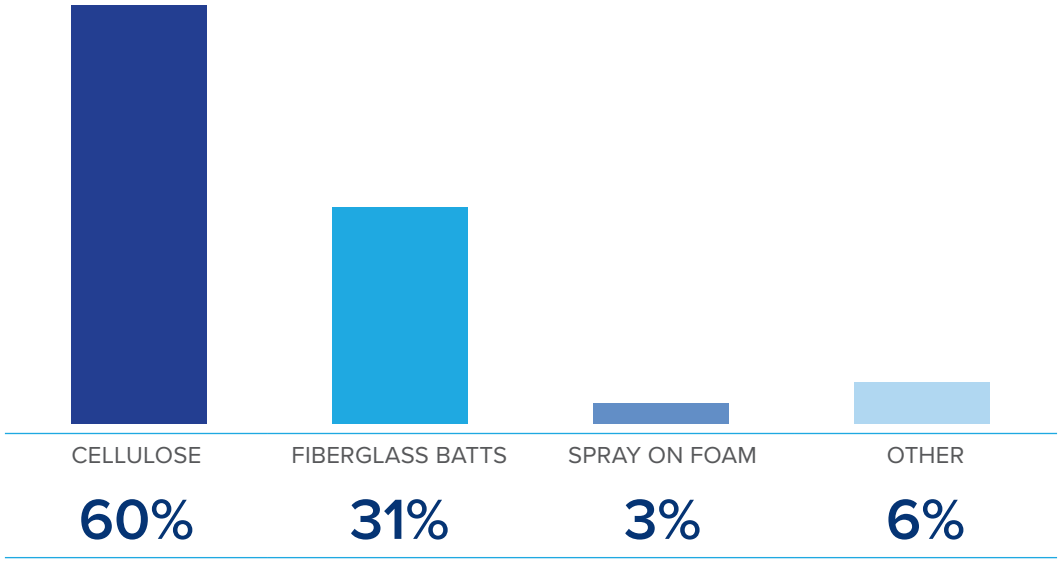



[1]*Total Building EUI (kBTU/Sqft) is calculated as the total of electric EUIs, natural gas EUIs, and other fuel EUIs. The EUI weighting accounts for the presence of each fuel - i.e. the fuel saturation. Other fuels that are included in the total building EUI include fuel oil, propane, and steam, and represent 6-12% of fuel saturation across geographic regions.*

SEE THE DATA

CELLULOSE IS THE MOST COMMON ROOF INSULATION

## Three in five buildings statewide have cellulose roof insulation.

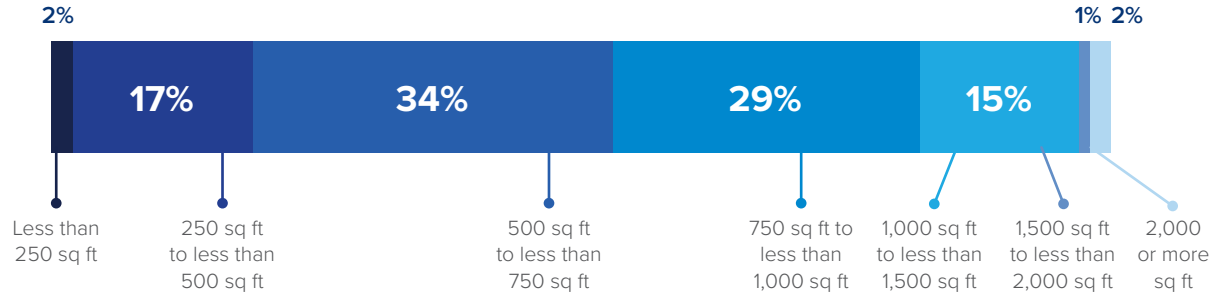



SEE THE DATA

# LOW RISE

## SMALLER BUILDINGS CONTAIN LARGER DWELLING UNITS

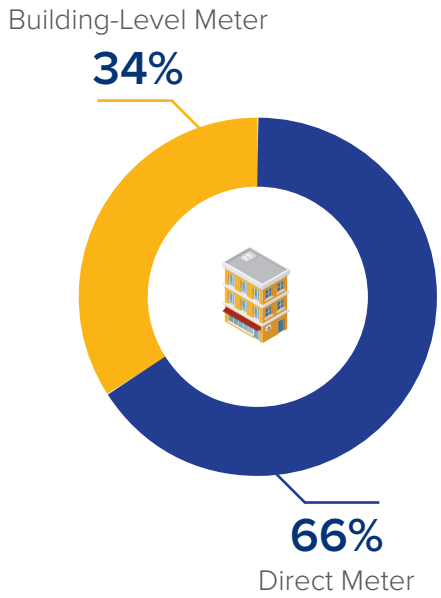
**DWELLING UNITS TEND TO BE LARGER IN LOW-RISE BUILDINGS THAN IN MID- OR HIGH-RISE BUILDINGS.**




SEE DATA

## NATURAL GAS METERING TYPE DEPENDS ON BUILDING SIZE

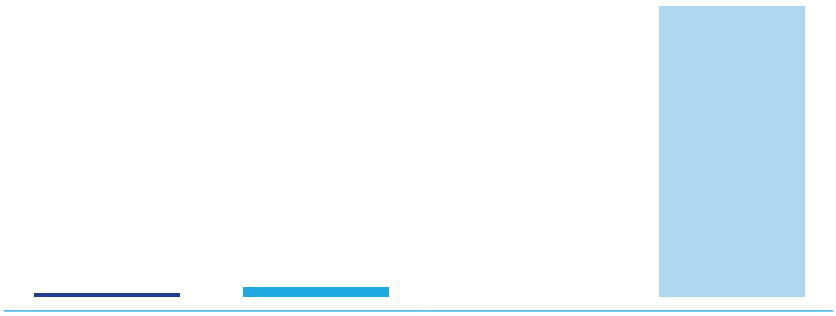
**LOW- AND MID-RISE BUILDINGS TEND TO HAVE DIRECT NATURAL GAS METERS FOR TENANTS, WHILE MOST HIGH-RISE BUILDINGS HAVE BUILDING-LEVEL METERS.**




SEE DATA

ROOF ISSUES ARE MOST COMMON IN MID-RISE BUILDINGS

**MID-RISE BUILDINGS HAVE THE MOST ROOF ISSUES AMONG BUILDING SIZES.**



| Concave Roof | Water Leaks | Other Problem | None |
|---|---|---|---|
| 1% | 3% | 0% | 96% |

SEE DATA

METAL WINDOW FRAMES PREDOMINATE

**METAL IS THE MOST COMMON WINDOW FRAME MATERIAL ACROSS BUILDING SIZES.**

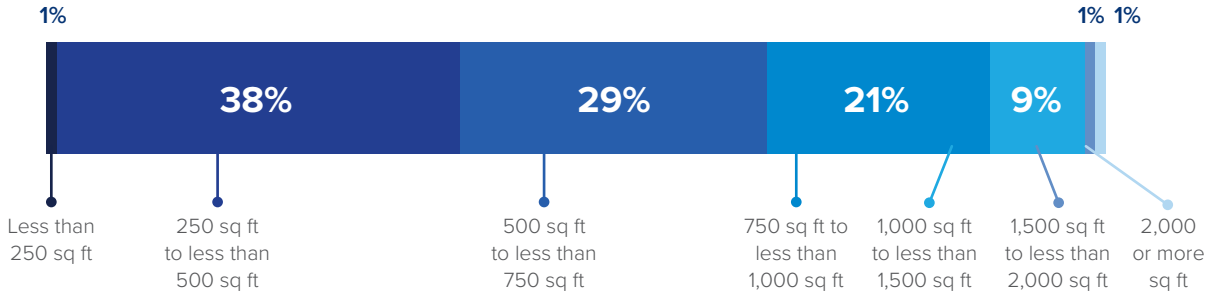
| Fiberglass | Metal | Vinyl | Wood |
|---|---|---|---|
| 0% | 46% | 43% | 10% |

SEE DATA

# MID RISE

## SMALLER BUILDINGS CONTAIN LARGER DWELLING UNITS

**DWELLING UNITS TEND TO BE LARGER IN LOW-RISE BUILDINGS THAN IN MID- OR HIGH-RISE BUILDINGS.**

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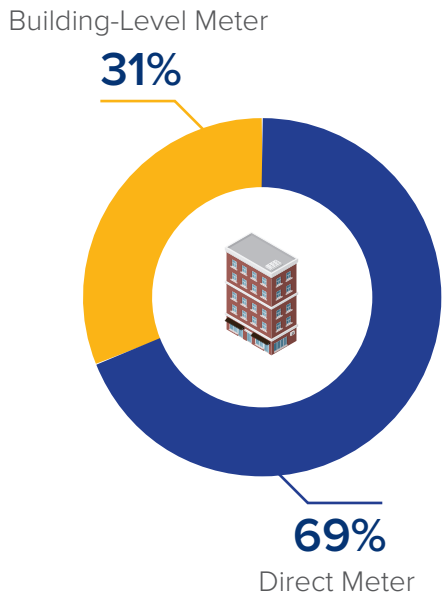


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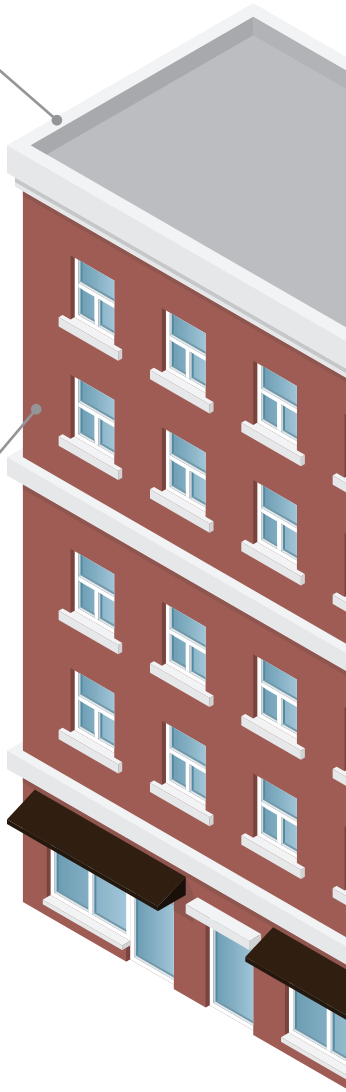

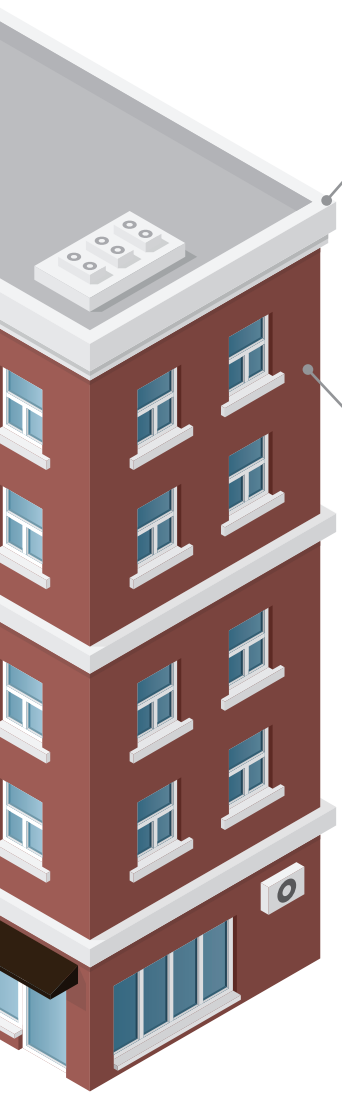

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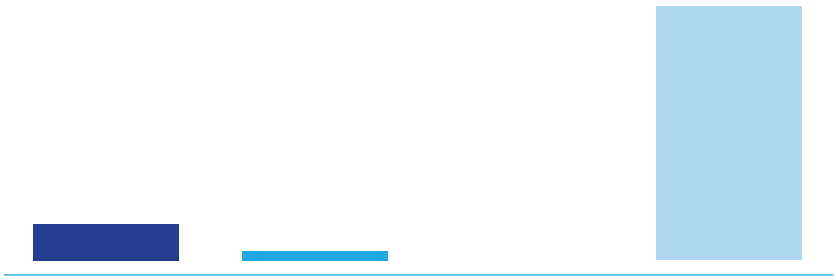


| Concave Roof | Water Leaks | Other Problem | None |
|---|---|---|---|
| 12% | 3% | 0% | 84% |

SEE DATA

METAL WINDOW FRAMES PREDOMINATE

**METAL IS THE MOST COMMON WINDOW FRAME MATERIAL ACROSS BUILDING SIZES.**

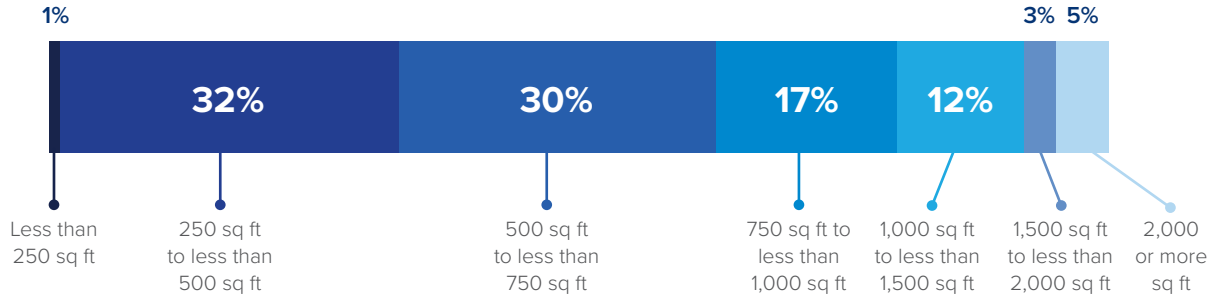
| Fiberglass | Metal | Vinyl | Wood |
|---|---|---|---|
| 0% | 87% | 7% | 6% |

SEE DATA

# HIGH RISE

## SMALLER BUILDINGS CONTAIN LARGER DWELLING UNITS

**DWELLING UNITS TEND TO BE LARGER IN LOW-RISE BUILDINGS THAN IN MID- OR HIGH-RISE BUILDINGS.**

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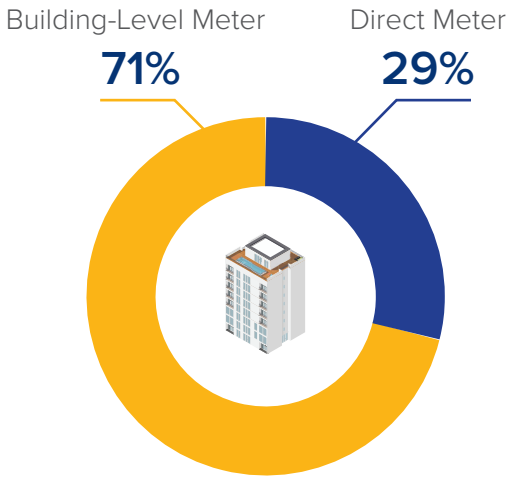
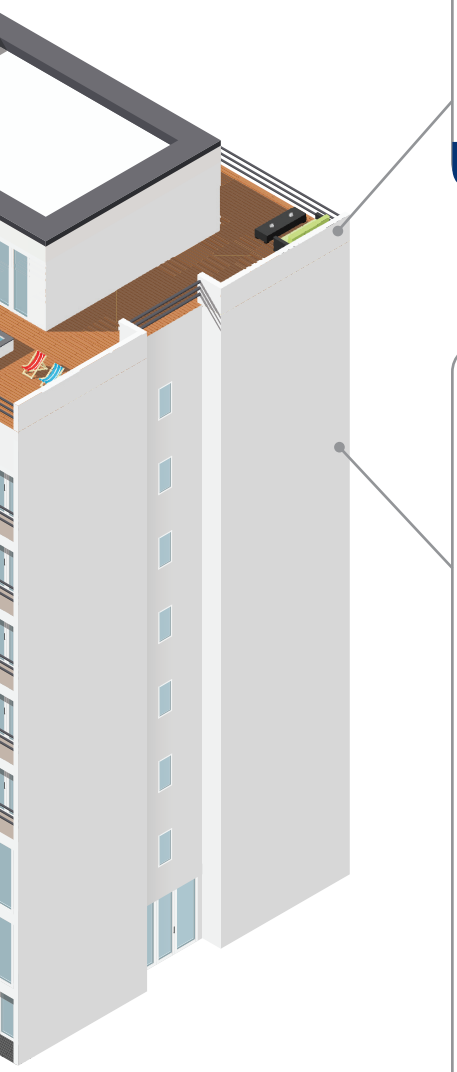



SEE DATA



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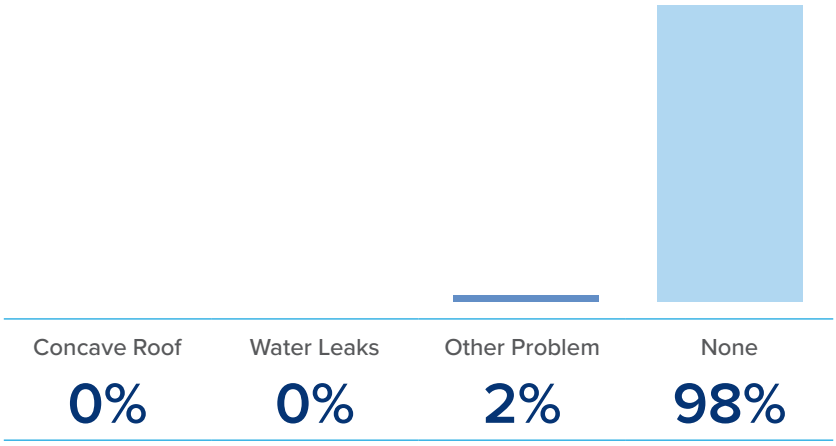
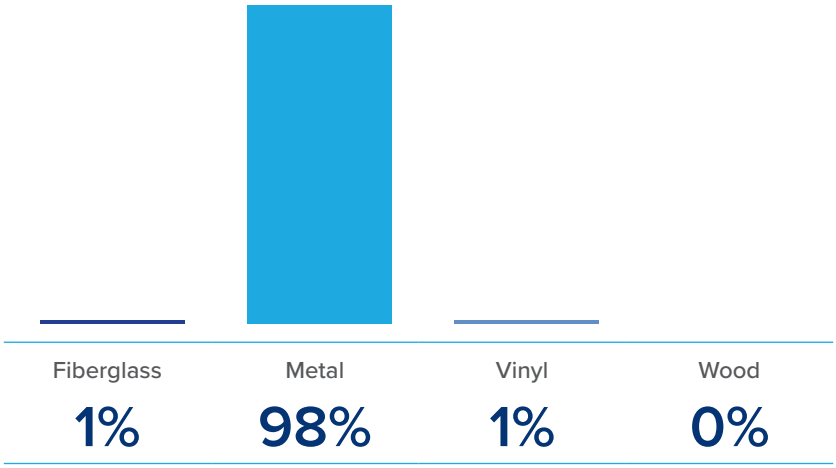


| Concave Roof | Water Leaks | Other Problem | None |
|---|---|---|---|
| 0% | 0% | 2% | 98% |

SEE DATA

METAL WINDOW FRAMES PREDOMINATE

**METAL IS THE MOST COMMON WINDOW FRAME MATERIAL ACROSS BUILDING SIZES.**



| Fiberglass | Metal | Vinyl | Wood |
|---|---|---|---|
| 1% | 98% | 1% | 0% |

SEE DATA

THE MAJORITY OF BUILDINGS USE WINDOW AIR CONDITIONING

# Window AC is the most popular cooling method for dwelling units across ownership types.

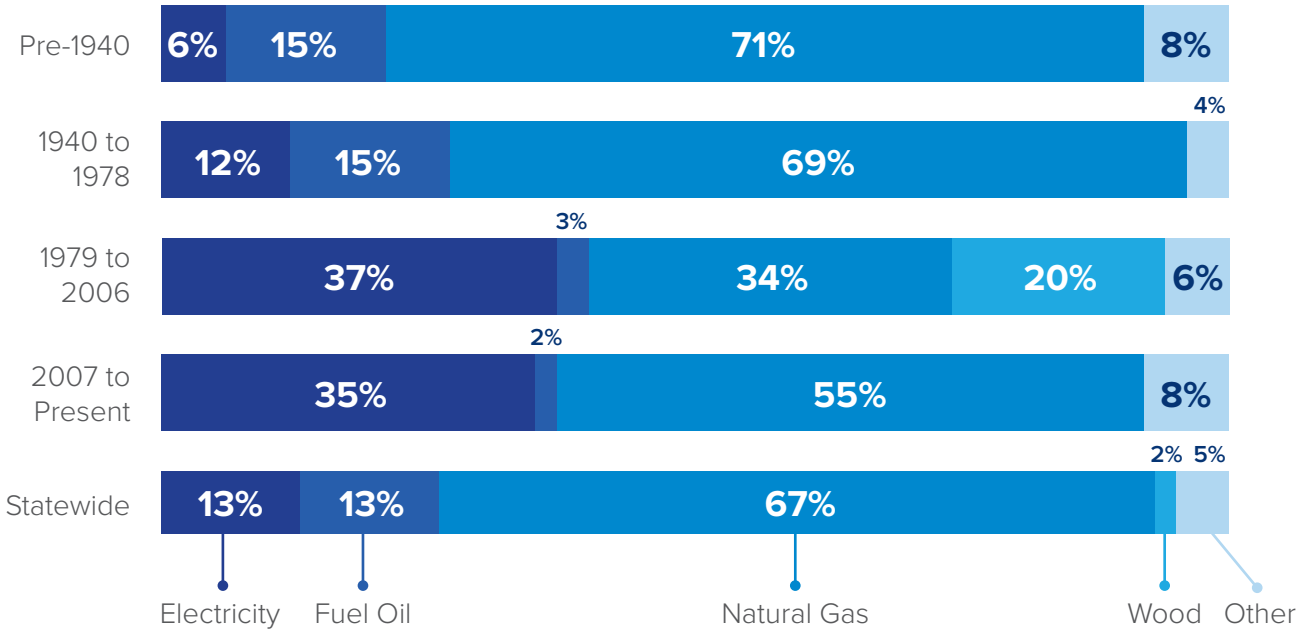
SEE THE DATA

| TYPE OF AC | AFFORDABLE SUBSIDIZED | AFFORDABLE CENSUS BLOCK | CO-OPS AND CONDOS | MARKET-RATE RENTALS | STATEWIDE |
|---|---|---|---|---|---|
| Central Direct Expansion | 11% | 9% | 14% | 12% | 9% |
| Packaged Terminal AC | 0% | 0% | 0% | 0% | 0% |
| Portable AC | 8% | 6% | 2% | 4% | 5% |
| Through-the-wall AC | 20% | 14% | 20% | 32% | 24% |
| Window AC | 61% | 71% | 64% | 52% | 62% |

NATURAL GAS IS THE MOST COMMON HEATING FUEL

# Natural gas is by far the most common primary heating fuel in the state.

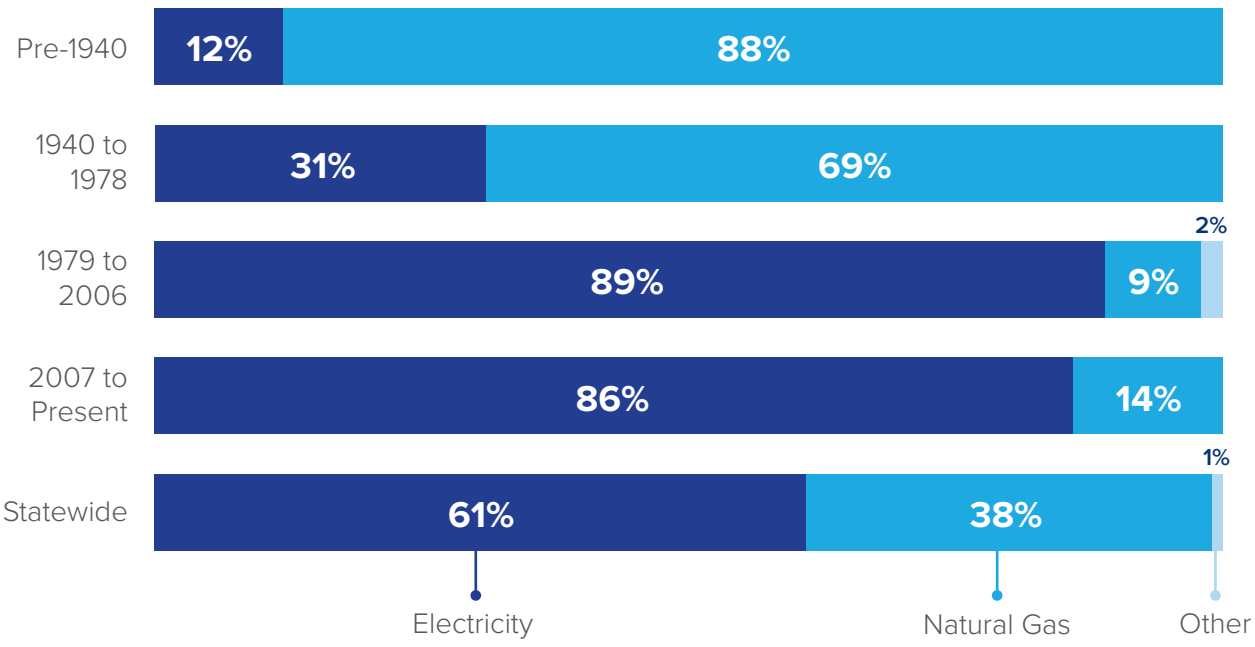
SEE THE DATA



NEWER BUILDINGS FAVOR ELECTRIC WATER HEATING

# Close to nine in ten buildings built since 1979 use electric water heaters.

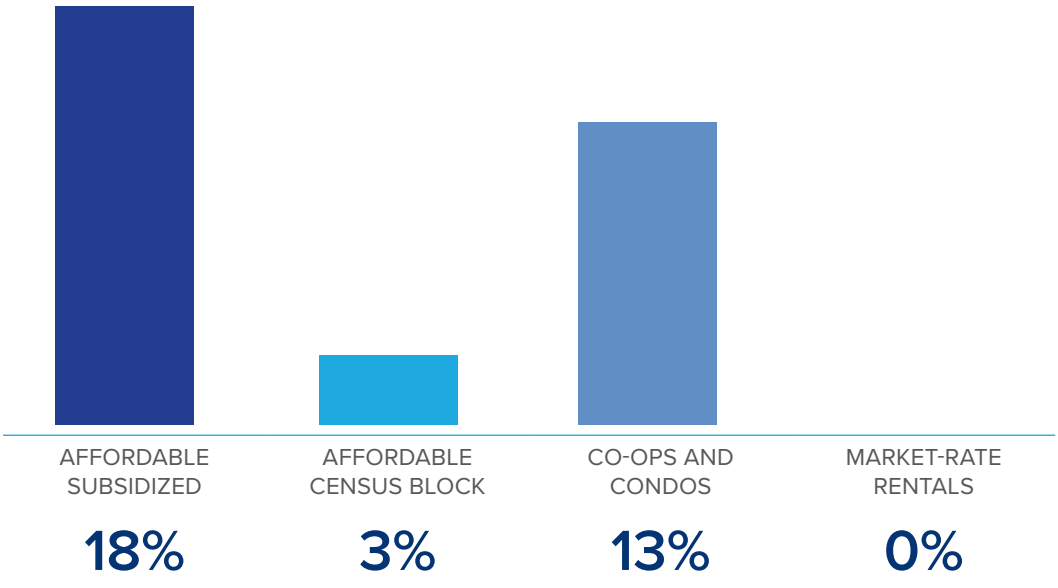
SEE THE DATA



ROOM FOR IMPROVEMENT IN EFFICIENCY

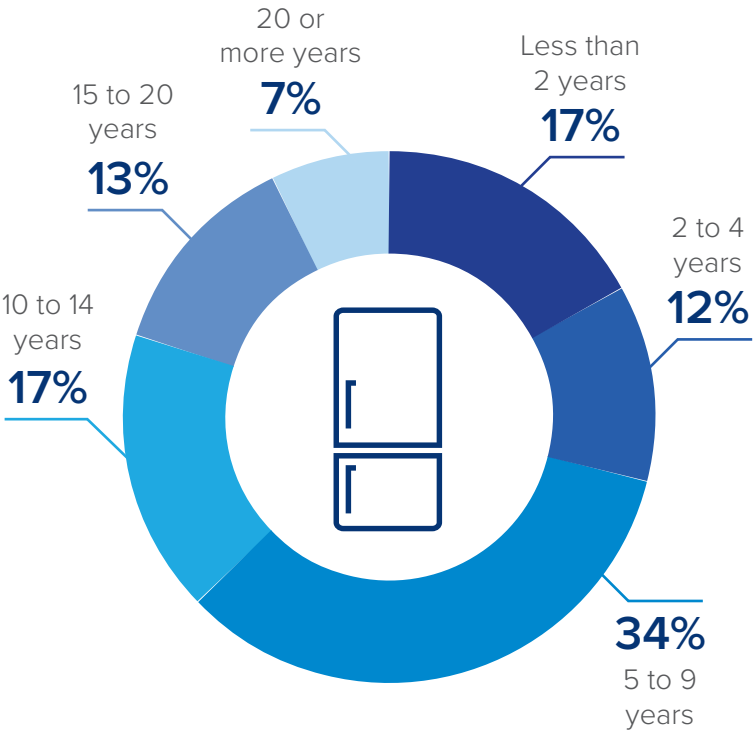
# Fewer than one in five dwelling units have ENERGY STAR® labeled water heaters.

SEE THE DATA



OLDER REFRIGERATORS ARE TYPICALLY REPLACED

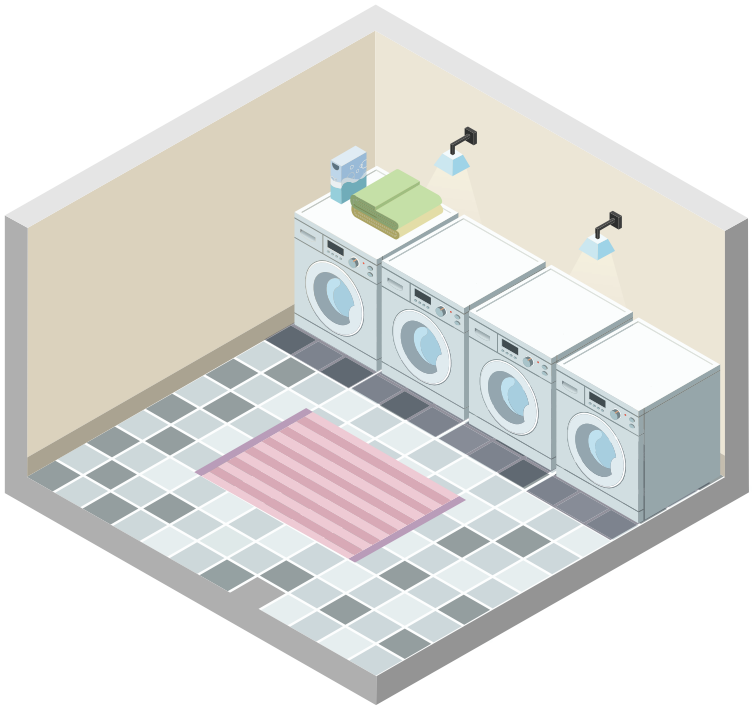
# Two-thirds of dwelling units have refrigerators that are less than 10 years old.




SEE THE DATA

HALF OF BUILDINGS LACK LAUNDRY FACILITIES

# Only half of buildings statewide provide tenants with common laundry facilities, which tend to be outdated.



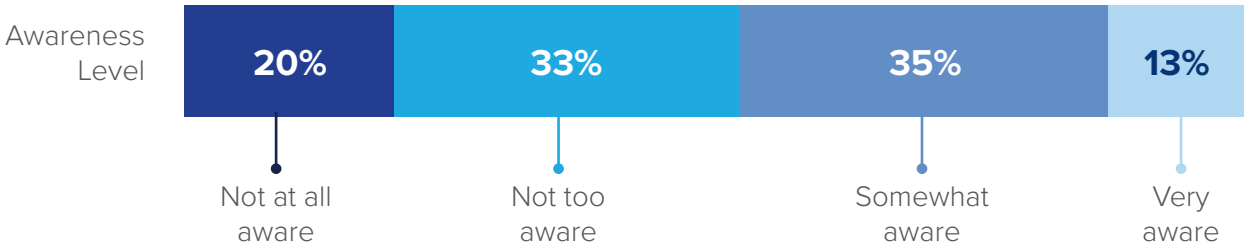
SEE THE DATA

| AGE OF LAUNDRY EQUIPMENT (FOR BUILDINGS WITH COMMON LAUNDRY) | AFFORDABLE SUBSIDIZED | AFFORDABLE CENSUS BLOCK | CO-OPS AND CONDOS | MARKET-RATE RENTALS | STATEWIDE |
|---|---|---|---|---|---|
| Has Common Laundry | 51% | 33% | 64% | 51% | 48% |
| Less than 2 years | 1% | 6% | 45% | 0% | 9% |
| 2 to 4 years | 3% | 2% | 33% | 3% | 8% |
| 5 to 9 years | 7% | 7% | 0% | 18% | 16% |
| 10 to 14 years | 36% | 18% | 0% | 8% | 10% |
| 15 to 20 years | 1% | 62% | 22% | 66% | 45% |
| 20 or more years | 51% | 5% | 0% | 5% | 11% |

PROGRAM AWARENESS VARIES

## Lack of awareness of energy efficiency programs may be a barrier to participation.

SEE THE DATA




INCENTIVES ARE MIXED FOR PROGRAM PARTICIPATION

## Most building representatives do not see a reason to participate in energy efficiency improvements.

SEE THE DATA

| REASONS FOR NOT MAKING ENERGY EFFICIENCY IMPROVEMENTS | STATEWIDE |
|---|---|
| Do not know who to contact | 19% |
| Have not needed to upgrade equipment | 22% |
| Not aware of any reason to participate | 33% |
| Occupants pay most energy bills, so we lack incentive to reduce energy costs | 18% |
| This is a recently purchased property | 4% |
| Updating equipment would disrupt occupied living spaces | 11% |
| We tend to purchase the least expensive equipment option | 11% |

# STUDY OVERVIEW

## ABOUT THIS REPORT

This report presents findings of the building assessment component of the 2022 SMBS, which consisted of online or phone interviews with 1,337 building representatives, as well as 434 site visits conducted by field technicians. While the body of this report focuses on the most notable or significant findings, Appendix A provides a lengthy collection of tables, and Appendix B provides a detailed record of the study methodology for readers who want more detail than is provided in the main report.

## GUIDING PRINCIPLES

NYSERDA has attempted to reach the multifamily sector in multiple previous studies. It has been historically difficult to reach key stakeholders like building owners and managers for a variety of reasons, including lack of up-to-date contact information, multiple potential contacts for a single building, and low response rates within the sector. Discussions with working groups consisting of representatives from NYSERDA and each major NYS utility led to three decisions:

- The SMBS included separate stratified samples for the following characteristics:
    - **Building Size:** low-rise (1 to 3 floors), mid-rise (4 to 7 floors), and high-rise (8 or more floors) housing
    - **Ownership Type:** affordable subsidized, affordable census block, co-op and condo, and market-rate rental buildings
    - **Building Vintage:** pre-1940, 1940 to 1978, 1979 to 2006, and 2007 to present
    - **Dwelling Unit Meter Type:** Building-level metered and direct metered
    - **Disadvantaged Communities**[2]
    - **Geographic region:** the service area of each of the state's IOUs
- Cadmus identified different segmentation to use for analysis and reporting than the sampling segmentation listed above except for building size and ownership type. Based on discussions with NYSERDA and other stakeholders, segmenting by climate zones was more useful than by IOU service area for reporting purposes; these zones were defined as NYC (designated as Climate Zone 4a), Long Island and Westchester County (designated as Climate Zone 4b), western and southern New York (Climate Zone 5), and upstate New York (Climate Zone 6). Identified reporting segments also included DAC designation and dwelling unit metering type (direct metered or building-level metered).
- The 2022 SMBS recruited participants primarily through email and postcards. Building representatives were reached using datasets of potential contact information from tax assessor data and commercially available contact information, and some representatives eventually referred Cadmus to occupants. Multifamily buildings were sampled from a population dataset built from disparate data sources.

[2] *More information on disadvantaged communities in New York can be found at https://climate.ny.gov/Resources/Disadvantaged-Communities-Criteria*

# POPULATION DATA

Before the analysis, a single dataset with detailed information on the attributes and energy usage for every multifamily building in NYS did not exist. Developing population data that identified essentially every multifamily building in NYS was necessary to support the image analysis component of the project, and those data also supported the building stock assessment. Drawing on numerous sources, including an earlier NYSERDA attempt to develop a similar dataset, Cadmus and population data subcontractor Res-Intel ultimately arrived at population data that documented the basic characteristics of approximately 130,000 buildings throughout NYS.

Partial population data can be found in several public sources including NYS tax assessor data, GIS parcel data, NYC PLUTO, and NYC Open Data, as well as in commercially available databases like Costar, Data Axel, and Reonomy. It is important to note that individually these datasets are incomplete; a key value of this baseline study is that it consolidated all these sources into one more reliable dataset. Data was not available on baseline energy use conditions of most NYS multifamily buildings. NYC Local Law 87 mandates that buildings over 50,000 gross square feet undergo periodic energy audit and retro-commissioning measures, and the audit data collected is publicly available. However, multifamily buildings in NYC that are larger than 50,000 square feet are less than 15% of the total NYS multifamily building population.

# SAMPLE DESIGN

Cadmus developed a sampling plan with the goal of achieving 90% confidence and ±20% precision for most parameters of interest at the State level and 90% confidence and ±15% precision within each of the identified IOU territories, shown in Figure 1. Cadmus designed a nested approach in which surveys would recruit participants interested in site visits; this approach involved surveying approximately 2,500 building representatives and visiting 750 buildings to collect detailed information. At a 90% confidence level, statewide precision reached ±2% for surveys, and ±4% for site visits. Additional details regarding achieved precision can be found in Appendix B of this report, and error bounds for individual observations are detailed in each table listed in Appendix A.

FIGURE 1. NEW YORK STATE IOU TERRITORIES

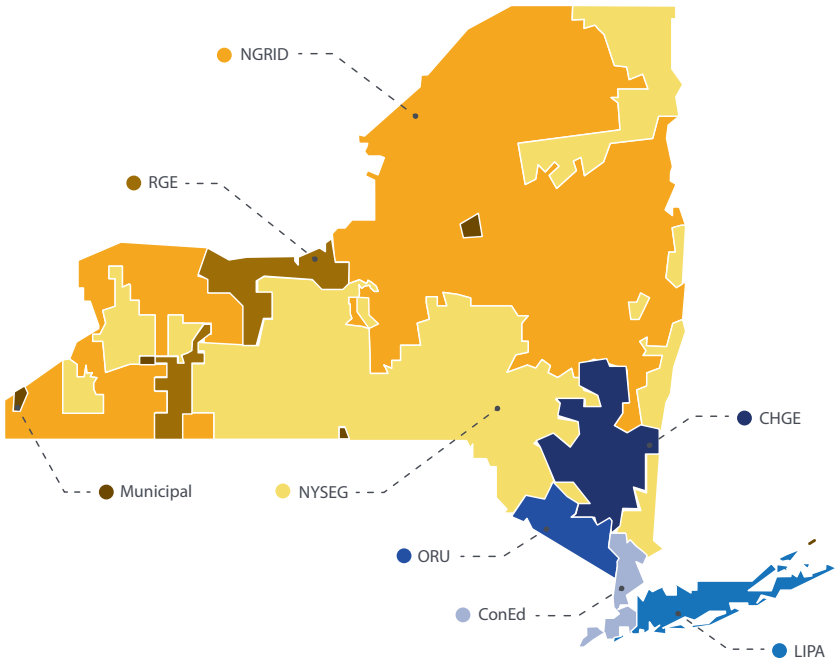


Table 1 illustrates the target site visit completions for each building size and ownership type within an IOU territory.

## TABLE 1. TARGET SITE VISIT SAMPLE SIZES

| BUILDING SIZE | OWNERSHIP TYPE | CENTRAL HUDSON GAS AND ELECTRIC | CONSOLIDATED EDISON | NYSEG & RGE | NATIONAL GRID | ORANGE AND ROCKLAND UTILITIES | PSEG LONG ISLAND | STATEWIDE |
|---|---|---|---|---|---|---|---|---|
| **Low-Rise** | Affordable Subsidized | 13 | 14 | 17 | 15 | 10 | 19 | 88 |
| | Affordable Census Block | 14 | 16 | 18 | 15 | 14 | 13 | 90 |
| | Co-ops and Condos | 0 | 17 | 0 | 0 | 0 | 21 | 38 |
| | Market-Rate Rentals | 19 | 15 | 22 | 21 | 18 | 22 | 117 |
| | **Subtotal** | 46 | 62 | 57 | 51 | 42 | 75 | 333 |
| **Mid-Rise** | Affordable Subsidized | 10 | 16 | 13 | 15 | 0 | 8 | 62 |
| | Affordable Census Block | 9 | 17 | 11 | 14 | 8 | 13 | 72 |
| | Co-ops and Condos | 0 | 16 | 0 | 0 | 0 | 10 | 26 |
| | Market-Rate Rentals | 21 | 16 | 19 | 21 | 21 | 13 | 111 |
| | **Subtotal** | 40 | 65 | 43 | 50 | 29 | 44 | 271 |
| **High-Rise** | Affordable Subsidized | 0 | 19 | 8 | 9 | 0 | 0 | 36 |
| | Affordable Census Block | 0 | 14 | 0 | 7 | 0 | 7 | 28 |
| | Co-ops and Condos | 0 | 17 | 0 | 0 | 0 | 10 | 27 |
| | Market-Rate Rentals | 0 | 21 | 8 | 11 | 0 | 10 | 50 |
| | **Subtotal** | 0 | 71 | 16 | 27 | 0 | 27 | 141 |
| **Total** | | 86 | 198 | 116 | 128 | 71 | 146 | 745 |

## SAMPLE FRAME

The 2022 SMBS did not use customer information provided by IOUs to recruit for the study, largely because the project timeline did not allow enough time to request and receive customer information. Instead, Cadmus initially constructed the study sample frame by randomly selecting multifamily buildings from a dataset created using several sources, including county tax assessor data, NYC PLUTO data, commercial parcel data, and NYSERDA LMI data.

## RECRUITING

Using a nested design, the study first recruited building representatives such as property owners, property managers, and other engaged parties to complete an extensive survey, which collected a variety of data essential to characterizing multifamily buildings. Data collected for each building included the year built and number of units, characteristics of space and water heating equipment, and information about major appliances and many other end-use equipment. The survey also asked respondents whether they would be interested in participating in a site visit, and respondents who said yes made up the sample frame for recruiting site visit participants. Building representatives who had completed the survey asked building occupants to complete a separate occupant survey and agree to a dwelling unit site visit. The SMBS initially provided a $50 gift card to building representatives and a $30 gift card to occupants who completed a survey, which required an average of 33 minutes to complete, and a $150 gift card per building to building representatives and $50 to occupants who completed a site visit, which took an average of 2.6 hours to complete. Up to $100 was given to building representatives for recruiting two dwelling unit occupants per building to participate. After six months of recruitment, incentives increased to attract more participants:

- $200 for building representatives for completing the building representative survey (up from $50)
- $250 for building representatives for allowing a site visit (up from $150)
- $50 each for building representatives for up to two referred occupants (no change)
- $50 for occupants for completing the occupant survey (up from $30)
- $50 for occupants for permitting a dwelling unit site visit (no change)

Total incentives possible for building representatives reached $550 for surveys and site visits at three buildings.

Table 2 presents the target site visit completions for each building size and ownership type within an IOU territory.

## TABLE 2. TARGET BUILDING REPRESENTATIVE SURVEY SAMPLE SIZES

| BUILDING SIZE | OWNERSHIP TYPE | CENTRAL HUDSON GAS AND ELECTRIC | CONSOLIDATED EDISON | NYSEG & RGE | NATIONAL GRID | ORANGE AND ROCKLAND UTILITIES | PSEG LONG ISLAND | STATEWIDE |
|---|---|---|---|---|---|---|---|---|
| **1 to 3 Floors** | Affordable Subsidized | **35** | **64** | **61** | **60** | **30** | **42** | **292** |
| | Affordable Census Block | **57** | **76** | **66** | **66** | **54** | **60** | **379** |
| | Co-ops and Condos | **0** | **66** | **0** | **0** | **0** | **57** | **123** |
| | Market-Rate Rentals | **66** | **73** | **67** | **68** | **65** | **67** | **406** |
| | **Subtotal** | **158** | **279** | **194** | **194** | **149** | **226** | **1,200** |
| **4 to 7 Floors** | Affordable Subsidized | **14** | **71** | **21** | **32** | **7** | **11** | **156** |
| | Affordable Census Block | **17** | **81** | **34** | **51** | **20** | **49** | **252** |
| | Co-ops and Condos | **0** | **68** | **0** | **0** | **0** | **24** | **92** |
| | Market-Rate Rentals | **37** | **77** | **43** | **63** | **32** | **55** | **307** |
| | **Subtotal** | **68** | **297** | **98** | **146** | **59** | **139** | **807** |
| **8 or More Floors** | Affordable Subsidized | **5** | **66** | **15** | **22** | **0** | **1** | **109** |
| | Affordable Census Block | **3** | **62** | **5** | **13** | **1** | **11** | **95** |
| | Co-ops and Condos | **0** | **67** | **0** | **0** | **0** | **20** | **87** |
| | Market-Rate Rentals | **2** | **68** | **15** | **39** | **0** | **41** | **165** |
| | | **10** | **263** | **35** | **74** | **1** | **73** | **456** |
| **Total** | | **236** | **839** | **327** | **414** | **209** | **438** | **2,463** |

The study did not set formal targets for occupant survey completions, but Cadmus attempted to complete at least one occupant survey per building where a site visit was completed. A total of 135 occupants completed the survey before it was closed on August 15, 2023.

Res-Intel appended building representative contact data from CoStar, Data Axel, Exact Data (now owned by Data Axel), and property parcel datasets to the population data if contact information was available. To provide as much randomness as practical in recruitment while ensuring that the sample frame represented all sampling strata as well as possible, Cadmus constructed four batches of 20,000 buildings by randomly drawing from the population data within each substratum in proportion to the substrata sample sizes. The process randomly selected buildings for these batches without regard to whether contact information was available for each building. Cadmus initially provided contact information to Leede Research for only the first batch of buildings, to be followed by contact information for subsequent batches. A separate sample frame for the postcard mailing comprised only buildings with building representative names and mailing addresses. Cadmus also contacted 24 organizations with the ability to reach multifamily property owners and managers. These included multifamily trade groups, NYS and NYC housing authorities and agencies, and nonprofits specializing in building decarbonization and housing affordability. Eight organizations eventually agreed to participate. All eight study ambassadors provided information about the study to their members by email, sharing a link that allowed members to access an online survey.

As this study progressed and survey completions were falling short of the original targets, it became apparent that the project team would need to adjust its recruitment strategies. While Leede Research took a broad approach in calling all available phone numbers in our sample frames, Cadmus and NYSERDA began working with APPRISE to perform more targeted outreach in strata where survey targets had not been met. Kelliher Samets Volk Agency (KSV) also supported via a paid social media campaign, which resulted in over 200 survey clicks that contributed to an additional 139 survey completions.[3]

Achieving the required number of survey completions required 108,262 postcards (in addition to email blasts to up to 3,994 recipients). Despite rigorous attempts to reach by phone postcard recipients who had not responded to the postcard or email blasts, a relatively small number of survey participants—123 of 1,337—opted to complete the survey by phone. Appendix B of this report provides a detailed breakdown of survey disposition, including total calls and call outcomes by Leede Research and APPRISE.

The study team members responsible for completing site visits, SWA, GDS, and Ridgeline, handled recruiting and scheduling site visit participants from the group of survey respondents who expressed a willingness to participate. Geographic regions were divided among the three companies to avoid confusion during recruiting and to allow each company to realize efficiencies by focusing on a smaller geographic area. Two dwelling unit site visits, with at least one of the units occupied, were required for each building in the study.

The recruiting process led to the completion of site visits in 434 buildings during the 16 months of primary data collection. The study was able to meet targets in the Consolidated Edison territory, but buildings elsewhere proved especially challenging, largely because of a lower volume of building contact information in those locations. Table 3 shows site visit completions by IOU territory, building size, and ownership type.

[3] *The survey link shared via this campaign was also provided via email and trade groups, so some completions may be attributed to other sources.*

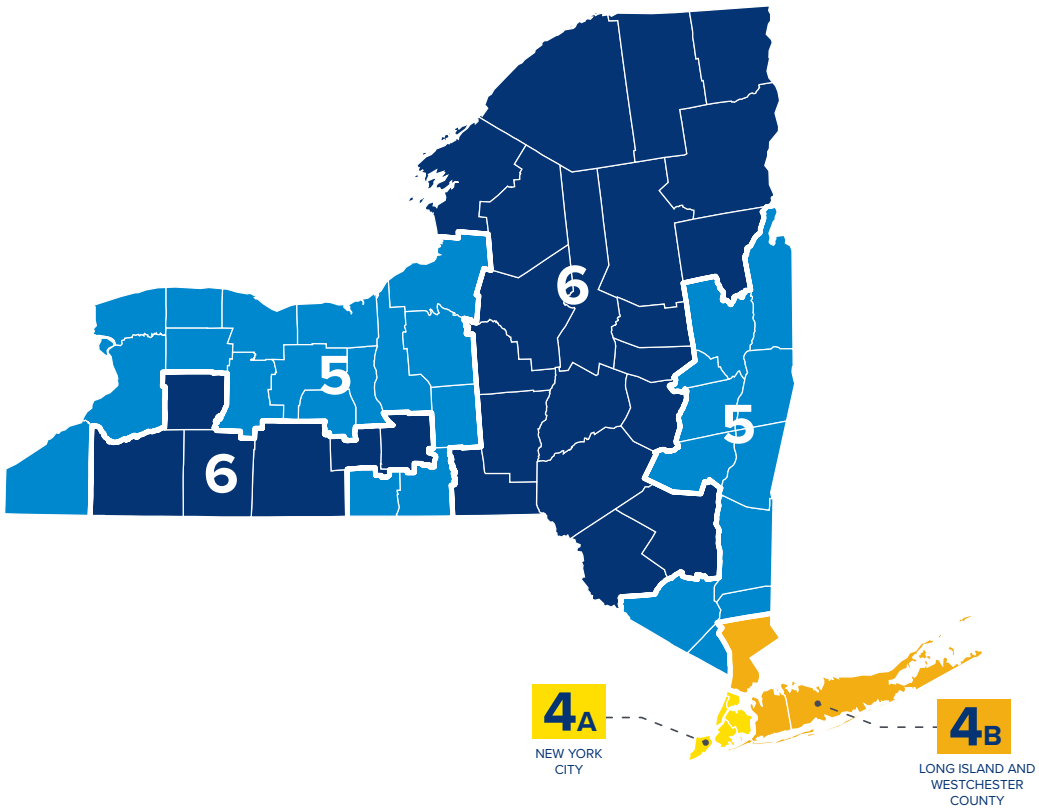
## TABLE 3. SITE VISIT COMPLETIONS BY IOU TERRITORY, BUILDING SIZE, AND OWNERSHIP TYPE

| | | IOU | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BUILDING SIZE | OWNERSHIP TYPE | CENTRAL HUDSON GAS AND ELECTRIC | CONSOLIDATED EDISON | NYSEG & RGE | NATIONAL GRID | ORANGE AND ROCKLAND UTILITIES | PSEG LONG ISLAND | STATEWIDE |
| **1 to 3 Floors** | Affordable Subsidized | 6 | 16 | 15 | 18 | 2 | 18 | 75 |
| | Affordable Census Block | 7 | 19 | 19 | 16 | 4 | 12 | 77 |
| | Co-ops and Condos | 0 | 9 | 0 | 0 | 0 | 3 | 12 |
| | Market-Rate Rentals | 13 | 12 | 20 | 19 | 6 | 9 | 79 |
| | **Subtotal** | 26 | 56 | 54 | 53 | 12 | 42 | 243 |
| **4 to 7 Floors** | Affordable Subsidized | 1 | 15 | 4 | 5 | 0 | 8 | 33 |
| | Affordable Census Block | 1 | 18 | 5 | 8 | 0 | 5 | 37 |
| | Co-ops and Condos | 0 | 17 | 0 | 0 | 0 | 1 | 18 |
| | Market-Rate Rentals | 0 | 16 | 3 | 10 | 0 | 3 | 32 |
| | **Subtotal** | 2 | 66 | 12 | 23 | 0 | 17 | 120 |
| **8 or More Floors** | Affordable Subsidized | 1 | 21 | 1 | 2 | 0 | 1 | 26 |
| | Affordable Census Block | 0 | 7 | 0 | 1 | 0 | 0 | 8 |
| | Co-ops and Condos | 0 | 19 | 0 | 0 | 0 | 0 | 19 |
| | Market-Rate Rentals | 0 | 15 | 1 | 2 | 0 | 0 | 18 |
| | | 1 | 62 | 2 | 5 | 0 | 1 | 71 |
| **Total** | | 29 | 184 | 68 | 81 | 12 | 60 | 434 |

# CLIMATE ZONES

For the purpose of analyzing and presenting results, the SMBS grouped survey and site visit participants into Climate Zone 4A (NYC), Climate Zone 4B (Long Island and Westchester County), Climate Zone 5, and Climate Zone 6 (shown in Figure 2), as defined in the 2015 International Energy Conservation Code. Table 5 shows the counties included within each climate zone.

## FIGURE 2. NEW YORK STATE CLIMATE ZONES




## TABLE 4. NEW YORK STATE CLIMATE ZONE BY COUNTY

| CLIMATE ZONE 4A | | | |
|---|---|---|---|
| Bronx | Richmond | Queens | New York |
| Kings | | | |

| CLIMATE ZONE 4B | | |
|---|---|---|
| Nassau | Suffolk | Westchester |

| CLIMATE ZONE 5 | | | |
|---|---|---|---|
| Albany | Erie | Ontario | Saratoga |
| Cayuga | Genesee | Orange | Schenectady |
| Chautauqua | Greene | Oswego | Seneca |
| Chemung | Livingston | Orleans | Tioga |
| Columbia | Monroe | Putnam | Washington |
| Cortland | Niagara | Rensselaer | Wayne |
| Dutchess | Onondaga | Rockland | Yates |

| CLIMATE ZONE 6 | | | |
|---|---|---|---|
| Allegany | Franklin | Montgomery | Sullivan |
| Broome | Fulton | Oneida | Tompkins |
| Cattaraugus | Hamilton | Otsego | Ulster |
| Chenango | Herkimer | Schoharie | Warren |
| Clinton | Jefferson | Schuyler | Wyoming |
| Delaware | Lewis | St. Lawrence | |
| Essex | Madison | Steuben | |

## SURVEY

The SMBS online and phone survey collected data from April 4, 2022, through August 15, 2023, and allowed participation by phone or online. Through a feedback process with NYSERDA during the working group, the SMBS survey collected information from both building representatives and residents about buildings and dwelling units. Questions for building representatives about building related topics included questions on general building description and characteristics, utility account holder responsibility, and common area appliances. Questions regarding dwelling units were directed to both building representatives and occupants. These questions touched on in-unit appliances, primary heating/cooling systems, the reliability of and satisfaction with domestic hot water, and the presence of smart thermostats.

## ON-SITE DATA COLLECTION

The study conducted all site visits between June 21, 2022, and July 27, 2023, after a comprehensive virtual training for GDS, SWA, and Ridgeline project field technicians. Under the direction of NYSERDA and Cadmus, GDS completed 190 site visits, SWA staff completed 183 site visits, and Ridgeline completed 59 site visits. Cadmus also completed 2 site visits.

Field technicians collected site data with a tablet-based data collection tool that Cadmus developed to standardize data collection and responses. This tool included an automated check that ensured that all required information had been entered before the field technician could complete data submission for a given building.

The 2022 SMBS includes data and findings regarding solar photovoltaic (PV) and electrical vehicle (EV) infrastructure; however, more-detailed data has been collected by NYSERDA and the Department of Motor Vehicles (DMV). NYSERDA program data and utility interconnection data can provide close to a census of solar PV projects installed in NYS, and DMV vehicle registration data can provide a precise count of EVs in use statewide.

## LIMITATIONS

As noted in the Recruiting section above, the SMBS fell short of meeting targets for site visits in most regions given the inherent challenges of engaging the multifamily sector. The initial survey targets were also optimistic based on total population. Because of difficulty recruiting multifamily building representatives, the study was not able to recruit a sufficiently large sample from a randomly drawn sample frame. This may have led to increased bias in the results, including self-selection bias. Despite difficulties recruiting representatives, the SMBS still achieved the desired confidence and precision at the statewide level.

The low response rates had implications down the line for subcontractor bandwidth, complicating later attempts at attracting survey respondents. Cadmus also encountered challenges with the data collected. The original population data Cadmus obtained reported variables like floor count, building height, and number of units at the parcel level, not at the individual building level. To account for this, the study approximated building-level counts by apportioning property unit counts among buildings using building volume and light detection and ranging (LiDAR) height, which likely introduced error. The population data also lacked classifications for an additional two housing characteristics: affordable unsubsidized housing and number of units per building.

The methodology for determining affordable census block housing was not as robust as methodologies for determining other ownership types, so some buildings labeled as affordable may actually be market-rate rentals, and some affordable housing throughout the state may have been missed. Additionally, because number of residential units is reported at the parcel level and not at the individual building level, distinguishing the number of units per building to uncover eligible 5+ multifamily-unit buildings on properties with multiple buildings

required extensive estimation and assumptions. This inevitably led to some multifamily buildings being misclassified as having four or fewer units and inadvertently excluded, and others being misclassified as having five or more units and inadvertently included in the study population.

Field technicians during site visits failed to distinguish several survey contents. A known limitation of our source data is that the number of floors will at least generally indicate floors above grade; however during site visits, technicians often failed to define below-grade wall area. Additional site visit survey contents indicate that field technicians struggled with include adjacent wall areas, 208V versus 240V panels, and wall insulation details.

Though results are similar for most characteristics, survey and site visit data collection sometimes provide very different results for the same building characteristic. Appendix A provides results for many characteristics from both survey and site visit data. Where results differ between survey and site visit data, Cadmus endeavored to identify the more credible source using engineering judgement, common sense, informal benchmarking, and other information.

# SUMMARY OF BUILDING AND EQUIPMENT CHARACTERISTICS

Each of the following sections summarizes notable findings for a given equipment category or building component. Findings are presented by climate zone, building vintage, and/or statewide, depending on the topic.

To streamline presentation of results, this report represents only a high-level view of the collected and analyzed data. In most cases, Cadmus rounded values to whole numbers for better readability. In these instances, values may not sum exactly to 100%. Readers may select the SEE THE DATA button (presented throughout the report) to view more-detailed tables and additional information in Appendix A. These tables provide a broader selection of data from the study and include sample sizes and error bounds.

# SECTION 1

## BUILDING CHARACTERISTICS AND DEMOGRAPHICS

The SMBS collected data on building characteristics and energy use through both surveys and site visits. Only the survey collected information about demographics, such as the number and ages of occupants, household income, and highest level of education each occupant attained. For data points collected through both data collection methods, each method had advantages and drawbacks.

The SMBS survey asked questions regarding both the building as well as individual dwelling units. General building questions were directed to building representatives and included questions about the number of units in the building, the number of buildings (for complexes), and whether the representative managed or owned other properties. Some questions about individual dwelling units were directed to building representatives, such as the number of units that were recently renovated or were planned to be renovated, the percentage of tenants receiving utility allowance, and whether the account holder was the building or the occupant.

The SMBS survey also requested information regarding building management. These questions were directed to only building representatives and included questions on the presence of an energy management system, whether tenants can submit auto-ticketing for maintenance, and whether there was any interest in or general awareness of energy management systems.

## DEFINITIONS

For this study, multifamily buildings were defined as buildings with five or more housing units.

# KEY FINDINGS

## NEW BUILDINGS USE MORE ENERGY THAN OLD BUILDINGS

Buildings built after 2006 appear to have higher energy use intensity on average than older buildings [SEE THE DATA]. This appears to be driven by higher electricity use, as new buildings use less natural gas on average than buildings built prior to 2006.

## SMALLER BUILDINGS CONTAIN LARGER DWELLING UNITS

The distribution of dwelling unit areas is skewed more in mid- and high-rise buildings than in low-rise buildings. The most common unit size for these bigger buildings is between 250 and 500 square feet, while the most common unit size for low-rise buildings is between 500 and 750 square feet. Additionally, about half of dwelling units in low-rise buildings are 750 square feet or larger, compared with only about a third of both mid- and high-rise buildings that have units of that size.

## NATURAL GAS METERING TYPE DEPENDS ON BUILDING SIZE

About two-thirds of low- and mid-rise buildings have individual natural gas meters for tenants. This relationship is flipped for high-rise buildings, where less than one-third have individual meters.

MULTIFAMILY BUILDINGS BY SIZE (ROWS) AND GEOGRAPHIC REGION (COLUMNS)

Outside of New York City, the majority of multifamily buildings in the state are low-rise (1 to 3 floors).

| BUILDING SIZE | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 |  |
|---|---|---|---|---|---|
| 1 to 3 Floors | 20,246 | 9,166 | 27,884 | 9,395 | 66,691 |
| 4 to 7 Floors | 47,381 | 2,522 | 2,933 | 1,042 | 53,878 |
| 8 or More Floors | 8,194 | 446 | 337 | 65 | 9,042 |

## TYPICAL MULTIFAMILY BUILDING CHARACTERISTICS FROM SURVEY AND SITE VISIT DATA

| BUILDING CHARACTERISTICS | IN A DAC DESIGNATED CENSUS TRACT | NOT IN A DAC DESIGNATED CENSUS TRACT | STATEWIDE |
|---|---|---|---|
| Most prevalent age of buildings | Pre-1940 | Pre-1940 | Pre-1940 |
| Average number of floors | 4.4 | 4.4 | 4.6 |
| Average number of buildings at site | 2.9 | 2.6 | 2.2 |
| Average number of dwelling units at site | 32.0 | 29.4 | 30.5 |
| Multifamily buildings with businesses (stores, etc.) | 17% | 11% | 16% |
| Percentage of buildings with central heating system | 76% | 78% | 78% |
| Percentage of buildings with central air conditioning system | 6% | 14% | 10% |
| Percentage of buildings with central water heating system | 42% | 44% | 46% |

SEE THE DATA

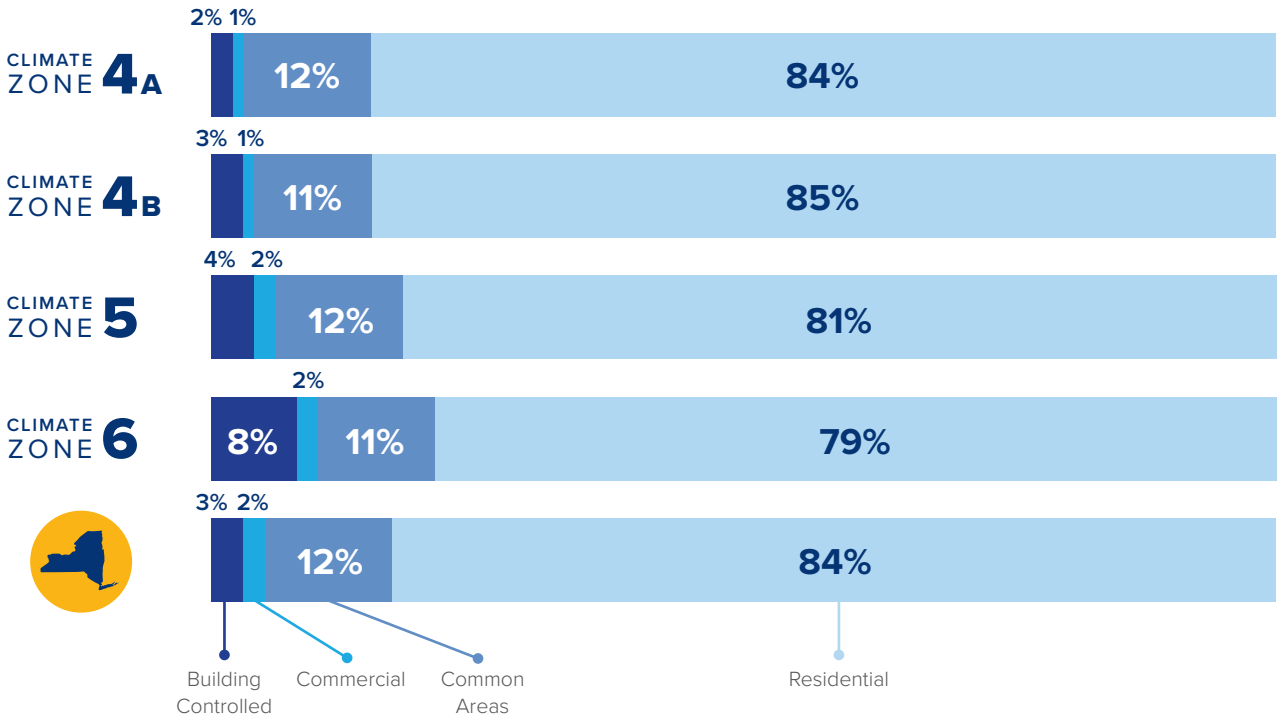
## TYPICAL MULTIFAMILY DWELLING UNIT CHARACTERISTICS FROM SURVEY AND SITE VISIT DATA

| BUILDING CHARACTERISTICS | IN A DAC DESIGNATED CENSUS TRACT | NOT IN A DAC DESIGNATED CENSUS TRACT | STATEWIDE |
|---|---|---|---|
| Percentage less than 1,500 square feet | 99% | 97% | 97% |
| Average number of bedrooms | 1.5 | 1.5 | 1.5 |
| Average number of occupants | 2.7 | 1.6 | 2.0 |
| Percentage with annual household Income (2012) of $75,000 or more | 20% | 44% | 44% |
| Percentage with highest education level of a graduate degree | 16% | 16% | 17% |
| Percentage that are owned or will be bought by occupant(s) | 12% | 26% | 20% |

SEE THE DATA

DISTRIBUTION OF BUILDING FLOOR AREA BY SPACE CATEGORY (SITE VISITS)

## The percentage of nonresidential area in multifamily housing remains somewhat consistent throughout the state.



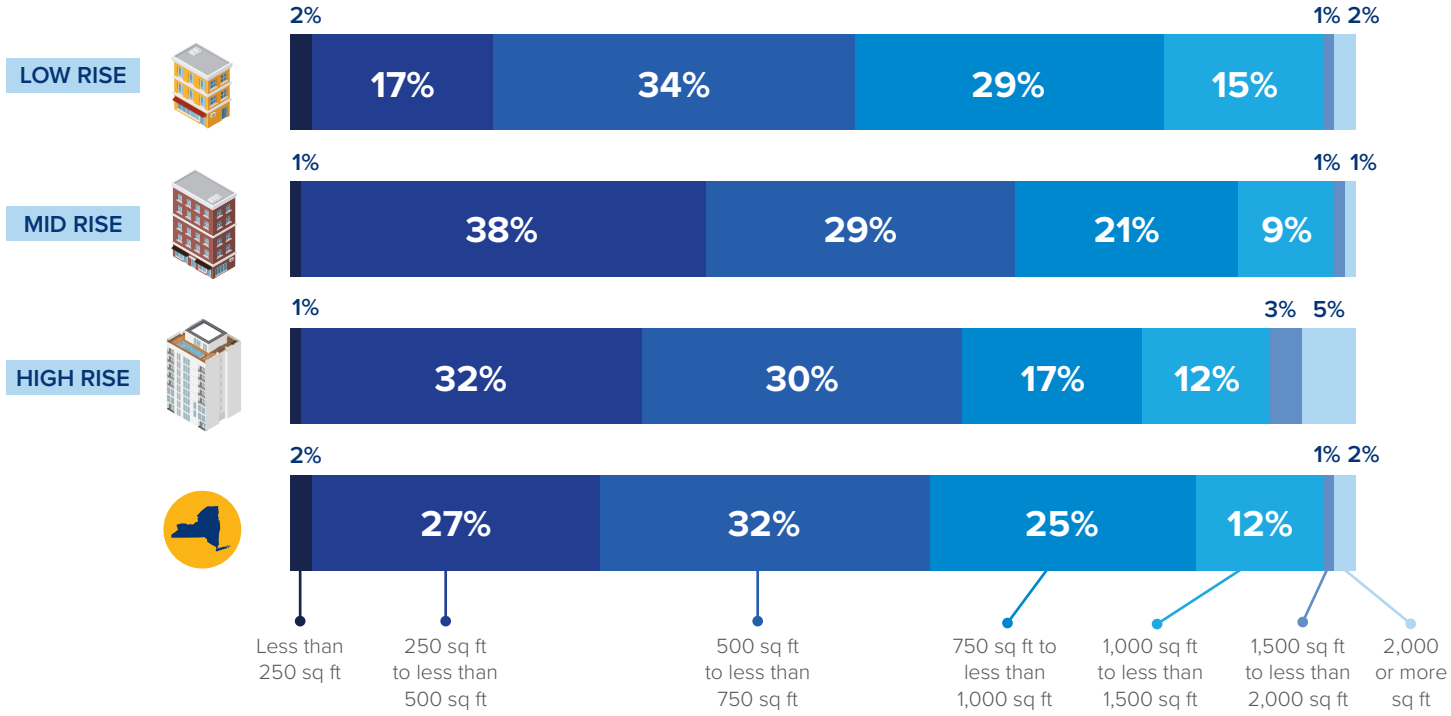

BUILDING ELECTRIC SERVICE METERING TYPE (SITE VISITS)

## High-rise buildings have a lower rate of direct metered dwelling units than low- and mid-rise buildings.

| METERING TYPE | LOW RISE (1 TO 3 FLOORS) | MID RISE (4 TO 7 FLOORS) | HIGH RISE (8 OR MORE FLOORS) | STATEWIDE |
|---|---|---|---|---|
| Direct metered dwelling units | 88% | 80% | 49% | 82% |
| Building-level meter only | 2% | 5% | 28% | 5% |
| Building-level meter with dwelling unit submeters | 10% | 15% | 22% | 13% |

DWELLING UNIT AREA (SITE VISIT)

## Dwelling units in low-rise buildings trend slightly larger than those in mid- and high-rise buildings.




SEE THE DATA

AVERAGE NUMBER OF HOUSEHOLD MEMBERS BY AGE (OCCUPANT SURVEY)

## Survey data indicate that a high concentration of residents of multifamily buildings are between 35 and 44 years old.

| RESIDENT AGE | STATEWIDE |
|---|---|
| Less than 6 years | 0.152 |
| 6 to 17 years | 0.362 |
| 18 to 24 years | 0.192 |
| 25 to 34 years | 0.390 |
| 35 to 44 years | 1.012 |
| 45 to 54 years | 0.158 |
| 55 to 64 years | 0.213 |
| 65 or older | 0.308 |

SEE THE DATA

# SECTION 2

## HEATING AND COOLING

The SMBS collected extensive data on heating and cooling for dwelling units and the building in general. In the online and phone survey, both building representative and resident respondents reported the equipment type, approximate age, and fuel type of primary heating and cooling equipment. The dwelling unit occupants were asked about thermostat usability and their satisfaction with the heating and cooling system. Satisfaction questions specifically asked about issues with overheating, air leaks, and uneven temperatures between rooms. Questions regarding window AC ownership were directed to both residents and building representatives, while only building representatives were asked for details about ducted versus non-ducted systems.

The survey collected information about thermostats, equipment maintenance, and supplemental heating and cooling systems, including fireplaces and heating stoves. Most of the high-level heating and cooling results discussed in this report are based on survey results rather than site visits because of the larger sample size the surveys provide.

Data collected during site visits allowed field technicians to verify survey data and dive deeper into equipment details. Field technicians documented the locations of and detailed information about all heating, cooling, and ventilation equipment in each building they visited. They also took pictures of all nameplates and recorded the make, model number, capacity, efficiency, and year of manufacture of equipment. Nameplates do not always include all data, so field technicians often conducted post-visit research using model numbers to fill in missing data.

If multiple systems were present, the field technician determined with the building representative which system(s) provide the majority of heating and cooling and recorded the percentage of conditioned space served by each heating and cooling system. On-site data collection also included information about thermostats, including setpoints, setbacks, and use of programs to control heating or cooling.

# KEY FINDINGS

## THE MAJORITY OF BUILDINGS USE AC

Nine in ten buildings use AC statewide. Window units are by far the most common AC type, with almost three in four buildings relying on window units for cooling. Co-ops and condos utilize central AC and heat pumps at a much higher rate than that of any other type of housing.

## SMART THERMOSTATS ARE STILL NASCENT

Only 2% of dwelling units statewide with central heating or cooling use a smart thermostat, and 65% of statewide dwelling units use a manual thermostat. Programmable thermostats and thermostatic radiator valves are each responsible for temperature control in one in seven of the remaining dwelling units. Downstate buildings have the highest proportion of smart thermostats (4% to 5%) with opportunity for growth across the state.

## NATURAL GAS IS THE MOST COMMON HEATING FUEL

Natural gas is by far the most common primary heating fuel in NYS. Two of every three buildings statewide use natural gas as their primary heating fuel, as do over half of new buildings built since 2007. Electricity and fuel oil tie for second most common statewide, but in newer buildings, electricity is more than 10 times more prevalent than fuel oil. Notably, one in five buildings built between 1979 and 2006 rely primarily on wood for heating, while buildings of other vintages do not use wood as the primary heating fuel.

PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING

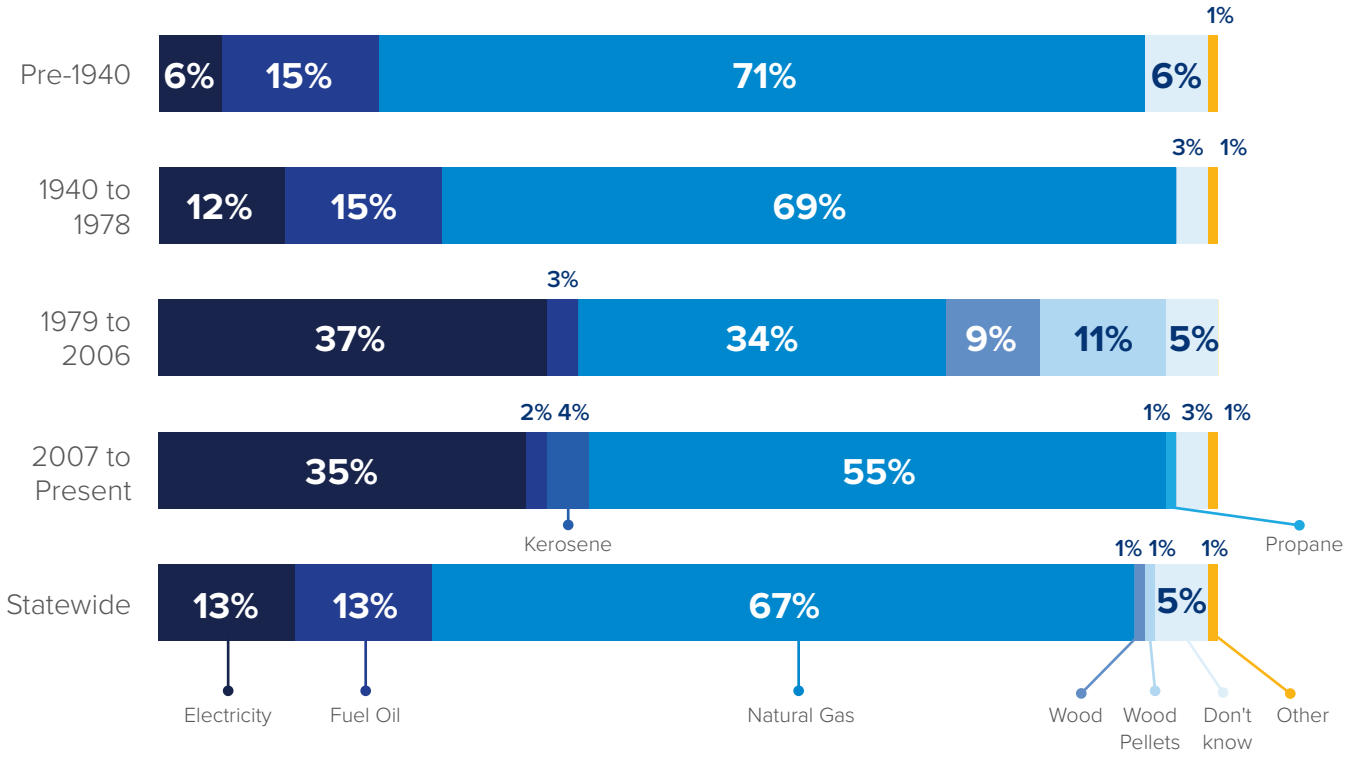
Older buildings tend to heat using a central boiler, whereas newer buildings tend to use heat pump heating.

| PRIMARY HEATING SYSTEM TYPE | PRE-1940 | 1940 TO 1978 | 1979 TO 2006 | 2007 TO PRESENT | STATEWIDE |
|---|---|---|---|---|---|
| Baseboard or wall electric resistance heat | 6% | 19% | 19% | 7% | 13% |
| Central boiler | 75% | 61% | 59% | 14% | 64% |
| District steam | 2% | 3% | 3% | 0% | 3% |
| Ducted air source heat pump | 2% | 7% | 6% | 24% | 5% |
| Ductless mini-split heat pump | 2% | 1% | 3% | 19% | 2% |
| Ground source heat pump | 2% | 0% | 0% | 25% | 1% |
| Packaged terminal AC with heat | 1% | 3% | 5% | 8% | 4% |
| Packaged terminal heat pump | 0% | 1% | 0% | 0% | 1% |
| Other | 10% | 5% | 5% | 2% | 7% |

SEE THE DATA

PREDOMINANT HEATING FUEL FOR DWELLING UNITS IN BUILDING

## Newer building vintages are starting to shift to electricity for heating.




AVERAGE SATURATION OF BOILERS AND FURNACES BY FUEL (SITE VISITS)

## Steam boilers are popular in multifamily buildings statewide and rely mostly on natural gas and propane.

| EQUIPMENT TYPE | DUAL FUEL: GAS AND OIL | DUAL FUEL: GAS AND OTHER | DUAL FUEL: GAS AND PROPANE | ELECTRICITY | FUEL OIL | NATURAL GAS | PROPANE | STATEWIDE |
|---|---|---|---|---|---|---|---|---|
| Boiler - Steam | 0.37 | 0.00 | 1.00 | 0.00 | 0.50 | 0.59 | 1.00 | 0.56 |
| Boiler - Hot Water | 0.47 | 2.00 | 1.00 | 0.00 | 0.00 | 0.16 | 0.00 | 0.17 |
| Boiler - All | 0.62 | 1.00 | 0.00 | 0.00 | 0.58 | 0.35 | 0.00 | 0.40 |
| Furnace | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.08 | 0.00 | 0.07 |

BOILER EFFICIENCY (SITE VISITS)

## The overwhelming majority of boilers in multifamily buildings are between 80% and 95% efficient.

| BOILER EFFICIENCY RATING | STATEWIDE |
|---|---|
| 80% to 84% | 32% |
| 85% to 89% | 17% |
| 90% to 95% | 42% |
| 95%+ | 9% |

SEE THE DATA

FURNACE EFFICIENCY (SITE VISITS)

## Furnaces in multifamily buildings tend to be less efficient than boilers.

| FURNACE EFFICIENCY RATING | STATEWIDE |
|---|---|
| 70% to 79% | 31% |
| 80% to 84% | 38% |
| 90% to 94% | 22% |
| 95% and above | 8% |

SEE THE DATA

DWELLING UNIT HEATING CONTROLS (BUILDING REP SURVEY)

## Manual thermostats are still prevalent in multifamily buildings across the state.

| HEATING CONTROL TYPE | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 |  |
|---|---|---|---|---|---|
| Controls integrated with equipment | 14% | 17% | 12% | 12% | 15% |
| Manual thermostat | 65% | 66% | 65% | 70% | 65% |
| Programmable thermostat | 11% | 9% | 14% | 10% | 11% |
| Smart/Wi-Fi-enabled Thermostat | 4% | 5% | 2% | 3% | 2% |
| Don't know | 2% | 2% | 6% | 3% | 4% |
| Other | 3% | 1% | 1% | 2% | 3% |

SEE THE DATA

PREDOMINANT COOLING SYSTEM FOR DWELLING UNITS IN BUILDING

## Building representatives report a high concentration of ductless mini-split AC in multifamily buildings downstate.

| COOLING SYSTEM TYPE | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 |  |
|---|---|---|---|---|---|
| Ducted split-system AC | 8% | 0% | 1% | 61% | 6% |
| Ductless mini-split AC | 66% | 86% | 1% | 0% | 2% |
| Packaged terminal AC | 0% | 0% | 0% | 18% | 8% |
| Portable AC | 0% | 0% | 0% | 4% | 7% |
| Through-the-wall AC | 4% | 6% | 2% | 0% | 69% |
| Window AC | 22% | 8% | 97% | 18% | 0% |

SEE THE DATA

CENTRAL AIR CONDITIONER SEER RATING (SITE VISITS)

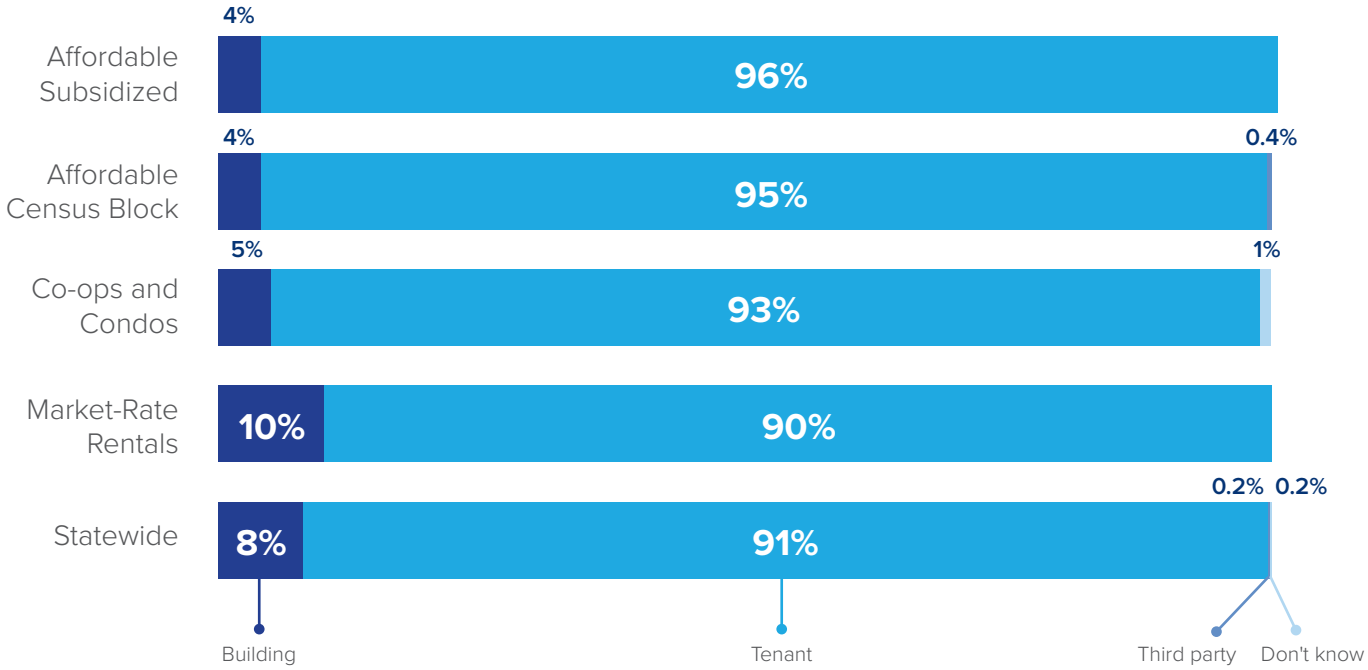
## Central AC is not common in New York state, but observed equipment typically had a SEER rating between 13 and 13.9.

| SEER RATING | STATEWIDE |
|---|---|
| 10 to 10.9 | 0.1% |
| 11 to 11.9 | 12% |
| 12 to 12.9 | 0% |
| 13 to 13.9 | 84% |
| 14 to 14.9 | 4% |
| 15 to 15.9 | 0% |
| 16 to 16.9 | 0% |
| 17 to 17.9 | 0.01% |

SEE THE DATA

WHO OWNS ROOM OR WINDOW AC SYSTEMS (BUILDING REP SURVEYS)

## Tenants across ownership types most often install their own portable or window AC units.




SEE THE DATA

# SECTION 3

## WATER HEATING

Field technicians identified and characterized all water heaters in each building. Technicians recorded the water heater and fuel type, scope (building or units), storage volume, energy factor (EF), recovery efficiency, tank insulation characteristics, pipe insulation characteristics, venting configuration and size, and yellow label (EnergyGuide) energy cost values. They also took pictures of the nameplate and recorded each unit's make and model number and year of manufacture. Technicians recorded the general location of the water heater, specifying whether it was located in conditioned or unconditioned space. Location information is especially noteworthy for heat pump water heaters, because location can affect both the performance of the water heater and the building or unit heating and cooling load.

The online and phone surveys also collected basic information about water heating, though with mixed results. When compared with site visit data, the water heating fuel reported by survey participants appeared generally accurate. Survey data regarding water heater type appeared less reliable. For example, a surprisingly large percentage of survey recipients reported using a heat pump water heater, which proved inaccurate when compared with site visit data and other available information.

## KEY FINDINGS

### NEWER BUILDINGS FAVOR ELECTRICITY

Newer buildings are much less likely to utilize natural gas–powered water heaters than are older buildings. Close to nine in ten buildings built before 1940 and seven in ten built between 1940 and 1978 have water heaters that use natural gas, with the remainder using electric. This relationship flips for buildings built after 1978, with close to nine in ten buildings using electric water heaters.

### WATER HEATER AGES ARE HIGHLY VARIABLE

Most water heaters fall in the middling age range, with 44% of dwellings having a water heater between 5 and 14 years old. However, just as many fall at the ends of the spectrum. One in four dwellings have a hot water heater that is 20 or more years old, and one in five have a hot water heater that was installed within the last two years (46% combined).

### ROOM FOR IMPROVEMENT IN EFFICIENCY

Site visits identified ENERGY STAR labels on less than one fifth of dwelling units' direct water heaters. With many aging water heaters still in use, there may be upcoming opportunities to replace inefficient equipment with ENERGY STAR units.

PRIMARY DOMESTIC HOT WATER SERVICE TYPE FOR DWELLING UNITS PER BUILDING (SITE VISITS)

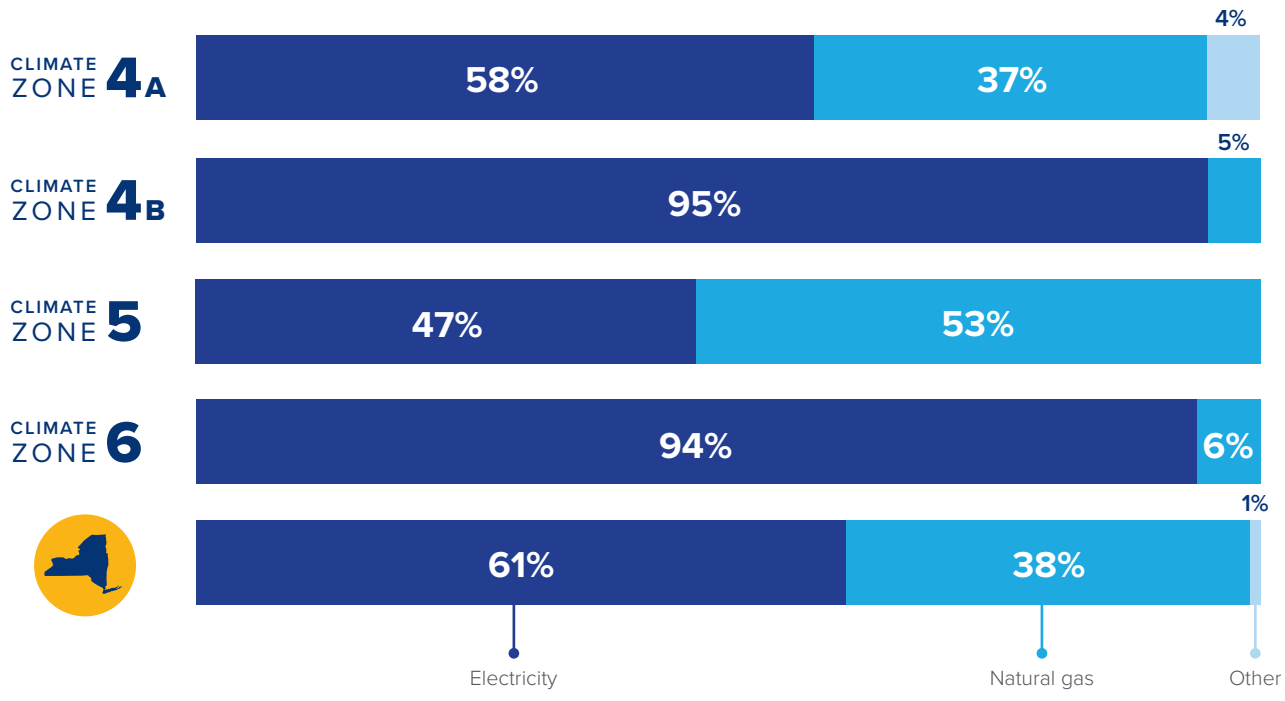
## Across the state, central water heating is more prevalent than dwelling unit water heating.

| WATER HEATER TYPE | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 | |
|---|---|---|---|---|---|
| Central | 93% | 99% | 81% | 87% | 87% |
| Local | 7% | 1% | 19% | 13% | 13% |

SEE THE DATA

PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (SITE VISITS)

## Electricity is slightly more popular than natural gas for water heating, with room for growth in NYC and Climate Zone 5.




SEE THE DATA

DWELLING UNIT DOMESTIC HOT WATER SYSTEM TYPE PER DWELLING UNIT (SITE VISITS)

## Direct-heated tank systems are overwhelmingly popular across the state compared to other water heating systems.

SEE THE DATA

| HOT WATER SYSTEM TYPE | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 |  |
|---|---|---|---|---|---|
| Building central system | 0% | 0% | 0% | 0% | 0% |
| Direct-heated tank | 88% | 100% | 97% | 100% | 98% |
| Direct-heated tankless | 0% | 0% | 0.2% | 0% | 0.1% |
| Heat pump water heater | 0% | 0% | 3% | 0% | 1% |
| Other | 12% | 0% | 0% | 0% | 1% |

# SECTION 4

## BUILDING SHELL

The 2022 SMBS collected a variety of information about the building shell (or envelope) of each building during site visits, including the thickness and type of installed insulation in the ceilings, walls, foundation walls, and floors that make up the thermal boundary of the building.

Surfaces characterized as foundation refer to the exterior walls of foundation spaces—namely basements and crawlspaces. Surfaces characterized as floors correspond to floors over outside or other unconditioned spaces such as garages or vented crawlspaces. Technicians also characterized floors over unconditioned basements, but in the great majority of cases these basements were arguably indirectly conditioned, and floors above them should not be considered part of the thermal boundary of the building.

During site visits, field technicians defined like areas of envelope surface, such as walls with the same apparent type and thickness of insulation, as one segment. Technicians also reported the percentage of the total surface of that type (walls, for example) made up by that segment. Tables that present results for these envelope surfaces use the percentage values reported for each segment when calculating distributions of characteristics such as insulation thickness. Sample size values presented in these tables correspond to the number of defined segments.

# KEY FINDINGS

## ROOF ISSUES OCCUR IN MID-RISE BUILDINGS

While only 4% of low-rise buildings and 2% of high-rise buildings show roof issues, as much as 15% of mid-rise buildings do. One in eight mid-rise buildings is affected by concave roofs, compared with close to none for low- and high-rise buildings. Water leaks are present in 3% each of low- and mid-rise building roofs.

## CELLULOSE IS THE MOST COMMON ROOF INSULATION

Site visit data show that 60% of buildings statewide have cellulose roof insultation. Half as many have fiberglass bats, and only 10% of buildings use other types of insulation.

## METAL WINDOW FRAMES PREDOMINATE

Metal is the most common window frame material across building sizes. Almost all high-rise (98%) and mid-rise (87%) buildings and about half of low-rise buildings (46%) use metal window frames. Most of the other half of low-rise buildings (43%) use vinyl window frames.

DISTRIBUTION OF ROOF INSULATION TOTAL R-VALUE (SITE VISITS)

### Observed roof insulation varied significantly by geographic region.

| INSULATION LEVEL | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 |  |
|---|---|---|---|---|---|
| R-11 to R-15 | 0% | 0% | 0% | 88% | 6% |
| R-16 to R-20 | 100% | 0% | 0% | 0% | 0% |
| R-26 to R-30 | 0% | 100% | 0% | 0% | 0% |
| R-31 to R-40 | 0% | 0% | 31% | 0% | 6% |
| R-41 to R-50 | 0% | 0% | 69% | 12% | 88% |

SEE THE DATA

DISTRIBUTION OF WALL INSULATION TOTAL R-VALUE (SITE VISITS)

## Observed wall insulation R-values varied significantly by geographic region, with upstate trending toward more effective insulation.

| INSULATION LEVEL | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 |  |
|---|---|---|---|---|---|
| R-11 to R-15 | 44% | 90% | 0% | 7% | 43% |
| R-16 to R-20 | 43% | 10% | 3% | 29% | 11% |
| R-21 to R-25 | 12% | 0% | 97% | 0% | 31% |
| R-26 to R-30 | 0% | 0% | 0% | 65% | 15% |

SEE THE DATA

WINDOW-TO-WALL AREA RATIO BY BUILDING SIZE (SITE VISITS)

## Low-rise buildings tend to have the lowest window-to-wall ratios across climate zones.

| BUILDING SIZE | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 |  |
|---|---|---|---|---|---|
| Low-rise (1 to 3 floors) | 0.08 | 0.09 | 0.09 | 0.10 | 0.09 |
| Mid-rise (4 to 7 floors) | 0.13 | 0.12 | 0.18 | 0.17 | 0.13 |
| High-rise (8 or more floors) | 0.17 | 0.02 | 0.15 | 0.00 | 0.17 |

SEE THE DATA

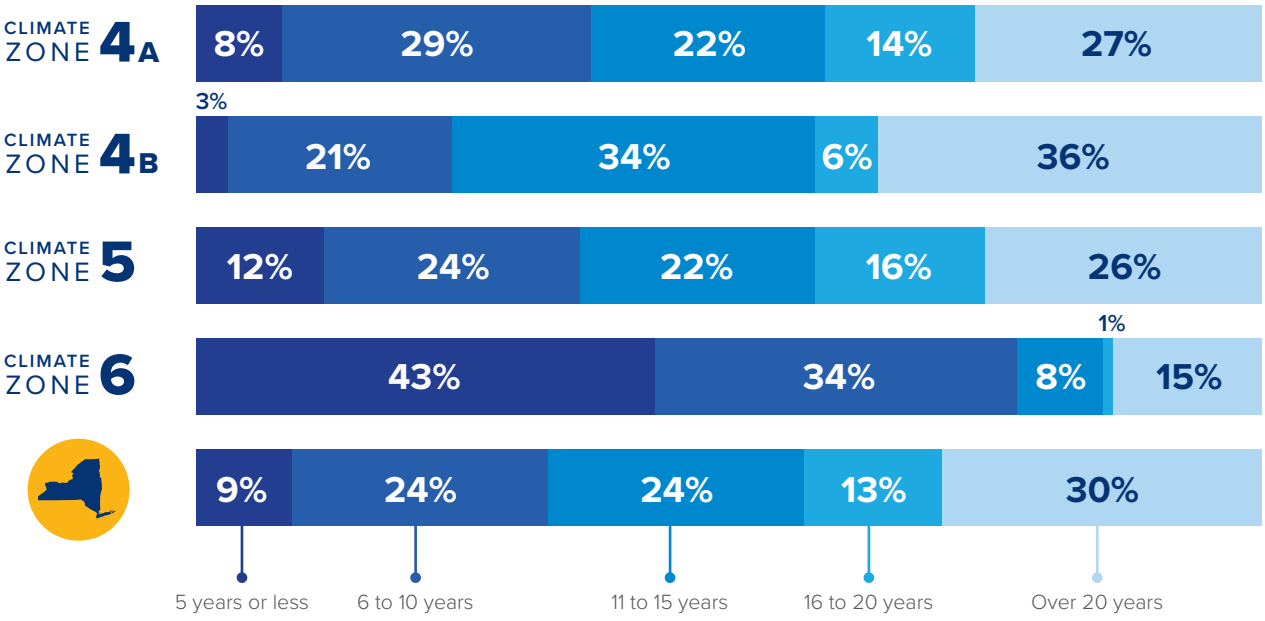
WINDOW GLAZING TYPE (SITE VISITS)

## Single-pane windows are being phased out, especially downstate.

| WINDOW TYPE | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 | |
|---|---|---|---|---|---|
| Single | 4% | 1% | 16% | 5% | 6% |
| Single with storm windows | 0% | 0% | 3% | 1% | 1% |
| Double | 96% | 99% | 81% | 94% | 93% |
| Glass block | 0% | 0% | 0% | 0% | 0% |

DISTRIBUTION OF ESTIMATED WINDOW AGE (SITE VISITS)

## Climate Zone 6 tends to have more recently installed windows than other geographic regions.




SEE THE DATA

SEE THE DATA

# SECTION 5

# ENERGY EFFICIENCY PROGRAM AWARENESS AND PARTICIPATION

The 2022 SMBS survey asked residents questions designed to determine residents' awareness of and participation in energy efficiency programs and whether energy efficiency features influence their apartment choice.

For building representatives, questions were designed to investigate awareness of and barriers to participation in energy efficiency programs and determine how incentives affect decision-making. Other survey questions asked about willingness to replace equipment in the next five years and participants' perceptions of the level of energy efficiency of their buildings.

## KEY FINDINGS

### PROGRAM AWARENESS

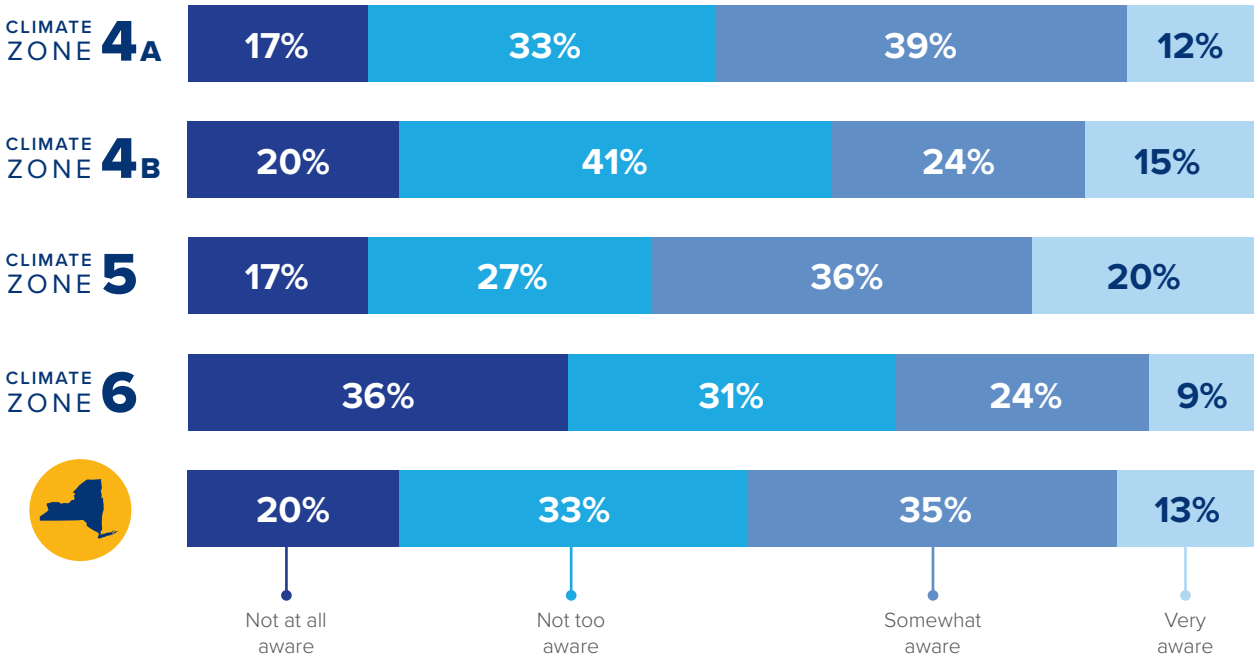
Lack of awareness of energy efficiency programs among building representatives may be a barrier to program participation. Over half of surveyed representatives said they were unaware of any programs available for multifamily buildings. Only one in six said they were very aware of multifamily programs.

### REASONS FOR NONPARTICIPATION

Building representatives may lack the knowledge or incentive to upgrade equipment in dwelling units they do not personally reside in. One in three representatives said they were not aware of any reason to participate in efficiency programs, despite survey and site visit data showing outdated equipment. One in five said they have not "needed" to update equipment, and one in five also admitted to having little incentive to improve energy efficiency in the building since tenants pay utility bills. One in ten also stated that they tend to purchase only the least expensive equipment option. Still, one in five cited not knowing who to contact about programs as a reason for not making efficiency improvements, so making information more accessible could result in higher participation.

AWARENESS OF ENERGY EFFICIENCY PROGRAMS (BUILDING REP SURVEY)

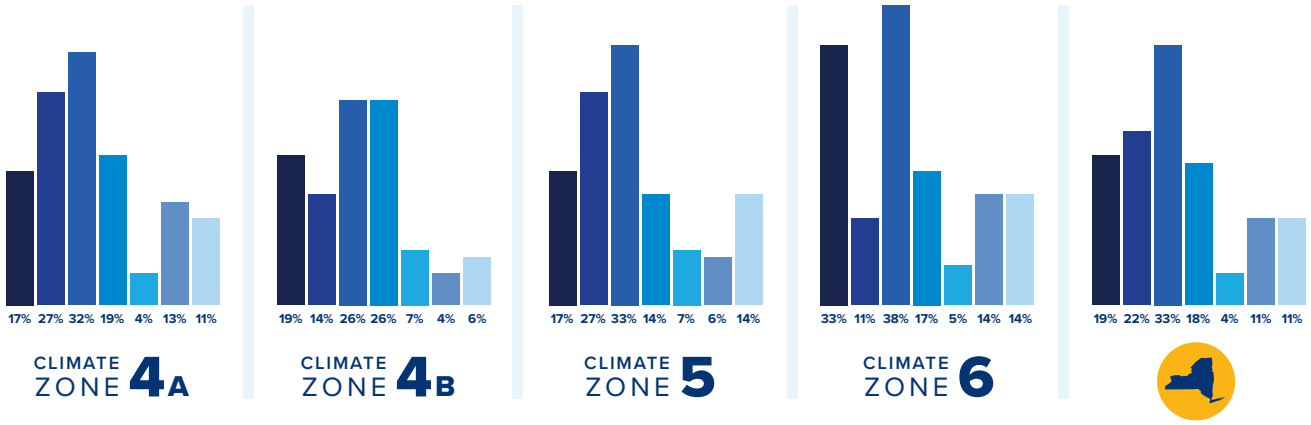
## Building representatives in Climate Zone 5 are most likely to be aware of energy efficiency programs.




SEE THE DATA

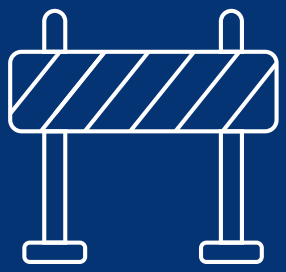
REASON FOR NOT MAKING IMPROVEMENTS (BUILDING REP SURVEY)

## Across climate zones, building representatives are often not aware of any reason to participate in energy efficient upgrades.




SEE THE DATA

- Do not know who to contact
- Have not needed to upgrade equipment
- Not aware of any reason to participate
- Occupants pay most energy bills, so we lack incentive to reduce energy costs
- This is a recently purchased property
- Updating equipment would disrupt occupied living spaces
- We tend to purchase the least expensive equipment option



# SECTION 6

# ELECTRIFICATION BARRIERS

Field technicians collected data about each building's existing electrical service and information about the building condition that may affect its suitability for electrifying building loads and installing on-site distributed generation assets. The online and phone survey also collected information about occupants' satisfaction with their heating and cooling systems, providing insight into how electrification may impact occupant comfort. The site visit data collection included locating the main building electrical service, identifying how electrical service to dwelling units is configured, and documenting the service voltage and amperage for disconnects and panels serving both common areas and dwelling units.

## KEY FINDINGS

### MOST DWELLING UNITS HAVE LOW SERVICE AMPERAGE

Over two-thirds of dwelling units statewide have 100 A service or lower, and nearly one-quarter have only 40 A service. This leaves little room for additional electric loads within dwelling units.

### MANY OLDER BUILDINGS HAVE SIGNIFICANT FAÇADE DAMAGE

Over one-quarter of multifamily buildings constructed before 1978 have deterioration around windows or damaged sealant, resulting in air leakage.

### SINGLE-PHASE SERVICE IS MOST COMMON

The vast majority of both building and dwelling unit electric service is 240/120V single phase.

### AFFORDABLE HOUSING OCCUPANTS ARE OFTEN DISSATISFIED WITH THEIR CURRENT HEATING SYSTEM

The majority of surveyed residents in affordable subsidized housing and over one-quarter of residents in affordable census block housing are dissatisfied with their dwelling unit heating. Heating electrification may offer additional non-energy benefits to these residents by improving comfort; however, root causes of insufficient heating must be addressed before new equipment can be installed.

## BUILDING ELECTRIC SERVICE VOLTAGE AND AMPERAGE (SITE VISITS)

Most buildings use 240/120V single-phase control panels, trending toward 100 to 300 amps.

SEE THE DATA

| AMPERAGE | 208/120V THREE PHASE | 240/120V SINGLE PHASE | 480/277V THREE PHASE | > 480V THREE PHASE |
|---|---|---|---|---|
| <100 | 0.05% | 1.94% | 0.00% | 0.00% |
| 100 to 175 | 3.79% | 32.01% | 0.00% | 0.00% |
| 200 to 300 | 3.65% | 22.88% | 0.33% | 0.00% |
| 400 to 800 | 4.62% | 26.43% | 1.00% | 0.47% |
| 1,000+ | 1.09% | 1.33% | 0.06% | 0.24% |

## DWELLING UNIT SUB-PANEL ELECTRIC SERVICE VOLTS AND AMPERAGE (SITE VISITS)

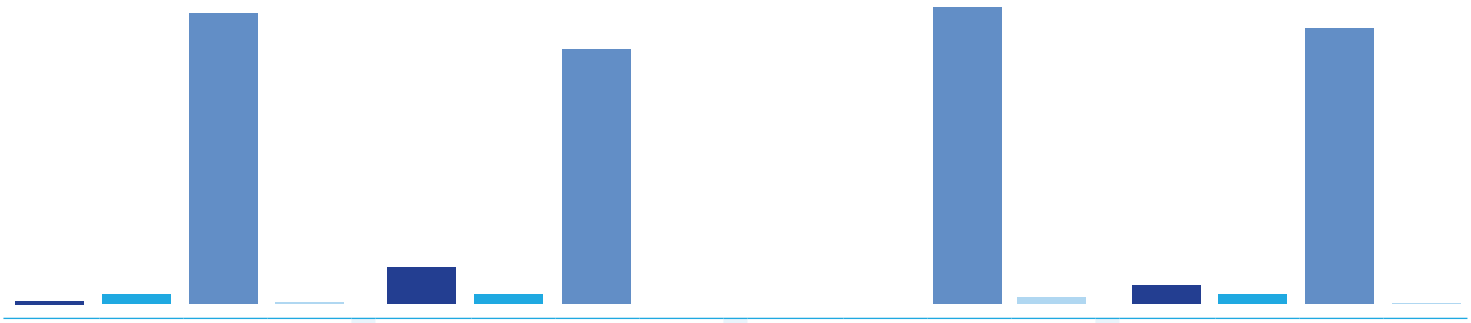
Panels for individual units are often capped at 100 amps.

SEE THE DATA

| AMPERAGE | 208/120V SINGLE PHASE | 240/120V SINGLE PHASE | OTHER |
|---|---|---|---|
| <100 | 0.90% | 42.90% | 1.80% |
| 100 | 3.30% | 24.50% | 0.00% |
| 125 | 0.10% | 7.60% | 0.40% |
| 150 | 0.00% | 0.40% | 0.00% |
| 200 | 1.20% | 3.80% | 0.00% |
| Other | 2.10% | 9.80% | 0.00% |

ROOF ISSUES (SITE VISITS)

## Most buildings do not have roof issues, potentially providing a good foundation for retrofits involving rooftop equipment.



| | Concave roof | Water leaks | None | Other |
|---|---|---|---|---|
| LOW RISE | 1% | 3% | 96% | 0.1% |
| MID RISE | 12% | 3% | 84% | 0% |
| HIGH RISE | 0% | 0% | 98% | 2% |
| NEW YORK | 6% | 3% | 91% | 0.3% |

LOW RISE

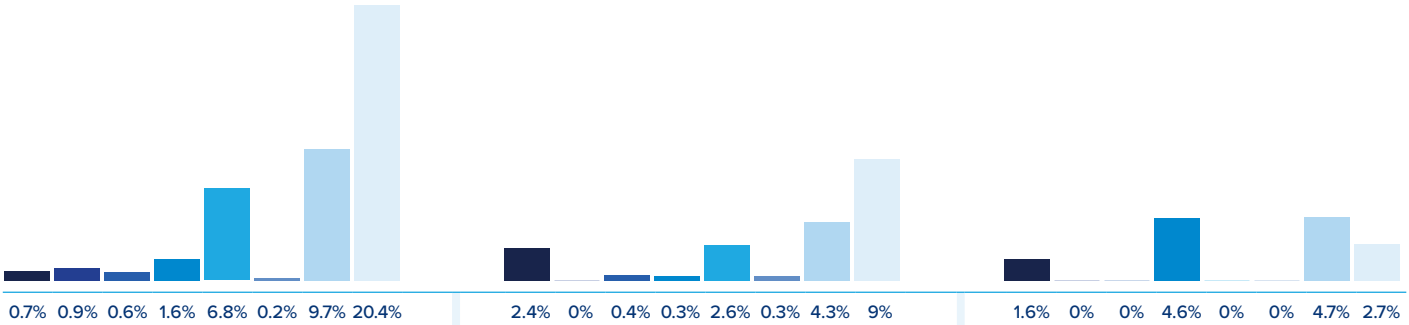
MID RISE

HIGH RISE

SEE THE DATA

WALL FAÇADE CONDITION (SITE VISITS)

## Wall façades in buildings built before 1940 tend to be in poorer condition than those in newer buildings.



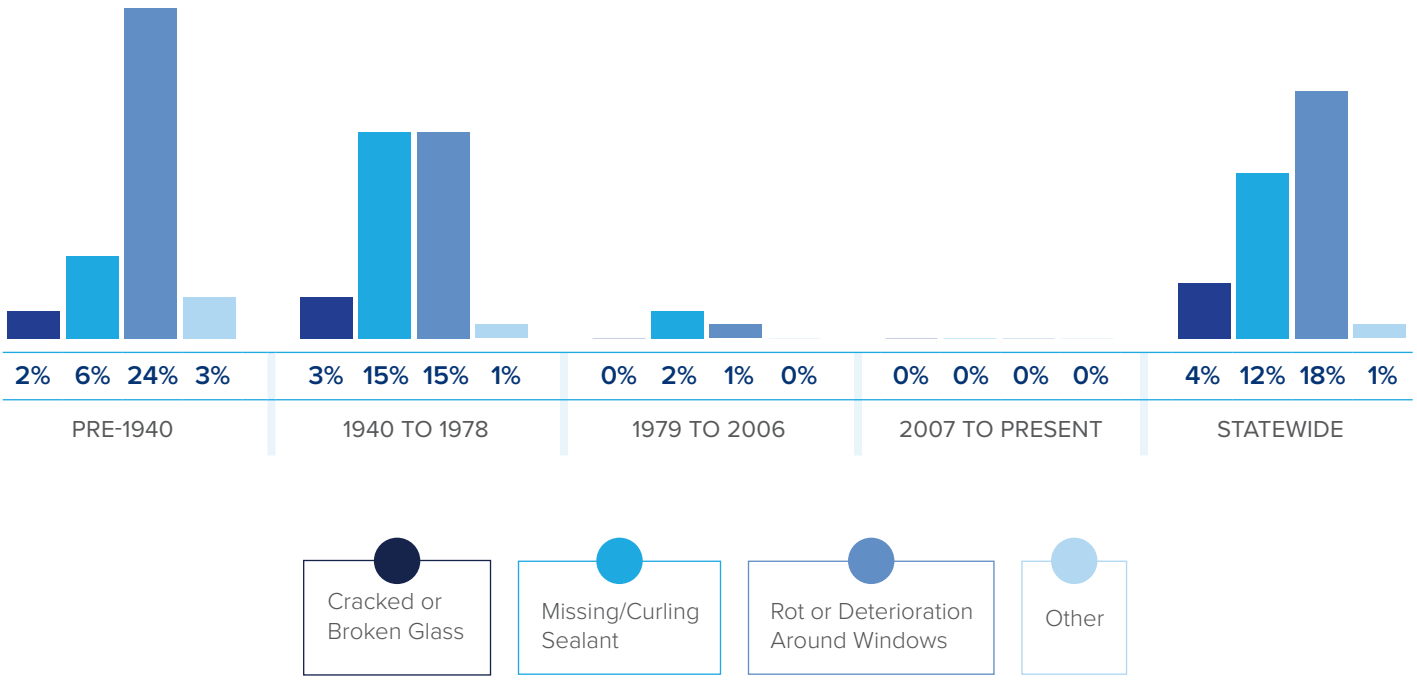
| | Efflorescence | Large cracks | Missing or crumbling elements | Organic growth | Peeling or chips in paint | Sagging or tilting elements | Small cracks | Staining/ Soiling |
|---|---|---|---|---|---|---|---|---|
| PRE-1940 | 0.7% | 0.9% | 0.6% | 1.6% | 6.8% | 0.2% | 9.7% | 20.4% |
| 1940 TO 1978 | 2.4% | 0% | 0.4% | 0.3% | 2.6% | 0.3% | 4.3% | 9% |
| 1979 TO 2006 | 1.6% | 0% | 0% | 4.6% | 0% | 0% | 4.7% | 2.7% |

SEE THE DATA

SEE THE DATA

WINDOW ISSUES (SITE VISITS)

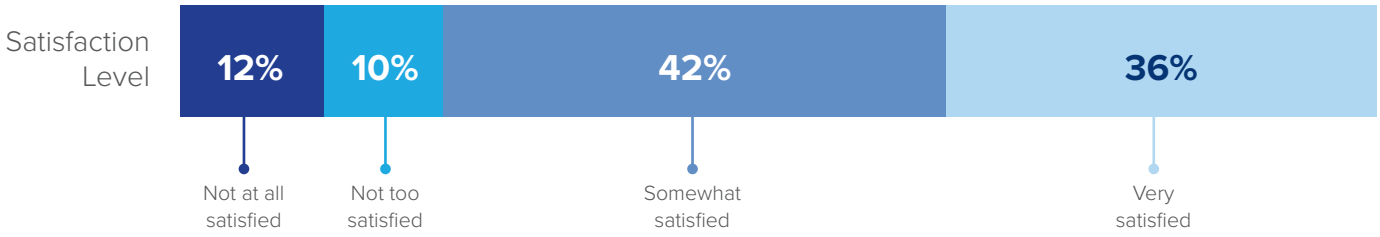
## Windows in older buildings are more likely than those in newer buildings to have rot, deterioration, or sealant issues.




DWELLING UNIT HEATING SATISFACTION (OCCUPANT SURVEY)

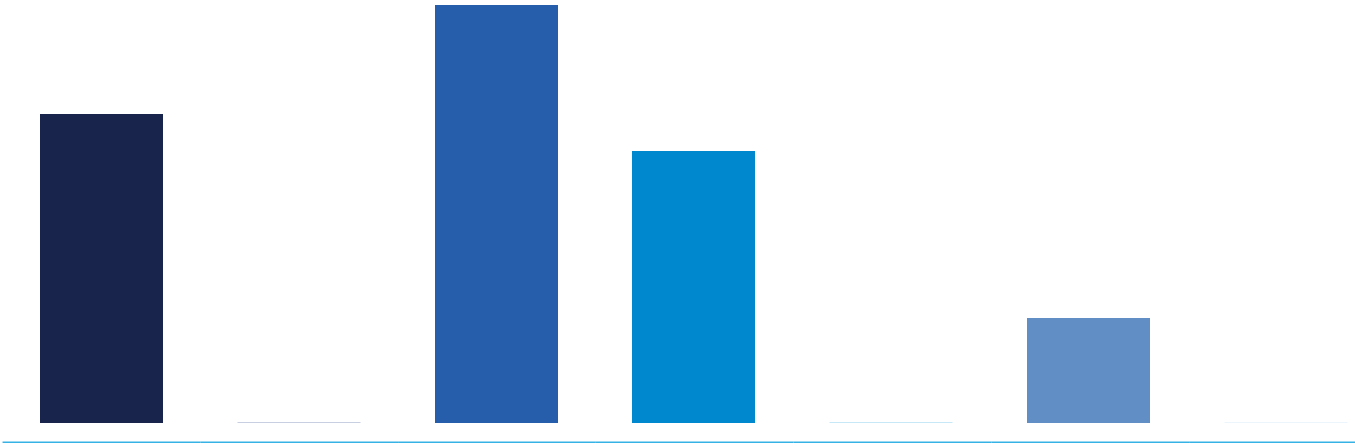
## Overall, most multifamily building occupants report being satisfied with heating in their unit.

SEE THE DATA



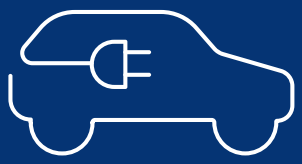
DWELLING UNIT COOLING ISSUES (OCCUPANT SURVEY)

## All respondents noted that cooling was often insufficient.



| COOLING IS UNEVEN FROM ROOM TO ROOM | MY HOME IS OFTEN TOO COLD IN SUMMER | MY HOME IS OFTEN TOO HOT IN SUMMER | THE COOLING SYSTEM IS NOISY | THE COOLING SYSTEM OFTEN BREAKS | THERE ARE UNUSABLE SPACES IN MY HOME DUE TO LACK OF COOLING | NONE OF THE ABOVE |
|---|---|---|---|---|---|---|
| 74% | 0% | 100% | 65% | 0% | 25% | 0% |

SEE THE DATA



# SECTION 7

# EV INFRASTRUCTURE AND OWNERSHIP

Field technicians collected information about existing electric vehicle (EV) charging infrastructure where present, and also documented the available parking facilities for each site visited.

## KEY FINDINGS

### EV INFRASTRUCTURE IS CLOSE TO NONEXISTENT

Only three site visits statewide identified EV charging stations available for building residents. Not surprisingly, very few residents of multifamily buildings drive an EV. By far the highest incidence of EV ownership occurs within the Co-ops and Condos category, in which only one in ten dwellings has an EV. For every other housing type, this number is closer to one in one hundred.

### MOST BUILDINGS OUTSIDE OF NYC HAVE PARKING FACILITIES

Overall, over 90% of buildings outside of NYC have some form of on-site parking, which provides an opportunity to install dedicated EV charging stations for residents. However, in NYC over two-thirds of buildings have no on-site parking, making it much more challenging to provide charging opportunities.

### EV OWNERSHIP IN NEW YORK STATE IS CURRENTLY LOW

Co-op and condo occupants are more likely to own EVs than are occupants of other ownership types, but statewide adoption of EVs is well under 1 in 10 multifamily residents.

TYPE OF PARKING (SITE VISITS)

## Most multifamily buildings in NYC do not have parking, and residents in other geographic regions typically park in open lots.

| PARKING TYPE | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 |  |
|---|---|---|---|---|---|
| Open lot | 16% | 58% | 82% | 90% | 40% |
| Covered lot | 0% | 2% | 2% | 0% | 2% |
| Above ground parking garage | 9% | 11% | 6% | 0% | 7% |
| Underground parking garage | 8% | 22% | 1% | 8% | 10% |
| None | 67% | 8% | 9% | 1% | 41% |
| Other | 0% | 0% | 0% | 0% | 0% |

SEE THE DATA

PERCENTAGE OF HOUSEHOLDS WITH AN ELECTRIC VEHICLE (OCCUPANT SURVEY)

## Co-op and condo residents have the highest rate of EV ownership.

| OWNERSHIP TYPE | STATEWIDE |
|---|---|
| Affordable Subsidized | 1% |
| Affordable Census Block | 0% |
| Co-Ops and Condos | 10% |
| Market-Rate Rentals | 2% |

SEE THE DATA

AVERAGE NUMBER OF EV CHARGING STATIONS FOR BUILDINGS WITH STATIONS (SITE VISITS)

## EV charging is not commonly provided by multifamily buildings.

SEE THE DATA

| CHARGER TYPE | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 |  |
|---|---|---|---|---|---|
| Level 1 | 0 | 0 | 0 | 0 | 0 |
| Level 2 | 0 | 0 | 3.92 | 2 | 3.57 |
| Level 3 | 0 | 0 | 0 | 0 | 0 |

# SECTION 8

## LIGHTING

For lighting data collection, field technicians recorded the quantity and type of bulbs in common areas along with fixture and control type for controls that went beyond simple on/off switches. Field technicians collected this data for lighting both inside and outside the building, including bulbs stored for future use. Additionally, field technicians recorded hours bulbs were used by lighting type within the dwelling unit, as well as who is responsible for replacing bulbs.

When necessary and reasonable, technicians removed lampshades or fixture covers to identify bulb characteristics. When a given data point could not be identified by visual inspection, field technicians attempted to gather the information from another source, such as the building representative, or noted that they were unable to identify the bulb type.

Identifying bulb type can be difficult due to accessibility or safety issues, and discerning halogen from incandescent bulbs can be especially challenging. Accordingly, data collected during site visits combined incandescent and halogen bulbs into one category labeled “inefficient.”

Although the SMBS captured data on CFL and LED bulbs separately, some lighting tables combine CFL and LED bulbs into one category.

## KEY FINDINGS

### MOST DWELLING UNITS HAVE LOW SERVICE AMPERAGE

Over two-thirds of dwelling units statewide have 100 A service or lower, and nearly one-quarter have only 40 A service. This leaves little room for additional electric loads within dwelling units.

### MANY OLDER BUILDINGS HAVE SIGNIFICANT FAÇADE DAMAGE

Over one-quarter of multifamily buildings constructed before 1978 have deterioration around windows or damaged sealant, resulting in air leakage.

SEE THE DATA

## DISTRIBUTION OF COMMON AREA LAMPS BY LAMP TYPE (SITE VISITS)

### Almost six of every eight bulbs in common areas are LEDs, while CFLs and halogen bulbs each account for only one of eight.

| | LAMP TYPE | PRE-1940 | 1940 TO 1978 | 1979 TO 2006 | 2007 TO PRESENT | STATEWIDE |
|---|---|---|---|---|---|---|
|  | Compact Fluorescent | 16% | 13% | 19% | 18% | 17% |
|  | HID | 0.4% | 0.5% | 0.1% | 0% | 0.3% |
|  | Incandescent / Halogen | 5% | 8% | 11% | 1% | 6% |
|  | LED | 62% | 68% | 52% | 73% | 62% |
|  | Linear Fluorescent | 17% | 10% | 17% | 8% | 14% |
|  | Other | 0% | 1% | 1% | 0% | 1% |

SEE THE DATA

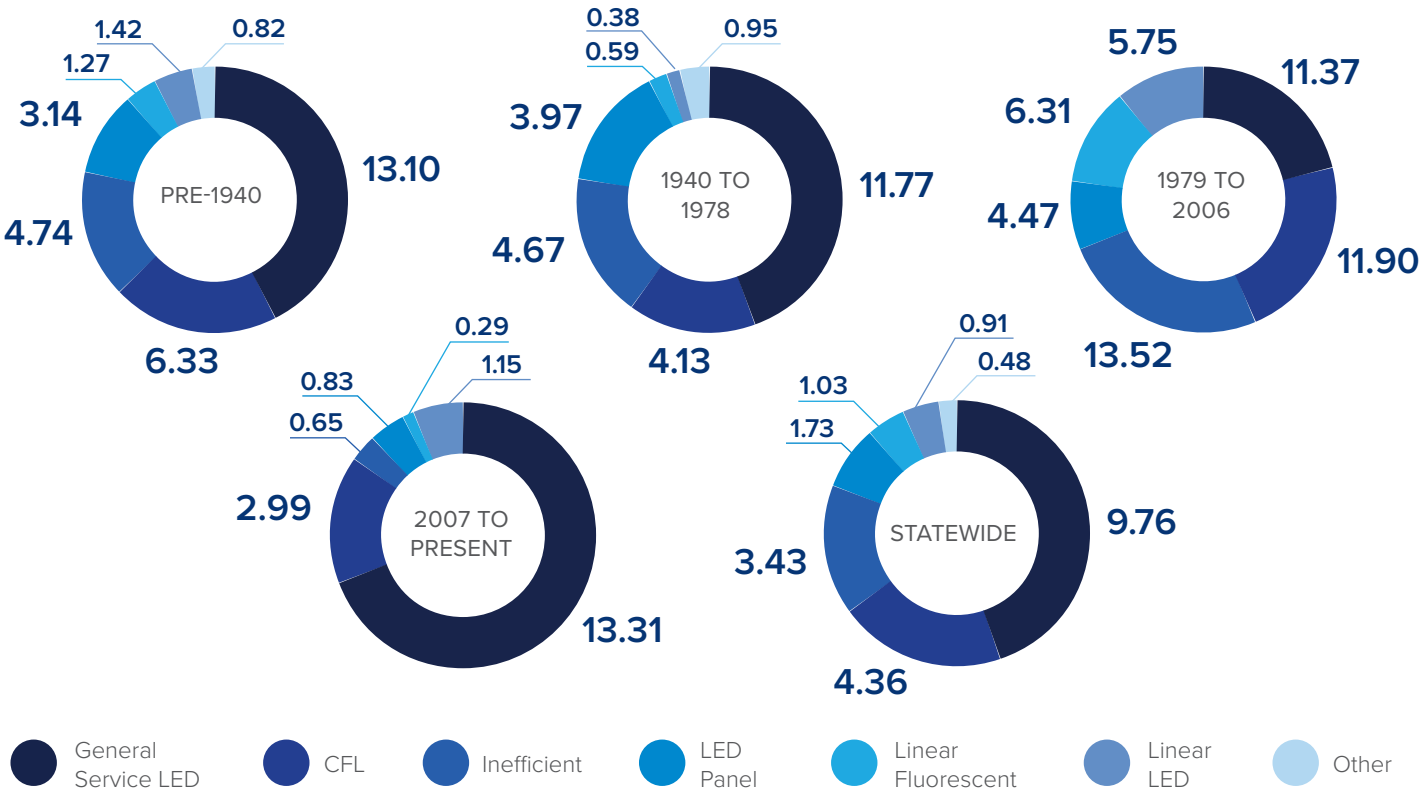
## DISTRIBUTION OF COMMON AREA LAMPS BY CONTROL TYPE (SITE VISITS)

### In older buildings, most common area lighting is controlled either manually or via circuit breaker.

| CONTROL TYPE | PRE-1940 | 1940 TO 1978 | 1979 TO 2006 | 2007 TO PRESENT | STATEWIDE |
|---|---|---|---|---|---|
| BMS | 0% | 0% | 0% | 0% | 0% |
| Circuit breaker | 33% | 27% | 14% | 29% | 34% |
| Light sensor dimming | 0% | 0% | 0% | 0% | 0% |
| Light sensor on/off | 3% | 4% | 1% | 5% | 2% |
| Manual switch | 55% | 53% | 63% | 40% | 51% |
| Networked timer | 1% | 0% | 0% | 0% | 0% |
| Occupancy & light sensor | 1% | 1% | 0% | 2% | 1% |
| Occupancy sensor | 3% | 2% | 19% | 21% | 6% |
| Timer | 4% | 13% | 4% | 2% | 6% |

AVERAGE NUMBER OF IN-UNIT LAMPS PER DWELLING UNIT BY TYPE (SITE VISITS)

# Efficient lighting is used by most occupants across building vintages.




SEE THE DATA

# SECTION 9

## APPLIANCES

Field technicians collected information about appliances in common area and dwelling units. For common area washers and dryers, field technicians recorded the number, type, age, and ENERGY STAR certification. Presence and count of shared kitchens and refrigerators were also recorded. Survey questions asked not only about the ownership of in-unit appliance units but also about patterns of usage, such as the number of loads per week where applicable. Additionally, for in-unit appliances, field technicians detailed year of manufacture, type, fuel, whether it was labeled as ENERGY STAR rated, and—for some appliances—EnergyGuide information and/or model number. When model numbers were collected, field technicians attempted to look up characteristics such as ENERGY STAR status and EnergyGuide information online.

Appliances provide some examples of the differences between surveys and site visits as a means of primary data collection. On one hand, all survey respondents presumably know how many of each type of major appliance is in their unit or building, along with the basic type or configuration of each appliance. However, as illustrated in the ENERGY STAR appliances table below, a survey participant's knowledge or memory of whether each appliance is ENERGY STAR rated may be understandably limited.

The ability of field technicians to consistently identify ENERGY STAR appliances with accuracy may also be limited. For this project, field technicians were instructed to first look for an ENERGY STAR label and to search online for ENERGY STAR status if they could not find a label, but it is likely that the site visit data somewhat underestimated the percentage of installed ENERGY STAR appliances because of missing or inaccessible labels. Model numbers collected are provided in the site visit data for implementers or researchers who need to determine with more certainty the percentage of qualifying ENERGY STAR appliances.

## KEY FINDINGS

### LAUNDRY FACILITIES LACKING

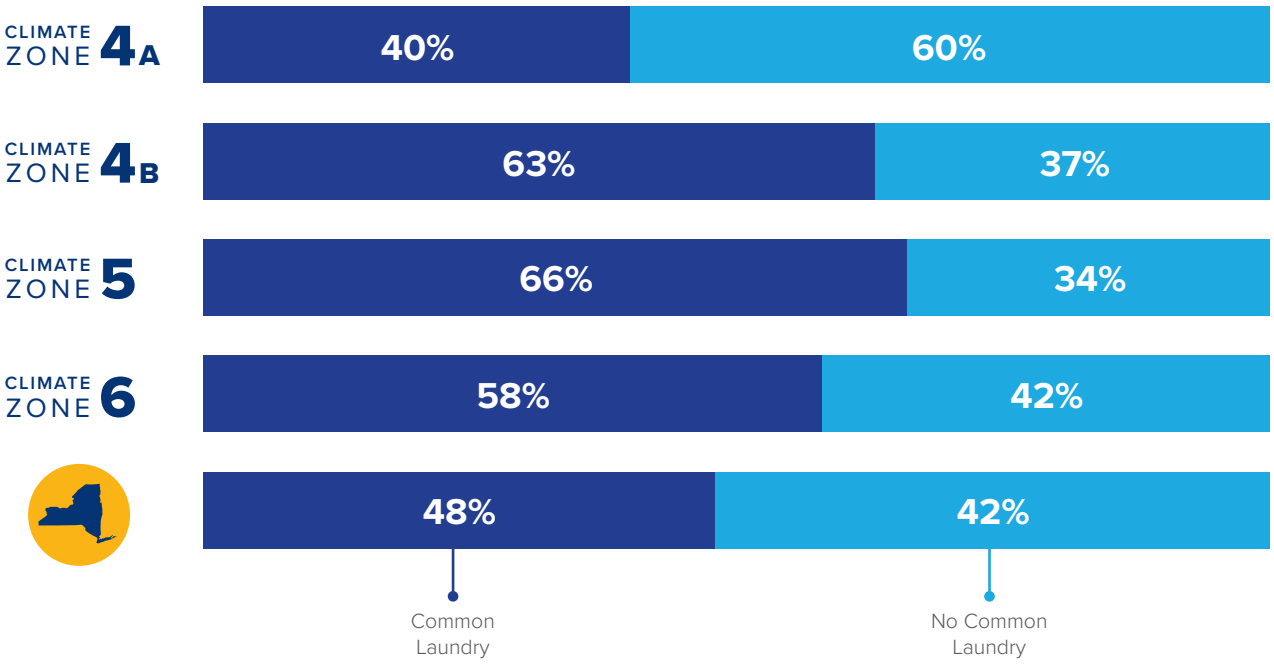
Only about half of buildings statewide provide common laundry facilities to tenants. Co-ops and condos lead with 64% offering common laundry facilities, while market-rate rentals and affordable subsidized buildings match the statewide average. Affordable census block buildings lag behind with only about one-third offering common laundry facilities. In addition to being sparsely provided overall, common laundry facilities tend to be stocked with outdated equipment. Over half of all buildings with common laundry facilities statewide use clothes dryers that are at least 15 years old. Only co-ops and condos appear to use new equipment. For market-rate rentals and affordable census block buildings, over two-thirds of common dryers are 15 or more years old.

### FEW OLDER REFRIGERATORS

Refrigerators in two-thirds of dwelling units statewide are typically less than 10 years old, and half of these refrigerators are less than two years old. Still, about one-fifth of dwelling units have a refrigerators that are more than 15 years old, leaving opportunity for replacement.

DISTRIBUTION OF BUILDING LAUNDRY TYPE (BUILDING REP SURVEY)

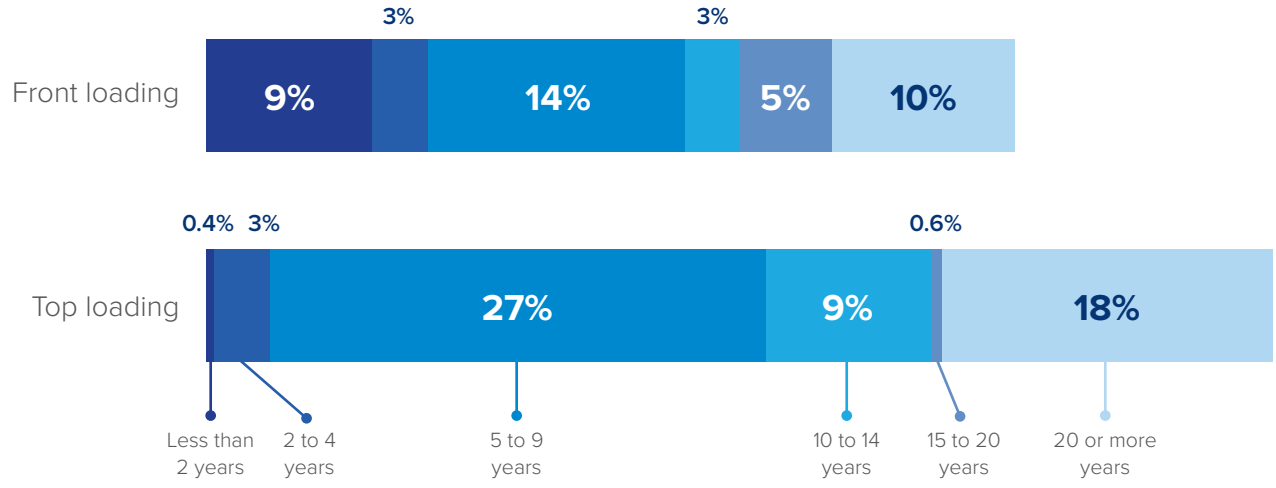
## Laundry facilities in building common spaces are least prevalent in NYC.




SEE THE DATA

DISTRIBUTION OF COMMON AREA CLOTHES WASHER TYPE BY WASHER AGE (SITE VISITS)

## Top loading washers are slightly more prevalent than front loading and unlikely to have been recently replaced.

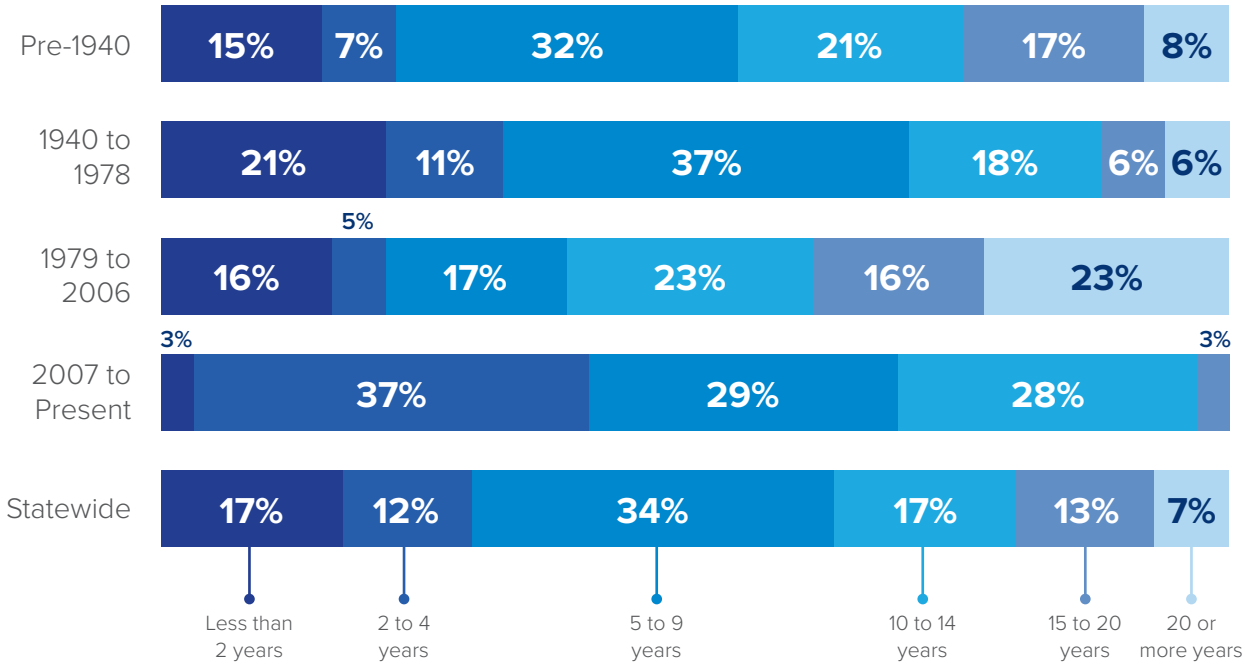



SEE THE DATA

SEE THE DATA

REFRIGERATOR AGE PER DWELLING UNIT (SITE VISITS)

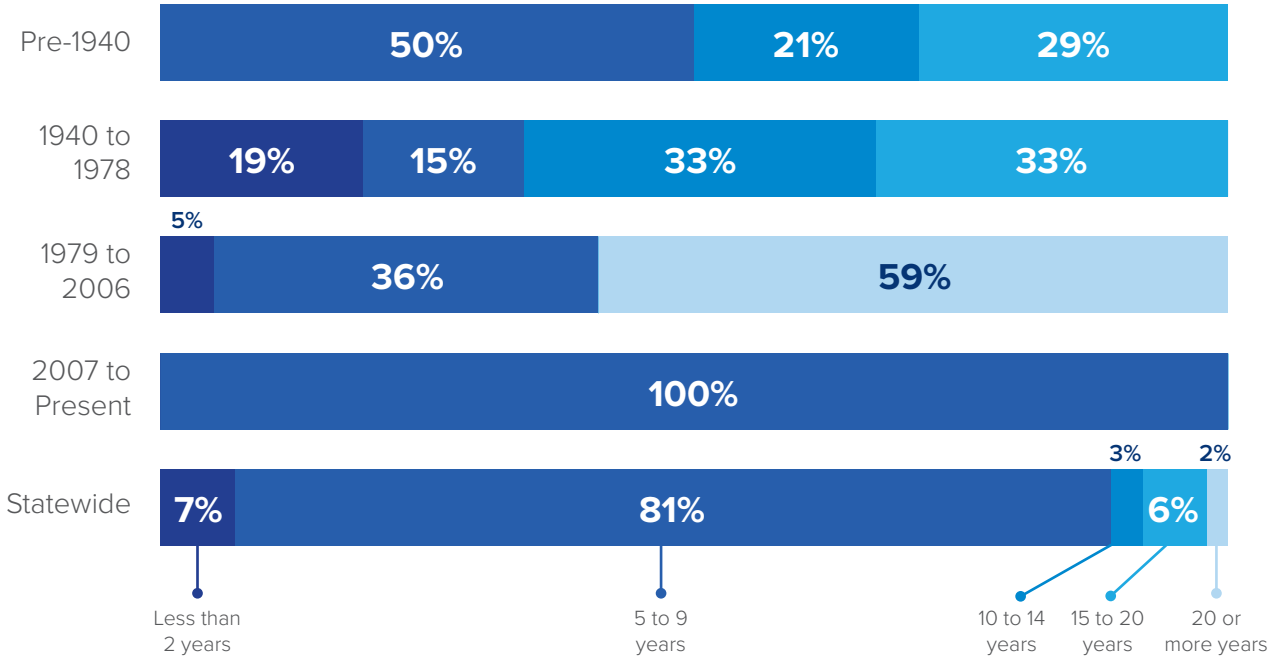
## Most dwelling units have refrigerators less than 15 years old, regardless of building vintage.




SEE THE DATA

IN-UNIT DISHWASHER AGE PER DWELLING UNIT (SITE VISITS)

## Dishwashers in older buildings present a higher opportunity for upgrades than those in newer buildings.



# SECTION 10

# ELECTRONICS

Few aspects of buildings have changed as dramatically in recent years as household electronics, thanks to transformational forces such as the internet and smart phones and the rapid adoption of flat-screen televisions.

The SMBS relied mostly on site visits to collect information about televisions. During site visits, field technicians characterized each television, including the type and size. Field technicians also collected information about a variety of other electronics in each dwelling unit, including counts of popular electronic components and office equipment.

Several results reported in this section draw on survey responses regarding the quantity and usage of various electronic components, from the number of cell phones used by household members to the number of hours per day residents use desktop and laptop computers.

## TELEVISION TECHNOLOGY

When characterizing televisions, it helps to be clear about the difference between liquid-crystal display (LCD) and LED televisions. Even with televisions marketed as LED, an LCD panel provides the pixels that make up the image, and a light source is required to adequately illuminate the screen.

Whether the television is considered an LED television depends on the technology of the light source it uses. An LED television uses LEDs behind an LCD panel (or along the edges) rather than cold cathode fluorescent lamps (CCFLs), which are found mostly in older, thicker flat-screen televisions. Organic LED (OLED) technology offers better display quality, thinner screens, and lower energy usage by providing LEDs small enough to provide both the pixels and the light, which eliminates the need for the LCD panel.

# KEY FINDINGS

## LED LEADS THE WAY

LED televisions now make up more than half of all televisions statewide, according to site visit data, and LED and LCD televisions combined account for nearly 90%. CRT televisions show a sharp decline, at 6%, while OLED televisions have begun to appear.

## TELEVISION SIZE NONNEGOTIABLE

Average television size is fairly consistent across housing ownership types. However, affordable housing, especially unsubsidized, appears to correspond with television sizes that are two to three inches smaller than televisions in other ownership types.

## VIDEO GAMING SYSTEMS PREVALENT

The statewide average number of video gaming systems per dwelling unit is 1.2, an even tie with the average number of cable boxes per dwelling. The number of video gaming systems per dwelling unit in specific regions is much higher than the average: Climate Zone 4 has an average of 1.4 systems per dwelling, and Climate Zone 6 has an average of 1.9 systems.

## CONSISTENT COMPUTER USE

The average dwelling unit statewide has at least one computer. Average daily usage ranges from about one to four hours for a laptop, and from about five to nine hours for desktops. It is possible that the high level of usage may be at least partially due to increased time working from home since the COVID-19 pandemic. Comparatively lower laptop usage might be a result of smartphone accessibility. Users may consider their smartphone to be a more convenient alternative for activities they can do on a laptop such as surfing the web, checking e-mail, and playing music, but not a reasonable alternative for everything they can do with a desktop such as gaming, big-screen streaming, and other processing-intensive activities.

AVERAGE DWELLING UNIT TELEVISION SIZE (SITE VISITS)

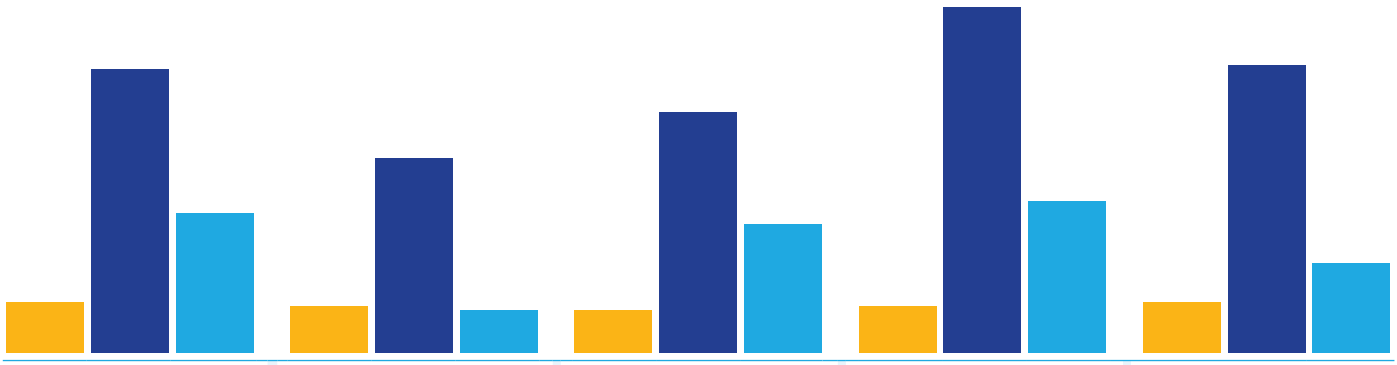
## Affordable housing, especially unsubsidized, appears to correspond with slightly smaller television sizes than other ownership types.

| OWNERSHIP TYPE | CLIMATE ZONE 4A | CLIMATE ZONE 4B | CLIMATE ZONE 5 | CLIMATE ZONE 6 | |
|---|---|---|---|---|---|
| Affordable Subsidized | 46.0 | 41.8 | 41.6 | 40.1 | 43.8 |
| Affordable Census Block | 41.7 | 48.4 | 43.1 | 45.4 | 42.5 |
| Co-ops and Condos | 46.1 | 43.9 | 0.0 | 0.0 | 45.5 |
| Market-Rate Rentals | 49.0 | 48.5 | 44.4 | 44.8 | 46.0 |

SEE THE DATA

NUMBER AND HOURS OF USE OF COMPUTERS

## Occupants tend to spend double the amount of time on desktop computers than they do on laptops.



| Computer Count | Desktop | Laptop | CLIMATE ZONE |
|---|---|---|---|
| 1.3 | 7.3 | 3.6 | 4A |
| 1.2 | 5 | 1.1 | 4B |
| 1.1 | 6.2 | 3.3 | 5 |
| 1.2 | 8.9 | 3.9 | 6 |
| 1.3 | 7.4 | 3.4 | |

SEE THE DATA

# SECTION 11

## CONNECTED DEVICES

Data collection of connected devices was performed for only dwelling unit occupants. Survey questions first asked participants if any equipment in their dwelling unit could be controlled remotely and then asked them to identify specific types of equipment from a list. During site visits, field technicians identified whether the dwelling unit included any of eight types of connected equipment. Results from the two methods of data collection varied somewhat for connected equipment, which may have resulted from self-selection bias, survey participant error, or field technician error.

SMBS data collection observed the distinction between connected and smart devices: A connected device can be controlled remotely, whereas a smart device can use learned or detected information to automatically alter operation or provide suggestions, such as a smart thermostat modifying the temperature setpoint of a heating or cooling system based on usage patterns. All smart devices are likely connected, but not all connected devices are smart.

## KEY FINDINGS

### CONNECTED DEVICES GAIN TRACTION

Almost one-quarter (24%) of occupants statewide have at least one device that can be controlled remotely, according to survey responses. These devices span a wide range, from thermostats and lighting to major appliances and security systems.

### LIGHTING GETS CONNECTED

Survey responses show that 14% of multifamily dwelling units statewide use connected lighting.

PERCENTAGE OF DWELLING UNITS WITH CONNECTED/SMART DEVICES (OCCUPANT SURVEY)

## With under one-quarter of occupants using connected devices, the market for connected devices has a lot of room to grow.

| EQUIPMENT TYPE | STATEWIDE |
|---|---|
| Clothes Dryer | 0% |
| Clothes Washer | 0% |
| Cooling Equipment | 0% |
| Heating Equipment | 0% |
| Lighting | 14% |
| Security System | 0% |
| Standalone Freezer | 0% |
| Standalone Oven | 0% |
| Thermostat | 7% |

SEE THE DATA

PERCENTAGE OF DWELLING UNITS WITH CONNECTED DEVICES BY DEVICE TYPE (OCCUPANT SURVEY)

## Occupants are more likely to use wi-fi controlled lighting than other connected devices.

| EQUIPMENT TYPE | STATEWIDE |
|---|---|
| Clothes Dryer | 0% |
| Clothes Washer | 0% |
| Cooling Equipment | 35% |
| Heating Equipment | 14% |
| Lighting | 63% |
| Security System | 24% |
| Standalone Freezer | 2% |
| Standalone Oven | 2% |
| Thermostat | 25% |

SEE THE DATA

# APPENDIX A. DATA TABLES FROM SURVEYS AND SITE VISITS

This appendix presents findings for the New York State Energy Research and Development Authority (NYSERDA) 2022 Statewide Multifamily Building Study (SMBS) based on data collected through online and phone surveys and site visits. The title of each table indicates whether that table is based on survey data from building representatives and/or occupants (Building Rep Survey, Occupant Survey), site visit data (Site), or combinations of the three activities. Cadmus developed and applied sampling weights to ensure that all observations were weighted proportionally to the segment of the population represented by the sample. Refer to Appendix B. Detailed Methodology for a description of the weighting methods Cadmus used.

All tables include *n* values to document sample sizes along with error bounds (EBs) to provide a measure of the uncertainty of the data. Cadmus calculated the EBs as the standard error multiplied by a *t*-statistic which provides the half-width of the 90% confidence interval. EBs, or absolute precision, have the same units as the estimate. When reporting precision, absolute precision is typically reported for percentages or distributions, while relative precision is typically reported for means or totals. To calculate the relative precision for a given mean or total, Cadmus divided the EB by the associated estimate. With percentages, the reported EB represents the absolute precision.

# LIST OF TABLES

## 1.1 SMBS Tables

TABLE 1. TYPICAL MULTIFAMILY BUILDINGS PROFILE (ALL)

| Category | Designated as DAC | Not in a DAC designated Census Tract | Unknown | Statewide |
|---|---|---|---|---|
| Age of buildings—most prevalent age of buildings | 1939 or earlier | 1939 or earlier | 1939 or earlier | 1939 or earlier |
| Average number of floors | 4.4 | 4.4 | 2.5 | 4.6 |
| Average number of buildings at site | 2.9 | 2.6 | 4.1 | 2.2 |
| Average number of dwelling units at site | 32.0 | 29.4 | 58.5 | 30.5 |
| Percentage of tenants in buildings with businesses (stores, etc.) | 17% | 11% | 18% | 16% |
| Percentage of central heating system for building | 76% | 78% | 59% | 78% |
| Percentage of central air conditioning system for building | 6% | 14% | 28% | 10% |
| Percentage of central water heating system for building % | 42% | 44% | 37% | 46% |
| N (populations vary based on data sources) | 168 | 199 | 52 | 434 |

Source: Survey fields: ['How many individual living units are there in this building? (Please enter number of units)', 'Enter the number of floors above grade.', 'What is the year of original construction for the Building?', 'Confirm the number of Buildings in the complex indicated in the site visit invitation.', 'What type of commercial space is in this Building? (select all that apply)', 'Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice', 'What is the typical primary cooling system for the building's living units? - Selected Choice', 'What equipment typically provides domestic hot water for the building's living units?']

BACK TO REPORT

## TABLE 2. TYPICAL MULTIFAMILY DWELLING UNIT PROFILE (ALL)

| Category | Designated as DAC | Not in a DAC designated Census Tract | Unknown | Statewide |
|---|---|---|---|---|
| Square footage of unit— percentage less than 1,500 square feet | 99% | 97% | 93% | 97% |
| Average number of bedrooms | 1.5 | 1.5 | 1.5 | 1.5 |
| Average number of occupants | 2.7 | 1.6 | 1.3 | 2.0 |
| Annual household Income (2012) - $75,000 or more | 20% | 44% | 44% | 44% |
| Household highest education level – graduate degree | 16% | 16% | 10% | 17% |
| Ownership - Own/Buying | 12% | 26% | 5% | 20% |
| Respondents (n) | 241 | 303 | 71 | 637 |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'Which of the following best describes your household's total income?', 'What is the highest level of education anyone currently living in your household has completed?', 'Do you own or rent your home?', 'Total area of living unit in square feet', 'Dwelling bedroom type']

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## TABLE 3. BUILDING VINTAGE - DWELLING UNIT AREA (SITE VISIT)

| Floor area [sq ft] | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Less than 250 Square Feet | 2% | 2% | | | | | | | | |
| 250 to Less than 500 Square Feet | 36% | 7% | 13% | 5% | 6% | 3% | 14% | 10% | 7% | 8% |
| 500 to Less than 750 Square Feet | 25% | 6% | 38% | 8% | 47% | 32% | 37% | 16% | 57% | 23% |
| 750 to Less than 1,000 Square Fe | 24% | 6% | 32% | 8% | 42% | 27% | 23% | 14% | 20% | 14% |
| 1,000 to Less than 1,500 Square | 10% | 4% | 15% | 6% | 3% | 3% | 26% | 15% | 14% | 11% |
| 1,500 to Less than 2,000 Square | 1% | 1% | 1% | 2% | | | | | | |
| 2,000 or More Square Feet | 1% | 1% | 0% | 1% | 2% | 3% | | | 2% | 4% |
| Respondents (n) | 208 | | 147 | | 65 | | 44 | | 89 | |

Source: On-site fields: ['Total area of living unit in square feet']

## TABLE 4. BUILDING SIZE - DWELLING UNIT AREA (SITE VISIT)

| Floor area [sq ft] | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Less than 250 Square Feet | 2% | 3% | 1% | 1% | 1% | 2% |
| 250 to Less than 500 Square Feet | 17% | 6% | 38% | 10% | 32% | 9% |
| 500 to Less than 750 Square Feet | 34% | 7% | 29% | 8% | 30% | 9% |
| 750 to Less than 1,000 Square Feet | 29% | 7% | 21% | 6% | 17% | 8% |
| 1,000 to Less than 1,500 Square Feet | 15% | 5% | 9% | 4% | 12% | 7% |
| 1,500 to Less than 2,000 Square Feet | 1% | 1% | 1% | 1% | 3% | 3% |
| 2,000 or More Square Feet | 2% | 2% | 1% | 1% | 5% | 5% |
| Respondents (n) | 300 | | 164 | | 89 | |

Source: On-site fields: ['Total area of living unit in square feet']

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## TABLE 5. CLIMATE ZONE - DWELLING UNIT AREA (SITE VISIT)

| Floor area [sq ft] | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Less than 250 Square Feet | 2% | 2% | 3% | 5% | | | | |
| 250 to Less than 500 Square Feet | 38% | 8% | 11% | 9% | 9% | 4% | 8% | 4% |
| 500 to Less than 750 Square Feet | 28% | 6% | 44% | 18% | 37% | 9% | 22% | 18% |
| 750 to Less than 1,000 Square Feet | 18% | 5% | 27% | 16% | 38% | 8% | 43% | 28% |
| 1,000 to Less than 1,500 Square | 10% | 3% | 15% | 10% | 15% | 6% | 19% | 18% |
| 1,500 to Less than 2,000 Square | 2% | 1% | | | | | 8% | 13% |
| 2,000 or More Square Feet | 2% | 2% | | | 2% | 2% | | |
| Respondents (n) | 220 | | 93 | | 187 | | 53 | |

Source: On-site fields: ['Total area of living unit in square feet']

## TABLE 6. OWNERSHIP TYPE - DWELLING UNIT AREA (SITE VISIT)

| Floor area [sq ft] | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Less than 250 Square Feet | | | 2% | 2% | 2% | 4% | 1% | 1% |
| 250 to Less than 500 Square Feet | 34% | 14% | 56% | 16% | 7% | 5% | 22% | 9% |
| 500 to Less than 750 Square Feet | 37% | 15% | 25% | 11% | 29% | 10% | 33% | 8% |
| 750 to Less than 1,000 Square Feet | 26% | 14% | 12% | 7% | 21% | 9% | 32% | 9% |
| 1,000 to Less than 1,500 Square | 1% | 1% | 4% | 3% | 29% | 10% | 10% | 5% |
| 1,500 to Less than 2,000 Square | 1% | 2% | | | 7% | 6% | 1% | 1% |
| 2,000 or More Square Feet | 0% | 0% | 1% | 1% | 5% | 5% | 1% | 1% |
| Respondents (n) | 167 | | 148 | | 72 | | 166 | |

Source: On-site fields: ['Total area of living unit in square feet']

## TABLE 7. STATEWIDE - DWELLING UNIT AREA (SITE VISIT)

| Floor area [sq ft] | Statewide | |
|---|---|---|
| | % | EB |
| Less than 250 Square Feet | 2% | 1% |
| 250 to Less than 500 Square Feet | 27% | 5% |
| 500 to Less than 750 Square Feet | 32% | 5% |
| 750 to Less than 1,000 Square Fe | 25% | 4% |
| 1,000 to Less than 1,500 Square | 12% | 3% |
| 1,500 to Less than 2,000 Square | 1% | 1% |
| 2,000 or More Square Feet | 2% | 1% |
| Respondents (n) | 553 | |

Source: On-site fields: ['Total area of living unit in square feet']

## TABLE 8. BUILDING SIZE - DISTRIBUTION OF BUILDING FLOOR AREA BY SPACE CATEGORY (SITE VISITS)

| Floor Area Distribution | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Building Controlled | 5% | 2% | 2% | 1% | 1% | 0% |
| Commercial | 1% | 1% | 2% | 1% | 1% | 1% |
| Common Areas | 12% | 3% | 13% | 3% | 11% | 3% |
| Residential | 82% | 21% | 82% | 21% | 86% | 23% |
| Respondents (n) | 569 | | 326 | | 209 | |

Source: On-site fields: ['Enter the space type']

## TABLE 9. CLIMATE ZONE - DISTRIBUTION OF BUILDING FLOOR AREA BY SPACE CATEGORY (SITE VISITS)

| Floor Area Distribution | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Building Controlled | 2% | 0% | 3% | 1% | 4% | 1% | 8% | 5% |
| Commercial | 1% | 1% | 1% | 1% | 2% | 2% | 2% | 3% |
| Common Areas | 12% | 2% | 11% | 6% | 12% | 4% | 11% | 9% |
| Residential | 84% | 16% | 85% | 36% | 81% | 22% | 79% | 56% |
| Respondents (n) | 510 | | 152 | | 352 | | 90 | |

Source: On-site fields: ['Enter the space type']

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## TABLE 10. DAC FLAG - DISTRIBUTION OF BUILDING FLOOR AREA BY SPACE CATEGORY (SITE VISITS)

| Floor Area Distribution | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Building Controlled | 3% | 1% | 2% | 1% | 27% | 32% |
| Commercial | 4% | 3% | 1% | 1% | 14% | 23% |
| Common Areas | 11% | 3% | 12% | 2% | 3% | 3% |
| Residential | 82% | 19% | 84% | 16% | 56% | 54% |
| Respondents (n) | 498 | | 586 | | 20 | |

Source: On-site fields: ['Enter the space type']

## TABLE 11. OWNERSHIP TYPE - DISTRIBUTION OF BUILDING FLOOR AREA BY SPACE CATEGORY (SITE VISITS)

| Floor Area Distribution | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Building Controlled | 2% | 1% | 2% | 1% | 1% | 0% | 3% | 1% |
| Commercial | 2% | 1% | 1% | 1% | 1% | 1% | 2% | 2% |
| Common Areas | 12% | 4% | 13% | 5% | 11% | 4% | 13% | 4% |
| Residential | 85% | 27% | 84% | 33% | 87% | 30% | 82% | 25% |
| Respondents (n) | 330 | | 299 | | 144 | | 331 | |

Source: On-site fields: ['Enter the space type']

## TABLE 12. STATEWIDE - DISTRIBUTION OF BUILDING FLOOR AREA BY SPACE CATEGORY (SITE VISITS)

| Floor Area Distribution | Statewide | |
|---|---|---|
| | % | EB |
| Building Controlled | 3% | 0.5% |
| Commercial | 2% | 0.7% |
| Common Areas | 12% | 1.8% |
| Residential | 84% | 13% |
| Respondents (n) | 1104 | |

Source: On-site fields: ['Enter the space type']

## TABLE 13. CLIMATE ZONE - PERCENTAGE OF BUILDINGS WITH LEASED COMMERCIAL SPACE (SITE VISITS)

| Buildings with Leased Commercial Space | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Low Rise (1 to 3 floors) | 6.2% | 4.0% | 10.0% | 9.5% | 7.9% | 3.8% | 0.0% | 0.0% |
| Mid Rise (4 to 7 floors) | 22.7% | 6.2% | 12.7% | 8.6% | 24.7% | 11.5% | 80.2% | 20.2% |
| High Rise (8 or more floors) | 34.5% | 7.0% | 0.0% | 0.0% | 0.0% | 0.0% | | |
| Respondents (n) | 166 | | 55 | | 122 | | 31 | |

Source: On-site fields: ['What type of commercial space is in this Building? (select all that apply)']

## TABLE 14. DAC FLAG - PERCENTAGE OF BUILDINGS WITH LEASED COMMERCIAL SPACE (SITE VISITS)

| Buildings with Leased Commercial Space | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Low Rise (1 to 3 floors) | 4.7% | 3.1% | 4.9% | 2.6% | 43.2% | 34.3% |
| Mid Rise (4 to 7 floors) | 26.4% | 7.1% | 15.9% | 5.1% | 100.0% | 0.0% |
| High Rise (8 or more floors) | 28.9% | 9.1% | 31.0% | 9.6% | | |
| Respondents (n) | 168 | | 199 | | 7 | |

Source: On-site fields: ['What type of commercial space is in this Building? (select all that apply)']

## TABLE 15. OWNERSHIP TYPE - PERCENTAGE OF BUILDINGS WITH LEASED COMMERCIAL SPACE (SITE VISITS)

| Buildings with Leased Commercial Space | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Low Rise (1 to 3 floors) | 2.9% | 2.9% | 6.3% | 4.3% | 0.0% | 0.0% | 9.1% | 4.1% |
| Mid Rise (4 to 7 floors) | 31.4% | 11.7% | 22.9% | 11.5% | 12.5% | 8.5% | 25.2% | 9.9% |
| High Rise (8 or more floors) | 27.5% | 10.7% | 32.4% | 20.0% | 31.6% | 11.0% | 48.3% | 14.5% |
| Respondents (n) | 114 | | 103 | | 48 | | 109 | |

Source: On-site fields: ['What type of commercial space is in this Building? (select all that apply)']

## TABLE 16. STATEWIDE - PERCENTAGE OF BUILDINGS WITH LEASED COMMERCIAL SPACE (SITE VISITS)

| Buildings with Leased Commercial Space | Statewide | |
|---|---|---|
| | % | EB |
| Low Rise (1 to 3 floors) | 5.7% | 2.3% |
| Mid Rise (4 to 7 floors) | 24.8% | 5.6% |
| High Rise (8 or more floors) | 32.7% | 6.6% |
| Respondents (n) | 374 | |

Source: On-site fields: ['What type of commercial space is in this Building? (select all that apply)']

## TABLE 17. BUILDING VINTAGE - BUILDING ELECTRIC SERVICE METERING TYPE (SITE VISITS)

| Electric Service Meter Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Direct metered dwelling units | 75% | 9% | 71% | 12% | 89% | 51% | 88% | 30% | 78% | 30% |
| Building-level meter only | 10% | 5% | 18% | 6% | 1% | 1% | 4% | 6% | 1% | 0.5% |
| Building-level meter with dwelling unit submeters | 14% | 6% | 11% | 6% | 10% | 11% | 8% | 11% | 7% | 5% |
| Respondents (n) | 145 | | 100 | | 45 | | 33 | | 55 | |

Source: On-site fields: ['What is the meter type for the dwelling units?']

## TABLE 18. BUILDING SIZE - BUILDING ELECTRIC SERVICE METERING TYPE (SITE VISITS)

| Electric Service Meter Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Direct metered dwelling units | 88% | 11% | 80% | 14% | 49% | 13% |
| Building-level meter only | 2% | 1% | 5% | 3% | 28% | 10% |
| Building-level meter with dwelling unit submeters | 10% | 5% | 15% | 8% | 22% | 10% |
| Respondents (n) | 203 | | 108 | | 67 | |

Source: On-site fields: ['What is the meter type for the dwelling units?']

## TABLE 19. CLIMATE ZONE - BUILDING ELECTRIC SERVICE METERING TYPE (SITE VISITS)

| Electric Service Meter Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Direct metered dwelling units | 79% | 11% | 91% | 33% | 80% | 14% | 95% | 43% |
| Building-level meter only | 7% | 3% | 1% | 1% | 8% | 4% | 2% | 3% |
| Building-level meter with dwelling unit submeters | 14% | 7% | 9% | 7% | 11% | 6% | 3% | 3% |
| Respondents (n) | 167 | | 56 | | 123 | | 32 | |

Source: On-site fields: ['What is the meter type for the dwelling units?']

## TABLE 20. DAC FLAG - BUILDING ELECTRIC SERVICE METERING TYPE (SITE VISITS)

| Electric Service Meter Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Direct metered dwelling units | 74% | 10% | 80% | 8% | 13% | 13% |
| Building-level meter only | 12% | 6% | 8% | 4% | | |
| Building-level meter with dwelling unit submeters | 15% | 6% | 12% | 4% | 1% | 2% |
| Respondents (n) | 170 | | 201 | | 7 | |

Source: On-site fields: ['What is the meter type for the dwelling units?']

## TABLE 21. OWNERSHIP TYPE - BUILDING ELECTRIC SERVICE METERING TYPE (SITE VISITS)

| Electric Service Meter Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Direct metered dwelling units | 74% | 24% | 78% | 21% | 76% | 17% | 86% | 15% |
| Building-level meter only | 14% | 6% | 2% | 2% | 12% | 8% | 5% | 5% |
| Building-level meter with dwelling unit submeters | 12% | 10% | 20% | 13% | 12% | 8% | 9% | 6% |
| Respondents (n) | 114 | | 107 | | 48 | | 109 | |

Source: On-site fields: ['What is the meter type for the dwelling units?']

BACK TO REPORT

## TABLE 22. STATEWIDE - BUILDING ELECTRIC SERVICE METERING TYPE (SITE VISITS)

| Electric Service Meter Type | Statewide | |
|---|---|---|
| | % | EB |
| Direct metered dwelling units | 82% | 9% |
| Building-level meter only | 5% | 2% |
| Building-level meter with dwelling unit submeters | 13% | 4% |
| Respondents (n) | 378 | |

Source: On-site fields: ['What is the meter type for the dwelling units?']

## TABLE 23. BUILDING VINTAGE - BUILDING ELECTRIC SERVICE VOLTAGE AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB | % | EB |
| 208/120V Three Phase | 60 | | | 0.1% | 0.2% | | | | | | |

| Voltage | Amperage | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB | % | EB |
| | 100 | 2.0% | 1.8% | 1.0% | 0.6% | 3.2% | 2.7% | 4.6% | 5.5% | 1.6% | 2.5% |
| | 125 | 1.1% | 1.9% | 1.4% | 2.3% | 0.2% | 0.3% | 1.6% | 2.3% | | |
| | 140 | | | 0.3% | 0.5% | | | | | | |
| | 150 | 1.7% | 1.9% | 0.1% | 0.2% | | | 1.5% | 2.3% | 0.4% | 0.8% |
| | 200 | 1.2% | 1.5% | 6.0% | 4.1% | 2.4% | 2.7% | 2.7% | 3.0% | 0.3% | 0.2% |
| | 225 | 1.1% | 0.9% | 1.3% | 1.3% | 1.1% | 0.9% | 5.6% | 4.3% | 0.2% | 0.2% |
| | 250 | | | | | | | 3.0% | 5.1% | | |
| | 400 | 1.1% | 1.0% | 5.3% | 4.0% | 1.4% | 1.0% | 3.4% | 3.2% | 16.3% | 13.5% |
| | 600 | 0.2% | 0.3% | | | 0.3% | 0.4% | 3.7% | 3.6% | 1.2% | 1.3% |
| | 800 | 1.2% | 1.9% | 0.1% | 0.2% | 0.5% | 0.5% | 5.5% | 5.8% | 2.2% | 2.6% |
| | 1000 | | | | | 0.5% | 0.6% | | | 0.1% | 0.1% |
| | 1200 | | | 4.1% | 3.4% | 0.3% | 0.5% | 1.6% | 2.3% | 1.7% | 1.3% |
| | 1600 | 0.2% | 0.3% | 1.1% | 1.1% | 0.2% | 0.3% | | | | |
| | 2000 | 0.3% | 0.4% | 0.5% | 0.4% | | | 1.3% | 2.3% | 0.1% | 0.1% |
| | 2500 | | | 1.7% | 2.1% | | | | | | |
| | 3000 | | | | | | | 0.2% | 0.4% | | |
| | 4000 | | | 0.7% | 0.9% | | | | | | |
| | Respondents (n) | 27 | | 55 | | 31 | | 31 | | 39 | |
| 240/120V Single Phase | 30 | | | 0.3% | 0.5% | | | | | | |
| | 40 | 0.6% | 1.0% | | | | | | | | |
| | 60 | 1.6% | 1.5% | | | | | | | | |
| | 70 | | | 0.8% | 1.3% | 1.3% | 2.1% | | | | |
| | 80 | | | | | 0.3% | 0.5% | | | | |
| | 100 | 26.9% | 6.8% | 21.9% | 7.8% | 3.2% | 3.1% | 7.6% | 6.2% | 27.5% | 16.9% |
| | 125 | 4.3% | 3.0% | 9.4% | 5.0% | 27.9% | 26.3% | 4.8% | 5.5% | 5.6% | 8.1% |
| | 150 | 3.4% | 2.2% | 1.5% | 1.8% | 0.5% | 0.6% | | | 4.8% | 8.0% |
| | 175 | 0.5% | 0.7% | | | | | | | | |

| Voltage | Amperage | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB | % | EB |
| | 200 | 23.8% | 6.1% | 15.3% | 5.9% | 19.0% | 18.9% | 3.9% | 3.2% | 8.4% | 8.3% |
| | 225 | 1.1% | 1.9% | 2.0% | 1.5% | 2.6% | 3.0% | | | 1.6% | 2.5% |
| | 300 | | | 1.4% | 2.2% | | | | | | |
| | 400 | 22.0% | 6.2% | 12.1% | 6.0% | 27.4% | 26.2% | 30.5% | 27.0% | 9.6% | 8.7% |
| | 600 | 3.5% | 2.4% | 6.1% | 4.0% | 1.4% | 0.9% | 4.2% | 6.8% | 5.6% | 8.0% |
| | 800 | 0.3% | 0.3% | 1.3% | 1.9% | 4.4% | 3.4% | 0.4% | 0.5% | 0.3% | 0.2% |
| | 1000 | | | | | 0.3% | 0.5% | | | 0.1% | 0.1% |
| | 1200 | 0.2% | 0.3% | 1.1% | 0.9% | 0.6% | 0.7% | 7.4% | 7.4% | | |
| | >4000 | 0.1% | 0.2% | | | | | | | | |
| | Unable to determine | 0.2% | 0.3% | | | | | | | | |
| | Respondents (n) | 170 | | 98 | | 59 | | 37 | | 46 | |
| 480/277V Three Phase | 200 | | | 1.5% | 2.1% | | | | | | |
| | 225 | | | 0.1% | 0.2% | | | | | | |
| | 400 | 1.1% | 0.0% | | | | | | | | |
| | 600 | | | 0.1% | 0.2% | | | 6.0% | 0.0% | | |
| | 800 | | | 0.1% | 0.2% | 0.3% | 0.9% | | | | |
| | 1000 | | | | | 0.3% | 0.9% | | | | |
| | 2000 | | | 0.3% | 0.3% | 0.2% | 0.4% | | | | |
| | Respondents (n) | 1 | | 10 | | 3 | | 2 | | 0 | |
| > 480V Three Phase | 800 | 0.3% | 0.3% | 0.2% | 0.2% | 0.3% | 0.3% | 0.2% | 1.2% | | |
| | 1200 | | | 0.7% | 0.7% | | | 0.2% | 1.2% | | |
| | Respondents (n) | 2 | | 5 | | 2 | | 2 | | 0 | |

Source: On-site fields: ['What is the rated amps of the equipment? ']

## TABLE 24. BUILDING SIZE - BUILDING ELECTRIC SERVICE VOLTAGE AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| 208/120V Three Phase | 60 | 0.1% | 0.2% | | | | |
| | 100 | 0.4% | 0.5% | 3.1% | 2.7% | 5.4% | 3.7% |
| | 125 | 0.3% | 0.4% | 1.7% | 2.6% | 1.0% | 1.5% |
| | 140 | | | | | 1.3% | 2.1% |
| | 150 | 0.1% | 0.2% | 1.8% | 2.6% | 0.4% | 0.7% |
| | 200 | 1.8% | 1.9% | 1.1% | 0.8% | 6.5% | 4.2% |
| | 225 | 0.1% | 0.1% | 3.1% | 2.9% | 3.9% | 2.9% |
| | 250 | 0.3% | 0.5% | | | | |
| | 400 | 3.9% | 2.5% | 1.3% | 1.3% | 0.9% | 1.5% |
| | 600 | 0.2% | 0.4% | 0.1% | 0.1% | 2.2% | 2.2% |
| | 800 | 0.4% | 0.5% | 3.1% | 3.4% | 2.7% | 2.3% |
| | 1000 | 0.1% | 0.1% | | | 0.9% | 1.5% |
| | 1200 | 0.6% | 0.6% | 0.3% | 0.2% | 0.4% | 0.7% |
| | 1600 | | | 0.0% | 0.0% | 2.1% | 2.3% |
| | 2000 | | | 0.2% | 0.2% | 2.2% | 2.3% |
| | 2500 | | | 0.2% | 0.3% | | |
| | 3000 | 0.03% | 0.1% | | | | |
| | 4000 | | | | | 0.6% | 0.7% |
| | Respondents (n) | 52 | | 71 | | 60 | |
| 240/120V Single Phase | 30 | | | | | 1.3% | 2.1% |
| | 40 | 0.8% | 1.4% | | | | |
| | 60 | 2.0% | 2.4% | 0.7% | 1.2% | | |
| | 70 | 0.2% | 0.3% | | | | |
| | 80 | 0.02% | 0.04% | | | | |
| | 100 | 27.0% | 6.9% | 16.0% | 6.8% | 3.2% | 3.1% |
| | 125 | 8.9% | 3.8% | 6.8% | 4.8% | 4.5% | 3.4% |
| | 150 | 3.3% | 2.8% | 4.2% | 3.9% | 0.2% | 0.4% |

| Voltage | Amperage | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| | 175 | | | 0.7% | 1.2% | | |
| | 200 | 24.3% | 7.5% | 19.9% | 7.4% | 12.5% | 5.7% |
| | 225 | 0.9% | 0.8% | 0.2% | 0.2% | 6.2% | 4.8% |
| | 300 | 0.7% | 1.1% | | | | |
| | 400 | 17.1% | 5.8% | 26.0% | 8.3% | 12.0% | 5.9% |
| | 600 | 2.1% | 2.0% | 7.4% | 4.4% | 11.3% | 5.5% |
| | 800 | 0.4% | 0.3% | 0.6% | 0.7% | 4.7% | 3.2% |
| | 1000 | 0.03% | 0.03% | | | | |
| | 1200 | 1.7% | 1.6% | 0.4% | 0.6% | 3.5% | 3.4% |
| | >4000 | | | | | 0.9% | 1.5% |
| | Unable to determine | | | 0.3% | 0.6% | | |
| | Respondents (n) | 225 | | 115 | | 70 | |
| 480/277V Three Phase | 200 | 0.02% | 0.05% | 0.7% | 4.5% | 0.1% | 0.1% |
| | 225 | | | | | 0.04% | 0.1% |
| | 400 | | | 0.04% | 0.3% | | |
| | 600 | 1.9% | 2.4% | | | 0.04% | 0.1% |
| | 800 | 0.1% | 0.2% | | | 0.01% | 0.02% |
| | 1000 | 0.04% | 0.1% | | | | |
| | 2000 | | | | | 0.5% | 0.7% |
| | Respondents (n) | 5 | | 2 | | 9 | |
| > 480V Three Phase | 800 | 0.2% | | | | 5.1% | 3.5% |
| | 1200 | | | | | 3.3% | 3.0% |
| | Respondents (n) | 2 | | 0 | | 9 | |

Source: On-site fields: ['What is the rated amps of the equipment? ']

## TABLE 25. CLIMATE ZONE - BUILDING ELECTRIC SERVICE VOLTAGE AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| 208/120V Three Phase | 60 | 0.1% | 0.1% | | | | | | |
| | 100 | 2.3% | 1.8% | 0.1% | 0.1% | 2.0% | 2.2% | 0.6% | 0.6% |
| | 125 | 1.4% | 2.2% | | | 1.3% | 2.1% | 2.6% | 4.5% |
| | 140 | 0.1% | 0.2% | | | | | | |
| | 150 | 1.5% | 2.2% | 0.8% | 1.4% | 0.1% | 0.1% | 2.6% | 4.5% |
| | 200 | 2.9% | 1.8% | 4.0% | 6.9% | 1.1% | 1.0% | | |
| | 225 | 1.1% | 0.9% | 1.0% | 1.4% | 1.0% | 0.9% | 3.0% | 4.5% |
| | 250 | | | | | 1.3% | 2.1% | | |
| | 400 | 1.9% | 1.7% | 8.6% | 12.0% | 6.3% | 4.2% | 1.3% | 1.0% |
| | 600 | 0.2% | 0.2% | 1.2% | 1.5% | 0.2% | 0.2% | 0.0% | 0.1% |
| | 800 | 2.4% | 2.6% | 1.1% | 1.4% | 1.9% | 2.2% | 0.3% | 0.4% |
| | 1000 | 0.1% | 0.2% | | | 0.1% | 0.1% | | |
| | 1200 | 0.0% | 0.1% | 2.0% | 2.0% | 2.6% | 3.0% | 1.0% | 0.8% |
| | 1600 | 0.5% | 0.5% | 0.1% | 0.2% | 0.0% | 0.0% | | |
| | 2000 | 0.2% | 0.3% | 0.1% | 0.2% | 0.5% | 0.7% | | |
| | 2500 | 1.0% | 1.4% | | | | | | |
| | 3000 | | | | | 0.1% | 0.1% | | |
| | 4000 | | | | | 0.1% | 0.2% | | |
| | Respondents (n) | 57 | | 22 | | 78 | | 26 | |
| 240/120V Single Phase | 30 | 0.1% | 0.2% | | | | | | |
| | 40 | 0.5% | 0.7% | | | | | | |
| | 60 | 1.8% | 1.7% | | | | | | |
| | 70 | | | | | 0.8% | 0.9% | | |
| | 80 | | | | | | | 0.3% | 0.4% |
| | 100 | 17.3% | 6.3% | 19.6% | 16.4% | 27.2% | 8.1% | 39.1% | 27.9% |
| | 125 | 6.5% | 3.7% | 7.6% | 11.5% | 11.2% | 5.5% | | |
| | 150 | 0.5% | 0.8% | 8.6% | 11.6% | 3.4% | 3.1% | 1.3% | 2.2% |

| Voltage | Amperage | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| | 175 | 0.5% | 0.8% | | | | | | |
| | 200 | 25.0% | 6.9% | 11.7% | 12.0% | 13.1% | 5.0% | 13.5% | 17.0% |
| | 225 | 0.6% | 0.6% | 0.6% | 0.9% | 1.7% | 1.3% | 0.3% | 0.4% |
| | 300 | | | | | 1.3% | 2.1% | | |
| | 400 | 23.5% | 6.5% | 20.6% | 17.3% | 14.3% | 6.4% | 31.9% | 28.2% |
| | 600 | 4.3% | 2.0% | 12.1% | 13.2% | 1.6% | 2.1% | 1.3% | 2.2% |
| | 800 | 0.8% | 0.5% | 0.2% | 0.2% | 1.0% | 0.9% | 0.3% | 0.4% |
| | 1000 | | | | | 0.1% | 0.1% | | |
| | 1200 | 0.8% | 0.6% | | | 2.9% | 3.0% | 0.3% | 0.4% |
| | >4000 | 0.1% | 0.2% | | | | | | |
| | Unable to determine | 0.2% | 0.4% | | | | | | |
| | Respondents (n) | 193 | | 50 | | 135 | | 32 | |
| 480/277V Three Phase | 200 | 0.5% | 3.2% | | | 0.1% | 0.1% | | |
| | 225 | | | | | 0.01% | 0.01% | | |
| | 400 | | | | | 0.1% | 0.3% | | |
| | 600 | | | | | 2.5% | 3.1% | | |
| | 800 | | | 0.1% | | 0.01% | 0.01% | | |
| | 1000 | | | | | | | 0.3% | |
| | 2000 | 0.0% | 0.3% | | | 0.02% | 0.02% | | |
| | Respondents (n) | 2 | | 1 | | 12 | | 1 | |
| > 480V Three Phase | 800 | 0.8% | 0.5% | | | | | | |
| | 1200 | 0.4% | 0.4% | | | | | | |
| | Respondents (n) | 11 | | 0 | | 0 | | 0 | |

Source: On-site fields: ['What is the rated amps of the equipment? ']

## TABLE 26. DAC FLAG - BUILDING ELECTRIC SERVICE VOLTAGE AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| 208/120V Three Phase | 60 | 0.1% | 0.1% | | | | |
| | 100 | 2.6% | 1.9% | 1.4% | 1.1% | 0.5% | 0.0% |
| | 125 | 1.1% | 1.8% | 1.3% | 1.4% | | |
| | 140 | | | 0.2% | 0.3% | | |
| | 150 | 1.7% | 1.8% | 1.0% | 1.2% | | |
| | 200 | 2.9% | 2.0% | 3.0% | 2.0% | | |
| | 225 | 1.8% | 1.8% | 3.0% | 1.8% | | |
| | 250 | 0.8% | 1.3% | | | | |
| | 400 | 4.4% | 3.0% | 4.4% | 2.4% | | |
| | 600 | 1.7% | 1.9% | 0.6% | 0.5% | | |
| | 800 | 3.8% | 2.8% | 0.9% | 0.9% | | |
| | 1000 | | | 0.1% | 0.1% | | |
| | 1200 | 2.0% | 1.9% | 2.8% | 2.0% | | |
| | 1600 | 0.4% | 0.4% | 0.1% | 0.1% | | |
| | 2000 | 0.4% | 0.4% | 0.7% | 0.9% | | |
| | 2500 | 1.0% | 1.3% | | | | |
| | 3000 | 0.1% | 0.1% | | | | |
| | 4000 | 0.7% | 0.8% | | | | |
| | Respondents (n) | 87 | | 95 | | 1 | |
| 240/120V Single Phase | 30 | | | 0.2% | 0.3% | | |
| | 40 | 0.8% | 1.3% | | | | |
| | 60 | 2.6% | 2.7% | | | | |
| | 70 | | | 0.6% | 0.7% | | |
| | 80 | | | 0.0% | 0.0% | | |
| | 100 | 20.0% | 6.1% | 20.8% | 4.9% | 7.6% | 9.7% |
| | 125 | 5.1% | 3.1% | 7.9% | 3.2% | | |

| Voltage | Amperage | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| | 150 | 0.7% | 0.9% | 4.1% | 2.4% | | |
| | 175 | | | 0.5% | 0.7% | | |
| | 200 | 22.5% | 6.2% | 15.7% | 4.1% | 0.1% | 0.1% |
| | 225 | 2.5% | 1.9% | 0.9% | 0.9% | | |
| | 300 | | | 0.7% | 1.1% | | |
| | 400 | 13.2% | 4.9% | 19.4% | 4.8% | 4.3% | 7.5% |
| | 600 | 2.1% | 1.4% | 5.2% | 2.4% | 0.1% | 0.1% |
| | 800 | 2.0% | 1.6% | 0.3% | 0.2% | | |
| | 1000 | 0.1% | 0.1% | | | | |
| | 1200 | 1.1% | 1.0% | 1.5% | 1.5% | | |
| | >4000 | | | 0.1% | 0.1% | | |
| | Unable to determine | 0.2% | 0.3% | | | | |
| | Respondents (n) | 174 | | 230 | | 6 | |
| 480/277V Three Phase | 200 | 1.3% | 3.8% | 0.1% | 0.1% | | |
| | 225 | | | 0.01% | 0.03% | | |
| | 400 | | | 0.5% | 0.9% | | |
| | 600 | | | 1.3% | 1.6% | | |
| | 800 | 0.05% | 0.1% | 0.02% | 0.04% | | |
| | 1000 | | | 0.02% | 0.04% | | |
| | 2000 | 0.05% | 0.1% | 0.04% | 0.04% | | |
| | Respondents (n) | 3 | | 13 | | 0 | |
| > 480V Three Phase | 800 | 0.3% | 0.3% | 0.3% | 0.4% | | |
| | 1200 | 0.1% | 0.1% | 0.4% | 0.5% | | |
| | Respondents (n) | 6 | | 5 | | 0 | |

Source: On-site fields: ['What is the rated amps of the equipment? ']

## TABLE 27. METERING TYPE - BUILDING ELECTRIC SERVICE VOLTAGE AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| 208/120V Three Phase | 100 | 5.5% | 2.9% | 1.4% | 0.9% | 4.8% | 3.4% | | |
| | 125 | 1.0% | 1.7% | 0.8% | 0.8% | | | 0.0% | 0.0% |
| | 140 | 0.9% | 1.4% | | | | | | |
| | 150 | 1.1% | 1.3% | 1.2% | 1.1% | | | | |
| | 200 | 5.7% | 3.8% | 3.0% | 1.6% | 1.8% | 1.7% | | |
| | 225 | 6.2% | 3.7% | 1.5% | 1.0% | 2.2% | 1.7% | 0.0% | 0.0% |
| | 250 | | | 0.3% | 0.5% | | | | |
| | 400 | 4.5% | 3.0% | 3.5% | 1.5% | 5.8% | 3.8% | | |
| | 600 | 0.6% | 1.0% | 0.9% | 0.6% | 1.8% | 1.7% | | |
| | 800 | 0.3% | 0.5% | 2.3% | 1.5% | 1.6% | 1.5% | 0.0% | 0.0% |
| | 1000 | 0.5% | 0.9% | 0.3% | 0.4% | 0.6% | 1.1% | | |
| | 1200 | 2.9% | 1.9% | 1.6% | 1.2% | 1.0% | 1.2% | | |
| | 1600 | 3.6% | 2.6% | 0.0% | 0.1% | | | | |
| | 2000 | 5.0% | 3.6% | 0.0% | 0.1% | 0.6% | 0.9% | | |
| | 2500 | 2.0% | 2.5% | | | | | | |
| | 3000 | | | 0.1% | 0.1% | | | | |
| | 4000 | 16.3% | 19.1% | | | | | | |
| | Respondents (n) | 63 | | 101 | | 30 | | 3 | |
| 240/120V Single Phase | 30 | | | 0.1% | 0.2% | | | | |
| | 40 | | | 0.5% | 0.9% | | | | |
| | 60 | | | 1.2% | 1.4% | | | 0.0% | 0.0% |
| | 70 | | | 0.2% | 0.3% | 1.2% | 1.9% | | |
| | 80 | | | 0.0% | 0.1% | | | | |
| | 100 | 10.9% | 5.7% | 20.0% | 4.2% | 18.6% | 7.7% | | |
| | 125 | 1.4% | 1.6% | 7.0% | 2.5% | 5.6% | 3.4% | | |
| | 150 | 0.6% | 1.0% | 3.2% | 1.8% | 0.5% | 0.9% | | |

| Voltage | Amperage | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| | 175 | | | 0.3% | 0.5% | | | | |
| | 200 | 10.2% | 5.2% | 20.3% | 4.6% | 17.5% | 7.2% | 0.0% | 0.0% |
| | 225 | 4.8% | 3.8% | 1.4% | 1.3% | 2.4% | 2.9% | | |
| | 300 | | | 0.3% | 0.5% | | | | |
| | 400 | 3.5% | 3.2% | 19.0% | 4.1% | 21.2% | 8.1% | | |
| | 600 | 0.3% | 0.5% | 5.5% | 1.9% | 3.1% | 3.0% | | |
| | 800 | | | 1.3% | 0.7% | 4.1% | 2.5% | | |
| | 1000 | | | 0.1% | 0.1% | 0.4% | 0.7% | | |
| | 1200 | 1.6% | 1.8% | 1.2% | 0.8% | 0.8% | 1.4% | | |
| | >4000 | | | 0.2% | 0.3% | | | | |
| | Unable to determine | | | 0.2% | 0.4% | | | | |
| | Respondents (n) | 34 | | 311 | | 76 | | 2 | |
| 480/277V Three Phase | 200 | 2.0% | 2.4% | 0.0% | 0.1% | 1.7% | 4.9% | | |
| | 225 | 1.0% | 1.8% | | | | | | |
| | 400 | 1.5% | 2.8% | | | | | | |
| | 600 | 1.0% | 1.8% | 0.0% | 0.1% | 1.4% | 2.0% | | |
| | 800 | 0.4% | 0.7% | 0.2% | 0.4% | | | | |
| | 1000 | | | 0.1% | 0.2% | | | | |
| | 2000 | 2.8% | 2.6% | 0.1% | 0.1% | | | | |
| | Respondents (n) | 9 | | 6 | | 3 | | 0 | |
| > 480V Three Phase | 800 | 0.8% | 2.3% | 0.4% | 0.4% | 0.8% | 5.3% | | |
| | 1200 | 1.2% | 2.2% | 0.1% | 0.2% | 0.6% | 3.5% | | |
| | Respondents (n) | 3 | | 4 | | 2 | | 0 | |

Source: On-site fields: ['What is the rated amps of the equipment? ']

## TABLE 28. OWNERSHIP TYPE - BUILDING ELECTRIC SERVICE VOLTAGE AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| 208/120V Three Phase | 100 | 5.5% | 2.9% | 1.4% | 0.9% | 4.8% | 3.4% | | |
| | 125 | 1.0% | 1.7% | 0.8% | 0.8% | | | 0.0% | 0.0% |
| | 140 | 0.9% | 1.4% | | | | | | |
| | 150 | 1.1% | 1.3% | 1.2% | 1.1% | | | | |
| | 200 | 5.7% | 3.8% | 3.0% | 1.6% | 1.8% | 1.7% | | |
| | 225 | 6.2% | 3.7% | 1.5% | 1.0% | 2.2% | 1.7% | 0.0% | 0.0% |
| | 250 | | | 0.3% | 0.5% | | | | |
| | 400 | 4.5% | 3.0% | 3.5% | 1.5% | 5.8% | 3.8% | | |
| | 600 | 0.6% | 1.0% | 0.9% | 0.6% | 1.8% | 1.7% | | |
| | 800 | 0.3% | 0.5% | 2.3% | 1.5% | 1.6% | 1.5% | 0.0% | 0.0% |
| | 1000 | 0.5% | 0.9% | 0.3% | 0.4% | 0.6% | 1.1% | | |
| | 1200 | 2.9% | 1.9% | 1.6% | 1.2% | 1.0% | 1.2% | | |
| | 1600 | 3.6% | 2.6% | 0.0% | 0.1% | | | | |
| | 2000 | 5.0% | 3.6% | 0.0% | 0.1% | 0.6% | 0.9% | | |
| | 2500 | 2.0% | 2.5% | | | | | | |
| | 3000 | | | 0.1% | 0.1% | | | | |
| | 4000 | 16.3% | 19.1% | | | | | | |
| | Respondents (n) | 63 | | 101 | | 30 | | 3 | |
| 240/120V Single Phase | 30 | | | 0.1% | 0.2% | | | | |
| | 40 | | | 0.5% | 0.9% | | | | |
| | 60 | | | 1.2% | 1.4% | | | 0.0% | 0.0% |
| | 70 | | | 0.2% | 0.3% | 1.2% | 1.9% | | |
| | 80 | | | 0.0% | 0.1% | | | | |
| | 100 | 10.9% | 5.7% | 20.0% | 4.2% | 18.6% | 7.7% | | |
| | 125 | 1.4% | 1.6% | 7.0% | 2.5% | 5.6% | 3.4% | | |
| | 150 | 0.6% | 1.0% | 3.2% | 1.8% | 0.5% | 0.9% | | |

| Voltage | Amperage | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| | 175 | | | 0.3% | 0.5% | | | | |
| | 200 | 10.2% | 5.2% | 20.3% | 4.6% | 17.5% | 7.2% | 0.0% | 0.0% |
| | 225 | 4.8% | 3.8% | 1.4% | 1.3% | 2.4% | 2.9% | | |
| | 300 | | | 0.3% | 0.5% | | | | |
| | 400 | 3.5% | 3.2% | 19.0% | 4.1% | 21.2% | 8.1% | | |
| | 600 | 0.3% | 0.5% | 5.5% | 1.9% | 3.1% | 3.0% | | |
| | 800 | | | 1.3% | 0.7% | 4.1% | 2.5% | | |
| | 1000 | | | 0.1% | 0.1% | 0.4% | 0.7% | | |
| | 1200 | 1.6% | 1.8% | 1.2% | 0.8% | 0.8% | 1.4% | | |
| | >4000 | | | 0.2% | 0.3% | | | | |
| | Unable to determine | | | 0.2% | 0.4% | | | | |
| | Respondents (n) | 34 | | 311 | | 76 | | 2 | |
| 480/277V Three Phase | 200 | 2.0% | 2.4% | 0.0% | 0.1% | 1.7% | 4.9% | | |
| | 225 | 1.0% | 1.8% | | | | | | |
| | 400 | 1.5% | 2.8% | | | | | | |
| | 600 | 1.0% | 1.8% | 0.0% | 0.1% | 1.4% | 2.0% | | |
| | 800 | 0.4% | 0.7% | 0.2% | 0.4% | | | | |
| | 1000 | | | 0.1% | 0.2% | | | | |
| | 2000 | 2.8% | 2.6% | 0.1% | 0.1% | | | | |
| | Respondents (n) | 9 | | 6 | | 3 | | 0 | |
| > 480V Three Phase | 800 | 0.8% | 2.3% | 0.4% | 0.4% | 0.8% | 5.3% | | |
| | 1200 | 1.2% | 2.2% | 0.1% | 0.2% | 0.6% | 3.5% | | |
| | Respondents (n) | 3 | | 4 | | 2 | | 0 | |

Source: On-site fields: ['What is the rated amps of the equipment? ']

## TABLE 29. STATEWIDE - BUILDING ELECTRIC SERVICE VOLTAGE AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Statewide | |
|---|---|---|---|
| | | % | EB |
| 208/120V Three Phase | 60 | 0.05% | 0.08% |
| | 100 | 1.89% | 1.23% |
| | 125 | 0.95% | 1.15% |
| | 140 | 0.09% | 0.15% |
| | 150 | 0.86% | 1.13% |
| | 200 | 1.84% | 1.05% |
| | 225 | 1.66% | 1.28% |
| | 250 | 0.15% | 0.25% |
| | 400 | 2.56% | 1.37% |
| | 600 | 0.32% | 0.25% |
| | 800 | 1.74% | 1.48% |
| | 1000 | 0.10% | 0.12% |
| | 1200 | 0.46% | 0.30% |
| | 1600 | 0.16% | 0.17% |
| | 2000 | 0.23% | 0.19% |
| | 2500 | 0.08% | 0.12% |
| | 3000 | 0.02% | 0.03% |
| | 4000 | 0.04% | 0.05% |
| | Respondents (n) | 183 | |
| 240/120V Single Phase | 30 | 0.09% | 0.15% |
| | 40 | 0.41% | 0.67% |
| | 60 | 1.31% | 1.29% |
| | 70 | 0.12% | 0.14% |
| | 80 | 0.01% | 0.02% |
| | 100 | 20.55% | 4.57% |
| | 125 | 7.67% | 2.82% |
| | 150 | 3.48% | 2.17% |

| Voltage | Amperage | Statewide | |
|---|---|---|---|
| | | % | EB |
| | 175 | 0.31% | 0.51% |
| | 200 | 21.59% | 4.95% |
| | 225 | 0.94% | 0.55% |
| | 300 | 0.35% | 0.57% |
| | 400 | 20.57% | 4.68% |
| | 600 | 5.05% | 2.18% |
| | 800 | 0.81% | 0.41% |
| | 1000 | 0.01% | 0.02% |
| | 1200 | 1.25% | 0.88% |
| | >4000 | 0.07% | 0.11% |
| | Unable to determine | 0.15% | 0.25% |
| | Respondents (n) | 410 | |
| 480/277V Three Phase | 200 | 0.33% | 0.54% |
| | 225 | 0.00% | 0.01% |
| | 400 | 0.02% | 0.03% |
| | 600 | 0.93% | 1.10% |
| | 800 | 0.05% | 0.08% |
| | 1000 | 0.02% | 0.03% |
| | 2000 | 0.04% | 0.05% |
| | Respondents (n) | 16 | |
| > 480V Three Phase | 800 | 0.47% | 0.24% |
| | 1200 | 0.24% | 0.22% |
| | Respondents (n) | 11 | |

Source: On-site fields: ['What is the rated amps of the equipment? ']

BACK TO REPORT

## TABLE 30. BUILDING VINTAGE - DWELLING UNIT SUB-PANEL ELECTRIC SERVICE VOLTS AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB | % | EB |
| 208/120V Single Phase | 40 | | | | | 0.4% | 0.7% | | | 0.6% | 1.1% |
| | 60 | 1.4% | 9.0% | 0.4% | 0.7% | 3.8% | 4.3% | 3.8% | 5.5% | | |
| | 100 | | | 4.6% | 4.2% | 0.4% | 0.7% | 17.3% | 21.1% | 3.1% | 4.5% |
| | 125 | | | | | 1.9% | 2.6% | | | 0.6% | 1.1% |
| | 150 | | | | | | | 3.2% | 6.3% | | |
| | 200 | 1.4% | 9.0% | 3.3% | 3.9% | 1.5% | 2.8% | | | 2.5% | 4.6% |
| | Other | | | 5.0% | 4.3% | | | 1.0% | 2.0% | 0.2% | 0.3% |
| | Respondents (n) | 2 | | 12 | | 8 | | 7 | | 10 | |
| 240/120V Single Phase | 40 | 24.3% | 8.1% | 11.5% | 6.7% | 2.3% | 2.5% | | | 5.0% | 4.0% |
| | 50 | 3.7% | 3.7% | 0.6% | 0.7% | | | | | | |
| | 60 | 18.0% | 6.5% | 8.5% | 5.9% | 3.9% | 4.1% | 6.5% | 7.7% | 18.7% | 18.3% |
| | 70 | 2.1% | 1.9% | 5.2% | 4.9% | | | 1.0% | 1.8% | | |
| | 100 | 27.0% | 8.0% | 23.6% | 8.9% | 79.8% | 54.8% | 22.6% | 17.8% | 29.0% | 21.9% |
| | 125 | 7.3% | 4.9% | 6.9% | 6.5% | 3.4% | 4.3% | 26.2% | 25.1% | 15.7% | 18.2% |
| | 150 | | | 4.6% | 3.8% | | | 0.6% | 1.1% | | |
| | 200 | 2.2% | 2.1% | 10.2% | 6.2% | 2.1% | 3.5% | | | | |
| | Other | 6.3% | 3.5% | 12.8% | 8.1% | 0.6% | 1.0% | 17.7% | 20.1% | 11.9% | 13.6% |
| | Respondents (n) | 108 | | 68 | | 29 | | 18 | | 35 | |
| Other | 30 | 1.8% | 4.5% | | | | | | | | |
| | 40 | 0.8% | 2.2% | 1.5% | 9.6% | | | | | | |
| | 60 | | | | | | | | | 0.1% | |
| | 125 | | | 1.2% | 7.3% | | | | | | |
| | Respondents (n) | 3 | | 2 | | 0 | | 0 | | 1 | |
| Unknown | 20 | 1.6% | 3.8% | | | | | | | | |
| | 30 | 0.6% | 1.5% | | | | | | | | |
| | 60 | 0.6% | 1.5% | | | | | | | | |

| Voltage | Amperage | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB | % | EB |
| | Other | 0.6% | 1.5% | | | | | | | | |
| | Respondents (n) | 4 | | 0 | | 0 | | 0 | | 0 | |

Source: On-site fields: ['What is the rated amps of the metered dwelling unit equipment? ']

## TABLE 31. BUILDING SIZE - DWELLING UNIT SUB-PANEL ELECTRIC SERVICE VOLTS AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| 208/120V Single Phase | 40 | | | 0.1% | 0.1% | 1.2% | 2.2% |
| | 60 | 0.4% | 0.7% | 0.2% | 0.4% | 7.5% | 7.2% |
| | 100 | 3.2% | 2.9% | 3.9% | 4.5% | 0.2% | 0.3% |
| | 125 | 0.1% | 0.1% | 0.2% | 0.2% | | |
| | 150 | | | 0.0% | 0.0% | | |
| | 200 | 0.0% | 0.1% | 2.5% | 2.5% | 1.6% | 2.1% |
| | Other | 3.6% | 4.2% | | | 5.3% | 7.1% |
| | Respondents (n) | 15 | | 13 | | 11 | |
| 240/120V Single Phase | 40 | 10.3% | 5.7% | 36.4% | 12.8% | 17.4% | 15.3% |
| | 50 | 1.4% | 2.4% | 2.5% | 3.9% | 5.7% | 6.7% |
| | 60 | 15.6% | 7.0% | 19.4% | 9.3% | 1.2% | 2.1% |
| | 70 | 3.8% | 3.0% | | | 6.6% | 9.4% |
| | 100 | 36.1% | 9.1% | 12.0% | 7.5% | 20.2% | 15.0% |
| | 125 | 4.8% | 3.5% | 10.0% | 7.2% | 13.5% | 11.9% |
| | 150 | 0.8% | 0.6% | | | | |
| | 200 | 7.0% | 4.4% | | | 4.0% | 5.2% |
| | Other | 10.5% | 5.5% | 9.0% | 6.2% | 10.2% | 9.7% |
| | Respondents (n) | 155 | | 75 | | 28 | |

| Voltage | Amperage | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| Other | 30 | 0.2% | 1.5% | 0.2% | 0.4% | | |
| | 40 | | | 3.7% | 6.2% | | |
| | 60 | 0.0% | 0.2% | | | | |
| | 125 | | | | | 5.4% | |
| | Respondents (n) | 2 | | 3 | | 1 | |
| Unknown | 20 | | | 0.1% | | | |
| | 30 | 0.4% | 1.2% | | | | |
| | 60 | 1.4% | 4.2% | | | | |
| | Other | 0.4% | 1.2% | | | | |
| | Respondents (n) | 3 | | 1 | | 0 | |

Source: On-site fields: ['What is the rated amps of the metered dwelling unit equipment? ']

## TABLE 32. CLIMATE ZONE - DWELLING UNIT SUB-PANEL ELECTRIC SERVICE VOLTS AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| 208/120V Single Phase | 40 | 0.1% | 0.2% | 1.0% | 2.2% | | | | |
| | 60 | 1.1% | 0.9% | 6.1% | 12.9% | 0.1% | 0.2% | | |
| | 100 | 0.1% | 0.2% | 1.0% | 2.2% | 6.2% | 4.7% | 8.5% | 15.7% |
| | 125 | | | | | 0.1% | 0.2% | 1.1% | 1.8% |
| | 150 | | | | | | | 0.1% | 0.3% |
| | 200 | 0.9% | 1.6% | | | 2.9% | 2.9% | 0.6% | 1.1% |
| | Other | 2.6% | 2.5% | 0.2% | 0.2% | 0.1% | 0.1% | | |
| | Respondents (n) | 12 | | 5 | | 16 | | 6 | |
| 240/120V Single Phase | 40 | 32.1% | 10.0% | 6.4% | 4.7% | 7.6% | 6.2% | | |
| | 50 | 2.4% | 2.8% | 1.1% | 1.3% | 0.2% | 0.4% | | |

| Voltage | Amperage | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| | 60 | 18.7% | 7.6% | 31.3% | 25.3% | 7.5% | 5.8% | 18.2% | 20.0% |
| | 70 | 1.1% | 1.2% | | | 6.3% | 5.5% | 1.7% | 2.9% |
| | 100 | 16.0% | 6.7% | 14.8% | 15.6% | 42.9% | 11.1% | 52.6% | 36.2% |
| | 125 | 8.0% | 5.1% | 8.9% | 14.9% | 10.4% | 6.6% | 0.6% | 1.0% |
| | 150 | | | | | 2.5% | 1.9% | | |
| | 200 | 1.7% | 1.9% | 0.8% | 1.3% | 8.9% | 6.3% | 13.3% | 20.1% |
| | Other | 12.5% | 5.3% | 27.3% | 22.8% | 3.8% | 4.4% | | |
| | Respondents (n) | 105 | | 41 | | 90 | | 22 | |
| Other | 30 | 0.2% | 0.6% | | | 0.2% | 1.5% | | |
| | 40 | 0.9% | 2.6% | 1.0% | | | | | |
| | 60 | | | | | 0.1% | 0.8% | | |
| | 125 | 0.6% | 1.8% | | | | | | |
| | Respondents (n) | 3 | | 1 | | 2 | | 0 | |
| Unknown | 20 | | | | | 0.2% | | | |
| | 30 | | | | | | | 1.7% | 10.8% |
| | 60 | 1.0% | | | | | | | |
| | Other | | | | | | | 1.7% | 10.8% |
| | Respondents (n) | 1 | | 0 | | 1 | | 2 | |

Source: On-site fields: ['What is the rated amps of the metered dwelling unit equipment? ']

## TABLE 33. DAC FLAG - DWELLING UNIT SUB-PANEL ELECTRIC SERVICE VOLTS AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| 208/120V Single Phase | 40 | 1.6% | 2.6% | | | | |
| | 60 | 0.8% | 0.8% | 1.9% | 2.1% | | |

| Voltage | Amperage | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| | 100 | 3.8% | 3.8% | 3.9% | 3.1% | | |
| | 125 | | | 1.1% | 1.5% | | |
| | 150 | 0.4% | 0.8% | | | | |
| | 200 | 3.4% | 4.7% | 1.5% | 2.1% | 1.1% | |
| | Other | 0.2% | 0.3% | 2.5% | 2.4% | | |
| | Respondents (n) | 14 | | 24 | | 1 | |
| 240/120V Single Phase | 40 | 19.8% | 7.6% | 13.3% | 5.1% | | |
| | 50 | 1.3% | 1.4% | 2.0% | 2.4% | | |
| | 60 | 12.6% | 5.4% | 15.1% | 5.8% | | |
| | 70 | 0.2% | 0.3% | 4.8% | 3.2% | | |
| | 100 | 34.9% | 9.3% | 23.7% | 6.4% | 11.5% | 14.9% |
| | 125 | 10.5% | 5.9% | 6.9% | 4.1% | | |
| | 150 | | | 1.6% | 1.3% | | |
| | 200 | 1.6% | 2.0% | 6.0% | 3.5% | | |
| | Other | 8.7% | 4.7% | 10.7% | 4.9% | 0.1% | 0.1% |
| | Respondents (n) | 115 | | 138 | | 5 | |
| Other | 30 | 0.1% | 0.8% | 0.8% | 2.0% | | |
| | 40 | | | 1.6% | 2.2% | | |
| | 60 | 0.1% | 0.8% | | | | |
| | 125 | | | 0.7% | 1.5% | | |
| | Respondents (n) | 2 | | 4 | | 0 | |
| Unknown | 20 | | | 0.8% | 2.0% | | |
| | 30 | | | 0.4% | 0.9% | | |
| | 60 | | | 0.4% | 0.9% | | |
| | Other | | | 0.4% | 0.9% | | |
| | Respondents (n) | 0 | | 4 | | 0 | |

Source: On-site fields: ['What is the rated amps of the metered dwelling unit equipment? ']

## TABLE 34. METERING TYPE - DWELLING UNIT SUB-PANEL ELECTRIC SERVICE VOLTS AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| 208/120V Single Phase | 40 | | | 0.2% | 0.4% | 0.6% | 1.2% | | |
| | 60 | 1.1% | 2.1% | 2.2% | 1.8% | | | | |
| | 100 | 1.5% | 3.0% | 3.0% | 1.8% | 5.2% | 3.4% | | |
| | 125 | 3.1% | 6.0% | 0.9% | 1.0% | | | | |
| | 150 | | | 0.1% | 0.1% | | | | |
| | 200 | 22.4% | 35.3% | | | 6.6% | 6.3% | | |
| | Other | 6.2% | 12.0% | 3.0% | 2.7% | 4.5% | 6.1% | | |
| | Respondents (n) | 7 | | 24 | | 11 | | 0 | |
| 240/120V Single Phase | 40 | | | 15.7% | 5.0% | 23.6% | 11.0% | | |
| | 50 | | | 2.0% | 2.1% | 4.9% | 5.7% | | |
| | 60 | 1.1% | 1.9% | 16.6% | 5.0% | 11.8% | 7.6% | | |
| | 70 | | | 2.6% | 1.8% | 3.0% | 5.0% | | |
| | 100 | 22.7% | 14.3% | 27.0% | 5.5% | 26.4% | 9.7% | 0.0% | 0.0% |
| | 125 | 12.4% | 11.9% | 7.8% | 3.4% | 4.5% | 5.8% | | |
| | 150 | 2.4% | 4.1% | 1.1% | 0.8% | | | | |
| | 200 | 6.6% | 5.5% | 2.8% | 1.7% | 3.3% | 3.9% | | |
| | Other | 12.6% | 8.4% | 10.9% | 4.1% | 5.4% | 4.4% | | |
| | Respondents (n) | 24 | | 203 | | 46 | | 2 | |
| Other | 30 | | | 0.7% | 0.9% | | | | |
| | 40 | | | 1.2% | 1.5% | | | | |
| | 60 | | | 0.1% | 0.3% | | | | |
| | 125 | 4.1% | | | | | | | |
| | Respondents (n) | 1 | | 6 | | 0 | | 0 | |
| Unknown | 20 | 3.9% | | | | | | | |

| Voltage | Amperage | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| | 30 | | | 0.7% | 1.9% | | | | |
| | 60 | | | 0.8% | 2.3% | | | | |
| | Other | | | 0.7% | 1.9% | | | | |
| | Respondents (n) | 1 | | 3 | | 0 | | 0 | |

Source: On-site fields: ['What is the rated amps of the metered dwelling unit equipment? ']

## TABLE 35. OWNERSHIP TYPE - DWELLING UNIT SUB-PANEL ELECTRIC SERVICE VOLTS AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| 208/120V Single Phase | 40 | 1.7% | 3.0% | 0.0% | 0.1% | | | | |
| | 60 | 5.2% | 4.9% | | | 1.3% | 8.1% | 1.4% | 2.3% |
| | 100 | 1.2% | 0.7% | 4.4% | 9.4% | | | 2.8% | 2.8% |
| | 125 | 0.3% | 0.4% | 0.0% | 0.1% | | | | |
| | 150 | 0.0% | 0.1% | | | | | | |
| | 200 | 0.0% | 0.1% | | | 4.5% | 28.2% | 1.1% | 1.1% |
| | Other | 1.9% | 3.0% | | | | | 2.9% | 2.8% |
| | Respondents (n) | 20 | | 4 | | 2 | | 13 | |
| 240/120V Single Phase | 40 | 21.6% | 15.5% | 38.6% | 18.7% | 33.1% | 17.2% | 13.2% | 11.2% |
| | 50 | | | 3.9% | 3.7% | | | 3.9% | 6.5% |
| | 60 | 26.7% | 17.1% | 17.4% | 12.2% | 9.0% | 10.6% | 14.3% | 9.8% |
| | 70 | 1.7% | 2.9% | 0.5% | 0.6% | 4.7% | 6.2% | 2.1% | 2.3% |
| | 100 | 8.9% | 7.9% | 15.2% | 10.0% | 18.4% | 12.9% | 30.1% | 9.8% |
| | 125 | 6.5% | 8.3% | 5.6% | 7.1% | 7.9% | 9.4% | 12.8% | 9.7% |
| | 150 | 0.2% | 0.4% | 0.8% | 0.7% | | | | |
| | 200 | 1.8% | 2.9% | 2.9% | 3.1% | 1.3% | 2.2% | 4.6% | 3.9% |

| Voltage | Amperage | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| | Other | 21.8% | 14.2% | 4.4% | 4.1% | 12.0% | 9.8% | 10.8% | 9.4% |
| | Respondents (n) | 73 | | 82 | | 30 | | 73 | |
| Other | 30 | 0.5% | 2.9% | 0.1% | 0.5% | | | | |
| | 40 | | | 4.1% | 25.9% | 4.5% | 28.2% | | |
| | 60 | 0.0% | 0.2% | | | | | | |
| | 125 | | | | | 3.4% | 21.7% | | |
| | Respondents (n) | 2 | | 2 | | 2 | | 0 | |
| Unknown | 20 | | | 0.0% | 0.1% | | | | |
| | 30 | | | 0.3% | 0.7% | | | | |
| | 60 | | | 1.4% | 3.4% | | | | |
| | Other | | | 0.3% | 0.7% | | | | |
| | Respondents (n) | 0 | | 4 | | 0 | | 0 | |

Source: On-site fields: ['What is the rated amps of the metered dwelling unit equipment? ']

## TABLE 36. STATEWIDE - DWELLING UNIT SUB-PANEL ELECTRIC SERVICE VOLTS AND AMPERAGE (SITE VISITS)

| Voltage | Amperage | Statewide | |
|---|---|---|---|
| | | % | EB |
| 208/120V Single Phase | 40 | 0.1% | 0.2% |
| | 60 | 0.8% | 0.6% |
| | 100 | 3.3% | 2.3% |
| | 125 | 0.1% | 0.1% |
| | 150 | 0.0% | 0.0% |
| | 200 | 1.2% | 1.1% |
| | Other | 2.1% | 2.1% |
| | Respondents (n) | 39 | |
| 240/120V Single Phase | 40 | 22.1% | 6.6% |

| Voltage | Amperage | Statewide | |
|---|---|---|---|
| | | % | EB |
| | 50 | 2.2% | 2.1% |
| | 60 | 16.2% | 5.4% |
| | 70 | 2.4% | 1.6% |
| | 100 | 24.5% | 5.7% |
| | 125 | 7.6% | 3.6% |
| | 150 | 0.4% | 0.3% |
| | 200 | 3.8% | 2.2% |
| | Other | 9.8% | 3.9% |
| | Respondents (n) | 258 | |
| Other | 30 | 0.2% | 0.2% |
| | 40 | 1.6% | 2.2% |
| | 60 | 0.0% | 0.0% |
| | 125 | 0.4% | 0.8% |
| | Respondents (n) | 6 | |
| Unknown | 20 | 0.0% | 0.1% |
| | 30 | 0.2% | 0.5% |
| | 60 | 0.7% | 1.7% |
| | Other | 0.2% | 0.5% |
| | Respondents (n) | 4 | |

Source: On-site fields: ['What is the rated amps of the metered dwelling unit equipment? ']

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## TABLE 37. BUILDING VINTAGE - BUILDING NATURAL GAS METERING TYPE (SITE VISITS)

| Gas Service Meter Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Individual meters for tenants and building | 68% | 11% | 42% | 12% | 60% | 35% | 43% | 33% | 60% | 39% |
| Building-level meter for building | 32% | 9% | 58% | 12% | 40% | 13% | 57% | 30% | 26% | 21% |
| Respondents (n) | 125 | | 81 | | 30 | | 25 | | 39 | |

Source: On-site fields: ['How is natural gas metered at the Building?']

## TABLE 38. BUILDING SIZE - BUILDING NATURAL GAS METERING TYPE (SITE VISITS)

| Gas Service Meter Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Individual meters for tenants and building | 66% | 13% | 69% | 16% | 29% | 16% |
| Building-level meter for building | 34% | 9% | 31% | 11% | 71% | 17% |
| Respondents (n) | 155 | | 95 | | 50 | |

Source: On-site fields: ['How is natural gas metered at the Building?']

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## TABLE 39. CLIMATE ZONE - BUILDING NATURAL GAS METERING TYPE (SITE VISITS)

| Gas Service Meter Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Individual meters for tenants and building | 69% | 12% | 55% | 43% | 45% | 13% | 81% | 65% |
| Building-level meter for building | 31% | 9% | 45% | 32% | 55% | 13% | 19% | 14% |
| Respondents (n) | 137 | | 36 | | 104 | | 23 | |

Source: On-site fields: ['How is natural gas metered at the Building?']

## TABLE 40. DAC FLAG - BUILDING NATURAL GAS METERING TYPE (SITE VISITS)

| Gas Service Meter Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Individual meters for tenants and building | 58% | 12% | 53% | 9% | 12% | 31% |
| Building-level meter for building | 42% | 10% | 47% | 9% | 2% | 5% |
| Respondents (n) | 138 | | 159 | | 3 | |

Source: On-site fields: ['How is natural gas metered at the Building?']

## TABLE 41. OWNERSHIP TYPE - BUILDING NATURAL GAS METERING TYPE (SITE VISITS)

| Gas Service Meter Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Individual meters for tenants and building | 46% | 20% | 73% | 22% | 70% | 19% | 57% | 15% |
| Building-level meter for building | 54% | 18% | 27% | 15% | 30% | 14% | 43% | 12% |
| Respondents (n) | 90 | | 89 | | 36 | | 85 | |

Source: On-site fields: ['How is natural gas metered at the Building?']

## TABLE 42. STATEWIDE - BUILDING NATURAL GAS METERING TYPE (SITE VISITS)

| Gas Service Meter Type | Statewide | |
|---|---|---|
| | % | EB |
| Individual meters for tenants and building | 65% | 10% |
| Building-level meter for building | 35% | 7% |
| Respondents (n) | 300 | |

Source: On-site fields: ['How is natural gas metered at the Building?']

## TABLE 43. BUILDING VINTAGE - AVERAGE TOTAL BUILDING ENERGY USE INTENSITY (EUI)

| EUI [kBtu/sq ft] | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Electric | 15.9 | 2.2 | 30.8 | 8.0 | 22.7 | 4.9 | 39.5 | 10.7 | 23.6 | 4.9 |
| Respondents (n) | 63 | | 41 | | 17 | | 21 | | 39 | |
| Gas | 47.5 | 3.1 | 44.4 | 3.4 | 45.8 | 0.2 | 39.3 | 2.8 | 51.2 | 4.0 |
| Respondents (n) | 59 | | 31 | | 12 | | 17 | | 27 | |
| Other | 46.8 | 0.0 | 46.7 | 0.2 | 46.8 | 0.0 | 46.8 | 0.0 | 28.2 | 9.3 |
| Respondents (n) | 4 | | 5 | | 1 | | 2 | | 4 | |
| Total | 63.4 | 3.7 | 73.9 | 9.4 | 55.6 | 5.8 | 78.6 | 9.5 | 64.0 | 6.1 |
| Respondents (n) | 63 | | 41 | | 17 | | 21 | | 39 | |

Source: Utility billing data

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## TABLE 44. BUILDING SIZE - AVERAGE TOTAL BUILDING ENERGY USE INTENSITY (EUI)

| EUI [kBtu/sq ft] | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Electric | 19.0 | 1.9 | 16.2 | 3.1 | 29.8 | 5.7 |
| Respondents (n) | 104 | | 51 | | 26 | |
| Gas | 48.0 | 4.0 | 46.8 | 2.7 | 41.1 | 4.1 |
| Respondents (n) | 75 | | 48 | | 23 | |
| Other | 43.3 | 3.7 | 46.8 | 0.0 | 46.3 | 0.3 |
| Respondents (n) | 11 | | 2 | | 3 | |
| Total | 61.9 | 3.5 | 62.8 | 3.8 | 72.2 | 6.9 |
| Respondents (n) | 104 | | 51 | | 26 | |

Source: Utility billing data

## TABLE 45. CLIMATE ZONE - AVERAGE TOTAL BUILDING ENERGY USE INTENSITY (EUI)

| EUI [kBtu/sq ft] | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Electric | 18.7 | 2.2 | 24.7 | 5.7 | 13.5 | 1.7 | 25.9 | 6.5 |
| Respondents (n) | 67 | | 33 | | 59 | | 22 | |
| Gas | 46.3 | 2.2 | 41.8 | 4.3 | 48.7 | 7.3 | 57.2 | 6.9 |
| Respondents (n) | 61 | | 22 | | 46 | | 17 | |
| Other | 46.6 | 0.1 | 22.5 | 4.1 | 46.8 | 0.0 | 46.8 | 0.0 |
| Respondents (n) | 6 | | 5 | | 3 | | 2 | |
| Total | 65.2 | 2.7 | 55.3 | 6.9 | 58.1 | 6.4 | 65.0 | 9.9 |
| Respondents (n) | 67 | | 33 | | 59 | | 22 | |

Source: Utility billing data

## TABLE 46. DAC FLAG - AVERAGE TOTAL BUILDING ENERGY USE INTENSITY (EUI)

| EUI [kBtu/sq ft] | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Electric | 20.9 | 3.5 | 19.3 | 3.4 | 25.9 | 1.9 |
| Respondents (n) | 65 | | 88 | | 28 | |
| Gas | 45.4 | 1.6 | 47.3 | 3.5 | 94.6 | 3.4 |
| Respondents (n) | 56 | | 71 | | 19 | |
| Other | 46.6 | 0.3 | 44.3 | 2.7 | 46.7 | 0.2 |
| Respondents (n) | 3 | | 9 | | 4 | |
| Total | 65.8 | 3.7 | 64.7 | 4.1 | 118.3 | 2.2 |
| Respondents (n) | 65 | | 88 | | 28 | |

Source: Utility billing data

## TABLE 47. METERING TYPE - AVERAGE TOTAL BUILDING ENERGY USE INTENSITY (EUI)

| EUI [kBtu/sq ft] | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Electric | 20.4 | 4.0 | 17.8 | 2.1 | 23.4 | 3.9 | 15.0 | 6.0 |
| Respondents (n) | 23 | | 107 | | 36 | | 15 | |
| Gas | 47.9 | 3.5 | 47.0 | 3.2 | 49.8 | 1.8 | 40.8 | 3.3 |
| Respondents (n) | 21 | | 85 | | 28 | | 12 | |
| Other | 46.4 | 0.4 | 42.3 | 4.9 | 46.8 | 0.0 | 46.8 | 0.0 |
| Respondents (n) | 2 | | 8 | | 4 | | 2 | |
| Total | 67.4 | 5.0 | 61.6 | 3.3 | 72.3 | 4.1 | 54.8 | 4.7 |
| Respondents (n) | 23 | | 107 | | 36 | | 15 | |

Source: Utility billing data

## TABLE 48. OWNERSHIP TYPE - AVERAGE TOTAL BUILDING ENERGY USE INTENSITY (EUI)

| EUI [kBtu/sq ft] | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Electric | 15.7 | 1.9 | 15.1 | 2.5 | 17.0 | 2.2 | 25.6 | 5.2 |
| Respondents (n) | 54 | | 52 | | 28 | | 47 | |
| Gas | 40.2 | 4.8 | 51.0 | 4.0 | 43.2 | 2.8 | 46.2 | 3.1 |
| Respondents (n) | 42 | | 42 | | 24 | | 38 | |
| Other | 46.8 | 0.0 | 46.8 | 0.0 | 46.7 | 0.1 | 43.6 | 3.5 |
| Respondents (n) | 4 | | 3 | | 4 | | 5 | |
| Total | 55.1 | 5.1 | 65.0 | 5.0 | 61.1 | 3.0 | 69.1 | 5.0 |
| Respondents (n) | 54 | | 52 | | 28 | | 47 | |

Source: Utility billing data

## TABLE 49. STATEWIDE - AVERAGE TOTAL BUILDING ENERGY USE INTENSITY (EUI)

| EUI [kBtu/sq ft] | Statewide | |
|---|---|---|
| | Mean | EB |
| Electric | 18.6 | 1.7 |
| Respondents (n) | 181 | |
| Gas | 47.0 | 2.3 |
| Respondents (n) | 146 | |
| Other | 44.4 | 2.4 |
| Respondents (n) | 16 | |
| Total | 63.0 | 2.4 |
| Respondents (n) | 181 | |

Source: Utility billing data

## TABLE 50. BUILDING VINTAGE - DISTRIBUTION OF TOTAL FUEL USAGE PER BUILDING

| Fuel Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Electric | 26% | 3% | 40% | 5% | 47% | 17% | 46% | 7% | 39% | 10% |
| Gas | 71% | 4% | 46% | 6% | 53% | 17% | 53% | 7% | 46% | 13% |
| Other | 3% | 2% | 14% | 9% | 0% | 0% | 1% | 0% | 15% | 10% |
| Respondents (n) | 63 | | 41 | | 17 | | 21 | | 39 | |

Source: Utility billing data

## TABLE 51. BUILDING SIZE - DISTRIBUTION OF TOTAL FUEL USAGE PER BUILDING

| Fuel Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electric | 35% | 4% | 24% | 3% | 40% | 5% |
| Gas | 59% | 4% | 74% | 3% | 46% | 7% |
| Other | 6% | 3% | 2% | 2% | 14% | 7% |
| Respondents (n) | 104 | | 51 | | 26 | |

Source: Utility billing data

## TABLE 52. CLIMATE ZONE - DISTRIBUTION OF TOTAL FUEL USAGE PER BUILDING

| Fuel Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Electric | 27% | 2% | 45% | 11% | 29% | 3% | 47% | 16% |
| Gas | 69% | 3% | 48% | 11% | 65% | 6% | 44% | 17% |
| Other | 3% | 1% | 7% | 5% | 7% | 6% | 9% | 8% |
| Respondents (n) | 67 | | 33 | | 59 | | 22 | |

Source: Utility billing data

## TABLE 53. DAC FLAG - DISTRIBUTION OF TOTAL FUEL USAGE PER BUILDING

| Fuel Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Electric | 30% | 3% | 29% | 4% | 45% | 3% |
| Gas | 61% | 6% | 67% | 4% | 115% | 19% |
| Other | 9% | 7% | 4% | 2% | 40% | 20% |
| Respondents (n) | 65 | | 88 | | 28 | |

Source: Utility billing data

## TABLE 54. METERING TYPE - DISTRIBUTION OF TOTAL FUEL USAGE PER BUILDING

| Fuel Type | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Electric | 28% | 3% | 31% | 3% | 30% | 3% | 28% | 10% |
| Gas | 59% | 10% | 65% | 3% | 63% | 7% | 66% | 13% |
| Other | 13% | 9% | 4% | 2% | 7% | 4% | 7% | 6% |
| Respondents (n) | 23 | | 107 | | 36 | | 15 | |

Source: Utility billing data

## TABLE 55. OWNERSHIP TYPE - DISTRIBUTION OF TOTAL FUEL USAGE PER BUILDING

| Fuel Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Electric | 30% | 4% | 23% | 3% | 28% | 4% | 35% | 4% |
| Gas | 69% | 4% | 77% | 3% | 57% | 7% | 60% | 5% |
| Other | 1% | 1% | 0.2% | 0.2% | 14% | 7% | 5% | 3% |
| Respondents (n) | 54 | | 52 | | 28 | | 47 | |

Source: Utility billing data

## TABLE 56. STATEWIDE - DISTRIBUTION OF TOTAL FUEL USAGE PER BUILDING

| Fuel Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Electric | 30% | 2% |
| Gas | 64% | 3% |
| Other | 5% | 2% |
| Respondents (n) | 181 | |

Source: Utility billing data

## TABLE 57. BUILDING VINTAGE - ANNUAL TOTAL ANNUAL KILOWATT-HOUR CONSUMPTION PER DWELLING UNIT

| Consumption [kWh] | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| 501 to 2,500 kWh | 26% | 7% | 11% | 7% | 1% | 1% | 1% | 1% | 27% | 15% |
| 2,501 to 6,000 kWh | 50% | 8% | 29% | 14% | 45% | 27% | 42% | 18% | 41% | 17% |
| 6,001 to 12,000 kWh | 17% | 6% | 19% | 11% | 22% | 16% | 30% | 17% | 14% | 13% |
| 12,001 to 20,000 kWh | 4% | 3% | 40% | 24% | 29% | 23% | 4% | 4% | 18% | 12% |
| 20,001 kWh or More | 3% | 3% | 1% | 1% | 3% | 3% | 22% | 16% | 0% | 0% |
| Total kWh | 4,976 | 881 | 8,105 | 1,829 | 8,381 | 1,693 | 11,509 | 2,657 | 6,187 | 1,555 |
| Respondents (n) | 63 | | 41 | | 17 | | 21 | | 39 | |

Source: Utility billing data

## TABLE 58. BUILDING SIZE - ANNUAL TOTAL ANNUAL KILOWATT-HOUR CONSUMPTION PER DWELLING UNIT

| Consumption [kWh] | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 501 to 2,500 kWh | 18% | 6% | 28% | 9% | 9% | 7% |
| 2,501 to 6,000 kWh | 44% | 8% | 56% | 10% | 38% | 11% |
| 6,001 to 12,000 kWh | 30% | 7% | 8% | 5% | 29% | 11% |
| 12,001 to 20,000 kWh | 8% | 4% | 4% | 3% | 9% | 7% |
| 20,001 kWh or More | 1% | 1% | 3% | 3% | 15% | 9% |
| Total kWh | 5,683 | 549 | 4,791 | 832 | 9,372 | 2,019 |
| Respondents (n) | 104 | | 51 | | 26 | |

Source: Utility billing data

## TABLE 59. CLIMATE ZONE - ANNUAL TOTAL ANNUAL KILOWATT-HOUR CONSUMPTION PER DWELLING UNIT

| Consumption [kWh] | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 501 to 2,500 kWh | 20% | 7% | 29% | 16% | 21% | 8% | 23% | 16% |
| 2,501 to 6,000 kWh | 53% | 8% | 23% | 11% | 57% | 10% | 12% | 7% |
| 6,001 to 12,000 kWh | 19% | 6% | 34% | 17% | 17% | 9% | 40% | 20% |
| 12,001 to 20,000 kWh | 5% | 3% | 15% | 13% | 4% | 2% | 25% | 20% |
| 20,001 kWh or More | 4% | 2% | 0% | 0% | 2% | 1% | 0% | 0% |
| Total kWh | 5,600 | 649 | 7,296 | 1,711 | 4,511 | 657 | 7,449 | 1,719 |
| Respondents (n) | 67 | | 33 | | 59 | | 22 | |

Source: Utility billing data

## TABLE 60. DAC FLAG - ANNUAL TOTAL ANNUAL KILOWATT-HOUR CONSUMPTION PER DWELLING UNIT

| Consumption [kWh] | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 501 to 2,500 kWh | 20% | 9% | 27% | 9% | 12% | 10% |
| 2,501 to 6,000 kWh | 51% | 11% | 37% | 8% | 86% | 10% |
| 6,001 to 12,000 kWh | 17% | 8% | 21% | 6% | 2% | 1% |
| 12,001 to 20,000 kWh | 9% | 8% | 9% | 4% | 0.3% | 0.3% |
| 20,001 kWh or More | 2% | 2% | 5% | 4% | 0.3% | 0.4% |
| Total kWh | 5,875 | 937 | 6,228 | 1,021 | 7,173 | 340 |
| Respondents (n) | 65 | | 88 | | 27 | |

Source: Utility billing data

## TABLE 61. METERING TYPE - ANNUAL TOTAL ANNUAL KILOWATT-HOUR CONSUMPTION PER DWELLING UNIT

| Consumption [kWh] | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 501 to 2,500 kWh | 9% | 9% | 23% | 6% | 3% | 2% | 49% | 22% |
| 2,501 to 6,000 kWh | 77% | 11% | 45% | 7% | 66% | 12% | 29% | 17% |
| 6,001 to 12,000 kWh | 8% | 5% | 22% | 6% | 16% | 9% | 22% | 15% |
| 12,001 to 20,000 kWh | 4% | 4% | 6% | 3% | 12% | 6% | 0% | 0% |
| 20,001 kWh or More | 3% | 3% | 3% | 2% | 3% | 3% | 0% | 0% |
| Total kWh | 4,864 | 735 | 5,466 | 622 | 6,922 | 1,082 | 4,301 | 1,183 |
| Respondents (n) | 23 | | 107 | | 36 | | 15 | |

Source: Utility billing data

## TABLE 62. OWNERSHIP TYPE - ANNUAL TOTAL ANNUAL KILOWATT-HOUR CONSUMPTION PER DWELLING UNIT

| Consumption [kWh] | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 501 to 2,500 kWh | 22% | 13% | 29% | 14% | 26% | 10% | 15% | 7% |
| 2,501 to 6,000 kWh | 55% | 15% | 60% | 14% | 41% | 11% | 44% | 10% |
| 6,001 to 12,000 kWh | 9% | 6% | 7% | 4% | 22% | 9% | 27% | 9% |
| 12,001 to 20,000 kWh | 14% | 12% | 2% | 2% | 11% | 7% | 4% | 3% |
| 20,001 kWh or More | 0.4% | 0.4% | 2% | 1% | 0% | 0% | 10% | 7% |
| Total kWh | 5,484 | 1,384 | 4,150 | 512 | 5,169 | 699 | 7,525 | 1,407 |
| Respondents (n) | 54 | | 52 | | 28 | | 47 | |

Source: Utility billing data

## TABLE 63. STATEWIDE - ANNUAL TOTAL ANNUAL KILOWATT-HOUR CONSUMPTION PER DWELLING UNIT

| Consumption [kWh] | Statewide | |
|---|---|---|
| | % | EB |
| 501 to 2,500 kWh | 22% | 5% |
| 2,501 to 6,000 kWh | 49% | 6% |
| 6,001 to 12,000 kWh | 20% | 4% |
| 12,001 to 20,000 kWh | 6% | 2% |
| 20,001 kWh or More | 3% | 2% |
| Total kWh | 5,566 | 485 |
| Respondents (n) | 181 | |

Source: Utility billing data

## TABLE 64. BUILDING VINTAGE - ELECTRIC UTILITY PROVIDER (BUILDING REP SURVEY)

| Electric Utility Provider | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | 3% | 3% | 12% | 7% | 5% | 4% | 8% | 11% | 24% | 22% |
| Consolidated Edison | 58% | 9% | 30% | 9% | 24% | 12% | 59% | 30% | 8% | 13% |
| National Grid | 24% | 8% | 19% | 8% | 65% | 53% | 8% | 11% | 4% | 4% |
| New York State Electric and Gas | 4% | 3% | 12% | 7% | 2% | 1% | 22% | 15% | 11% | 13% |
| Orange & Rockland | | | 9% | 6% | 1% | 1% | | | 1% | 2% |
| PSEG Long Island | 3% | 3% | 5% | 4% | 1% | 1% | 3% | 3% | 37% | 22% |
| Rochester Gas & Electric | 8% | 5% | 10% | 6% | 3% | 4% | 1% | 1% | | |
| Other | | | 2% | 3% | | | | | 1% | 1% |
| Respondents (n) | 143 | | 99 | | 45 | | 32 | | 53 | |

Source: Survey fields: ['What utility provides electricity to the Building?']

## TABLE 65. BUILDING SIZE - ELECTRIC UTILITY PROVIDER (BUILDING REP SURVEY)

| Electric Utility Provider | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | 5% | 2% | 3% | 4% | 2% | 3% |
| Consolidated Edison | 39% | 10% | 90% | 15% | 93% | 12% |
| National Grid | 27% | 8% | 4% | 2% | 3% | 3% |
| New York State Electric and Gas | 13% | 6% | 2% | 1% | 1% | 1% |
| Orange & Rockland | 3% | 2% | | | | |
| PSEG Long Island | 7% | 4% | 1% | 1% | 0.2% | 0.3% |
| Rochester Gas & Electric | 7% | 4% | 1% | 1% | 0.2% | 0.3% |
| Other | 2% | 2% | | | 2% | 3% |
| Respondents (n) | 202 | | 104 | | 66 | |

Source: Survey fields: ['What utility provides electricity to the Building?']

## TABLE 66. CLIMATE ZONE - ELECTRIC UTILITY PROVIDER (BUILDING REP SURVEY)

| Electric Utility Provider | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | 2% | 3% | | | 19% | 9% | 16% | 20% |
| Consolidated Edison | 94% | 11% | 19% | 16% | | | | |
| National Grid | | | | | 43% | 11% | 22% | 20% |
| New York State Electric and Gas | | | 9% | 15% | 13% | 7% | 61% | 38% |
| Orange & Rockland | | | | | 10% | 7% | 0.5% | 1% |
| PSEG Long Island | 4% | 3% | 63% | 29% | | | | |
| Rochester Gas & Electric | | | | | 14% | 6% | | |
| Other | 0.2% | 0.3% | 9% | 15% | | | | |
| Respondents (n) | 166 | | 54 | | 121 | | 31 | |

Source: Survey fields: ['What utility provides electricity to the Building?']

## TABLE 67. DAC FLAG - ELECTRIC UTILITY PROVIDER (BUILDING REP SURVEY)

| Electric Utility Provider | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | 13% | 6% | 3% | 2% | 6% | 11% |
| Consolidated Edison | 52% | 11% | 39% | 7% | | |
| National Grid | 13% | 5% | 25% | 7% | 1% | 2% |
| New York State Electric and Gas | 4% | 3% | 13% | 5% | 6% | 11% |
| Orange & Rockland | 5% | 3% | 1% | 2% | | |
| PSEG Long Island | 9% | 5% | 11% | 4% | 2% | 3% |
| Rochester Gas & Electric | 5% | 4% | 7% | 4% | | |
| Other | | | 2% | 2% | | |
| Respondents (n) | 168 | | 197 | | 7 | |

Source: Survey fields: ['What utility provides electricity to the Building?']

## TABLE 68. METERING TYPE - ELECTRIC UTILITY PROVIDER (BUILDING REP SURVEY)

| Electric Utility Provider | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | 6% | 5% | 5% | 2% | 7% | 6% | | |
| Consolidated Edison | 16% | 6% | 55% | 7% | 52% | 12% | 0.001% | 0.004% |
| National Grid | 30% | 15% | 16% | 4% | 14% | 6% | 0.001% | 0.003% |
| New York State Electric and Gas | 29% | 29% | 8% | 3% | 7% | 6% | 0.004% | 0.011% |
| Orange & Rockland | | | 1% | 0.5% | | | | |
| PSEG Long Island | 5% | 4% | 10% | 3% | 6% | 5% | | |
| Rochester Gas & Electric | 14% | 13% | 4% | 2% | 13% | 8% | | |
| Other | | | 1% | 1% | | | | |
| Respondents (n) | 47 | | 273 | | 72 | | 3 | |

Source: Survey fields: ['What utility provides electricity to the Building?']

## TABLE 69. OWNERSHIP TYPE - ELECTRIC UTILITY PROVIDER (BUILDING REP SURVEY)

| Electric Utility Provider | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | 0.1% | 0.1% | 4.3% | 6.8% | | | 2.8% | 1.5% |
| Consolidated Edison | 94.2% | 25.4% | 88.0% | 24.1% | 98.2% | 14.4% | 57.1% | 16.1% |
| National Grid | 2.6% | 0.9% | 3.5% | 1.3% | | | 24.5% | 7.9% |
| New York State Electric and Gas | 1.9% | 0.9% | 1.0% | 0.7% | | | 9.2% | 4.4% |
| Orange & Rockland | 0.0% | 0.0% | 0.1% | 0.1% | | | 0.6% | 0.5% |
| PSEG Long Island | 0.8% | 0.3% | 0.5% | 0.2% | 0.6% | 0.6% | 1.6% | 1.2% |
| Rochester Gas & Electric | 0.4% | 0.4% | 1.9% | 0.9% | | | 3.8% | 2.9% |
| Other | | | 0.7% | 1.2% | 1.2% | 1.9% | 0.4% | 0.6% |
| Respondents (n) | 114 | | 103 | | 48 | | 107 | |

Source: Survey fields: ['What utility provides electricity to the Building?']

## TABLE 70. STATEWIDE - ELECTRIC UTILITY PROVIDER (BUILDING REP SURVEY)

| Electric Utility Provider | Statewide | |
|---|---|---|
| | % | EB |
| Central Hudson Gas & Electric Corporation | 3% | 2% |
| Consolidated Edison | 65% | 9% |
| National Grid | 15% | 4% |
| New York State Electric and Gas | 7% | 3% |
| Orange & Rockland | 1% | 1% |
| PSEG Long Island | 4% | 2% |
| Rochester Gas & Electric | 4% | 2% |
| Other | 1% | 1% |
| Respondents (n) | 372 | |

Source: Survey fields: ['What utility provides electricity to the Building?']

## TABLE 71. BUILDING VINTAGE - NATURAL GAS PROVIDER (BUILDING REP SURVEY)

| Gas Utility Provider | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | 1% | 2% | 4% | 4% | 12% | 16% | 12% | 20% | 38% | 35% |
| Consolidated Edison | 19% | 7% | 17% | 7% | 26% | 16% | 19% | 12% | 13% | 21% |
| National Grid | 66% | 11% | 36% | 11% | 35% | 29% | 33% | 28% | 30% | 21% |
| New York State Electric and Gas | 1% | 1% | 9% | 6% | 5% | 6% | 13% | 11% | 4% | 4% |
| Orange & Rockland | | | 12% | 8% | | | | | 1% | 2% |
| Rochester Gas & Electric | 9% | 5% | 16% | 8% | 11% | 15% | 12% | 20% | | |
| St. Lawrence Gas Company | | | | | 4% | 6% | | | | |
| Other | 4% | 3% | 6% | 6% | 7% | 6% | 12% | 20% | | |
| Respondents (n) | 130 | | 84 | | 31 | | 27 | | 39 | |

Source: Survey fields: ['What utility provides natural gas to the Building?']

## TABLE 72. BUILDING SIZE - NATURAL GAS PROVIDER (BUILDING REP SURVEY)

| Gas Utility Provider | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | 5% | 3% | 0.1% | 0.1% | 0.1% | 0.1% |
| Consolidated Edison | 8% | 5% | 49% | 14% | 50% | 15% |
| National Grid | 59% | 12% | 49% | 13% | 46% | 14% |
| New York State Electric and Gas | 4% | 3% | 1% | 1% | 1% | 1% |
| Orange & Rockland | 3% | 2% | | | | |
| Rochester Gas & Electric | 11% | 6% | 1% | 1% | 0.2% | 0.3% |
| St. Lawrence Gas Company | | | 0.05% | 0.1% | | |
| Other | 10% | 6% | 0.4% | 1% | 2% | 3% |
| Respondents (n) | 155 | | 97 | | 59 | |

Source: Survey fields: ['What utility provides natural gas to the Building?']

## TABLE 73. CLIMATE ZONE - NATURAL GAS PROVIDER (BUILDING REP SURVEY)

| Gas Utility Provider | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | | | | | 13% | 8% | 27% | 40% |
| Consolidated Edison | 38% | 10% | 21% | 26% | | | | |
| National Grid | 62% | 11% | 64% | 40% | 36% | 12% | 10% | 7% |
| New York State Electric and Gas | | | | | 7% | 4% | 35% | 41% |
| Orange & Rockland | | | | | 12% | 8% | | |
| Rochester Gas & Electric | | | | | 23% | 9% | | |
| St. Lawrence Gas Company | | | | | | | 0.2% | 0.3% |
| Other | 0.2% | 0.3% | 15% | 26% | 10% | 7% | 29% | 40% |
| Respondents (n) | 148 | | 36 | | 104 | | 23 | |

Source: Survey fields: ['What utility provides natural gas to the Building?']

## TABLE 74. DAC FLAG - NATURAL GAS PROVIDER (BUILDING REP SURVEY)

| Gas Utility Provider | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | 10% | 6% | 1% | 2% | 11% | 33% |
| Consolidated Edison | 28% | 10% | 15% | 5% | | |
| National Grid | 40% | 9% | 57% | 9% | 3% | 4% |
| New York State Electric and Gas | 4% | 4% | 6% | 3% | | |
| Orange & Rockland | 7% | 5% | 2% | 2% | | |
| Rochester Gas & Electric | 7% | 5% | 11% | 5% | | |
| St. Lawrence Gas Company | | | 0.3% | 0.4% | | |
| Other | 3% | 3% | 8% | 5% | | |
| Respondents (n) | 143 | | 165 | | 3 | |

Source: Survey fields: ['What utility provides natural gas to the Building?']

## TABLE 75. METERING TYPE - NATURAL GAS PROVIDER (BUILDING REP SURVEY)

| Gas Utility Provider | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | 6% | 6% | 5% | 3% | 4% | 7% | | |
| Consolidated Edison | 9% | 6% | 21% | 6% | 34% | 13% | 0.002% | 0.005% |
| National Grid | 40% | 14% | 57% | 8% | 34% | 10% | | |
| New York State Electric and Gas | 23% | 27% | 5% | 2% | 7% | 5% | 0.004% | 0.011% |
| Orange & Rockland | | | 1% | 0.5% | | | | |
| Rochester Gas & Electric | 14% | 12% | 6% | 3% | 17% | 11% | | |
| St. Lawrence Gas Company | | | 0.1% | 0.2% | | | | |
| Other | 7% | 9% | 5% | 3% | 3% | 4% | 0.002% | 0.005% |
| Respondents (n) | 45 | | 225 | | 58 | | 3 | |

Source: Survey fields: ['What utility provides natural gas to the Building?']

## TABLE 76. OWNERSHIP TYPE - NATURAL GAS PROVIDER (BUILDING REP SURVEY)

| Gas Utility Provider | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central Hudson Gas & Electric Corporation | 0.1% | 0.1% | 0.1% | 0.1% | | | 2% | 1% |
| Consolidated Edison | 63% | 23% | 44% | 20% | 44% | 16% | 22% | 11% |
| National Grid | 33% | 14% | 52% | 18% | 56% | 17% | 57% | 15% |
| New York State Electric and Gas | 3% | 1% | 1% | 1% | | | 3% | 3% |
| Orange & Rockland | 0.0% | 0.0% | 0.1% | 0.1% | | | 1% | 1% |
| Rochester Gas & Electric | 1% | 1% | 3% | 1% | | | 7% | 5% |
| St. Lawrence Gas Company | 0.1% | 0.1% | | | | | | |
| Other | 1% | 1% | 0.4% | 0.5% | | | 8% | 5% |
| Respondents (n) | 92 | | 92 | | 40 | | 87 | |

Source: Survey fields: ['What utility provides natural gas to the Building?']

## TABLE 77. STATEWIDE - NATURAL GAS PROVIDER (BUILDING REP SURVEY)

| Gas Utility Provider | Statewide | |
|---|---|---|
| | % | EB |
| Central Hudson Gas & Electric Corporation | 2% | 1% |
| Consolidated Edison | 29% | 7% |
| National Grid | 54% | 9% |
| New York State Electric and Gas | 3% | 2% |
| Orange & Rockland | 1% | 1% |
| Rochester Gas & Electric | 6% | 3% |
| St. Lawrence Gas Company | 0.02% | 0.03% |
| Other | 5% | 3% |
| Respondents (n) | 311 | |

Source: Survey fields: ['What utility provides natural gas to the Building?']

## TABLE 78. BUILDING VINTAGE - AWARE OF ENERGY EFFICIENCY PROGRAMS OFFERED TO MULTIFAMILY PROPERTIES (BUILDING REP SURVEY)

| Awareness | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Not at all aware | 26% | 4% | 15% | 6% | 9% | 5% | 43% | 44% |
| Not too aware | 35% | 4% | 34% | 10% | 25% | 8% | 31% | 20% |
| Somewhat aware | 31% | 4% | 33% | 7% | 49% | 14% | 20% | 10% |
| Very aware | 8% | 2% | 18% | 5% | 17% | 8% | 6% | 3% |
| Respondents (n) | 492 | | 329 | | 186 | | 71 | |

Source: Survey fields: ['How aware are you of programs offered by NYSERDA or your utility company to make multifamily buildings more energy efficient or to manage energy use?']

## TABLE 79. BUILDING SIZE - AWARE OF ENERGY EFFICIENCY PROGRAMS OFFERED TO MULTIFAMILY PROPERTIES (BUILDING REP SURVEY)

| Awareness | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Not at all aware | 22% | 3% | 18% | 4% | 8% | 3% |
| Not too aware | 35% | 4% | 31% | 5% | 26% | 6% |
| Somewhat aware | 31% | 4% | 38% | 5% | 43% | 7% |
| Very aware | 12% | 2% | 12% | 3% | 23% | 6% |
| Respondents (n) | 624 | | 455 | | 186 | |

Source: Survey fields: ['How aware are you of programs offered by NYSERDA or your utility company to make multifamily buildings more energy efficient or to manage energy use?']

## TABLE 80. CLIMATE ZONE - AWARE OF ENERGY EFFICIENCY PROGRAMS OFFERED TO MULTIFAMILY PROPERTIES (BUILDING REP SURVEY)

| Awareness | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Not at all aware | 17% | 3% | 20% | 7% | 17% | 4% | 36% | 10% |
| Not too aware | 33% | 3% | 41% | 9% | 27% | 5% | 31% | 9% |
| Somewhat aware | 39% | 3% | 24% | 6% | 36% | 6% | 24% | 8% |
| Very aware | 12% | 2% | 15% | 6% | 20% | 5% | 9% | 5% |
| Respondents (n) | 695 | | 152 | | 332 | | 135 | |

Source: Survey fields: ['How aware are you of programs offered by NYSERDA or your utility company to make multifamily buildings more energy efficient or to manage energy use?']

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## TABLE 81. DAC FLAG - AWARE OF ENERGY EFFICIENCY PROGRAMS OFFERED TO MULTIFAMILY PROPERTIES (BUILDING REP SURVEY)

| Awareness | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Not at all aware | 20% | 3% | 22% | 3% | 6% | 5% |
| Not too aware | 35% | 4% | 34% | 4% | 12% | 8% |
| Somewhat aware | 34% | 4% | 34% | 4% | 38% | 14% |
| Very aware | 10% | 2% | 10% | 2% | 44% | 16% |
| Respondents (n) | 476 | | 586 | | 201 | |

Source: Survey fields: ['How aware are you of programs offered by NYSERDA or your utility company to make multifamily buildings more energy efficient or to manage energy use?']

## TABLE 82. METERING TYPE - AWARE OF ENERGY EFFICIENCY PROGRAMS OFFERED TO MULTIFAMILY PROPERTIES (BUILDING REP SURVEY)

| Awareness | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Not at all aware | 9% | 4% | 19% | 2% | 12% | 3% | 0.05% | 0.02% | 59% | 49% |
| Not too aware | 25% | 9% | 31% | 3% | 25% | 4% | 0.06% | 0.02% | 20% | 31% |
| Somewhat aware | 40% | 10% | 38% | 3% | 38% | 5% | 0.02% | 0.01% | 13% | 13% |
| Very aware | 26% | 9% | 11% | 2% | 26% | 5% | 0.03% | 0.04% | 7% | 14% |
| Respondents (n) | 155 | | 819 | | 339 | | 42 | | | |

Source: Survey fields: ['How aware are you of programs offered by NYSERDA or your utility company to make multifamily buildings more energy efficient or to manage energy use?']

## TABLE 83. OWNERSHIP TYPE - AWARE OF ENERGY EFFICIENCY PROGRAMS OFFERED TO MULTIFAMILY PROPERTIES (BUILDING REP SURVEY)

| Awareness | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Not at all aware | 14% | 6% | 21% | 5% | 7% | 4% | 22% | 4% |
| Not too aware | 23% | 8% | 37% | 6% | 29% | 6% | 32% | 5% |
| Somewhat aware | 56% | 11% | 35% | 7% | 48% | 7% | 27% | 4% |
| Very aware | 7% | 3% | 7% | 3% | 16% | 5% | 18% | 4% |
| Respondents (n) | 213 | | 415 | | 152 | | 485 | |

Source: Survey fields: ['How aware are you of programs offered by NYSERDA or your utility company to make multifamily buildings more energy efficient or to manage energy use?']

## TABLE 84. STATEWIDE - AWARE OF ENERGY EFFICIENCY PROGRAMS OFFERED TO MULTIFAMILY PROPERTIES (BUILDING REP SURVEY)

| Awareness | Statewide | |
|---|---|---|
| | % | EB |
| Not at all aware | 20% | 2% |
| Not too aware | 33% | 3% |
| Somewhat aware | 35% | 3% |
| Very aware | 13% | 2% |
| Respondents (n) | 1265 | |

Source: Survey fields: ['How aware are you of programs offered by NYSERDA or your utility company to make multifamily buildings more energy efficient or to manage energy use?']

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## TABLE 85. BUILDING VINTAGE - REPORTED PARTICIPATION IN ANY ENERGY EFFICIENCY PROGRAM IN PAST FIVE YEARS (BUILDING REP SURVEY)

| Has Participated | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Yes | 13% | 3% | 22% | 6% | 11% | 6% | 13% | 9% |
| No | 77% | 5% | 73% | 11% | 85% | 16% | 82% | 47% |
| Don't Know | 10% | 3% | 5% | 2% | 3% | 2% | 6% | 3% |
| Respondents (n) | 492 | | 329 | | 186 | | 71 | |

Source: Survey fields: ['In the past 5 years, have you participated in any programs offered by NYSERDA or your utility to make any energy saving updates, manage your energy demand, or shift your energy demand to another time? Select all that apply.']

## TABLE 86. BUILDING SIZE - REPORTED PARTICIPATION IN ANY ENERGY EFFICIENCY PROGRAM IN PAST FIVE YEARS (BUILDING REP SURVEY)

| Has Participated | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Yes | 15% | 3% | 16% | 3% | 31% | 6% |
| No | 78% | 5% | 72% | 5% | 50% | 7% |
| Don't Know | 7% | 2% | 12% | 3% | 19% | 6% |
| Respondents (n) | 624 | | 455 | | 186 | |

Source: Survey fields: ['In the past 5 years, have you participated in any programs offered by NYSERDA or your utility to make any energy saving updates, manage your energy demand, or shift your energy demand to another time? Select all that apply.']

## TABLE 87. CLIMATE ZONE - REPORTED PARTICIPATION IN ANY ENERGY EFFICIENCY PROGRAM IN PAST FIVE YEARS (BUILDING REP SURVEY)

| Has Participated | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Yes | 16% | 2% | 21% | 6% | 21% | 5% | 14% | 6% |
| No | 73% | 4% | 73% | 11% | 72% | 7% | 85% | 11% |
| Don't Know | 12% | 2% | 6% | 4% | 6% | 3% | 2% | 1% |
| Respondents (n) | 695 | | 152 | | 332 | | 135 | |

Source: Survey fields: ['In the past 5 years, have you participated in any programs offered by NYSERDA or your utility to make any energy saving updates, manage your energy demand, or shift your energy demand to another time? Select all that apply.']

## TABLE 88. DAC FLAG - REPORTED PARTICIPATION IN ANY ENERGY EFFICIENCY PROGRAM IN PAST FIVE YEARS (BUILDING REP SURVEY)

| Has Participated | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Yes | 17% | 3% | 15% | 3% | 44% | 16% |
| No | 72% | 4% | 75% | 4% | 56% | 16% |
| Don't Know | 11% | 2% | 10% | 2% | 1% | 1% |
| Respondents (n) | 476 | | 586 | | 201 | |

Source: Survey fields: ['In the past 5 years, have you participated in any programs offered by NYSERDA or your utility to make any energy saving updates, manage your energy demand, or shift your energy demand to another time? Select all that apply.']

## TABLE 89. METERING TYPE - REPORTED PARTICIPATION IN ANY ENERGY EFFICIENCY PROGRAM IN PAST FIVE YEARS (BUILDING REP SURVEY)

| Has Participated | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Yes | 33% | 10% | 21% | 2% | 24% | 5% | 0.03% | 0.04% | 6% | 11% |
| No | 59% | 11% | 71% | 3% | 70% | 6% | 0.07% | 0.02% | 87% | 49% |
| Don't Know | 9% | 4% | 8% | 2% | 6% | 2% | 0.05% | 0.02% | 7% | 9% |
| Respondents (n) | 155 | | 819 | | 339 | | 42 | | | |

Source: Survey fields: ['In the past 5 years, have you participated in any programs offered by NYSERDA or your utility to make any energy saving updates, manage your energy demand, or shift your energy demand to another time? Select all that apply.']

## TABLE 90. OWNERSHIP TYPE - REPORTED PARTICIPATION IN ANY ENERGY EFFICIENCY PROGRAM IN PAST FIVE YEARS (BUILDING REP SURVEY)

| Has Participated | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Yes | 26% | 7% | 8% | 3% | 25% | 6% | 19% | 4% |
| No | 56% | 11% | 80% | 8% | 58% | 7% | 75% | 6% |
| Don't Know | 18% | 7% | 12% | 4% | 17% | 5% | 6% | 2% |
| Respondents (n) | 213 | | 415 | | 152 | | 485 | |

Source: Survey fields: ['In the past 5 years, have you participated in any programs offered by NYSERDA or your utility to make any energy saving updates, manage your energy demand, or shift your energy demand to another time? Select all that apply.']

## TABLE 91. STATEWIDE - REPORTED PARTICIPATION IN ANY ENERGY EFFICIENCY PROGRAM IN PAST FIVE YEARS (BUILDING REP SURVEY)

| Has Participated | Statewide | |
|---|---|---|
| | % | EB |
| Yes | 17% | 2% |
| No | 74% | 3% |
| Don't Know | 10% | 2% |
| Respondents (n) | 1265 | |

Source: Survey fields: ['In the past 5 years, have you participated in any programs offered by NYSERDA or your utility to make any energy saving updates, manage your energy demand, or shift your energy demand to another time? Select all that apply.']

## TABLE 92. BUILDING VINTAGE - REASON FOR NOT MAKING ENERGY EFFICIENCY IMPROVEMENTS (BUILDING REP SURVEY)

| Reason For Not Making Energy Efficiency Improvements | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Do not know who to contact | 15% | 2% | 24% | 5% | 45% | 7% | 27% | 14% |
| Have not needed to upgrade equipment | 20% | 2% | 21% | 4% | 31% | 6% | 5% | 3% |
| Not aware of any reason to participate | 38% | 3% | 27% | 5% | 17% | 5% | 24% | 13% |
| Occupants pay most energy bills, so we lack incentive to reduce energy costs | 16% | 2% | 20% | 5% | 17% | 5% | 37% | 18% |
| This is a recently purchased property | 3% | 1% | 4% | 1% | 8% | 4% | 13% | 9% |
| Updating equipment would disrupt occupied living spaces | 12% | 2% | 15% | 4% | 6% | 3% | 1% | 1% |
| We tend to purchase the least expensive equipment option | 13% | 2% | 15% | 5% | 8% | 3% | 9% | 7% |
| Respondents (n) | 378 | | 219 | | 133 | | 45 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Why hasn't your building participated in any programs offered by NYSERDA or your utility company? (Select all that apply.) - Selected Choice']

## TABLE 93. BUILDING SIZE - REASON FOR NOT MAKING ENERGY EFFICIENCY IMPROVEMENTS (BUILDING REP SURVEY)

| Reason For Not Making Energy Efficiency Improvements | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Do not know who to contact | 22% | 2% | 16% | 2% | 13% | 4% |
| Have not needed to upgrade equipment | 18% | 2% | 27% | 3% | 28% | 5% |
| Not aware of any reason to participate | 33% | 2% | 32% | 3% | 36% | 6% |
| Occupants pay most energy bills, so we lack incentive to reduce energy costs | 17% | 2% | 20% | 3% | 14% | 4% |
| This is a recently purchased property | 5% | 1% | 3% | 1% | 4% | 3% |
| Updating equipment would disrupt occupied living spaces | 9% | 2% | 13% | 2% | 9% | 3% |
| We tend to purchase the least expensive equipment option | 10% | 2% | 13% | 2% | 1% | 1% |
| Respondents (n) | 463 | | 312 | | 93 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Why hasn't your building participated in any programs offered by NYSERDA or your utility company? (Select all that apply.) - Selected Choice']

## TABLE 94. CLIMATE ZONE - REASON FOR NOT MAKING ENERGY EFFICIENCY IMPROVEMENTS (BUILDING REP SURVEY)

| Reason For Not Making Energy Efficiency Improvements | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | | Statewide | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Do not know who to contact | 17% | 2% | 19% | 4% | 17% | 3% | 33% | 5% | 19% | 2% |
| Have not needed to upgrade equipment | 27% | 2% | 14% | 4% | 27% | 4% | 11% | 3% | 22% | 2% |
| Not aware of any reason to participate | 32% | 2% | 26% | 5% | 33% | 4% | 38% | 6% | 33% | 2% |
| Occupants pay most energy bills, so we lack incentive to reduce energy costs | 19% | 2% | 26% | 5% | 14% | 3% | 17% | 4% | 18% | 2% |
| This is a recently purchased property | 4% | 1% | 7% | 3% | 7% | 2% | 5% | 2% | 4% | 1% |
| Updating equipment would disrupt occupied living spaces | 13% | 2% | 4% | 2% | 6% | 2% | 14% | 4% | 11% | 1% |
| We tend to purchase the least expensive equipment option | 11% | 2% | 6% | 3% | 14% | 3% | 14% | 4% | 11% | 1% |
| Respondents (n) | 474 | | 100 | | 233 | | 104 | | 868 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Why hasn't your building participated in any programs offered by NYSERDA or your utility company? (Select all that apply.) - Selected Choice']

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## TABLE 95. DAC FLAG - REASON FOR NOT MAKING ENERGY EFFICIENCY IMPROVEMENTS (BUILDING REP SURVEY)

| Reason For Not Making Energy Efficiency Improvements | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Do not know who to contact | 19% | 2% | 20% | 2% | 21% | 8% |
| Have not needed to upgrade equipment | 21% | 2% | 20% | 2% | 37% | 9% |
| Not aware of any reason to participate | 33% | 3% | 36% | 2% | 26% | 9% |
| Occupants pay most energy bills, so we lack incentive to reduce energy costs | 16% | 2% | 18% | 2% | 26% | 9% |
| This is a recently purchased property | 5% | 1% | 3% | 1% | 9% | 5% |
| Updating equipment would disrupt occupied living spaces | 7% | 1% | 11% | 2% | 15% | 7% |
| We tend to purchase the least expensive equipment option | 10% | 2% | 9% | 1% | 30% | 9% |
| Respondents (n) | 325 | | 429 | | 132 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Why hasn't your building participated in any programs offered by NYSERDA or your utility company? (Select all that apply.) - Selected Choice']

## TABLE 96. METERING TYPE - REASON FOR NOT MAKING ENERGY EFFICIENCY IMPROVEMENTS (BUILDING REP SURVEY)

| Reason For Not Making Energy Efficiency Improvements | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Do not know who to contact | 19% | 2% | 20% | 2% | 21% | 8% |
| Have not needed to upgrade equipment | 21% | 2% | 20% | 2% | 37% | 9% |
| Not aware of any reason to participate | 33% | 3% | 36% | 2% | 26% | 9% |
| Occupants pay most energy bills, so we lack incentive to reduce energy costs | 16% | 2% | 18% | 2% | 26% | 9% |
| This is a recently purchased property | 5% | 1% | 3% | 1% | 9% | 5% |
| Updating equipment would disrupt occupied living spaces | 7% | 1% | 11% | 2% | 15% | 7% |
| We tend to purchase the least expensive equipment option | 10% | 2% | 9% | 1% | 30% | 9% |
| Respondents (n) | 325 | | 429 | | 132 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Why hasn't your building participated in any programs offered by NYSERDA or your utility company? (Select all that apply.) - Selected Choice']

## TABLE 97. OWNERSHIP TYPE - REASON FOR NOT MAKING ENERGY EFFICIENCY IMPROVEMENTS (BUILDING REP SURVEY)

| Reason For Not Making Energy Efficiency Improvements | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Do not know who to contact | 10% | 4% | 22% | 3% | 9% | 3% | 17% | 2% |
| Have not needed to upgrade equipment | 28% | 6% | 27% | 4% | 37% | 4% | 24% | 3% |
| Not aware of any reason to participate | 25% | 5% | 29% | 4% | 25% | 4% | 37% | 3% |
| Occupants pay most energy bills, so we lack incentive to reduce energy costs | 29% | 6% | 16% | 3% | 30% | 4% | 15% | 2% |
| This is a recently purchased property | 1% | 1% | 4% | 2% | 9% | 3% | 5% | 1% |
| Updating equipment would disrupt occupied living spaces | 26% | 6% | 11% | 3% | 12% | 3% | 8% | 2% |
| We tend to purchase the least expensive equipment option | 22% | 6% | 13% | 3% | 8% | 3% | 10% | 2% |
| Respondents (n) | 112 | | 316 | | 130 | | 353 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Why hasn't your building participated in any programs offered by NYSERDA or your utility company? (Select all that apply.) - Selected Choice']

## TABLE 98. STATEWIDE - REASON FOR NOT MAKING ENERGY EFFICIENCY IMPROVEMENTS (BUILDING REP SURVEY)

| Reason For Not Making Energy Efficiency Improvements | Statewide | |
|---|---|---|
| | % | EB |
| Do not know who to contact | 19% | 2% |
| Have not needed to upgrade equipment | 22% | 2% |
| Not aware of any reason to participate | 33% | 2% |
| Occupants pay most energy bills, so we lack incentive to reduce energy costs | 18% | 2% |
| This is a recently purchased property | 4% | 1% |
| Updating equipment would disrupt occupied living spaces | 11% | 1% |
| We tend to purchase the least expensive equipment option | 11% | 1% |
| Respondents (n) | 868 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Why hasn't your building participated in any programs offered by NYSERDA or your utility company? (Select all that apply.) - Selected Choice']

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## TABLE 99. BUILDING VINTAGE - PERCENTAGE OF BUILDINGS WITH ELEVATORS BY BUILDING SIZE (SITE VISITS)

| Building Size | Elevator | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB | % | EB |
| Low Rise (1 to 3 floors) | Yes | | | 3% | 4% | 6% | 4% | 8% | 12% | 11% | 13% |
| | No | 34% | 3% | 61% | 8% | 74% | 51% | 32% | 19% | 76% | 33% |
| | Respondents (n) | 68 | | 59 | | 24 | | 13 | | 40 | |
| Mid Rise (4 to 7 floors) | Yes | 18% | 6% | 19% | 5% | 7% | 3% | 44% | 22% | 11% | 6% |
| | No | 43% | 9% | 5% | 4% | 2% | 4% | | | 3% | 5% |
| | Respondents (n) | 62 | | 15 | | 6 | | 9 | | 12 | |
| High Rise (8 or more floors) | Yes | 5% | 1% | 12% | 1% | 11% | 10% | 16% | 8% | 0% | 0% |
| | Respondents (n) | 13 | | 26 | | 15 | | 10 | | 2 | |

Source: On-site fields: ['Enter elevator type in the Building (select all that apply)']

## TABLE 100. CLIMATE ZONE - PERCENTAGE OF BUILDINGS WITH ELEVATORS BY BUILDING SIZE (SITE VISITS)

| Building Size | Elevator | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| Low Rise (1 to 3 floors) | Yes | | | 1% | 1% | 9% | 6% | 2% | 2% |
| | No | 27% | 3% | 76% | 32% | 80% | 12% | 87% | 40% |
| | Respondents (n) | 50 | | 37 | | 92 | | 25 | |
| Mid Rise (4 to 7 floors) | Yes | 25% | 7% | 19% | 10% | 5% | 3% | 9% | 15% |
| | No | 38% | 10% | 2% | 3% | 4% | 2% | 1% | 2% |
| | Respondents (n) | 61 | | 15 | | 22 | | 6 | |
| High Rise (8 or more floors) | Yes | 11% | 1% | 1% | 3% | 1% | 1% | | |
| | Respondents (n) | 55 | | 3 | | 8 | | 0 | |

Source: On-site fields: ['Enter elevator type in the Building (select all that apply)']

## TABLE 101. OWNERSHIP TYPE - PERCENTAGE OF BUILDINGS WITH ELEVATORS BY BUILDING SIZE (SITE VISITS)

| Building Size | Elevator | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| Low Rise (1 to 3 floors) | Yes | 3% | 1% | 0.03% | 0.04% | 1% | 2% | 2% | 2% |
| | No | 8% | 2% | 28% | 6% | 10% | 3% | 43% | 6% |
| | Respondents (n) | 62 | | 66 | | 12 | | 64 | |
| Mid Rise (4 to 7 floors) | Yes | 48% | 19% | 17% | 13% | 33% | 13% | 18% | 10% |
| | No | 17% | 14% | 50% | 19% | 26% | 13% | 28% | 12% |
| | Respondents (n) | 28 | | 29 | | 17 | | 30 | |
| High Rise (8 or more floors) | Yes | 24% | 4% | 5% | 1% | 31% | 0% | 8% | 2% |
| | Respondents (n) | 24 | | 8 | | 19 | | 15 | |

Source: On-site fields: ['Enter elevator type in the Building (select all that apply)']

## TABLE 102. STATEWIDE - PERCENTAGE OF BUILDINGS WITH ELEVATORS BY BUILDING SIZE (SITE VISITS)

| Building Size | Elevator | Statewide | |
|---|---|---|---|
| | | % | EB |
| Low Rise (1 to 3 floors) | Yes | 2% | 1% |
| | No | 47% | 6% |
| | Respondents (n) | 204 | |
| Mid Rise (4 to 7 floors) | Yes | 18% | 5% |
| | No | 25% | 6% |
| | Respondents (n) | 104 | |
| High Rise (8 or more floors) | Yes | 7% | 1% |
| | Respondents (n) | 66 | |

Source: On-site fields: ['Enter elevator type in the Building (select all that apply)']

## TABLE 103. STATEWIDE - NUMBER OF HOUSEHOLD MEMBERS BY AGE (OCCUPANT SURVEY)

| Resident Age | Statewide | |
|---|---|---|
| | Mean | EB |
| Less than 5 years | 0.15 | 0.06 |
| 6 to 17 years | 0.36 | 0.09 |
| 18 to 24 years | 0.19 | 0.07 |
| 25 to 34 years | 0.39 | 0.10 |
| 35 to 44 years | 1.01 | 0.74 |
| 45 to 54 years | 0.16 | 0.05 |
| 55 to 64 years | 0.21 | 0.08 |
| 65 or older | 0.31 | 0.08 |
| Respondents (n) | 113 | |

Source: Survey fields: ['Including yourself, how many people currently living in your home year-round are in the following age groups? Please exclude anyone who is just visiting, children who may be away at college or those deployed in the military. (If none, please enter zero) - Less than 5 Years - Number of people:']

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## TABLE 104. STATEWIDE - HOUSEHOLD MEMBERS EXPECTED TO RETURN TO SCHOOL OR OFFICE AFTER PANDEMIC (OCCUPANT SURVEY)

| Response | Statewide | |
|---|---|---|
| | % | EB |
| Yes, daily | 44% | 17% |
| Yes, some days of the week | 38% | 19% |
| Yes, a few times a month | 5% | 5% |
| No, rarely or never | 13% | 9% |
| Respondents (n) | 50 | |

Source: Survey fields: ['Do most of these people plan to go back to school or the office after the COVID-19 pandemic ends?']

## TABLE 105. BUILDING VINTAGE - TYPE OF PARKING (SITE VISITS)

| Parking Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Open lot | 35% | 12% | 68% | 12% | 88% | 52% | 43% | 22% | 71% | 31% |
| Covered lot | | | 6% | 7% | | | 9% | 9% | 1% | 1% |
| Above ground parking garage | 7% | 7% | 5% | 6% | 5% | 6% | 13% | 14% | 12% | 13% |
| Underground parking garage | 1% | 2% | 13% | 8% | 3% | 4% | 27% | 27% | 4% | 4% |
| None | 57% | 14% | 7% | 5% | 4% | 5% | 8% | 10% | 1% | 1% |
| Other | | | 0% | 0% | | | | | | |
| Respondents (n) | 82 | | 89 | | 39 | | 30 | | 54 | |

Source: On-site fields: ['Type of parking at the building']

## TABLE 106. BUILDING SIZE - TYPE OF PARKING (SITE VISITS)

| Parking Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Open lot | 60% | 11% | 18% | 12% | 29% | 11% |
| Covered lot | 1% | 1% | 4% | 6% | 1% | 2% |
| Above ground parking garage | 5% | 4% | 10% | 9% | 6% | 7% |
| Underground parking garage | 4% | 5% | 12% | 10% | 32% | 15% |
| None | 30% | 13% | 55% | 18% | 32% | 15% |
| Other | 0% | 0% | | | | |
| Respondents (n) | 176 | | 66 | | 52 | |

Source: On-site fields: ['Type of parking at the building']

## TABLE 107. CLIMATE ZONE - TYPE OF PARKING (SITE VISITS)

| Parking Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Open lot | 16% | 10% | 58% | 27% | 82% | 14% | 90% | 42% |
| Covered lot | 0% | 0% | 2% | 2% | 2% | 3% | 0% | 0% |
| Above ground parking garage | 9% | 8% | 11% | 13% | 6% | 5% | 0% | 1% |
| Underground parking garage | 8% | 5% | 22% | 17% | 1% | 1% | 8% | 13% |
| None | 67% | 17% | 8% | 13% | 9% | 6% | 1% | 2% |
| Other | 0% | 0% | | | | | | |
| Respondents (n) | 94 | | 54 | | 113 | | 33 | |

Source: On-site fields: ['Type of parking at the building']

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## TABLE 108. DAC FLAG - TYPE OF PARKING (SITE VISITS)

| Parking Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Open lot | 54% | 12% | 55% | 9% | 12% | 24% |
| Covered lot | 5% | 4% | 2% | 2% | | |
| Above ground parking garage | 10% | 7% | 6% | 4% | 1% | 2% |
| Underground parking garage | 2% | 1% | 16% | 7% | | |
| None | 30% | 10% | 22% | 8% | | |
| Other | 0% | 0% | | | | |
| Respondents (n) | 127 | | 162 | | 5 | |

Source: On-site fields: ['Type of parking at the building']

## TABLE 109. OWNERSHIP TYPE - TYPE OF PARKING (SITE VISITS)

| Parking Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Open lot | 28% | 10% | 37% | 21% | 13% | 7% | 45% | 9% |
| Covered lot | 3% | 4% | 6% | 11% | | | 0% | 0% |
| Above ground parking garage | 0% | 0% | 7% | 11% | 12% | 13% | 11% | 9% |
| Underground parking garage | 2% | 4% | 10% | 11% | 26% | 18% | 10% | 9% |
| None | 67% | 39% | 40% | 22% | 49% | 25% | 35% | 19% |
| Other | 1% | 1% | | | | | | |
| Respondents (n) | 94 | | 83 | | 32 | | 85 | |

Source: On-site fields: ['Type of parking at the building']

## TABLE 110. STATEWIDE - TYPE OF PARKING (SITE VISITS)

| Parking Type | Statewide | |
|---|---|---|
| | % | EB |
| Open lot | 40% | 8% |
| Covered lot | 2% | 3% |
| Above ground parking garage | 7% | 4% |
| Underground parking garage | 10% | 5% |
| None | 41% | 11% |
| Other | 0% | 0% |
| Respondents (n) | 294 | |

Source: On-site fields: ['Type of parking at the building']

## TABLE 111. BUILDING VINTAGE - ASSIGNED PARKING SPACES (BUILDING REP SURVEY)

| Assigned Parking Spaces | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 1 – 25% | 4% | 2% | 7% | 3% | 7% | 8% | 26% | 31% |
| 26 – 50% | 2% | 1% | 7% | 3% | 31% | 18% | 8% | 13% |
| 51 – 75% | 5% | 3% | 15% | 9% | 22% | 14% | 9% | 6% |
| 76 – 100% | 46% | 13% | 33% | 8% | 11% | 4% | 24% | 9% |
| Don't know | 1% | 1% | 2% | 2% | 0.4% | 1% | | |
| None | 42% | 13% | 37% | 9% | 28% | 14% | 33% | 25% |
| Respondents (n) | 155 | | 236 | | 114 | | 46 | |

Source: Survey fields: ['About what percent of parking spaces are assigned to specific tenants?']

## TABLE 112. BUILDING SIZE - ASSIGNED PARKING SPACES (BUILDING REP SURVEY)

| Assigned Parking Spaces | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 1 – 25% | 7% | 5% | 8% | 7% | 8% | 6% |
| 26 – 50% | 7% | 3% | 21% | 12% | 14% | 9% |
| 51 – 75% | 10% | 6% | 21% | 12% | 8% | 5% |
| 76 – 100% | 36% | 10% | 36% | 13% | 44% | 11% |
| Don't know | 4% | 5% | 1% | 2% | 8% | 6% |
| None | 35% | 8% | 14% | 8% | 17% | 8% |
| Respondents (n) | 389 | | 148 | | 86 | |

Source: Survey fields: ['About what percent of parking spaces are assigned to specific tenants?']

## TABLE 113. CLIMATE ZONE - ASSIGNED PARKING SPACES (BUILDING REP SURVEY)

| Assigned Parking Spaces | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 1 – 25% | 14% | 9% | 5% | 4% | 7% | 3% | 10% | 6% |
| 26 – 50% | 17% | 7% | 14% | 8% | 6% | 3% | 8% | 6% |
| 51 – 75% | 18% | 8% | 15% | 7% | 10% | 4% | 8% | 5% |
| 76 – 100% | 31% | 10% | 50% | 11% | 33% | 6% | 25% | 9% |
| Don't know | 4% | 5% | 0.1% | 0.2% | 2% | 2% | 3% | 4% |
| None | 15% | 7% | 15% | 8% | 43% | 7% | 44% | 10% |
| Respondents (n) | 147 | | 117 | | 271 | | 118 | |

Source: Survey fields: ['About what percent of parking spaces are assigned to specific tenants?']

## TABLE 114. DAC FLAG - ASSIGNED PARKING SPACES (BUILDING REP SURVEY)

| Assigned Parking Spaces | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 1 – 25% | 14% | 5% | 9% | 3% | 2% | 1% |
| 26 – 50% | 4% | 3% | 11% | 4% | 7% | 7% |
| 51 – 75% | 7% | 3% | 10% | 4% | 32% | 14% |
| 76 – 100% | 26% | 6% | 41% | 6% | 45% | 16% |
| Don't know | 2% | 1% | 1% | 1% | 0.02% | 0.04% |
| None | 47% | 8% | 28% | 5% | 14% | 9% |
| Respondents (n) | 201 | | 307 | | 128 | |

Source: Survey fields: ['About what percent of parking spaces are assigned to specific tenants?']

## TABLE 115. OWNERSHIP TYPE - ASSIGNED PARKING SPACES (BUILDING REP SURVEY)

| Assigned Parking Spaces | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 1 – 25% | 6% | 5% | 8% | 8% | 9% | 8% | 6% | 4% |
| 26 – 50% | 12% | 17% | 20% | 16% | 15% | 9% | 11% | 5% |
| 51 – 75% | 3% | 3% | 17% | 14% | 8% | 7% | 14% | 6% |
| 76 – 100% | 53% | 33% | 32% | 14% | 44% | 13% | 34% | 7% |
| Don't know | 2% | 3% | 1% | 2% | 7% | 6% | 2% | 2% |
| None | 24% | 17% | 22% | 11% | 17% | 10% | 33% | 6% |
| Respondents (n) | 101 | | 192 | | 55 | | 275 | |

Source: Survey fields: ['About what percent of parking spaces are assigned to specific tenants?']

## TABLE 116. STATEWIDE - ASSIGNED PARKING SPACES (BUILDING REP SURVEY)

| Assigned Parking Spaces | Statewide | |
|---|---|---|
| | % | EB |
| 1 – 25% | 8% | 4% |
| 26 – 50% | 13% | 5% |
| 51 – 75% | 15% | 6% |
| 76 – 100% | 36% | 8% |
| Don't know | 3% | 3% |
| None | 25% | 5% |
| Respondents (n) | 623 | |

Source: Survey fields: ['About what percent of parking spaces are assigned to specific tenants?']

## TABLE 117. BUILDING VINTAGE - PERCENTAGE OF BUILDINGS WITH ALTERNATIVE TRANSPORTATION SUPPORT (BUIDING REP SURVEY)

| Feature | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Access to bike or scooter sharing | 1.1% | 0.5% | 0.8% | 0.3% | 0.1% | 0.1% | 2.0% | 1.5% |
| Access to car sharing | 1.2% | 0.6% | 1.3% | 0.7% | 0.0% | 0.0% | 1.5% | 1.0% |
| Bike storage facilities | 10.1% | 1.5% | 12.5% | 3.1% | 27.1% | 5.8% | 28.8% | 11.1% |
| Respondents (n) | 492 | | 329 | | 186 | | 71 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Which of the following amenities does this building have? Please select all that apply.']

## TABLE 118. BUILDING SIZE - PERCENTAGE OF BUILDINGS WITH ALTERNATIVE TRANSPORTATION SUPPORT (BUIDING REP SURVEY)

| Feature | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Access to bike or scooter sharing | 2.2% | 0.7% | 0.3% | 0.2% | 3.3% | 1.4% |
| Access to car sharing | 0.9% | 0.4% | 0.6% | 0.2% | 0.0% | 0.0% |
| Bike storage facilities | 9.7% | 1.4% | 20.6% | 2.1% | 46.1% | 4.1% |
| Respondents (n) | 624 | | 455 | | 186 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Which of the following amenities does this building have? Please select all that apply.']

## TABLE 119. CLIMATE ZONE - PERCENTAGE OF BUILDINGS WITH ALTERNATIVE TRANSPORTATION SUPPORT (BUIDING REP SURVEY)

| Feature | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Access to bike or scooter sharing | 1.1% | 0.3% | 0.8% | 0.6% | 3.2% | 1.3% | 0.0% | 0.0% |
| Access to car sharing | 0.2% | 0.2% | 1.9% | 1.4% | 2.7% | 1.1% | 0.5% | 0.3% |
| Bike storage facilities | 20.0% | 1.6% | 15.7% | 3.2% | 16.8% | 2.5% | 14.9% | 3.9% |
| Respondents (n) | 695 | | 152 | | 332 | | 135 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Which of the following amenities does this building have? Please select all that apply.']

## TABLE 120. DAC FLAG - PERCENTAGE OF BUILDINGS WITH ALTERNATIVE TRANSPORTATION SUPPORT (BUIDING REP SURVEY)

| Feature | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Access to bike or scooter sharing | 1.4% | 0.6% | 1.2% | 0.5% | 2.7% | 2.6% |
| Access to car sharing | 0.8% | 0.5% | 0.2% | 0.2% | 6.8% | 3.6% |
| Bike storage facilities | 16.1% | 1.9% | 18.9% | 1.7% | 24.9% | 6.2% |
| Respondents (n) | 476 | | 586 | | 201 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Which of the following amenities does this building have? Please select all that apply.']

## TABLE 121. OWNERSHIP TYPE - PERCENTAGE OF BUILDINGS WITH ALTERNATIVE TRANSPORTATION SUPPORT (BUIDING REP SURVEY)

| Feature | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Access to bike or scooter sharing | 1.7% | 1.3% | 0.3% | 0.2% | 1.9% | 0.9% | 2.3% | 0.8% |
| Access to car sharing | 0.1% | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 1.7% | 0.7% |
| Bike storage facilities | 12.4% | 3.0% | 14.3% | 2.6% | 46.8% | 3.7% | 17.7% | 2.0% |
| Respondents (n) | 214 | | 418 | | 197 | | 485 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Which of the following amenities does this building have? Please select all that apply.']

## TABLE 122. STATEWIDE - PERCENTAGE OF BUILDINGS WITH ALTERNATIVE TRANSPORTATION SUPPORT (BUIDING REP SURVEY)

| Feature | Statewide | |
|---|---|---|
| | Mean | EB |
| Access to bike or scooter sharing | 1.5% | 0.4% |
| Access to car sharing | 0.7% | 0.2% |
| Bike storage facilities | 17.0% | 1.2% |
| Respondents (n) | 1265 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Which of the following amenities does this building have? Please select all that apply.']

## TABLE 123. BUILDING VINTAGE - PERCENTAGE OF BUILDINGS WITH EV CHARGING INFRASTRUCTURE BY CHARGER TYPE (SITE VISITS)

| Charger Type | Pre-1940 | | 1940 to 1978 | | 2007 to Present | |
|---|---|---|---|---|---|---|
| | EB | % | EB | % | EB | % |
| Level 1 | | | | | | |
| Level 2 | 1 | 0 | 1 | 0 | 1 | 0 |
| Level 3 | | | | | | |
| Respondents (n) | 1 | | 1 | | 1 | |

Source: On-site fields: ['EV plug-in type (select all that apply)']

## TABLE 124. BUILDING SIZE - PERCENTAGE OF BUILDINGS WITH EV CHARGING INFRASTRUCTURE BY CHARGER TYPE (SITE VISITS)

| 0 | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | |
|---|---|---|---|---|
| | EB | % | EB | % |
| Level 1 | | | | |
| Level 2 | 1 | 0 | 1 | 3.553083 |
| Level 3 | | | | |
| Respondents (n) | 1 | | 2 | |

Source: On-site fields: ['EV plug-in type (select all that apply)']

## TABLE 125. CLIMATE ZONE - PERCENTAGE OF BUILDINGS WITH EV CHARGING INFRASTRUCTURE BY CHARGER TYPE (SITE VISITS)

| 0 | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|
| | % | EB | % | EB |
| Level 1 | | | | |
| Level 2 | 1 | 5.997781262 | 1 | 0 |
| Level 3 | | | | |
| Respondents (n) | 2 | | 1 | |

Source: On-site fields: ['EV plug-in type (select all that apply)']

## TABLE 126. DAC FLAG - PERCENTAGE OF BUILDINGS WITH EV CHARGING INFRASTRUCTURE BY CHARGER TYPE (SITE VISITS)

| 0 | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | % | EB | % | EB |
| Level 1 | | | | |
| Level 2 | 1 | 2.796322679 | 1 | 0 |
| Level 3 | | | | |
| Respondents (n) | 2 | | 1 | |

Source: On-site fields: ['EV plug-in type (select all that apply)']

## TABLE 127. OWNERSHIP TYPE - PERCENTAGE OF BUILDINGS WITH EV CHARGING INFRASTRUCTURE BY CHARGER TYPE (SITE VISITS)

| 0 | Affordable Subsidized | | Affordable Unsubsidized | | Market-Rate Rental | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Level 1 | | | | | | |
| Level 2 | 1 | 0 | 1 | 0 | 1 | 0 |
| Level 3 | | | | | | |
| Respondents (n) | 1 | | 1 | | 1 | |

Source: On-site fields: ['EV plug-in type (select all that apply)']

## TABLE 128. STATEWIDE - PERCENTAGE OF BUILDINGS WITH EV CHARGING INFRASTRUCTURE BY CHARGER TYPE (SITE VISITS)

| 0 | Statewide | |
|---|---|---|
| | % | EB |
| Level 1 | | |
| Level 2 | 100% | 225% |
| Level 3 | | |
| Respondents (n) | 3 | |

Source: On-site fields: ['EV plug-in type (select all that apply)']

## TABLE 129. BUILDING VINTAGE - AVERAGE NUMBER OF EV CHARGING STATIONS FOR BUILDINGS WITH STATIONS (SITE VISITS)

| Charger Type | Pre-1940 | | 1940 to 1978 | | 2007 to Present | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Level 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Level 2 | 1 | 0 | 4 | 0 | 2 | 0 |
| Level 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Respondents (n) | 1 | | 1 | | 1 | |

Source: On-site fields: ['Quantity of L1 chargers', 'Quantity of L2 chargers', 'Quantity of L3 chargers']

## TABLE 130. BUILDING SIZE - AVERAGE NUMBER OF EV CHARGING STATIONS FOR BUILDINGS WITH STATIONS (SITE VISITS)

| Charger Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | |
|---|---|---|---|---|
| | Mean | EB | Mean | EB |
| Level 1 | 0 | 0 | 0 | 0 |
| Level 2 | 4 | 0 | 1.218623 | 0.341655 |
| Level 3 | 0 | 0 | 0 | 0 |
| Respondents (n) | 1 | | 2 | |

Source: On-site fields: ['Quantity of L1 chargers', 'Quantity of L2 chargers', 'Quantity of L3 chargers']

## TABLE 131. CLIMATE ZONE - AVERAGE NUMBER OF EV CHARGING STATIONS FOR BUILDINGS WITH STATIONS (SITE VISITS)

| Charger Type | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Level 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Level 2 | 0 | 0 | 3.924933 | 0.146378 | 2 | 0 |
| Level 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Respondents (n) | 0 | | 2 | | 1 | |

Source: On-site fields: ['Quantity of L1 chargers', 'Quantity of L2 chargers', 'Quantity of L3 chargers']

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## TABLE 132. DAC FLAG - AVERAGE NUMBER OF EV CHARGING STATIONS FOR BUILDINGS WITH STATIONS (SITE VISITS)

| Charger Type | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | Mean | EB | Mean | EB |
| Level 1 | 0 | 0 | 0 | 0 |
| Level 2 | 3.442894 | 0.803845 | 1 | 0 |
| Level 3 | 0 | 0 | 0 | 0 |
| Respondents (n) | 2 | | 1 | |

Source: On-site fields: ['Quantity of L1 chargers', 'Quantity of L2 chargers', 'Quantity of L3 chargers']

## TABLE 133. OWNERSHIP TYPE - AVERAGE NUMBER OF EV CHARGING STATIONS FOR BUILDINGS WITH STATIONS (SITE VISITS)

| Charger Type | Affordable Subsidized | | Affordable Unsubsidized | | Market-Rate Rental | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Level 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Level 2 | 2 | 0 | 1 | 0 | 4 | 0 |
| Level 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Respondents (n) | 1 | | 1 | | 1 | |

Source: On-site fields: ['Quantity of L1 chargers', 'Quantity of L2 chargers', 'Quantity of L3 chargers']

## TABLE 134. STATEWIDE - AVERAGE NUMBER OF EV CHARGING STATIONS FOR BUILDINGS WITH STATIONS (SITE VISITS)

| Charger Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Level 1 | 0 | 0 |
| Level 2 | 3.567925 | 0.591422 |
| Level 3 | 0 | 0 |
| Respondents (n) | 3 | |

Source: On-site fields: ['Quantity of L1 chargers', 'Quantity of L2 chargers', 'Quantity of L3 chargers']

## TABLE 135. BUILDING VINTAGE - EV CHARGING COST TO TENANTS (BUILDING REP SURVEY)

| Cost Distribution Method | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| No, its free | | | | | 98% | 281% | 10% | 19% |
| No, tenants pay for the charger use on their electric bill | | | 64% | 125% | | | 19% | 23% |
| Yes, charge per kilowatt-hour | 100% | 0% | 7% | 11% | | | 54% | 48% |
| Yes, flat fee each time charged | | | 2% | 2% | | | | |
| Yes, included in rent | | | | | | | 17% | 21% |
| Yes, monthly charge | | | 27% | 37% | 2% | 5% | | |
| Respondents (n) | 1 | | 7 | | 3 | | 9 | |

Source: Survey fields: ['Do you charge tenants to use the electric vehicles chargers?']

## TABLE 136. BUILDING SIZE - EV CHARGING COST TO TENANTS (BUILDING REP SURVEY)

| Cost Distribution Method | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| No, its free | 41% | 95% | 3% | 4% | 25% | 42% |
| No, tenants pay for the charger use on their electric bill | 42% | 59% | 20% | 19% | 23% | 43% |
| Yes, charge per kilowatt-hour | | | 42% | 48% | 17% | 16% |
| Yes, flat fee each time charged | | | | | 11% | 14% |
| Yes, included in rent | | | | | 23% | 43% |
| Yes, monthly charge | 17% | 41% | 34% | 48% | | |
| Respondents (n) | 4 | | 16 | | 11 | |

Source: Survey fields: ['Do you charge tenants to use the electric vehicles chargers?']

## TABLE 137. CLIMATE ZONE - EV CHARGING COST TO TENANTS (BUILDING REP SURVEY)

| Cost Distribution Method | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| No, its free | 24% | 37% | 41% | 119% | 39% | 69% | 94% | 253% |
| No, tenants pay for the charger use on their electric bill | 35% | 46% | | | 41% | 69% | | |
| Yes, charge per kilowatt-hour | 7% | 6% | 30% | 86% | 5% | 7% | 6% | 17% |
| Yes, flat fee each time charged | 1% | 2% | | | | | | |
| Yes, included in rent | 8% | 8% | | | | | | |
| Yes, monthly charge | 24% | 37% | 30% | 86% | 15% | 28% | | |
| Respondents (n) | 18 | | 3 | | 9 | | 3 | |

Source: Survey fields: ['Do you charge tenants to use the electric vehicles chargers?']

## TABLE 138. DAC FLAG - EV CHARGING COST TO TENANTS (BUILDING REP SURVEY)

| Cost Distribution Method | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| No, its free | 70% | 87% | 23% | 32% | 1% | 2% |
| No, tenants pay for the charger use on their electric bill | | | 12% | 11% | 85% | 146% |
| Yes, charge per kilowatt-hour | 30% | 35% | 38% | 47% | 7% | 14% |
| Yes, flat fee each time charged | | | 3% | 3% | | |
| Yes, included in rent | | | 4% | 7% | 0% | 1% |
| Yes, monthly charge | | | 22% | 32% | 6% | 11% |
| Respondents (n) | 7 | | 16 | | 9 | |

Source: Survey fields: ['Do you charge tenants to use the electric vehicles chargers?']

## TABLE 139. OWNERSHIP TYPE - EV CHARGING COST TO TENANTS (BUILDING REP SURVEY)

| Cost Distribution Method | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| No, its free | 43% | 269% | 7% | 7% | 14% | 26% | 14% | 21% |
| No, tenants pay for the charger use on their electric bill | | | 44% | 84% | 37% | 35% | 11% | 14% |
| Yes, charge per kilowatt-hour | 57% | 363% | 2% | 3% | 24% | 29% | 40% | 52% |
| Yes, flat fee each time charged | | | | | | | 6% | 7% |
| Yes, included in rent | | | | | 14% | 26% | | |
| Yes, monthly charge | | | 46% | 83% | 12% | 22% | 29% | 52% |
| Respondents (n) | 2 | | 8 | | 8 | | 13 | |

Source: Survey fields: ['Do you charge tenants to use the electric vehicles chargers?']

## TABLE 140. STATEWIDE - EV CHARGING COST TO TENANTS (BUILDING REP SURVEY)

| Cost Distribution Method | Statewide | |
|---|---|---|
| | % | EB |
| No, its free | 12% | 12% |
| No, tenants pay for the charger use on their electric bill | 24% | 15% |
| Yes, charge per kilowatt-hour | 32% | 33% |
| Yes, flat fee each time charged | 2% | 2% |
| Yes, included in rent | 4% | 7% |
| Yes, monthly charge | 26% | 32% |
| Respondents (n) | 31 | |

Source: Survey fields: ['Do you charge tenants to use the electric vehicles chargers?']

## TABLE 141. STATEWIDE - PERCENTAGE OF HOUSEHOLDS WITH AN ELECTRIC VEHICLE (OCCUPANT SURVEY)

| Ownership Type | Statewide | |
|---|---|---|
| | % | EB |
| Affordable Subsidized | 1% | 1% |
| Affordable Unsubsidized | 0% | 0% |
| Co-Ops and Condos | 10% | 7% |
| Market-Rate Rental | 2% | 1% |
| Respondents (n) | 117 | |

Source: Survey fields: ['How many electric vehicles are owned or leased by people who live in your home?']

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## TABLE 142. STATEWIDE - AVERAGE NUMBER OF ELECTRIC VEHCILES IN HOUSEHOLDS WITH AT LEAST ONE ELECTRIC VEHICLE (OCCUPANT SURVEY)

| Ownership Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Affordable Subsidized | 0.006739 | 0.008303 |
| Affordable Unsubsidized | 0.00944 | 0.009926 |
| Co-Ops and Condos | 0.095696 | 0.065746 |
| Market-Rate Rental | 0.059604 | 0.04454 |
| Respondents (n) | 117 | |

Source: Survey fields: ['How many electric vehicles are owned or leased by people who live in your home?']

## TABLE 143. BUILDING VINTAGE - ROOF ISSUES (SITE VISITS)

| Roof Problem | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Concave roof | 7% | 4% | 3% | 4% | 0.2% | 0.3% | | | | |
| Water leaks | 1% | 1% | 7% | 8% | | | | | | |
| None | 92% | 16% | 90% | 17% | 100% | 53% | 100% | 52% | 96% | 50% |
| Other | | | 1% | 1% | | | | | | |
| Respondents (n) | 146 | | 105 | | 47 | | 33 | | 58 | |

Source: On-site fields: ['Are there any issues on the roof? (select all that apply)']

## TABLE 144. BUILDING SIZE - ROOF ISSUES (SITE VISITS)

| Roof Problem | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Concave roof | 1% | 1% | 12% | 10% | | |
| Water leaks | 3% | 5% | 3% | 5% | | |
| None | 96% | 21% | 84% | 18% | 98% | 19% |
| Other | 0.1% | 0.1% | | | 2% | 3% |
| Respondents (n) | 215 | | 106 | | 68 | |

Source: On-site fields: ['Are there any issues on the roof? (select all that apply)']

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## TABLE 145. CLIMATE ZONE - ROOF ISSUES (SITE VISITS)

| Roof Problem | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Concave roof | 11% | 10% | | | 1% | 1% | 9% | 13% |
| Water leaks | 2% | 4% | | | 3% | 5% | 0.2% | 0.3% |
| None | 86% | 12% | 100% | 33% | 96% | 25% | 91% | 55% |
| Other | 0.5% | 1% | | | 0.1% | 0.2% | | |
| Respondents (n) | 168 | | 58 | | 131 | | 32 | |

Source: On-site fields: ['Are there any issues on the roof? (select all that apply)']

## TABLE 146. DAC FLAG - ROOF ISSUES (SITE VISITS)

| Roof Problem | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Concave roof | 4% | 3% | 3% | 3% | | |
| Water leaks | 1% | 1% | 3% | 3% | | |
| None | 95% | 21% | 94% | 15% | 4% | 4% |
| Other | | | 1% | 1% | | |
| Respondents (n) | 171 | | 211 | | 7 | |

Source: On-site fields: ['Are there any issues on the roof? (select all that apply)']

## TABLE 147. OWNERSHIP TYPE - ROOF ISSUES (SITE VISITS)

| Roof Problem | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Concave roof | 18% | 15% | 15% | 20% | 0.1% | 0.2% | 3% | 4% |
| Water leaks | 0.05% | 0.09% | 0.02% | 0.03% | 8% | 13% | 3% | 4% |
| None | 82% | 22% | 83% | 32% | 92% | 23% | 94% | 22% |
| Other | | | 2% | 3% | | | | |
| Respondents (n) | 120 | | 105 | | 49 | | 115 | |

Source: On-site fields: ['Are there any issues on the roof? (select all that apply)']

## TABLE 148. STATEWIDE - ROOF ISSUES (SITE VISITS)

| Roof Problem | Statewide | |
|---|---|---|
| | % | EB |
| Concave roof | 6% | 4% |
| Water leaks | 3% | 3% |
| None | 91% | 12% |
| Other | 0.3% | 0.4% |
| Respondents (n) | 389 | |

Source: On-site fields: ['Are there any issues on the roof? (select all that apply)']

## TABLE 149. BUILDING VINTAGE - DISTRIBUTION OF ROOF INSULATION TOTAL R-VALUE (SITE VISITS)

| Roof Insulation Total R-Value | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| R11-R15 | | | 21% | 135% | | | 5% | 13% | | |
| R16-R20 | | | | | 100% | 0% | | | | |
| R26-R30 | | | | | | | | | 90% | 136% |
| R31-R40 | 100% | 0% | 79% | 497% | | | 19% | 36% | | |
| R41-R50 | | | | | | | 75% | 177% | 10% | 22% |
| Respondents (n) | 1 | | 2 | | 1 | | 4 | | 5 | |

Source: On-site fields: ['Documented roof cavity insulation R-value']

## TABLE 150. BUILDING SIZE - DISTRIBUTION OF ROOF INSULATION TOTAL R-VALUE (SITE VISITS)

| Roof Insulation Total R-Value | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| R11-R15 | 6% | 11% | 3% | 7% | | |
| R16-R20 | | | | | 100% | 0% |
| R26-R30 | 0% | 0% | 9% | 20% | | |
| R31-R40 | 4% | 6% | 88% | 173% | | |
| R41-R50 | 90% | 170% | | | | |
| Respondents (n) | 8 | | 4 | | 1 | |

Source: On-site fields: ['Documented roof cavity insulation R-value']

## TABLE 151. CLIMATE ZONE - DISTRIBUTION OF ROOF INSULATION TOTAL R-VALUE (SITE VISITS)

| Roof Insulation Total R-Value | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | | Statewide | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| R11-R15 | | | | | | | 88% | 249% | 6% | 10% |
| R16-R20 | 100% | 0% | | | | | | | 0% | 0% |
| R26-R30 | | | 100% | 202% | | | | | 0% | 0% |
| R31-R40 | | | | | 31% | 43% | | | 6% | 6% |
| R41-R50 | | | | | 69% | 146% | 12% | 35% | 88% | 156% |
| Respondents (n) | 1 | | 4 | | 5 | | 3 | | 13 | |

Source: On-site fields: ['Documented roof cavity insulation R-value']

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## TABLE 152. DAC FLAG - DISTRIBUTION OF ROOF INSULATION TOTAL R-VALUE (SITE VISITS)

| Roof Insulation Total R-Value | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | % | EB | % | EB |
| R11-R15 | 27% | 58% | 1% | 2% |
| R16-R20 | 13% | 27% | | |
| R26-R30 | 60% | 122% | 0% | 1% |
| R31-R40 | | | 46% | 45% |
| R41-R50 | | | 53% | 99% |
| Respondents (n) | 5 | | 8 | |

Source: On-site fields: ['Documented roof cavity insulation R-value']

## TABLE 153. OWNERSHIP TYPE - DISTRIBUTION OF ROOF INSULATION TOTAL R-VALUE (SITE VISITS)

| Roof Insulation Total R-Value | Affordable Subsidized | | Affordable Unsubsidized | | Market-Rate Rental | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| R11-R15 | 11% | 22% | | | 5% | 13% |
| R16-R20 | 6% | 11% | | | | |
| R26-R30 | 8% | 10% | 42% | 266% | | |
| R31-R40 | 56% | 109% | 58% | 365% | 9% | 13% |
| R41-R50 | 19% | 37% | | | 86% | 202% |
| Respondents (n) | 7 | | 2 | | 4 | |

Source: On-site fields: ['Documented roof cavity insulation R-value']

## TABLE 154. STATEWIDE - DISTRIBUTION OF ROOF INSULATION TOTAL R-VALUE (SITE VISITS)

| Roof Insulation Total R-Value | Statewide | |
|---|---|---|
| | % | EB |
| R11-R15 | 6% | 10% |
| R16-R20 | 0% | 0% |
| R26-R30 | 0% | 0% |
| R31-R40 | 6% | 6% |
| R41-R50 | 88% | 156% |
| Respondents (n) | 13 | |

Source: On-site fields: ['Documented roof cavity insulation R-value']

## TABLE 155. BUILDING VINTAGE - ROOF CAVITY INSULATION THICKNESS (SITE VISITS)

| Roof Cavity Insulation Thickness [in.] | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| 1.0 to 3.0 | 8% | 11% | 3% | 6% | | | | | | |
| 3.5 to 5.0 | 1% | 2% | | | 5% | 9% | 8% | 16% | 1% | 1% |
| 5.5 to 8.0 | 2% | 3% | 8% | 10% | | | | | 95% | 72% |
| 9.0 to 12.0 | 82% | 165% | 55% | 34% | 94% | 109% | 36% | 48% | 3% | 4% |
| 13.0 to 16.0 | | | 33% | 37% | 2% | 4% | 2% | 5% | 1% | 1% |
| 17.0 to 20.0 | | | | | | | 54% | 109% | 0% | 1% |
| 21.0 to 24.0 | 7% | 15% | | | | | | | | |
| Respondents (n) | 6 | | 16 | | 7 | | 6 | | 15 | |

Source: On-site fields: ['Roof cavity insulation thickness (inches)']

## TABLE 156. CLIMATE ZONE - ROOF CAVITY INSULATION THICKNESS (SITE VISITS)

| Roof Cavity Insulation Thickness [in.] | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 1.0 to 3.0 | | | 1% | 2% | 54% | 90% |
| 3.5 to 5.0 | | | 2% | 2% | 2% | 3% |
| 5.5 to 8.0 | 97% | 78% | 4% | 5% | | |
| 9.0 to 12.0 | 3% | 4% | 56% | 28% | 6% | 12% |
| 13.0 to 16.0 | | | 17% | 18% | 9% | 11% |
| 17.0 to 20.0 | | | 20% | 34% | 5% | 9% |
| 21.0 to 24.0 | | | | | 25% | 47% |
| Respondents (n) | 13 | | 29 | | 8 | |

Source: On-site fields: ['Roof cavity insulation thickness (inches)']

## TABLE 157. DAC FLAG - ROOF CAVITY INSULATION THICKNESS (SITE VISITS)

| Roof Cavity Insulation Thickness [in.] | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 1.0 to 3.0 | 8% | 14% | 1% | 1% | | |
| 3.5 to 5.0 | 13% | 25% | 2% | 2% | | |
| 5.5 to 8.0 | | | 31% | 34% | | |
| 9.0 to 12.0 | 79% | 70% | 45% | 37% | 0% | 0% |
| 13.0 to 16.0 | | | 10% | 10% | | |
| 17.0 to 20.0 | | | 11% | 19% | | |
| 21.0 to 24.0 | | | 1% | 1% | | |
| Respondents (n) | 8 | | 40 | | 2 | |

Source: On-site fields: ['Roof cavity insulation thickness (inches)']

## TABLE 158. STATEWIDE - ROOF CAVITY INSULATION THICKNESS (SITE VISITS)

| Roof Cavity Insulation Thickness [in.] | Statewide | |
|---|---|---|
| | % | EB |
| 1.0 to 3.0 | 4% | 5% |
| 3.5 to 5.0 | 2% | 2% |
| 5.5 to 8.0 | 15% | 9% |
| 9.0 to 12.0 | 35% | 16% |
| 13.0 to 16.0 | 20% | 23% |
| 17.0 to 20.0 | 23% | 38% |
| 21.0 to 24.0 | 1% | 2% |
| Respondents (n) | 50 | |

Source: On-site fields: ['Roof cavity insulation thickness (inches)']

## TABLE 159. BUILDING VINTAGE - ROOF CAVITY INSULATION TYPE (SITE VISITS)

| Roof Cavity Insulation Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Cellulose | 67% | 79% | 54% | 35% | 92% | 101% | 67% | 97% | 24% | 39% |
| Fiberglass batts | 33% | 40% | 38% | 20% | 2% | 4% | 33% | 42% | 70% | 66% |
| Spray on foam | | | | | 4% | 8% | | | | |
| Other | | | 8% | 11% | 2% | 3% | | | | |
| Respondents (n) | 15 | | 26 | | 9 | | 9 | | 21 | |

Source: On-site fields: ['Roof cavity insulation type']

## TABLE 160. CLIMATE ZONE - ROOF CAVITY INSULATION TYPE (SITE VISITS)

| Roof Cavity Insulation Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Cellulose | | | 20% | 33% | 61% | 35% | 39% | 31% |
| Fiberglass batts | 100% | 451% | 79% | 61% | 34% | 26% | 61% | 68% |
| Spray on foam | | | 1% | 1% | | | | |
| Other | | | | | 5% | 6% | | |
| Respondents (n) | 2 | | 23 | | 45 | | 10 | |

Source: On-site fields: ['Roof cavity insulation type']

## TABLE 161. DAC FLAG - ROOF CAVITY INSULATION TYPE (SITE VISITS)

| Roof Cavity Insulation Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Cellulose | 45% | 37% | 45% | 31% | 0% | 0% |
| Fiberglass batts | 55% | 47% | 52% | 61% | 6% | 13% |
| Spray on foam | | | 0% | 1% | | |
| Other | | | 3% | 3% | | |
| Respondents (n) | 21 | | 55 | | 4 | |

Source: On-site fields: ['Roof cavity insulation type']

## TABLE 162. STATEWIDE - ROOF CAVITY INSULATION TYPE (SITE VISITS)

| Roof Cavity Insulation Type | Statewide | |
|---|---|---|
| | % | EB |
| Cellulose | 60% | 37% |
| Fiberglass batts | 31% | 13% |
| Spray on foam | 3% | 4% |
| Other | 6% | 7% |
| Respondents (n) | 80 | |

Source: On-site fields: ['Roof cavity insulation type']

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## TABLE 163. BUILDING VINTAGE - ROOF CONTINUOUS INSULATION THICKNESS (SITE VISITS)

| Roof Insulation Thickness [in] | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 1.0 to 3.0 | 38% | 90% | 100% | 0% | 40% | 251% | 4% | 9% |
| 3.5 to 5.0 | 62% | 60% | | | | | | |
| 5.5 to 8.0 | | | | | 60% | 381% | 48% | 70% |
| 9.0 to 12.0 | | | | | | | 48% | 112% |
| Respondents (n) | 4 | | 1 | | 2 | | 4 | |

Source: On-site fields: ['Roof continuous insulation thickness (inches)']

## TABLE 164. CLIMATE ZONE - ROOF CONTINUOUS INSULATION THICKNESS (SITE VISITS)

| Roof Insulation Thickness [in] | NYC | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 1.0 to 3.0 | 95% | 227% | 83% | 137% | | |
| 3.5 to 5.0 | 5% | 14% | 17% | 23% | | |
| 5.5 to 8.0 | | | | | 5% | 4% |
| 9.0 to 12.0 | | | | | 95% | 224% |
| Respondents (n) | 3 | | 4 | | 4 | |

Source: On-site fields: ['Roof continuous insulation thickness (inches)']

## TABLE 165. STATEWIDE - ROOF CONTINUOUS INSULATION THICKNESS (SITE VISITS)

| Roof Insulation Thickness [in] | Statewide | |
|---|---|---|
| | % | EB |
| 1.0 to 3.0 | 85% | 124% |
| 3.5 to 5.0 | 7% | 12% |
| 5.5 to 8.0 | 1% | 1% |
| 9.0 to 12.0 | 7% | 12% |
| Respondents (n) | 11 | |

Source: On-site fields: ['Roof continuous insulation thickness (inches)']

## TABLE 166. BUILDING VINTAGE - ROOF CONTINUOUS INSULATION TYPE (SITE VISITS)

| Roof Insulation Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Insulated cores | | | | | 82% | 238% | | | | |
| Rigid foam | 100% | 52% | 99% | 88% | 18% | 28% | 96% | 93% | 100% | 122% |
| Spray on foam | | | 1% | 3% | | | 4% | 8% | | |
| Respondents (n) | 5 | | 9 | | 3 | | 5 | | 4 | |

Source: On-site fields: ['Continuous roof insulation type']

## TABLE 167. CLIMATE ZONE - ROOF CONTINUOUS INSULATION TYPE (SITE VISITS)

| Roof Insulation Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Insulated cores | | | | | 89% | 160% | | |
| Rigid foam | 92% | 101% | 100% | 0% | 10% | 9% | 100% | 122% |
| Spray on foam | 8% | 15% | | | 1% | 2% | | |
| Respondents (n) | 7 | | 1 | | 12 | | 6 | |

Source: On-site fields: ['Continuous roof insulation type']

## TABLE 168. STATEWIDE - ROOF CONTINUOUS INSULATION TYPE (SITE VISITS)

| Roof Insulation Type | Statewide | |
|---|---|---|
| | % | EB |
| Insulated cores | 4% | 6% |
| Rigid foam | 88% | 79% |
| Spray on foam | 8% | 12% |
| Respondents (n) | 26 | |

Source: On-site fields: ['Continuous roof insulation type']

## TABLE 169. STATEWIDE - DISTRIBUTION OF ROOF INSULATION R-VALUE BY CEILING TYPE (SITE VISITS)

| Roof Type | R-Value | Statewide | |
|---|---|---|---|
| | | % | EB |
| Flat with cavity | R11-R15 | 0.1% | 0.2% |
| | R16-R20 | 0.04% | 0.1% |
| | R26-R30 | 0.2% | 0.5% |
| | R31-R40 | 0.3% | 0.7% |
| | Respondents (n) | 4 | |
| Pitched with attic | R11-R15 | 5% | 10% |
| | R26-R30 | 0.1% | 0.1% |
| | R31-R40 | 6% | 6% |
| | R41-R50 | 88% | 163% |
| | Respondents (n) | 9 | |

Source: On-site fields: ['Documented roof cavity insulation R-value', 'Documented roof cavity insulation R-value', 'Roof type ']

## TABLE 170. BUILDING VINTAGE - FOUNDATION TYPE (SITE VISITS)

| Foundation Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Commercial space | 0% | 0% | 0% | 0% | 2% | 2% | 15% | 13% | 2% | 2% |
| Ground | 43% | 5% | 57% | 6% | 78% | 10% | 60% | 12% | 81% | 9% |
| Parking garage | 0% | 0% | 2% | 1% | 2% | 2% | 11% | 6% | 1% | 1% |
| Unconditioned space | 58% | 5% | 47% | 6% | 20% | 9% | 17% | 7% | 17% | 9% |
| Unvented crawlspace | 1% | 1% | 2% | 2% | 0% | 0% | 0% | 0% | 0% | 0% |
| Vented crawlspace | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% | 8% | 7% |
| Respondents (n) | 145 | | 106 | | 46 | | 36 | | 59 | |

*Note: Values represent percentage of sites that in which a particular option was selected. Field technicians could select multiple options for this field.*

Source: On-site fields: ['What is below this floor? (select all that apply)']

## TABLE 171. CLIMATE ZONE - FOUNDATION TYPE (SITE VISITS)

| Foundation Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Commercial space | 3% | 2% | 0% | 0% | 1% | 1% | 0% | 0% |
| Ground | 31% | 5% | 82% | 8% | 67% | 6% | 50% | 14% |
| Parking garage | 1% | 0% | 2% | 1% | 0% | 0% | 4% | 4% |
| Unconditioned space | 70% | 5% | 16% | 8% | 34% | 6% | 47% | 14% |
| Unvented crawlspace | 0% | 0% | 1% | 1% | 2% | 2% | 0% | 0% |
| Vented crawlspace | 0% | 0% | 7% | 7% | 2% | 2% | 0% | 0% |
| Respondents (n) | 166 | | 62 | | 129 | | 35 | |

*Note: Values represent percentage of sites that in which a particular option was selected. Field technicians could select multiple options for this field.*

Source: On-site fields: ['What is below this floor? (select all that apply)']

## TABLE 172. STATEWIDE - FOUNDATION TYPE (SITE VISITS)

| Foundation Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Commercial space | 2% | 1% |
| Ground | 45% | 4% |
| Parking garage | 1% | 0% |
| Unconditioned space | 57% | 4% |
| Unvented crawlspace | 0% | 0% |
| Vented crawlspace | 1% | 1% |
| Respondents (n) | 392 | |

*Note: Values represent percentage of sites that in which a particular option was selected. Field technicians could select multiple options for this field.*

Source: On-site fields: ['What is below this floor? (select all that apply)']

## TABLE 173. BUILDING VINTAGE - FOUNDATION WALL INTERIOR/CAVITY INSULATION TYPE (SITE VISITS)

| Foundation Wall Interior Insulation Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Fiberglass batts | | | 6% | 9% | 10% | 20% | | | | |
| Spray foam | | | | | | | 51% | 104% | | |
| XPS | | | 8% | 9% | | | 2% | 5% | | |
| Unknown | 100% | 20% | 86% | 28% | 90% | 79% | 46% | 53% | 100% | 78% |
| Respondents (n) | 70 | | 36 | | 8 | | 6 | | 6 | |

Source: On-site fields: ['Exterior wall exposure']

## TABLE 174. CLIMATE ZONE - FOUNDATION WALL INTERIOR/CAVITY INSULATION TYPE (SITE VISITS)

| Foundation Wall Interior Insulation Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Fiberglass batts | | | 5% | 5% | 6% | 11% | | |
| Spray foam | | | | | | | 26% | 48% |
| XPS | | | | | 9% | 11% | 2% | 4% |
| Unknown | 100% | 19% | 95% | 63% | 85% | 39% | 72% | 50% |
| Respondents (n) | 69 | | 11 | | 37 | | 9 | |

Source: On-site fields: ['Exterior wall exposure']

## TABLE 175. STATEWIDE - FOUNDATION WALL INTERIOR/CAVITY INSULATION TYPE (SITE VISITS)

| Foundation Wall Interior Insulation Type | Statewide | |
|---|---|---|
| | % | EB |
| Fiberglass batts | 3% | 3% |
| Spray foam | 2% | 3% |
| XPS | 1% | 1% |
| Unknown | 94% | 16% |
| Respondents (n) | 126 | |

Source: On-site fields: ['Exterior wall exposure']

## TABLE 176. BUILDING VINTAGE - FOUNDATION WALL EXTERIOR/CONTINUOUS INSULATION TYPE (SITE VISITS)

| Foundation Wall Exterior Insulation Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Fiberglass batts | 1% | 1% | | | 10% | 20% | | | | |
| XPS | | | 8% | 9% | | | | | | |
| Unknown | 99% | 21% | 92% | 28% | 90% | 79% | 100% | 97% | 100% | 78% |
| Respondents (n) | 70 | | 36 | | 8 | | 6 | | 6 | |

Source: On-site fields: ['Exterior wall exposure']

## TABLE 177. CLIMATE ZONE - FOUNDATION WALL EXTERIOR/CONTINUOUS INSULATION TYPE (SITE VISITS)

| Foundation Wall Exterior Insulation Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Fiberglass batts | 1% | 2% | 2% | 5% | | | | |
| XPS | | | | | 9% | 11% | | |
| Unknown | 99% | 19% | 98% | 62% | 91% | 40% | 100% | 55% |
| Respondents (n) | 69 | | 11 | | 37 | | 9 | |

Source: On-site fields: ['Exterior wall exposure']

## TABLE 178. STATEWIDE - FOUNDATION WALL EXTERIOR/CONTINUOUS INSULATION TYPE (SITE VISITS)

| Foundation Wall Exterior Insulation Type | Statewide | |
|---|---|---|
| | % | EB |
| Fiberglass batts | 1% | 1% |
| XPS | 1% | 1% |
| Unknown | 98% | 16% |
| Respondents (n) | 126 | |

Source: On-site fields: ['Exterior wall exposure']

## TABLE 179. BUILDING VINTAGE - DISTRIBUTION OF FLOOR INSULATION TOTAL R-VALUE (SITE VISITS)

| Floor Insulation R-Value | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| R21-R25 | 100% | 0% | 100% | 0% | 100% | 0% | 100% | 0% |
| Respondents (n) | 1 | | 1 | | 1 | | 2 | |

Source: On-site fields: ['Documented floor cavity insulation R-value']

## TABLE 180. BUILDING SIZE - DISTRIBUTION OF FLOOR INSULATION TOTAL R-VALUE (SITE VISITS)

| Floor Insulation R-Value | Low Rise (1 to 3 floors) | |
|---|---|---|
| | % | EB |
| R21-R25 | 100% | 115% |
| Respondents (n) | 5 | |

Source: On-site fields: ['Documented floor cavity insulation R-value']

## TABLE 181. CLIMATE ZONE - DISTRIBUTION OF FLOOR INSULATION TOTAL R-VALUE (SITE VISITS)

| Floor Insulation R-Value | Climate Zone 4 | | Climate Zone 5 | |
|---|---|---|---|---|
| | % | EB | % | EB |
| R21-R25 | 100% | 54% | 100% | 0% |
| Respondents (n) | 4 | | 1 | |

Source: On-site fields: ['Documented floor cavity insulation R-value']

## TABLE 182. DAC FLAG - DISTRIBUTION OF FLOOR INSULATION TOTAL R-VALUE (SITE VISITS)

| Floor Insulation R-Value | Not in a DAC designated Census Tract | |
|---|---|---|
| | % | EB |
| R21-R25 | 100% | 150% |
| Respondents (n) | 5 | |

Source: On-site fields: ['Documented floor cavity insulation R-value']

## TABLE 183. OWNERSHIP TYPE - DISTRIBUTION OF FLOOR INSULATION TOTAL R-VALUE (SITE VISITS)

| Floor Insulation R-Value | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| R21-R25 | 100% | 0% | 100% | 0% | 100% | 438% |
| Respondents (n) | 2 | | 1 | | 2 | |

Source: On-site fields: ['Documented floor cavity insulation R-value']

## TABLE 184. STATEWIDE - DISTRIBUTION OF FLOOR INSULATION TOTAL R-VALUE (SITE VISITS)

| Floor Insulation R-Value | Statewide | |
|---|---|---|
| | % | EB |
| R21-R25 | 100% | 115% |
| Respondents (n) | 5 | |

Source: On-site fields: ['Documented floor cavity insulation R-value']

## TABLE 185. BUILDING VINTAGE - FLOOR INSULATION THICKNESS (SITE VISITS)

| Floor Insulation Thickness [in.] | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 5.5 to 8.0 | 100% | 565% | 100% | 0% | 100% | 0% | 100% | 0% |
| Respondents (n) | 2 | | 1 | | 1 | | 2 | |

Source: On-site fields: ['Floor cavity insulation thickness (inches)']

## TABLE 186. CLIMATE ZONE - FLOOR INSULATION THICKNESS (SITE VISITS)

| Floor Insulation Thickness [in.] | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 5.5 to 8.0 | 100% | 54% | 100% | 0% | 100% | 0% |
| Respondents (n) | 4 | | 1 | | 1 | |

Source: On-site fields: ['Floor cavity insulation thickness (inches)']

## TABLE 187. STATEWIDE - FLOOR INSULATION THICKNESS (SITE VISITS)

| Floor Insulation Thickness [in.] | Statewide | |
|---|---|---|
| | % | EB |
| 5.5 to 8.0 | 100% | 122% |
| Respondents (n) | 6 | |

Source: On-site fields: ['Floor cavity insulation thickness (inches)']

## TABLE 188. BUILDING VINTAGE - FLOOR INSULATION TYPE (SITE VISITS)

| Floor Insulation Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Fiberglass batts | 100% | 74% | 100% | 0% | 100% | 0% | 100% | 0% |
| Respondents (n) | 4 | | 2 | | 1 | | 2 | |

Source: On-site fields: ['Floor cavity insulation type']

## TABLE 189. CLIMATE ZONE - FLOOR INSULATION TYPE (SITE VISITS)

| Floor Insulation Type | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Fiberglass batts | 100% | 54% | 100% | 0% | 100% | 213% |
| Respondents (n) | 4 | | 2 | | 3 | |

Source: On-site fields: ['Floor cavity insulation type']

## TABLE 190. STATEWIDE - FLOOR INSULATION TYPE (SITE VISITS)

| Floor Insulation Type | Statewide | |
|---|---|---|
| | % | EB |
| Fiberglass batts | 100% | 111% |
| Respondents (n) | 9 | |

Source: On-site fields: ['Floor cavity insulation type']

## TABLE 191. BUILDING VINTAGE - WALL FAÇADE CONDITION (SITE VISITS)

| Wall Façade Condition | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Efflorescence | 0.7% | 0.9% | 2.4% | 2.2% | 1.6% | 3.3% |
| Large cracks | 0.9% | 1.7% | 0.0% | 0.0% | 0.0% | 0.0% |
| Missing or crumbling elements | 0.6% | 0.6% | 0.4% | 0.6% | 0.0% | 0.0% |
| Organic growth | 1.6% | 2.0% | 0.3% | 0.6% | 4.6% | 9.3% |
| Peeling or chips in paint | 6.8% | 4.2% | 2.6% | 1.9% | 0.0% | 0.0% |
| Sagging or tilting elements | 0.2% | 0.1% | 0.3% | 0.5% | 0.0% | 0.0% |
| Small cracks | 9.7% | 8.2% | 4.3% | 3.2% | 4.7% | 6.8% |
| Staining/Soiling | 20.4% | 17.5% | 9.0% | 6.3% | 2.7% | 5.6% |
| Respondents (n) | 291 | | 168 | | 37 | |

*Note: Values represent percentage of sites that in which a particular option was selected. Field technicians could select multiple options for this field.*

Source: On-site fields: ['Are there any issues on the façade? (select all that apply)']

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## TABLE 192. BUILDING SIZE - WALL FAÇADE CONDITION (SITE VISITS)

| Wall Façade Condition | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Efflorescence | 2.5% | 1.8% | 0.2% | 0.3% | 0.1% | 0.1% |
| Large cracks | 0.1% | 0.1% | 1.2% | 2.3% | 0.0% | 0.0% |
| Missing or crumbling elements | 1.2% | 1.3% | 0.0% | 0.1% | 0.0% | 0.0% |
| Organic growth | 1.5% | 1.7% | 2.8% | 3.1% | 0.0% | 0.0% |
| Peeling or chips in paint | 3.7% | 2.3% | 7.9% | 5.5% | 0.0% | 0.1% |
| Sagging or tilting elements | 0.9% | 1.3% | 0.0% | 0.0% | 0.0% | 0.0% |
| Small cracks | 3.6% | 2.0% | 8.3% | 7.2% | 0.1% | 0.1% |
| Staining/Soiling | 6.7% | 3.9% | 21.5% | 22.2% | 9.7% | 9.5% |
| Respondents (n) | 428 | | 207 | | 87 | |

*Note: Values represent percentage of sites that in which a particular option was selected. Field technicians could select multiple options for this field.*

Source: On-site fields: ['Are there any issues on the façade? (select all that apply)']

## TABLE 193. CLIMATE ZONE - WALL FAÇADE CONDITION (SITE VISITS)

| Wall Façade Condition | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Efflorescence | 0.0% | 0.1% | 0.0% | 0.0% | 4.5% | 3.4% | 0.0% | 0.0% |
| Large cracks | 0.8% | 1.6% | 0.0% | 0.0% | 0.2% | 0.3% | 0.0% | 0.0% |
| Missing or crumbling elements | 0.0% | 0.0% | 2.4% | 3.0% | 1.0% | 1.4% | 0.5% | 0.4% |
| Organic growth | 1.9% | 2.2% | 0.2% | 0.3% | 1.5% | 1.8% | 0.0% | 0.1% |
| Peeling or chips in paint | 4.9% | 3.3% | 2.8% | 3.7% | 4.7% | 3.5% | 1.6% | 1.9% |
| Sagging or tilting elements | 0.0% | 0.0% | 0.0% | 0.0% | 0.7% | 1.4% | 1.4% | 1.9% |
| Small cracks | 4.5% | 3.9% | 21.3% | 18.5% | 4.5% | 3.4% | 4.8% | 6.1% |
| Staining/Soiling | 21.2% | 15.5% | 20.4% | 19.0% | 0.6% | 0.8% | 10.1% | 14.9% |
| Respondents (n) | 52 | | 104 | | 211 | | 68 | |

*Note: Values represent percentage of sites that in which a particular option was selected. Field technicians could select multiple options for this field.*

Source: On-site fields: ['Are there any issues on the façade? (select all that apply)']

## TABLE 194. OWNERSHIP TYPE - WALL FAÇADE CONDITION (SITE VISITS)

| Wall Façade Condition | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Efflorescence | 0.1% | 0.1% | 0.6% | 0.6% | 0.0% | 0.0% | 3.7% | 3.0% |
| Large cracks | 0.0% | 0.0% | 0.1% | 0.1% | 1.6% | 3.2% | 0.0% | 0.0% |
| Missing or crumbling elements | 0.0% | 0.0% | 0.2% | 0.2% | 0.0% | 0.0% | 1.0% | 1.3% |
| Organic growth | 0.1% | 0.2% | 9.4% | 10.0% | 0.0% | 0.0% | 1.4% | 1.6% |
| Peeling or chips in paint | 4.9% | 6.4% | 8.6% | 9.4% | 3.7% | 4.4% | 3.6% | 2.8% |
| Sagging or tilting elements | 0.0% | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 0.6% | 1.3% |
| Small cracks | 4.4% | 4.9% | 1.6% | 1.2% | 2.9% | 3.7% | 12.6% | 14.1% |
| Staining/Soiling | 16.8% | 12.4% | 18.7% | 15.5% | 23.8% | 29.2% | 8.9% | 11.5% |
| Respondents (n) | 228 | | 231 | | 97 | | 211 | |

*Note: Values represent percentage of sites that in which a particular option was selected. Field technicians could select multiple options for this field.*

Source: On-site fields: ['Are there any issues on the façade? (select all that apply)']

## TABLE 195. STATEWIDE - WALL FAÇADE CONDITION (SITE VISITS)

| Wall Façade Condition | Statewide | |
|---|---|---|
| | % | EB |
| Efflorescence | 1% | 0% |
| Large cracks | 1% | 1% |
| Missing or crumbling elements | 0% | 0% |
| Organic growth | 2% | 1% |
| Peeling or chips in paint | 4% | 2% |
| Sagging or tilting elements | 0% | 0% |
| Small cracks | 5% | 3% |
| Staining/Soiling | 14% | 11% |
| Respondents (n) | 722 | |

*Note: Values represent percentage of sites that in which a particular option was selected. Field technicians could select multiple options for this field.*

Source: On-site fields: ['Are there any issues on the façade? (select all that apply)']

## TABLE 196. BUILDING VINTAGE - DISTRIBUTION OF WALL CLADDING MATERIAL TYPES (SITE VISITS)

| Wall Cladding Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Brick | 85% | 21% | 91% | 24% | 20% | 10% | 54% | 33% | 52% | 32% |
| Composite | 1% | 1% | | | | | 11% | 12% | 2% | 3% |
| Concrete | 8% | 5% | 2% | 2% | 44% | 74% | 0.02% | 0.03% | 3% | 4% |
| Limestone/Sandstone | 1% | 1% | | | | | | | 0.3% | 0.4% |
| Stone | 0.4% | 0.4% | 0.03% | 0.1% | | | 8% | 11% | 2% | 3% |
| Stucco | 1% | 1% | 1% | 2% | 0.4% | 0.5% | 4% | 4% | 3% | 4% |
| Vinyl | 1% | 1% | 5% | 2% | 35% | 28% | 23% | 24% | 31% | 34% |
| Wood | 2% | 1% | 1% | 1% | 1% | 1% | | | 2% | 2% |
| Other | 0.4% | 0.4% | 0.01% | 0.01% | | | | | 0.2% | 0.3% |
| Respondents (n) | 266 | | 158 | | 63 | | 42 | | 80 | |

Source: On-site fields: ['Type of exterior wall cladding material']

## TABLE 197. BUILDING SIZE - DISTRIBUTION OF WALL CLADDING MATERIAL TYPES (SITE VISITS)

| Wall Cladding Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Brick | 57% | 14% | 92% | 19% | 79% | 20% |
| Composite | 1% | 1% | | | 3% | 3% |
| Concrete | 2% | 1% | 4% | 3% | 14% | 11% |
| Limestone/Sandstone | | | 1% | 1% | | |
| Stone | 1% | 1% | 2% | 2% | 0.3% | 0.3% |
| Stucco | 2% | 1% | 1% | 1% | 4% | 3% |
| Vinyl | 33% | 16% | 0.1% | 0.1% | | |
| Wood | 4% | 2% | 0.4% | 0.4% | | |
| Other | 1% | 1% | | | | |
| Respondents (n) | 347 | | 173 | | 89 | |

Source: On-site fields: ['Type of exterior wall cladding material']

## TABLE 198. CLIMATE ZONE - DISTRIBUTION OF WALL CLADDING MATERIAL TYPES (SITE VISITS)

| Wall Cladding Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Brick | 85% | 14% | 86% | 50% | 58% | 14% | 2% | 1% |
| Composite | 1% | 1% | 2% | 2% | 0.4% | 0.4% | 1% | 2% |
| Concrete | 10% | 5% | 0.4% | 1% | 2% | 1% | 0.1% | 0.1% |
| Limestone/Sandstone | 0.5% | 1% | 0.3% | 0.5% | | | | |
| Stone | 0.4% | 0.3% | 1% | 2% | | | 32% | 47% |
| Stucco | 2% | 2% | 1% | 1% | 1% | 1% | 6% | 9% |
| Vinyl | | | 9% | 6% | 33% | 16% | 39% | 26% |
| Wood | 0.1% | 0.1% | | | 4% | 2% | 18% | 14% |
| Other | | | | | 1% | 1% | 1% | 1% |
| Respondents (n) | 289 | | 82 | | 180 | | 58 | |

Source: On-site fields: ['Type of exterior wall cladding material']

## TABLE 199. DAC FLAG - DISTRIBUTION OF WALL CLADDING MATERIAL TYPES (SITE VISITS)

| Wall Cladding Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Brick | 76% | 19% | 82% | 16% | 0.2% | 0.3% |
| Composite | 1% | 1% | 1% | 1% | | |
| Concrete | 10% | 6% | 1% | 1% | 0.3% | 0.5% |
| Limestone/Sandstone | 0.2% | 0.3% | 0.5% | 0.4% | | |
| Stone | 0.02% | 0.03% | 2% | 3% | | |
| Stucco | 3% | 2% | 2% | 2% | | |
| Vinyl | 8% | 4% | 9% | 5% | 0.1% | 0.1% |
| Wood | 2% | 1% | 1% | 1% | 3% | 3% |
| Other | 0.3% | 0.3% | 0.1% | 0.1% | | |
| Respondents (n) | 284 | | 315 | | 10 | |

Source: On-site fields: ['Type of exterior wall cladding material']

## TABLE 200. OWNERSHIP TYPE - DISTRIBUTION OF WALL CLADDING MATERIAL TYPES (SITE VISITS)

| Wall Cladding Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Brick | 91% | 26% | 82% | 32% | 83% | 27% | 81% | 26% |
| Composite | 0.1% | 0.1% | 0.2% | 0.1% | 1% | 2% | 3% | 5% |
| Concrete | 2% | 2% | 13% | 10% | 15% | 12% | 1% | 2% |
| Limestone/Sandstone | 0.01% | 0.02% | 0.01% | 0.01% | | | 1% | 2% |
| Stone | | | 0.2% | 0.3% | 1% | 1% | 0.5% | 1% |
| Stucco | 5% | 5% | 4% | 6% | 0.2% | 0.2% | 1% | 1% |
| Vinyl | 1% | 0.3% | 1% | 0.3% | 0.2% | 0.3% | 10% | 6% |
| Wood | 0.5% | 1% | 0.3% | 0.2% | | | 1% | 1% |
| Other | 0.02% | 0.03% | 0.1% | 0.1% | | | 0.2% | 0.3% |
| Respondents (n) | 168 | | 185 | | 82 | | 174 | |

Source: On-site fields: ['Type of exterior wall cladding material']

## TABLE 201. STATEWIDE - DISTRIBUTION OF WALL CLADDING MATERIAL TYPES (SITE VISITS)

| Wall Cladding Type | Statewide | |
|---|---|---|
| | % | EB |
| Brick | 79% | 12% |
| Composite | 1% | 1% |
| Concrete | 7% | 4% |
| Limestone/Sandstone | 0.4% | 0.4% |
| Stone | 1% | 1% |
| Stucco | 2% | 1% |
| Vinyl | 8% | 4% |
| Wood | 1% | 1% |
| Other | 0.2% | 0.2% |
| Respondents (n) | 609 | |

Source: On-site fields: ['Type of exterior wall cladding material']

## TABLE 202. BUILDING VINTAGE - DISTRIBUTION OF WALL STRUCTURE TYPES (SITE VISITS)

| Wall Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Brick | 63% | 16% | 66% | 26% | 6% | 3% | 62% | 38% | 22% | 15% |
| Concrete block | 17% | 9% | 12% | 7% | 50% | 74% | 13% | 10% | 24% | 28% |
| Metal frame | | | 0.2% | 0.3% | 1% | 1% | | | 3% | 4% |
| Solid concrete | 6% | 5% | 13% | 10% | 0.4% | 0.4% | 4% | 5% | 9% | 8% |
| Wood double frame | | | | | 1% | 2% | | | 2% | 4% |
| Wood single frame | 13% | 6% | 10% | 3% | 42% | 40% | 21% | 25% | 36% | 38% |
| Other | 1% | 0.4% | | | | | | | 1% | 1% |
| Respondents (n) | 280 | | 150 | | 53 | | 35 | | 80 | |

Source: On-site fields: ['Enter exterior wall construction type']

## TABLE 203. BUILDING SIZE - DISTRIBUTION OF WALL STRUCTURE TYPES (SITE VISITS)

| Wall Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Brick | 37% | 11% | 80% | 19% | 33% | 14% |
| Concrete block | 14% | 8% | 10% | 6% | 36% | 16% |
| Metal frame | 0.1% | 0.2% | 0.4% | 1% | | |
| Solid concrete | 2% | 1% | 5% | 3% | 31% | 20% |
| Wood double frame | 1% | 1% | | | | |
| Wood single frame | 44% | 17% | 5% | 4% | 0.1% | 0.2% |
| Other | 1% | 1% | 0.2% | 0.2% | | |
| Respondents (n) | 335 | | 183 | | 80 | |

Source: On-site fields: ['Enter exterior wall construction type']

## TABLE 204. CLIMATE ZONE - DISTRIBUTION OF WALL STRUCTURE TYPES (SITE VISITS)

| Wall Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Brick | 62% | 12% | 29% | 17% | 46% | 14% | 36% | 49% |
| Concrete block | 20% | 7% | 46% | 35% | 5% | 4% | 3% | 5% |
| Metal frame | | | | | 0.3% | 0.4% | 7% | 9% |
| Solid concrete | 16% | 8% | 8% | 10% | 2% | 2% | 0.2% | 0.2% |
| Wood double frame | | | 3% | 4% | | | | |
| Wood single frame | 2% | 1% | 15% | 6% | 45% | 17% | 54% | 27% |
| Other | 0.2% | 0.1% | | | 1% | 1% | | |
| Respondents (n) | 283 | | 80 | | 182 | | 53 | |

Source: On-site fields: ['Enter exterior wall construction type']

## TABLE 205. DAC FLAG - DISTRIBUTION OF WALL STRUCTURE TYPES (SITE VISITS)

| Wall Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Brick | 63% | 20% | 54% | 13% | 0.2% | 0.2% |
| Concrete block | 12% | 7% | 18% | 7% | 0.3% | 0.5% |
| Metal frame | 1% | 1% | 2% | 3% | | |
| Solid concrete | 11% | 7% | 10% | 8% | | |
| Wood double frame | | | 0.4% | 0.4% | | |
| Wood single frame | 13% | 5% | 16% | 5% | 3% | 3% |
| Other | 0.4% | 0.4% | 0.1% | 0.1% | 0.4% | 1% |
| Respondents (n) | 270 | | 313 | | 15 | |

Source: On-site fields: ['Enter exterior wall construction type']

## TABLE 206. OWNERSHIP TYPE - DISTRIBUTION OF WALL STRUCTURE TYPES (SITE VISITS)

| Wall Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Brick | 76% | 30% | 67% | 31% | 42% | 19% | 53% | 21% |
| Concrete block | 15% | 8% | 15% | 15% | 24% | 16% | 24% | 15% |
| Metal frame | 0.2% | 0.2% | 0.1% | 0.1% | | | | |
| Solid concrete | 3% | 5% | 12% | 11% | 31% | 21% | 4% | 5% |
| Wood double frame | | | | | 0.4% | 0.5% | 0.2% | 0.4% |
| Wood single frame | 5% | 6% | 6% | 5% | 2% | 3% | 18% | 8% |
| Other | | | 0.1% | 0.1% | 0.05% | 0.1% | 1% | 1% |
| Respondents (n) | 149 | | 182 | | 89 | | 178 | |

Source: On-site fields: ['Enter exterior wall construction type']

## TABLE 207. STATEWIDE - DISTRIBUTION OF WALL STRUCTURE TYPES (SITE VISITS)

| Wall Type | Statewide | |
|---|---|---|
| | % | EB |
| Brick | 55% | 10% |
| Concrete block | 18% | 6% |
| Metal frame | 0.2% | 0.2% |
| Solid concrete | 12% | 6% |
| Wood double frame | 0.3% | 0.3% |
| Wood single frame | 14% | 5% |
| Other | 0.4% | 0.3% |
| Respondents (n) | 598 | |

Source: On-site fields: ['Enter exterior wall construction type']

## TABLE 208. BUILDING VINTAGE - DISTRIBUTION OF WALL STRUCTURAL FRAMING TYPES & SIZES (SITE VISITS)

| Wall Framing Size | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| 2x4 | 12% | 7% | 31% | 10% | 41% | 36% | 4% | 7% | 22% | 24% |
| 2x6 | 2% | 2% | | | | | 33% | 26% | | |
| Unkown | 86% | 8% | 69% | 18% | 59% | 36% | 63% | 23% | 78% | 42% |
| Respondents (n) | 72 | | 50 | | 17 | | 15 | | 20 | |

Source: On-site fields: ['Wall framing size']

## TABLE 209. BUILDING SIZE - DISTRIBUTION OF WALL STRUCTURAL FRAMING TYPES & SIZES (SITE VISITS)

| Wall Framing Size | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 2x4 | 26% | 12% | 5% | 4% | 1% | 1% |
| 2x6 | 0% | 0% | 1% | 1% | | |
| Unknown | 74% | 19% | 93% | 17% | 99% | 46% |
| Respondents (n) | 96 | | 65 | | 13 | |

Source: On-site fields: ['Wall framing size']

## TABLE 210. CLIMATE ZONE - DISTRIBUTION OF WALL STRUCTURAL FRAMING TYPES & SIZES (SITE VISITS)

| Wall Framing Size | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 2x4 | 7% | 5% | 11% | 19% | 36% | 11% | 5% | 8% |
| 2x6 | | | | | 2% | 2% | 8% | 10% |
| Unkown | 93% | 8% | 89% | 27% | 62% | 15% | 87% | 123% |
| Respondents (n) | 64 | | 15 | | 79 | | 16 | |

Source: On-site fields: ['Wall framing size']

## TABLE 211. STATEWIDE - DISTRIBUTION OF WALL STRUCTURAL FRAMING TYPES & SIZES (SITE VISITS)

| Wall Framing Size | Statewide | |
|---|---|---|
| | % | EB |
| 2x4 | 15% | 6% |
| 2x6 | 1% | 1% |
| Unkown | 84% | 12% |
| Respondents (n) | 174 | |

Source: On-site fields: ['Wall framing size']

## TABLE 212. BUILDING VINTAGE - DISTRIBUTION OF WALL INTERIOR FRAMING TYPES & SIZES (SITE VISITS)

| Frame Type | Frame Size | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB | % | EB |
| Furring strips | 2x4 | | | | | 23% | 0% | 8% | 0% | | |
| | Respondents (n) | 0 | | 0 | | 1 | | 1 | | 0 | |
| Metal frame | 2x4 | | | 4% | 0% | 30% | 0% | | | | |
| | Respondents (n) | 0 | | 2 | | 1 | | 0 | | 0 | |
| Wood frame | 2x4 | 81% | 36% | 96% | 30% | 47% | 0% | | | 100% | 169% |
| | 2x6 | 19% | 24% | | | | | 92% | 39% | | |
| | Respondents (n) | 12 | | 17 | | 2 | | 4 | | 6 | |

Source: On-site fields: ['Wall framing size']

## TABLE 213. BUILDING SIZE - DISTRIBUTION OF WALL INTERIOR FRAMING TYPES & SIZES (SITE VISITS)

| Frame Type | Frame Size | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| Furring strips | 2x4 | 30% | 172% | | | | |
| | Respondents (n) | 2 | | 0 | | 0 | |
| Metal frame | 2x4 | | | 1% | 0% | 69% | 0% |
| | Respondents (n) | 0 | | 1 | | 2 | |
| Wood frame | 2x4 | 70% | 48% | 90% | 75% | 31% | 0% |
| | 2x6 | 1% | 1% | 9% | 7% | | |
| | Respondents (n) | 28 | | 12 | | 1 | |

Source: On-site fields: ['Wall framing size']

## TABLE 214. CLIMATE ZONE - DISTRIBUTION OF WALL INTERIOR FRAMING TYPES & SIZES (SITE VISITS)

| Frame Type | Frame Size | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| Furring strips | 2x4 | 61% | 0% | | | | | 35% | 0% |
| | Respondents (n) | 1 | | 0 | | 0 | | 1 | |
| Metal frame | 2x4 | | | | | 0% | 0% | 2% | 0% |
| | Respondents (n) | 0 | | 0 | | 2 | | 1 | |
| Wood frame | 2x4 | 39% | 26% | 100% | 0% | 96% | 32% | | |
| | 2x6 | | | | | 4% | 4% | 63% | 83% |
| | Respondents (n) | 4 | | 1 | | 33 | | 3 | |

Source: On-site fields: ['Wall framing size']

## TABLE 215. STATEWIDE - DISTRIBUTION OF WALL INTERIOR FRAMING TYPES & SIZES (SITE VISITS)

| Frame Type | Frame Size | Statewide | |
|---|---|---|---|
| | | % | EB |
| Furring strips | 2x4 | 25% | 144% |
| | Respondents (n) | 2 | |
| Metal frame | 2x4 | 0.3% | 0.4% |
| | Respondents (n) | 3 | |
| Wood frame | 2x4 | 73% | 41% |
| | 2x6 | 2% | 1% |
| | Respondents (n) | 41 | |

Source: On-site fields: ['Wall framing size']

## TABLE 216. BUILDING VINTAGE - DISTRIBUTION OF WALL INSULATION TOTAL R-VALUE (SITE VISITS)

| Wall R-value [°F·ft²·h/BTU] | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| R11-R15 | 5% | 6% | 1% | 1% | 75% | 86% | 18% | 26% | 89% | 152% |
| R16-R20 | 95% | 159% | | | 25% | 33% | 24% | 36% | 11% | 11% |
| R21-R25 | | | 99% | 210% | | | 5% | 8% | | |
| R26-R30 | | | | | | | 54% | 84% | | |
| Respondents (n) | 4 | | 5 | | 5 | | 10 | | 14 | |

Source: On-site fields: ['Documented wall cavity insulation r-value']

## TABLE 217. BUILDING SIZE - DISTRIBUTION OF WALL INSULATION TOTAL R-VALUE (SITE VISITS)

| Wall R-value [°F·ft²·h/BTU] | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| R11-R15 | 64% | 72% | 2% | 4% | 3% | 9% |
| R16-R20 | 7% | 5% | 31% | 44% | | |
| R21-R25 | 29% | 50% | | | 97% | 237% |
| R26-R30 | | | 67% | 109% | | |
| Respondents (n) | 28 | | 7 | | 3 | |

Source: On-site fields: ['Documented wall cavity insulation r-value']

## TABLE 218. CLIMATE ZONE - DISTRIBUTION OF WALL INSULATION TOTAL R-VALUE (SITE VISITS)

| Wall R-value [°F·ft²·h/BTU] | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| R11-R15 | 44% | 94% | 90% | 132% | | | 7% | 9% |
| R16-R20 | 43% | 68% | 10% | 12% | 3% | 5% | 29% | 36% |
| R21-R25 | 12% | 23% | | | 97% | 284% | | |
| R26-R30 | | | | | | | 65% | 104% |
| Respondents (n) | 5 | | 22 | | 3 | | 8 | |

Source: On-site fields: ['Documented wall cavity insulation r-value']

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## TABLE 219. DAC FLAG - DISTRIBUTION OF WALL INSULATION TOTAL R-VALUE (SITE VISITS)

| Wall R-value [°F·ft²·h/BTU] | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| R11-R15 | 15% | 22% | 20% | 19% | | |
| R16-R20 | 83% | 81% | 29% | 49% | 0% | 0% |
| R21-R25 | 2% | 3% | 22% | 37% | | |
| R26-R30 | | | 30% | 44% | | |
| Respondents (n) | 12 | | 24 | | 2 | |

Source: On-site fields: ['Documented wall cavity insulation r-value']

## TABLE 220. OWNERSHIP TYPE - DISTRIBUTION OF WALL INSULATION TOTAL R-VALUE (SITE VISITS)

| Wall R-value [°F·ft²·h/BTU] | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| R11-R15 | 42% | 34% | 28% | 36% | 100% | 89% | 27% | 54% |
| R16-R20 | 58% | 44% | 72% | 70% | | | | |
| R21-R25 | | | | | | | 44% | 51% |
| R26-R30 | | | | | | | 29% | 50% |
| Respondents (n) | 18 | | 7 | | 7 | | 6 | |

Source: On-site fields: ['Documented wall cavity insulation r-value']

## TABLE 221. STATEWIDE - DISTRIBUTION OF WALL INSULATION TOTAL R-VALUE (SITE VISITS)

| Wall R-value [°F·ft²·h/BTU] | Statewide | |
|---|---|---|
| | % | EB |
| R11-R15 | 43% | 47% |
| R16-R20 | 11% | 9% |
| R21-R25 | 31% | 37% |
| R26-R30 | 15% | 21% |
| Respondents (n) | 38 | |

Source: On-site fields: ['Documented wall cavity insulation r-value']

## TABLE 222. BUILDING VINTAGE - WALL INTERIOR/CAVITY INSULATION THICKNESS (SITE VISITS)

| Wall Cavity Insulation Thickness [Inches] | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| 2 | 39% | 92% | 8% | 10% | | | | | | |
| 2.5 | | | | | | | 9% | 17% | | |
| 3.5 | 4% | 10% | 92% | 53% | 10% | 8% | 0% | 0% | 50% | 79% |
| 4 | | | | | 4% | 7% | | | 0% | 1% |
| 5.5 | 57% | 94% | | | 86% | 157% | 87% | 80% | 50% | 59% |
| 6 | | | | | | | 3% | 6% | | |
| Respondents (n) | 4 | | 18 | | 8 | | 10 | | 22 | |

Source: On-site fields: ['Wall cavity insulation thickness (inches)']

## TABLE 223. CLIMATE ZONE - WALL INTERIOR/CAVITY INSULATION THICKNESS (SITE VISITS)

| Wall Cavity Insulation Thickness [Inches] | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 2 | | | | | 12% | 12% | | |
| 2.5 | | | | | | | 2% | 3% |
| 3.5 | 41% | 87% | 63% | 99% | 49% | 25% | 7% | 9% |
| 4 | | | | | 8% | 13% | | |
| 5.5 | 42% | 65% | 37% | 63% | 30% | 34% | 91% | 101% |
| 6 | 18% | 32% | | | | | | |
| Respondents (n) | 5 | | 25 | | 22 | | 10 | |

Source: On-site fields: ['Wall cavity insulation thickness (inches)']

## TABLE 224. STATEWIDE - WALL INTERIOR/CAVITY INSULATION THICKNESS (SITE VISITS)

| Wall Cavity Insulation Thickness [Inches] | Statewide | |
|---|---|---|
| | % | EB |
| 2 | 3% | 4% |
| 2.5 | 0% | 0% |
| 3.5 | 65% | 46% |
| 4 | 5% | 8% |
| 5.5 | 23% | 21% |
| 6 | 4% | 5% |
| Respondents (n) | 62 | |

Source: On-site fields: ['Wall cavity insulation thickness (inches)']

## TABLE 225. BUILDING VINTAGE - WALL INTERIOR/CAVITY INSULATION TYPE (SITE VISITS)

| Wall Cavity Insulation Material | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Cellulose | 97% | 610% | | | | | | | 1% | 1% |
| Fiberglass batts | 3% | 21% | 82% | 53% | 96% | 159% | 18% | 24% | 99% | 95% |
| Fiberglass fill | | | 10% | 17% | | | | | | |
| Polyisocyanurate | | | | | | | 9% | 18% | | |
| Rock wool | | | | | 4% | 8% | | | | |
| Spray foam | | | | | | | 72% | 82% | | |
| XPS | | | 8% | 10% | | | 0% | 0% | | |
| Respondents (n) | 2 | | 18 | | 6 | | 9 | | 22 | |

Source: On-site fields: ['Wall cavity insulation type']

## TABLE 226. CLIMATE ZONE - WALL INTERIOR/CAVITY INSULATION TYPE (SITE VISITS)

| Wall Cavity Insulation Material | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Cellulose | | | | | 9% | 10% | | |
| Fiberglass batts | 13% | 31% | 100% | 115% | 64% | 33% | 34% | 35% |
| Fiberglass fill | | | | | 8% | 13% | | |
| Polyisocyanurate | | | | | | | 2% | 3% |
| Rock wool | 87% | 255% | | | | | | |
| Spray foam | | | | | 13% | 23% | 64% | 101% |
| XPS | | | | | 6% | 8% | 0% | 1% |
| Respondents (n) | 3 | | 24 | | 21 | | 9 | |

Source: On-site fields: ['Wall cavity insulation type']

## TABLE 227. STATEWIDE - WALL INTERIOR/CAVITY INSULATION TYPE (SITE VISITS)

| Wall Cavity Insulation Material | Statewide | |
|---|---|---|
| | % | EB |
| Cellulose | 5% | 5% |
| Fiberglass batts | 59% | 30% |
| Fiberglass fill | 6% | 10% |
| Polyisocyanurate | 0% | 0% |
| Rock wool | 24% | 40% |
| Spray foam | 6% | 7% |
| XPS | 1% | 1% |
| Respondents (n) | 57 | |

Source: On-site fields: ['Wall cavity insulation type']

## TABLE 228. BUILDING VINTAGE - WALL EXTERIOR/CONTINUOUS INSULATION THICKNESS (SITE VISITS)

| Continuous Wall Insulation Thickness [Inches] | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 1.0 | 24% | 71% | | | 5% | 15% | | |
| 2.0 | 76% | 112% | | | | | | |
| 2.5 | | | | | 40% | 117% | | |
| 4.0 | | | | | | | 100% | -100% |
| 5.5 | | | 100% | -100% | 55% | 160% | | |
| Respondents (n) | 3 | | 1 | | 3 | | 1 | |

Source: On-site fields: ['Wall continuous insulation thickness (inches)']

## TABLE 229. CLIMATE ZONE - WALL EXTERIOR/CONTINUOUS INSULATION THICKNESS (SITE VISITS)

| Continuous Wall Insulation Thickness [Inches] | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|
| | % | EB | % | EB |
| 1.0 | 12% | 19% | | |
| 2.0 | 27% | 35% | | |
| 2.5 | | | 10% | 28% |
| 4.0 | | | 77% | 225% |
| 5.5 | 62% | 132% | 13% | 39% |
| Respondents (n) | 5 | | 3 | |

Source: On-site fields: ['Wall continuous insulation thickness (inches)']

## TABLE 230. STATEWIDE - WALL EXTERIOR/CONTINUOUS INSULATION THICKNESS (SITE VISITS)

| Continuous Wall Insulation Thickness [Inches] | Statewide | |
|---|---|---|
| | % | EB |
| 1.0 | 1% | 2% |
| 2.0 | 3% | 4% |
| 2.5 | 0% | 1% |
| 4.0 | 1% | 2% |
| 5.5 | 94% | 177% |
| Respondents (n) | 8 | |

Source: On-site fields: ['Wall continuous insulation thickness (inches)']

## TABLE 231. BUILDING VINTAGE - WALL EXTERIOR/CONTINUOUS INSULATION TYPE (SITE VISITS)

| Continuous Wall Insulation Material | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Fiberglass batts | | | 100% | 0% | 41% | 59% | 100% | 0% |
| Polyisocyanurate | | | | | 23% | 44% | | |
| Spray foam | | | | | 35% | 44% | | |
| XPS | 100% | 45% | | | | | | |
| Other | | | | | 1% | 2% | | |
| Respondents (n) | 3 | | 1 | | 7 | | 1 | |

Source: On-site fields: ['Continuous wall insulation type']

## TABLE 232. CLIMATE ZONE - WALL EXTERIOR/CONTINUOUS INSULATION TYPE (SITE VISITS)

| Continuous Wall Insulation Material | NYC | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Fiberglass batts | 13% | 31% | 64% | 131% | 90% | 208% |
| Polyisocyanurate | | | | | 10% | 28% |
| Spray foam | 85% | 116% | | | | |
| XPS | | | 36% | 32% | | |
| Other | 2% | 4% | | | | |
| Respondents (n) | 4 | | 5 | | 3 | |

Source: On-site fields: ['Continuous wall insulation type']

## TABLE 233. STATEWIDE - WALL EXTERIOR/CONTINUOUS INSULATION TYPE (SITE VISITS)

| Continuous Wall Insulation Material | Statewide | |
|---|---|---|
| | % | EB |
| Fiberglass batts | 71% | 116% |
| Polyisocyanurate | 0% | 0% |
| Spray foam | 25% | 31% |
| XPS | 3% | 3% |
| Other | 1% | 1% |
| Respondents (n) | 12 | |

Source: On-site fields: ['Continuous wall insulation type']

## TABLE 234. STATEWIDE - DISTRIBUTION OF WALL INSULATION BY WALL TYPE (SITE VISITS)

| Wall R-value [°F·ft²·h/BTU] | Wall Type | Statewide | |
|---|---|---|---|
| | | % | EB |
| R11-R15 | Brick | 0.5% | 1% |
| | Concrete block | 27% | 47% |
| | Wood double frame | 11% | 14% |
| | Wood single frame | 4% | 2% |
| | Respondents (n) | 19 | |
| R16-R20 | Brick | 1% | 1% |
| | Metal frame | 5% | 9% |
| | Wood single frame | 5% | 3% |
| | Respondents (n) | 14 | |
| R21-R25 | Solid concrete | 12% | 30% |
| | Wood single frame | 19% | 56% |
| | Respondents (n) | 3 | |
| R26-R30 | Brick | 15% | 66% |
| | Respondents (n) | 2 | |

Source: On-site fields: ['Enter exterior wall construction type']

## TABLE 235. BUILDING VINTAGE - WINDOW ISSUES (SITE VISITS)

| Window Issue | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Cracked or Broken Glass | 2% | 1% | 3% | 3% | 0% | 0% | 0% | 0% | 23% | 14% |
| Missing/Curling Sealant | 6% | 2% | 15% | 6% | 2% | 2% | 0% | 0% | 18% | 11% |
| Rot or Deterioration Around Windows | 24% | 5% | 15% | 6% | 1% | 1% | 0% | 0% | 12% | 9% |
| Other | 3% | 2% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% |
| Respondents (n) | 142 | | 99 | | 45 | | 32 | | 54 | |

Source: On-site fields: ['Are there any issues around the window? (select all that apply)']

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## TABLE 236. BUILDING SIZE - WINDOW ISSUES (SITE VISITS)

| Window Issue | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Cracked or Broken Glass | 6% | 4% | 5% | 3% | 0% | 0% |
| Missing/Curling Sealant | 13% | 3% | 17% | 9% | 5% | 3% |
| Rot or Deterioration Around Windows | 17% | 4% | 23% | 6% | 11% | 5% |
| Other | 2% | 1% | 2% | 1% | 0% | 0% |
| Respondents (n) | 203 | | 104 | | 65 | |

Source: On-site fields: ['Are there any issues around the window? (select all that apply)']

## TABLE 237. CLIMATE ZONE - WINDOW ISSUES (SITE VISITS)

| Window Issue | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Cracked or Broken Glass | 3% | 2% | 13% | 12% | 5% | 3% | 0% | 0% |
| Missing/Curling Sealant | 14% | 7% | 6% | 6% | 15% | 5% | 13% | 8% |
| Rot or Deterioration Around Windows | 20% | 5% | 0% | 0% | 12% | 4% | 14% | 9% |
| Other | 1% | 1% | 0% | 0% | 4% | 2% | 1% | 1% |
| Respondents (n) | 164 | | 55 | | 122 | | 31 | |

Source: On-site fields: ['Are there any issues around the window? (select all that apply)']

## TABLE 238. DAC FLAG - WINDOW ISSUES (SITE VISITS)

| Window Issue | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Cracked or Broken Glass | 5% | 3% | 3% | 2% | 16% | 18% |
| Missing/Curling Sealant | 8% | 4% | 10% | 4% | 5% | 7% |
| Rot or Deterioration Around Windows | 12% | 4% | 15% | 4% | 5% | 7% |
| Other | 1% | 1% | 2% | 1% | 0% | 0% |
| Respondents (n) | 167 | | 198 | | 7 | |

Source: On-site fields: ['Are there any issues around the window? (select all that apply)']

## TABLE 239. OWNERSHIP TYPE - WINDOW ISSUES (SITE VISITS)

| Window Issue | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Cracked or Broken Glass | 0% | 0% | 3% | 2% | 0% | 0% | 8% | 5% |
| Missing/Curling Sealant | 1% | 1% | 36% | 17% | 0% | 0% | 14% | 6% |
| Rot or Deterioration Around Windows | 7% | 4% | 25% | 10% | 15% | 7% | 19% | 7% |
| Other | 5% | 4% | 1% | 0% | 0% | 0% | 1% | 1% |
| Respondents (n) | 114 | | 102 | | 47 | | 109 | |

Source: On-site fields: ['Are there any issues around the window? (select all that apply)']

## TABLE 240. STATEWIDE - WINDOW ISSUES (SITE VISITS)

| Window Issue | Statewide | |
|---|---|---|
| | Mean | EB |
| Cracked or Broken Glass | 4% | 2% |
| Missing/Curling Sealant | 12% | 5% |
| Rot or Deterioration Around Windows | 18% | 4% |
| Other | 1% | 1% |
| Respondents (n) | 372 | |

Source: On-site fields: ['Are there any issues around the window? (select all that apply)']

## TABLE 241. BUILDING VINTAGE - WINDOW GLAZING (SITE VISITS)

| Window Glazing Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Single | 12% | 5% | 3% | 1% | 2% | 3% | 5% | 8% | 29% | 32% |
| Single with storm windows | 1% | 1% | 1% | 0% | | | | | | |
| Double | 87% | 15% | 96% | 20% | 98% | 97% | 95% | 34% | 61% | 23% |
| Glass block | 0% | 0% | 0% | 0% | | | | | | |
| Respondents (n) | 555 | | 351 | | 127 | | 83 | | 221 | |

Source: On-site fields: ['Type of window glazing']

## TABLE 242. BUILDING SIZE - WINDOW GLAZING (SITE VISITS)

| Window Glazing Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Single | 8% | 4% | 8% | 5% | 2% | 1% |
| Single with storm windows | 3% | 3% | 0% | 0% | | |
| Double | 88% | 14% | 92% | 20% | 98% | 25% |
| Glass block | 0% | 0% | 0% | 0% | | |
| Respondents (n) | 672 | | 424 | | 241 | |

Source: On-site fields: ['Type of window glazing']

## TABLE 243. CLIMATE ZONE - WINDOW GLAZING (SITE VISITS)

| Window Glazing Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | | Statewide | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Single | 4% | 2% | 1% | 1% | 16% | 10% | 5% | 2% | 6% | 2% |
| Single with storm windows | | | | | 3% | 2% | 1% | 1% | 1% | 1% |
| Double | 96% | 16% | 99% | 30% | 81% | 15% | 94% | 55% | 93% | 13% |
| Glass block | 0% | 0% | | | 0% | 0% | | | 0% | 0% |
| Respondents (n) | 642 | | 244 | | 357 | | 94 | | 1337 | |

Source: On-site fields: ['Type of window glazing']

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## TABLE 244. DAC FLAG - WINDOW GLAZING (SITE VISITS)

| Window Glazing Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Single | 9% | 6% | 7% | 2% | 0% | 0% |
| Single with storm windows | 0% | 0% | 1% | 1% | | |
| Double | 91% | 18% | 92% | 16% | 10% | 13% |
| Glass block | 0% | 0% | 0% | 0% | | |
| Respondents (n) | 594 | | 712 | | 31 | |

Source: On-site fields: ['Type of window glazing']

## TABLE 245. OWNERSHIP TYPE - WINDOW GLAZING (SITE VISITS)

| Window Glazing Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Single | 2% | 1% | 3% | 1% | 5% | 3% | 6% | 5% |
| Single with storm windows | | | 0% | 0% | | | 1% | 1% |
| Double | 98% | 23% | 97% | 34% | 95% | 33% | 94% | 26% |
| Glass block | 0% | 0% | 0% | 0% | 0% | 0% | | |
| Respondents (n) | 405 | | 366 | | 190 | | 376 | |

Source: On-site fields: ['Type of window glazing']

## TABLE 246. STATEWIDE - WINDOW GLAZING (SITE VISITS)

| Window Glazing Type | Statewide | |
|---|---|---|
| | % | EB |
| Single | 6% | 2% |
| Single with storm windows | 1% | 1% |
| Double | 93% | 13% |
| Glass block | 0% | 0% |
| Respondents (n) | 1337 | |

Source: On-site fields: ['Type of window glazing']

## TABLE 247. BUILDING VINTAGE - WINDOW FRAME TYPE (SITE VISITS)

| Window Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Curtain wall | | | 1% | 1% | | | 8% | 13% | 0% | 0% |
| Punched opening | 99% | 15% | 98% | 20% | 41% | 17% | 92% | 32% | 88% | 37% |
| Skylight | 1% | 1% | | | | | | | | |
| Store front | 0% | 0% | 1% | 0% | 59% | 96% | 0% | 0% | 1% | 1% |
| Other | | | 0% | 0% | | | | | | |
| Respondents (n) | 568 | | 353 | | 128 | | 83 | | 223 | |

Source: On-site fields: ['Window type ']

## TABLE 248. BUILDING SIZE - WINDOW FRAME TYPE (SITE VISITS)

| Window Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Curtain wall | | | 0% | 0% | 2% | 2% |
| Punched opening | 100% | 15% | 99% | 20% | 88% | 20% |
| Skylight | | | 1% | 1% | | |
| Store front | 0% | 0% | 0% | 0% | 10% | 15% |
| Other | | | 0% | 0% | | |
| Respondents (n) | 678 | | 434 | | 243 | |

Source: On-site fields: ['Window type ']

## TABLE 249. CLIMATE ZONE - WINDOW FRAME TYPE (SITE VISITS)

| Window Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Curtain wall | 1% | 1% | | | 0% | 0% | | |
| Punched opening | 94% | 14% | 98% | 29% | 100% | 18% | 100% | 55% |
| Skylight | 0% | 1% | | | | | | |
| Store front | 4% | 7% | 2% | 2% | 0% | 0% | | |
| Other | | | 0% | 1% | | | | |
| Respondents (n) | 656 | | 247 | | 358 | | 94 | |

Source: On-site fields: ['Window type ']

## TABLE 250. DAC FLAG - WINDOW FRAME TYPE (SITE VISITS)

| Window Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Curtain wall | 1% | 1% | | | 0% | 0% |
| Punched opening | 92% | 16% | 99% | | 10% | 14% |
| Skylight | | | 0% | | | |
| Store front | 7% | 9% | 0% | | | |
| Other | | | 0% | | | |
| Respondents (n) | 601 | | 723 | | 31 | |

Source: On-site fields: ['Window type ']

## TABLE 251. OWNERSHIP TYPE - WINDOW FRAME TYPE (SITE VISITS)

| Window Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Curtain wall | 0% | 0% | | | 3% | 3% | 0% | 0% |
| Punched opening | 100% | 22% | 99% | 33% | 83% | 26% | 99% | 27% |
| Skylight | | | | | 1% | 2% | 0% | 0% |
| Store front | 0% | 0% | 1% | 1% | 13% | 21% | 0% | 0% |
| Other | | | | | | | 0% | 0% |
| Respondents (n) | 409 | | 369 | | 197 | | 380 | |

Source: On-site fields: ['Window type ']

## TABLE 252. STATEWIDE - WINDOW FRAME TYPE (SITE VISITS)

| Window Type | Statewide | |
|---|---|---|
| | % | EB |
| Curtain wall | 1% | 1% |
| Punched opening | 96% | 12% |
| Skylight | 0% | 1% |
| Store front | 3% | 5% |
| Other | 0% | 0% |
| Respondents (n) | 1355 | |

Source: On-site fields: ['Window type ']

## TABLE 253. BUILDING VINTAGE - WINDOW FRAME TYPE DISTRIBUTION (SITE VISITS)

| Window Frame Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Fiberglass | 0% | 0% | | | 1% | 2% | | | | |
| Metal (thermal break unknown) | 49% | 12% | 61% | 17% | 16% | 9% | 46% | 27% | 31% | 18% |
| Metal frame curtain wall/Storefront | | | 0% | 0% | 0% | 0% | | | 0% | 1% |
| Metal with thermal break | 19% | 7% | 14% | 6% | 64% | 96% | 19% | 12% | 22% | 28% |
| Metal without thermal break | 5% | 3% | 7% | 4% | 0% | 0% | | | 0% | 0% |
| Vinyl | 15% | 7% | 16% | 8% | 17% | 15% | 35% | 22% | 18% | 8% |
| Wood (includes metal clad wood windows) | 12% | 5% | 2% | 1% | 2% | 2% | 1% | 1% | 17% | 18% |
| Other | 0% | 0% | | | | | | | | |
| Respondents (n) | 564 | | 353 | | 128 | | 83 | | 223 | |

Source: On-site fields: ['Window frame material ']

## TABLE 254. BUILDING SIZE - WINDOW FRAME TYPE DISTRIBUTION (SITE VISITS)

| Window Frame Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Fiberglass | 0% | 0% | | | 1% | 2% |
| Metal (thermal break unknown) | 26% | 7% | 59% | 16% | 71% | 19% |
| Metal frame curtain wall/Storefront | 0% | 0% | 0% | 0% | 0% | 0% |
| Metal with thermal break | 11% | 4% | 20% | 11% | 26% | 16% |
| Metal without thermal break | 9% | 4% | 7% | 5% | 1% | 1% |
| Vinyl | 43% | 13% | 7% | 4% | 1% | 1% |
| Wood (includes metal clad wood windows) | 10% | 4% | 6% | 4% | 0% | 0% |
| Other | 0% | 0% | | | | |
| Respondents (n) | 678 | | 430 | | 243 | |

Source: On-site fields: ['Window frame material ']

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## TABLE 255. CLIMATE ZONE - WINDOW FRAME TYPE DISTRIBUTION (SITE VISITS)

| Window Frame Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Fiberglass | | | | | 2% | 3% | | |
| Metal (thermal break unknown) | 69% | 12% | 58% | 23% | 13% | 7% | | |
| Metal frame curtain wall/Storefront | 0% | 0% | 1% | 1% | 0% | 0% | | |
| Metal with thermal break | 24% | 11% | 6% | 4% | 19% | 11% | 2% | 1% |
| Metal without thermal break | 5% | 3% | | | 6% | 3% | | |
| Vinyl | 0% | 0% | 35% | 19% | 48% | 13% | 70% | 43% |
| Wood (includes metal clad wood windows) | 2% | 1% | 0% | 0% | 12% | 5% | 28% | 36% |
| Other | | | | | 0% | 0% | | |
| Respondents (n) | 654 | | 247 | | 356 | | 94 | |

Source: On-site fields: ['Window frame material ']

## TABLE 256. DAC FLAG - WINDOW FRAME TYPE DISTRIBUTION (SITE VISITS)

| Window Frame Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Fiberglass | 0% | 0% | 1% | 1% | | |
| Metal (thermal break unknown) | 56% | 13% | 45% | 11% | | |
| Metal frame curtain wall/Storefront | 0% | 0% | 0% | 0% | | |
| Metal with thermal break | 20% | 10% | 16% | 6% | | |
| Metal without thermal break | 3% | 2% | 5% | 2% | 0% | 0% |
| Vinyl | 16% | 8% | 22% | 6% | 10% | 13% |

| | | | | | | |
|---|---|---|---|---|---|---|
| Wood (includes metal clad wood windows) | 5% | 5% | 12% | 9% | 0% | 0% |
| Other | 0% | 0% | | | | |
| Respondents (n) | 599 | | 721 | | 31 | |

Source: On-site fields: ['Window frame material ']

## TABLE 257. OWNERSHIP TYPE - WINDOW FRAME TYPE DISTRIBUTION (SITE VISITS)

| Window Frame Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Fiberglass | | | 0% | 0% | | | 0% | 1% |
| Metal (thermal break unknown) | 51% | 13% | 73% | 26% | 71% | 26% | 66% | 25% |
| Metal frame curtain wall/Storefront | 0% | 0% | 1% | 1% | | | 0% | 0% |
| Metal with thermal break | 41% | 18% | 22% | 21% | 23% | 21% | 11% | 7% |
| Metal without thermal break | 5% | 6% | 2% | 1% | 4% | 3% | 8% | 7% |
| Vinyl | 2% | 1% | 1% | 0% | 0% | 0% | 11% | 4% |
| Wood (includes metal clad wood windows) | 1% | 1% | 2% | 1% | 2% | 1% | 4% | 2% |
| Other | | | 0% | 0% | | | | |
| Respondents (n) | 407 | | 369 | | 196 | | 379 | |

Source: On-site fields: ['Window frame material ']

## TABLE 258. STATEWIDE - WINDOW FRAME TYPE DISTRIBUTION (SITE VISITS)

| Window Frame Type | Statewide | |
|---|---|---|
| | % | EB |
| Fiberglass | 0% | 1% |
| Metal (thermal break unknown) | 56% | 10% |
| Metal frame curtain wall/Storefront | 0% | 0% |
| Metal with thermal break | 20% | 7% |
| Metal without thermal break | 6% | 3% |

| | | |
|---|---|---|
| Vinyl | 13% | 3% |
| Wood (includes metal clad wood windows) | 5% | 2% |
| Other | 0% | 0% |
| Respondents (n) | 1351 | |

Source: On-site fields: ['Window frame material ']

## TABLE 259. BUILDING VINTAGE - AVERAGE WINDOW SIZE BY BUILDING SIZE (SITE VISITS)

| Building Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 12.4 | 0.4 | 13.7 | 0.6 | 15.5 | 1.5 | 10.6 | 1.5 | 10.6 | 0.6 |
| Mid Rise (4 to 7 floors) | 13.1 | 0.6 | 15.3 | 1.8 | 17.1 | 5.3 | 24.2 | 4.9 | 19.7 | 2.8 |
| High Rise (8 or more floors) | 16.5 | 2.6 | 16.1 | 1.2 | 20.9 | 1.5 | 27.8 | 5.5 | 10.8 | 1.0 |
| Respondents (n) | 568 | | 353 | | 128 | | 83 | | 223 | |

Source: On-site fields: ['Width of window (inches)', 'Height of window (inches)']

## TABLE 260. CLIMATE ZONE - AVERAGE WINDOW SIZE BY BUILDING SIZE (SITE VISITS)

| Building Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 14.2 | 0.6 | 10.6 | 0.8 | 12.6 | 0.6 | 11.3 | 0.8 |
| Mid Rise (4 to 7 floors) | 14.9 | 1.2 | 14.9 | 1.5 | 15.2 | 1.3 | 32.3 | 4.4 |
| High Rise (8 or more floors) | 17.0 | 1.1 | 11.9 | 1.5 | 10.8 | 0.7 | | |
| Respondents (n) | 656 | | 247 | | 358 | | 94 | |

Source: On-site fields: ['Width of window (inches)', 'Height of window (inches)']

## TABLE 261. DAC FLAG - AVERAGE WINDOW SIZE BY BUILDING SIZE (SITE VISITS)

| Building Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |

| | | | | | | |
|---|---|---|---|---|---|---|
| Low Rise (1 to 3 floors) | 13.0 | 0.5 | 12.1 | 0.6 | 12.1 | 0.2 |
| Mid Rise (4 to 7 floors) | 15.6 | 1.1 | 15.7 | 1.5 | 13.1 | 2.1 |
| High Rise (8 or more floors) | 15.1 | 1.7 | 17.5 | 1.2 | | |
| Respondents (n) | 601 | | 723 | | 31 | |

Source: On-site fields: ['Width of window (inches)', 'Height of window (inches)']

## TABLE 262. OWNERSHIP TYPE - AVERAGE WINDOW SIZE BY BUILDING SIZE (SITE VISITS)

| Building Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 15.1 | 0.8 | 13.2 | 0.5 | 16.6 | 1.3 | 12.2 | 0.6 |
| Mid Rise (4 to 7 floors) | 14.4 | 1.5 | 16.4 | 2.9 | 16.6 | 2.0 | 12.8 | 1.0 |
| High Rise (8 or more floors) | 16.4 | 1.6 | 19.5 | 3.3 | 15.2 | 1.7 | 20.3 | 2.0 |
| Respondents (n) | 409 | | 369 | | 197 | | 380 | |

Source: On-site fields: ['Width of window (inches)', 'Height of window (inches)']

## TABLE 263. STATEWIDE - AVERAGE WINDOW SIZE BY BUILDING SIZE (SITE VISITS)

| Building Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Low Rise (1 to 3 floors) | 12.5 | 0.5 |
| Mid Rise (4 to 7 floors) | 16.5 | 1.0 |
| High Rise (8 or more floors) | 16.6 | 1.1 |
| Respondents (n) | 1355 | |

Source: On-site fields: ['Width of window (inches)', 'Height of window (inches)']

## TABLE 264. BUILDING VINTAGE - DISTRIBUTION OF ESTIMATED WINDOW AGE (SITE VISITS)

| Window Age | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| 5 years or less | 10% | 6% | 5% | 3% | 20% | 15% | 24% | 12% | 2% | 1% |
| 6 to 10 years | 13% | 5% | 28% | 11% | 64% | 82% | 47% | 25% | 7% | 4% |
| 11 to 15 years | 23% | 11% | 22% | 10% | 11% | 7% | 19% | 24% | 44% | 33% |
| 16 to 20 years | 28% | 9% | 7% | 4% | 2% | 1% | 10% | 15% | 4% | 4% |
| Over 20 years | 26% | 5% | 38% | 12% | 3% | 2% | | | 32% | 26% |
| Respondents (n) | 566 | | 359 | | 128 | | 83 | | 220 | |

Source: On-site fields: ['How old do the windows appear?']

## TABLE 265. BUILDING SIZE - DISTRIBUTION OF ESTIMATED WINDOW AGE (SITE VISITS)

| Window Age | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 5 years or less | 14% | 5% | 8% | 4% | 6% | 4% |
| 6 to 10 years | 24% | 14% | 14% | 5% | 38% | 17% |
| 11 to 15 years | 16% | 5% | 23% | 9% | 32% | 17% |
| 16 to 20 years | 7% | 2% | 23% | 9% | 4% | 2% |
| Over 20 years | 39% | 11% | 31% | 9% | 21% | 10% |
| Respondents (n) | 677 | | 433 | | 246 | |

Source: On-site fields: ['How old do the windows appear?']

## TABLE 266. CLIMATE ZONE - DISTRIBUTION OF ESTIMATED WINDOW AGE (SITE VISITS)

| Window Age | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | | Statewide | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| 5 years or less | 8% | 2% | 3% | 2% | 12% | 7% | 43% | 35% | 9% | 2% |
| 6 to 10 years | 29% | 9% | 21% | 16% | 24% | 12% | 34% | 25% | 24% | 7% |
| 11 to 15 years | 22% | 8% | 34% | 12% | 22% | 12% | 8% | 5% | 24% | 7% |
| 16 to 20 years | 14% | 5% | 6% | 6% | 16% | 5% | 1% | 1% | 13% | 4% |
| Over 20 years | 27% | 7% | 36% | 25% | 26% | 8% | 15% | 8% | 30% | 6% |
| Respondents (n) | 659 | | 243 | | 362 | | 92 | | 1356 | |

Source: On-site fields: ['How old do the windows appear?']

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## TABLE 267. DAC FLAG - DISTRIBUTION OF ESTIMATED WINDOW AGE (SITE VISITS)

| Window Age | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 5 years or less | 10% | 3% | 7% | 3% | 10% | 14% |
| 6 to 10 years | 32% | 13% | 23% | 7% | 0% | 0% |
| 11 to 15 years | 20% | 9% | 27% | 9% | 0% | 0% |
| 16 to 20 years | 11% | 5% | 17% | 6% | 0% | 0% |
| Over 20 years | 27% | 10% | 26% | 6% | 1% | 0% |
| Respondents (n) | 603 | | 722 | | 31 | |

Source: On-site fields: ['How old do the windows appear?']

## TABLE 268. OWNERSHIP TYPE - DISTRIBUTION OF ESTIMATED WINDOW AGE (SITE VISITS)

| Window Age | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 5 years or less | 18% | 9% | 7% | 6% | 4% | 3% | 5% | 2% |
| 6 to 10 years | 13% | 8% | 14% | 7% | 28% | 17% | 39% | 20% |
| 11 to 15 years | 34% | 12% | 31% | 17% | 28% | 22% | 15% | 6% |
| 16 to 20 years | 8% | 6% | 17% | 11% | 5% | 3% | 21% | 11% |
| Over 20 years | 27% | 13% | 32% | 12% | 35% | 16% | 20% | 8% |
| Respondents (n) | 408 | | 364 | | 201 | | 383 | |

Source: On-site fields: ['How old do the windows appear?']

## TABLE 269. STATEWIDE - DISTRIBUTION OF ESTIMATED WINDOW AGE (SITE VISITS)

| Window Age | Statewide | |
|---|---|---|
| | % | EB |
| 5 years or less | 9% | 2% |
| 6 to 10 years | 24% | 7% |
| 11 to 15 years | 24% | 7% |
| 16 to 20 years | 13% | 4% |
| Over 20 years | 30% | 6% |
| Respondents (n) | 1356 | |

Source: On-site fields: ['How old do the windows appear?']

## TABLE 270. BUILDING VINTAGE - AVERAGE U-FACTOR OF WINDOWS BY BUILDING SIZE (SITE VISITS)

| Building Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 0.317 | 0.005 | 0.333 | 0.040 | 0.470 | 0.000 | 0.350 | 0.000 |
| Mid Rise (4 to 7 floors) | 0.350 | 0.000 | | | | | | |
| High Rise (8 or more floors) | | | 0.350 | 0.000 | | | | |
| Respondents (n) | 17 | | 6 | | 1 | | 2 | |

Source: On-site fields: ['Documented window u-factor']

## TABLE 271. CLIMATE ZONE - AVERAGE U-FACTOR OF WINDOWS BY BUILDING SIZE (SITE VISITS)

| Building Type | NYC | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 0.480 | 0.000 | 0.333 | 0.011 | 0.454 | 0.017 |
| Mid Rise (4 to 7 floors) | | | 0.350 | 0.000 | | |
| High Rise (8 or more floors) | | | 0.350 | 0.000 | | |
| Respondents (n) | 1 | | 21 | | 4 | |

Source: On-site fields: ['Documented window u-factor']

## TABLE 272. DAC FLAG - AVERAGE U-FACTOR OF WINDOWS BY BUILDING SIZE (SITE VISITS)

| Building Type | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 0.341 | 0.020 | 0.342 | 0.013 |
| Mid Rise (4 to 7 floors) | | | 0.350 | 0.000 |
| High Rise (8 or more floors) | | | 0.350 | 0.000 |
| Respondents (n) | 17 | | 9 | |

Source: On-site fields: ['Documented window u-factor']

## TABLE 273. OWNERSHIP TYPE - AVERAGE U-FACTOR OF WINDOWS BY BUILDING SIZE (SITE VISITS)

| Building Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 0.385 | 0.039 | 0.310 | 0.000 | 0.480 | 0.000 | 0.336 | 0.011 |
| Mid Rise (4 to 7 floors) | | | | | | | 0.350 | 0.000 |
| High Rise (8 or more floors) | 0.350 | 0.000 | | | | | | |
| Respondents (n) | 5 | | 5 | | 1 | | 15 | |

Source: On-site fields: ['Documented window u-factor']

## TABLE 274. STATEWIDE - AVERAGE U-FACTOR OF WINDOWS BY BUILDING SIZE (SITE VISITS)

| Building Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Low Rise (1 to 3 floors) | 0.347 | 0.007 |
| Mid Rise (4 to 7 floors) | 0.350 | 0.000 |
| High Rise (8 or more floors) | 0.350 | 0.000 |
| Respondents (n) | 26 | |

Source: On-site fields: ['Documented window u-factor']

## TABLE 275. BUILDING VINTAGE - WINDOW TO WALL AREA RATIO BY BUILDING SIZE (SITE VISITS)

| Building Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 0.09 | 0.01 | 0.10 | 0.01 | 0.08 | 0.02 | 0.08 | 0.02 | 0.09 | 0.01 |
| Mid Rise (4 to 7 floors) | 0.11 | 0.01 | 0.17 | 0.03 | 0.15 | 0.03 | 0.17 | 0.03 | 0.17 | 0.05 |
| High Rise (8 or more floors) | 0.12 | 0.02 | 0.16 | 0.02 | 0.33 | 0.03 | 0.16 | 0.02 | 0.18 | 0.01 |
| Respondents (n) | 143 | | 99 | | 45 | | 32 | | 54 | |

Source: On-site fields: ['Width of window (inches)']

## TABLE 276. CLIMATE ZONE - WINDOW TO WALL AREA RATIO BY BUILDING SIZE (SITE VISITS)

| Building Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 0.08 | 0.01 | 0.09 | 0.01 | 0.09 | 0.01 | 0.10 | 0.02 |
| Mid Rise (4 to 7 floors) | 0.13 | 0.02 | 0.12 | 0.03 | 0.18 | 0.03 | 0.17 | 0.07 |
| High Rise (8 or more floors) | 0.17 | 0.02 | 0.02 | 0.03 | 0.15 | 0.02 | | |
| Respondents (n) | 165 | | 55 | | 122 | | 31 | |

Source: On-site fields: ['Width of window (inches)']

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## TABLE 277. DAC FLAG - WINDOW TO WALL AREA RATIO BY BUILDING SIZE (SITE VISITS)

| Building Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 0.10 | 0.01 | 0.08 | 0.00 | 0.11 | 0.03 |
| Mid Rise (4 to 7 floors) | 0.14 | 0.01 | 0.15 | 0.02 | 0.03 | - |
| High Rise (8 or more floors) | 0.16 | 0.02 | 0.17 | 0.03 | | |
| Respondents (n) | 168 | | 198 | | 7 | |

Source: On-site fields: ['Width of window (inches)']

## TABLE 278. OWNERSHIP TYPE - WINDOW TO WALL AREA RATIO BY BUILDING SIZE (SITE VISITS)

| Building Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 0.14 | 0.01 | 0.09 | 0.01 | 0.08 | 0.01 | 0.09 | 0.01 |
| Mid Rise (4 to 7 floors) | 0.15 | 0.01 | 0.14 | 0.04 | 0.14 | 0.03 | 0.11 | 0.01 |
| High Rise (8 or more floors) | 0.15 | 0.02 | 0.12 | 0.03 | 0.17 | 0.03 | 0.23 | 0.06 |
| Respondents (n) | 114 | | 103 | | 47 | | 109 | |

Source: On-site fields: ['Width of window (inches)']

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## TABLE 279. STATEWIDE - WINDOW TO WALL AREA RATIO BY BUILDING SIZE (SITE VISITS)

| Building Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Low Rise (1 to 3 floors) | 0.09 | 0.00 |
| Mid Rise (4 to 7 floors) | 0.13 | 0.01 |
| High Rise (8 or more floors) | 0.17 | 0.02 |
| Respondents (n) | 373 | |

Source: On-site fields: ['Width of window (inches)']

## TABLE 280. BUILDING VINTAGE - WINDOW TO FLOOR AREA RATIO BY BUILDING SIZE (SITE VISITS)

| Building Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 7.2% | 0.4% | 6.1% | 0.6% | 4.1% | 0.5% | 3.5% | 0.8% | 4.4% | 0.6% |
| Mid Rise (4 to 7 floors) | 8.0% | 0.4% | 8.0% | 1.1% | 7.1% | 1.0% | 6.2% | 0.7% | 5.7% | 1.1% |
| High Rise (8 or more floors) | 6.4% | 0.7% | 6.2% | 0.7% | 10.2% | 1.0% | 6.5% | 0.9% | 8.9% | 1.2% |
| Respondents (n) | 143 | | 99 | | 45 | | 32 | | 54 | |

Source: On-site fields: ['Width of window (inches)']

## TABLE 281. CLIMATE ZONE - WINDOW TO FLOOR AREA RATIO BY BUILDING SIZE (SITE VISITS)

| Building Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 0.075306 | 0.005051 | 0.057268 | 0.003666 | 0.047733 | 0.005022 | 0.05982 | 0.00771 |
| Mid Rise (4 to 7 floors) | 0.082604 | 0.006193 | 0.050654 | 0.014887 | 0.074893 | 0.008334 | 0.068983 | 0.017593 |
| High Rise (8 or more floors) | 0.067985 | 0.006243 | 0.008092 | 0.010913 | 0.057163 | 0.005746 | | |
| Respondents (n) | 165 | | 55 | | 122 | | 31 | |

Source: On-site fields: ['Width of window (inches)']

## TABLE 282. DAC FLAG - WINDOW TO FLOOR AREA RATIO BY BUILDING SIZE (SITE VISITS)

| Building Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 5.5% | 0.6% | 5.2% | 0.5% | 7.5% | 2.0% |
| Mid Rise (4 to 7 floors) | 7.2% | 0.6% | 7.8% | 0.8% | 3.1% | 0.0% |
| High Rise (8 or more floors) | 6.4% | 0.7% | 6.5% | 0.8% | | |
| Respondents (n) | 168 | | 198 | | 7 | |

Source: On-site fields: ['Width of window (inches)']

## TABLE 283. OWNERSHIP TYPE - WINDOW TO FLOOR AREA RATIO BY BUILDING SIZE (SITE VISITS)

| Building Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 6.4% | 0.8% | 6.6% | 0.8% | 5.4% | 0.7% | 4.8% | 0.5% |
| Mid Rise (4 to 7 floors) | 9.0% | 0.4% | 8.8% | 1.5% | 7.8% | 0.9% | 7.0% | 0.5% |
| High Rise (8 or more floors) | 6.6% | 0.6% | 5.1% | 0.8% | 7.0% | 1.0% | 7.2% | 1.3% |
| Respondents (n) | 114 | | 103 | | 47 | | 109 | |

Source: On-site fields: ['Width of window (inches)']

## TABLE 284. STATEWIDE - WINDOW TO FLOOR AREA RATIO BY BUILDING SIZE (SITE VISITS)

| Building Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Low Rise (1 to 3 floors) | 5.5% | 0.4% |
| Mid Rise (4 to 7 floors) | 7.9% | 0.7% |
| High Rise (8 or more floors) | 6.6% | 0.6% |
| Respondents (n) | 373 | |

Source: On-site fields: ['Width of window (inches)']

## TABLE 285. BUILDING VINTAGE - EXTERIOR DOOR TYPE (SITE VISITS)

| Door Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Double wide hinged | 14% | 4% | 15% | 4% | 5% | 3% | 21% | 10% | 5% | 4% |
| Hatch | 1% | 1% | 1% | 1% | | | | | | |
| Horizontal sliding | 1% | 1% | 9% | 4% | 20% | 23% | 12% | 7% | 2% | 1% |
| Revolving | | | | | 0% | 0% | | | | |
| Single wide hinged | 84% | 6% | 74% | 8% | 72% | 39% | 67% | 17% | 88% | 23% |
| Vertical sliding/cargo | 0% | 1% | 1% | 2% | 2% | 2% | | | 6% | 6% |
| Respondents (n) | 335 | | 226 | | 118 | | 80 | | 117 | |

Source: On-site fields: ['Door type']

## TABLE 286. CLIMATE ZONE - EXTERIOR DOOR TYPE (SITE VISITS)

| Door Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Double wide hinged | 12% | 3% | 11% | 6% | 12% | 4% | 12% | 13% |
| Hatch | 2% | 1% | | | 1% | 1% | | |
| Horizontal sliding | 4% | 2% | 4% | 3% | 10% | 5% | 0% | 0% |
| Revolving | 0% | 0% | | | | | | |
| Single wide hinged | 82% | 7% | 76% | 20% | 76% | 9% | 88% | 28% |
| Vertical sliding/cargo | 1% | 1% | 9% | 8% | 1% | 1% | | |
| Respondents (n) | 452 | | 126 | | 243 | | 55 | |

Source: On-site fields: ['Door type']

## TABLE 287. OWNERSHIP TYPE - EXTERIOR DOOR TYPE (SITE VISITS)

| Door Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Double wide hinged | 12% | 6% | 9% | 5% | 29% | 8% | 19% | 6% |
| Hatch | 2% | 3% | 2% | 1% | | | 2% | 2% |
| Horizontal sliding | 2% | 3% | 2% | 2% | 5% | 3% | 8% | 4% |
| Revolving | | | | | | | 0% | 0% |
| Single wide hinged | 84% | 14% | 87% | 13% | 63% | 11% | 70% | 8% |
| Vertical sliding/cargo | 0% | 0% | 1% | 1% | 2% | 3% | 1% | 1% |
| Respondents (n) | 266 | | 239 | | 125 | | 246 | |

Source: On-site fields: ['Door type']

## TABLE 288. STATEWIDE - EXTERIOR DOOR TYPE (SITE VISITS)

| Door Type | Statewide | |
|---|---|---|
| | % | EB |
| Double wide hinged | 13% | 3% |
| Hatch | 1% | 1% |
| Horizontal sliding | 5% | 2% |
| Revolving | 0% | 0% |
| Single wide hinged | 79% | 5% |
| Vertical sliding/cargo | 1% | 1% |
| Respondents (n) | 876 | |

Source: On-site fields: ['Door type']

## TABLE 289. BUILDING VINTAGE - EXTERIOR DOOR MATERIAL (SITE VISITS)

| Door Material | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Fiberglass | 11% | 3% | 6% | 3% | 8% | 3% | 9% | 5% | 10% | 9% |
| Metal foam filled | 14% | 4% | 23% | 6% | 11% | 4% | 43% | 16% | 22% | 12% |
| Metal uninsulated | 37% | 6% | 52% | 8% | 62% | 40% | 33% | 12% | 16% | 8% |
| Vinyl | 4% | 2% | 2% | 2% | 1% | 1% | 4% | 5% | 1% | 2% |
| Wood - hollow core | 3% | 2% | 2% | 2% | 0% | 0% | | | 10% | 9% |
| Wood - solid core | 30% | 5% | 14% | 5% | 17% | 23% | 6% | 5% | 19% | 10% |
| Wood panel | 2% | 1% | 1% | 1% | 2% | 2% | | | 8% | 7% |
| Other | | | 1% | 1% | 0% | 0% | 4% | 5% | 0% | 0% |
| Respondents (n) | 333 | | 224 | | 116 | | 79 | | 117 | |

Source: On-site fields: ['Door material type']

## TABLE 290. CLIMATE ZONE - EXTERIOR DOOR MATERIAL (SITE VISITS)

| Door Material | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Fiberglass | 14% | 3% | 16% | 10% | 0% | 0% | 2% | 3% |
| Metal foam filled | 14% | 3% | 24% | 13% | 25% | 7% | 41% | 24% |
| Metal uninsulated | 52% | 6% | 25% | 9% | 36% | 8% | 2% | 1% |
| Vinyl | 2% | 2% | 0% | 0% | 4% | 3% | 18% | 17% |
| Wood - hollow core | 1% | 1% | 6% | 7% | 2% | 2% | 7% | 10% |
| Wood - solid core | 14% | 4% | 21% | 11% | 28% | 7% | 30% | 17% |
| Wood panel | 1% | 1% | 7% | 7% | 2% | 1% | | |
| Other | 0% | 1% | | | 2% | 2% | | |
| Respondents (n) | 449 | | 126 | | 239 | | 55 | |

Source: On-site fields: ['Door material type']

## TABLE 291. DAC FLAG - EXTERIOR DOOR MATERIAL (SITE VISITS)

| Door Material | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Fiberglass | 9% | 3% | 9% | 3% | | |
| Metal foam filled | 19% | 4% | 17% | 4% | 11% | 14% |
| Metal uninsulated | 49% | 7% | 38% | 5% | 2% | 2% |
| Vinyl | 2% | 2% | 3% | 2% | 0% | 1% |
| Wood - hollow core | 1% | 1% | 4% | 2% | | |
| Wood - solid core | 16% | 4% | 26% | 4% | 0% | 1% |
| Wood panel | 3% | 2% | 2% | 1% | | |
| Other | 0% | 0% | 1% | 1% | | |
| Respondents (n) | 411 | | 446 | | 12 | |

Source: On-site fields: ['Door material type']

## TABLE 292. OWNERSHIP TYPE - EXTERIOR DOOR MATERIAL (SITE VISITS)

| Door Material | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Fiberglass | 8% | 4% | 15% | 6% | 15% | 5% | 14% | 5% |
| Metal foam filled | 25% | 8% | 14% | 6% | 15% | 6% | 18% | 5% |
| Metal uninsulated | 50% | 12% | 53% | 11% | 46% | 10% | 39% | 8% |
| Vinyl | 3% | 4% | 3% | 3% | 0% | 1% | 2% | 1% |
| Wood - hollow core | 2% | 3% | 2% | 1% | 2% | 2% | 1% | 1% |
| Wood - solid core | 11% | 7% | 12% | 5% | 21% | 8% | 23% | 6% |
| Wood panel | 0% | 0% | 1% | 1% | 0% | 1% | 2% | 1% |
| Other | 0% | 0% | | | | | 2% | 2% |
| Respondents (n) | 264 | | 238 | | 125 | | 242 | |

Source: On-site fields: ['Door material type']

## TABLE 293. STATEWIDE - EXTERIOR DOOR MATERIAL (SITE VISITS)

| Door Material | Statewide | |
|---|---|---|
| | % | EB |
| Fiberglass | 11% | 2% |
| Metal foam filled | 20% | 3% |
| Metal uninsulated | 42% | 5% |
| Vinyl | 2% | 1% |
| Wood - hollow core | 2% | 1% |
| Wood - solid core | 20% | 3% |
| Wood panel | 2% | 1% |
| Other | 1% | 1% |
| Respondents (n) | 869 | |

Source: On-site fields: ['Door material type']

## TABLE 294. BUILDING VINTAGE - BUILDING PRIMARY HEATING SYSTEM TYPE (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating System | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Baseboard or wall electric resistance heat | 6% | 2% | 19% | 5% | 19% | 7% | 7% | 4% |
| Central boiler | 75% | 5% | 61% | 11% | 59% | 15% | 14% | 9% |
| District steam | 2% | 1% | 3% | 3% | 3% | 4% | 0% | 1% |
| Ducted air source heat pump | 2% | 1% | 7% | 5% | 6% | 5% | 24% | 19% |
| Ductless mini-split heat pump | 2% | 1% | 1% | 1% | 3% | 4% | 19% | 19% |
| Ground source heat pump | 2% | 1% | | | 0% | 0% | 25% | 41% |
| Packaged terminal AC with heat | 1% | 1% | 3% | 2% | 5% | 4% | 8% | 4% |
| Packaged terminal heat pump | 0% | 0% | 1% | 1% | | | 0% | 1% |
| Other | 10% | 2% | 5% | 2% | 5% | 2% | 2% | 2% |
| Respondents (n) | 472 | | 322 | | 182 | | 68 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

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## TABLE 295. BUILDING SIZE - BUILDING PRIMARY HEATING SYSTEM TYPE (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating System | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Baseboard or wall electric resistance heat | 18% | 3% | 7% | 2% | 10% | 4% |
| Central boiler | 53% | 4% | 77% | 6% | 58% | 8% |
| District steam | 2% | 1% | 2% | 1% | 11% | 4% |
| Ducted air source heat pump | 7% | 2% | 2% | 1% | 4% | 3% |
| Ductless mini-split heat pump | 2% | 1% | 3% | 1% | 2% | 2% |
| Ground source heat pump | 1% | 1% | 1% | 1% | | |
| Packaged terminal AC with heat | 4% | 2% | 4% | 2% | 9% | 4% |
| Packaged terminal heat pump | 1% | 1% | 0% | 0% | 3% | 2% |
| Other | 11% | 3% | 4% | 1% | 4% | 2% |
| Respondents (n) | 607 | | 435 | | 182 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 296. CLIMATE ZONE - BUILDING PRIMARY HEATING SYSTEM TYPE (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating System | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Baseboard or wall electric resistance heat | 9% | 2% | 24% | 8% | 20% | 5% | 27% | 9% |
| Central boiler | 72% | 4% | 48% | 9% | 48% | 7% | 36% | 9% |
| District steam | 4% | 1% | 3% | 2% | 1% | 1% | | |
| Ducted air source heat pump | 3% | 1% | 5% | 4% | 9% | 3% | 9% | 6% |
| Ductless mini-split heat pump | 3% | 1% | 1% | 2% | 1% | 1% | 5% | 4% |
| Ground source heat pump | 2% | 1% | 2% | 2% | | | | |
| Packaged terminal AC with heat | 4% | 1% | 6% | 4% | 3% | 2% | 7% | 5% |
| Packaged terminal heat pump | 1% | 0% | 2% | 2% | 1% | 1% | | |
| Other | 3% | 1% | 9% | 5% | 16% | 4% | 17% | 7% |
| Respondents (n) | 669 | | 151 | | 324 | | 129 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 297. DAC FLAG - BUILDING PRIMARY HEATING SYSTEM TYPE (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating System | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Baseboard or wall electric resistance heat | 13% | 3% | 13% | 3% | 28% | 12% |
| Central boiler | 62% | 4% | 61% | 4% | 36% | 13% |
| District steam | 2% | 1% | 4% | 1% | 1% | 1% |
| Ducted air source heat pump | 5% | 2% | 6% | 2% | 12% | 9% |
| Ductless mini-split heat pump | 2% | 1% | 2% | 1% | 3% | 4% |
| Ground source heat pump | 1% | 1% | 0% | 0% | 3% | 4% |
| Packaged terminal AC with heat | 5% | 2% | 5% | 2% | 4% | 4% |
| Packaged terminal heat pump | 0% | 0% | 1% | 0% | 5% | 6% |
| Other | 9% | 2% | 8% | 2% | 8% | 6% |
| Respondents (n) | 456 | | 569 | | 199 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 298. METERING TYPE - BUILDING PRIMARY HEATING SYSTEM TYPE (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating System | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Baseboard or wall electric resistance heat | 17% | 9% | 15% | 2% | 24% | 5% | 0% | 0% | | |
| Central boiler | 60% | 11% | 59% | 3% | 50% | 5% | 0% | 0% | 63% | 49% |
| District steam | 3% | 2% | 2% | 1% | 4% | 2% | | | | |
| Ducted air source heat pump | 8% | 6% | 5% | 1% | 7% | 3% | 0% | 0% | | |
| Ductless mini-split heat pump | 1% | 1% | 3% | 1% | 3% | 2% | | | 6% | 11% |
| Ground source heat pump | | | 1% | 1% | 1% | 1% | | | | |
| Packaged terminal AC with heat | 3% | 2% | 6% | 1% | 5% | 2% | 0% | 0% | | |
| Packaged terminal heat pump | | | 1% | 1% | 1% | 2% | | | | |
| Other | 8% | 4% | 9% | 2% | 4% | 2% | 0% | 0% | 31% | 31% |
| Respondents (n) | 149 | | 802 | | 336 | | 26 | | | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 299. OWNERSHIP TYPE - BUILDING PRIMARY HEATING SYSTEM TYPE (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating System | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Baseboard or wall electric resistance heat | 15% | 6% | 6% | 3% | 11% | 4% | 12% | 3% |
| Central boiler | 71% | 13% | 78% | 9% | 65% | 7% | 63% | 7% |
| District steam | | | 2% | 2% | 5% | 3% | 5% | 2% |
| Ducted air source heat pump | 2% | 2% | 3% | 2% | 3% | 2% | 4% | 2% |
| Ductless mini-split heat pump | 3% | 3% | 3% | 2% | 1% | 1% | 2% | 1% |
| Ground source heat pump | 0% | 0% | 3% | 2% | | | 0% | 0% |
| Packaged terminal AC with heat | 6% | 4% | 1% | 1% | 8% | 4% | 5% | 2% |
| Packaged terminal heat pump | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 1% |
| Other | 2% | 1% | 4% | 2% | 6% | 3% | 8% | 2% |
| Respondents (n) | 201 | | 400 | | 147 | | 476 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 300. STATEWIDE - BUILDING PRIMARY HEATING SYSTEM TYPE (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating System | Statewide | |
|---|---|---|
| | % | EB |
| Baseboard or wall electric resistance heat | 13% | 2% |
| Central boiler | 64% | 3% |
| District steam | 3% | 1% |
| Ducted air source heat pump | 5% | 1% |
| Ductless mini-split heat pump | 2% | 1% |
| Ground source heat pump | 1% | 1% |
| Packaged terminal AC with heat | 4% | 1% |
| Packaged terminal heat pump | 1% | 0% |
| Other | 7% | 1% |
| Respondents (n) | 1224 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 301. BUILDING VINTAGE - BUILDING PRIMARY HEATING FUEL (PREDOMINANT HEATING FUEL FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating Fuel | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Statewide | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Electricity | 6% | 2% | 12% | 3% | 37% | 12% | 35% | 23% | 13% | 2% |
| Fuel Oil | 15% | 3% | 15% | 8% | 3% | 4% | 2% | 3% | 13% | 2% |
| Kerosene | | | | | | | 4% | 7% | 0% | 0% |
| Natural Gas | 71% | 5% | 69% | 10% | 34% | 9% | 55% | 42% | 67% | 3% |
| Propane | 0% | 0% | 0% | 1% | | | 1% | 1% | 0% | 0% |
| Wood | | | | | 9% | 7% | | | 1% | 1% |
| Wood Pellets | | | | | 11% | 8% | | | 1% | 1% |
| Don't know | 6% | 2% | 3% | 3% | 5% | 5% | 3% | 4% | 5% | 1% |
| Other | 1% | 1% | 1% | 1% | 0% | 0% | 1% | 1% | 1% | 1% |
| Respondents (n) | 492 | | 329 | | 186 | | 71 | | 1265 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit primary heating system']

BACK TO REPORT

## TABLE 302. BUILDING SIZE - BUILDING PRIMARY HEATING FUEL (PREDOMINANT HEATING FUEL FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating Fuel | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 16% | 3% | 10% | 3% | 12% | 4% |
| Fuel Oil | 10% | 2% | 16% | 4% | 11% | 4% |
| Kerosene | 0% | 0% | | | | |
| Natural Gas | 71% | 5% | 61% | 5% | 67% | 7% |
| Propane | 1% | 1% | 0% | 0% | | |
| Wood | 0% | 0% | 2% | 1% | | |
| Wood Pellets | | | 2% | 1% | | |
| Don't know | 2% | 1% | 8% | 2% | 2% | 2% |
| Other | 0% | 0% | 1% | 1% | 7% | 4% |
| Respondents (n) | 624 | | 455 | | 186 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit primary heating system']

## TABLE 303. CLIMATE ZONE - BUILDING PRIMARY HEATING FUEL (PREDOMINANT HEATING FUEL FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating Fuel | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 11% | 2% | 18% | 6% | 18% | 5% | 28% | 9% |
| Fuel Oil | 15% | 3% | 14% | 6% | 7% | 3% | 5% | 4% |
| Kerosene | | | | | 1% | 1% | | |
| Natural Gas | 64% | 4% | 66% | 10% | 71% | 7% | 64% | 11% |
| Propane | | | | | 1% | 1% | 2% | 2% |
| Wood | 1% | 1% | | | 1% | 1% | | |
| Wood Pellets | 2% | 1% | | | | | | |
| Don't know | 6% | 2% | 1% | 1% | 1% | 1% | 0% | 1% |
| Other | 1% | 1% | 1% | 1% | 1% | 1% | 0% | 0% |
| Respondents (n) | 695 | | 152 | | 332 | | 135 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit primary heating system']

## TABLE 304. DAC FLAG - BUILDING PRIMARY HEATING FUEL (PREDOMINANT HEATING FUEL FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating Fuel | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 12% | 3% | 15% | 3% | 35% | 14% |
| Fuel Oil | 9% | 2% | 12% | 2% | 11% | 8% |
| Kerosene | | | 0% | 0% | | |
| Natural Gas | 70% | 4% | 68% | 4% | 48% | 15% |
| Propane | 0% | 1% | 0% | 0% | 3% | 4% |
| Wood | 1% | 1% | 0% | 0% | 3% | 4% |
| Wood Pellets | 1% | 1% | 0% | 0% | 0% | 0% |
| Don't know | 5% | 2% | 3% | 1% | 0% | 1% |
| Other | 2% | 1% | 1% | 1% | 0% | 0% |
| Respondents (n) | 476 | | 586 | | 201 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit primary heating system']

## TABLE 305. METERING TYPE - BUILDING PRIMARY HEATING FUEL (PREDOMINANT HEATING FUEL FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating Fuel | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Electricity | 16% | 8% | 15% | 2% | 21% | 4% | 0% | 0% | 6% | 12% |
| Fuel Oil | 3% | 2% | 12% | 2% | 6% | 2% | 0% | 0% | | |
| Kerosene | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | |
| Natural Gas | 74% | 12% | 68% | 3% | 67% | 6% | 0% | 0% | 90% | 47% |
| Propane | 0% | 0% | 1% | 0% | 0% | 0% | 0% | 0% | | |
| Wood | 0% | 1% | 0% | 0% | 1% | 1% | 0% | 0% | | |
| Wood Pellets | 1% | 2% | 0% | 0% | 1% | 1% | 0% | 0% | | |
| Don't know | 0% | 0% | 3% | 1% | 2% | 2% | 0% | 0% | 3% | 6% |
| Other | 5% | 4% | 1% | 1% | 2% | 2% | 0% | 0% | | |
| Respondents (n) | 155 | | 819 | | 339 | | 42 | | 11 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit primary heating system']

## TABLE 306. OWNERSHIP TYPE - BUILDING PRIMARY HEATING FUEL (PREDOMINANT HEATING FUEL FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating Fuel | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 8% | 4% | 12% | 4% | 10% | 4% | 12% | 3% |
| Fuel Oil | 2% | 2% | 15% | 4% | 13% | 5% | 18% | 4% |
| Kerosene | | | | | | | 0% | 0% |
| Natural Gas | 74% | 12% | 61% | 8% | 66% | 7% | 65% | 6% |
| Propane | 0% | 0% | 0% | 0% | | | 1% | 1% |
| Wood | | | 2% | 2% | | | 1% | 1% |
| Wood Pellets | 0% | 0% | 3% | 2% | | | 1% | 1% |
| Don't know | 16% | 7% | 6% | 3% | 5% | 3% | 3% | 2% |
| Other | 0% | 0% | 1% | 2% | 5% | 3% | 1% | 1% |
| Respondents (n) | 213 | | 415 | | 152 | | 485 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit primary heating system']

## TABLE 307. STATEWIDE - BUILDING PRIMARY HEATING FUEL (PREDOMINANT HEATING FUEL FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Primary Heating Fuel | Statewide | |
|---|---|---|
| | % | EB |
| Electricity | 13% | 2% |
| Fuel Oil | 13% | 2% |
| Kerosene | 0% | 0% |
| Natural Gas | 67% | 3% |
| Propane | 0% | 0% |
| Wood | 1% | 1% |
| Wood Pellets | 1% | 1% |
| Don't know | 5% | 1% |
| Other | 1% | 1% |
| Respondents (n) | 1265 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit primary heating system']

## TABLE 308. BUILDING SIZE - BUILDING PRIMARY HEATING SYSTEM TYPE BY PRIMARY HEATING FUEL (PREDOMINANT FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Fuel Type | Building Primary Heating System | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| Electricity | Baseboard or wall electric resistance heat | 9% | 2% | 2% | 1% | 0% | 0% |
| | Central boiler | 1% | 1% | 4% | 2% | 2% | 2% |
| | District steam | 0% | 0% | 0% | 0% | 3% | 2% |
| | Don't know | | | 0% | 0% | 0% | 1% |
| | Ducted air source heat pump | 2% | 1% | 1% | 1% | 1% | 1% |
| | Ductless mini-split heat pump | 2% | 1% | 2% | 1% | 1% | 1% |
| | Ground source heat pump | 0% | 0% | 0% | 0% | | |
| | Packaged terminal AC with heat | 1% | 1% | 1% | 1% | 3% | 2% |
| | Packaged terminal heat pump | 0% | 1% | | | 1% | 2% |
| | Other | 1% | 1% | 0% | 0% | 1% | 1% |
| | Respondents (n) | 116 | | 53 | | 23 | |
| Fuel Oil | Baseboard or wall electric resistance heat | 1% | 1% | 0% | 1% | 1% | 2% |
| | Central boiler | 8% | 1% | 15% | 2% | 7% | 3% |
| | District steam | 1% | 1% | 1% | 1% | 2% | 2% |
| | Ducted air source heat pump | 0% | 0% | | | | |
| | Ductless mini-split heat pump | | | 0% | 0% | | |
| | Ground source heat pump | 0% | 0% | 0% | 0% | | |
| | Other | 0% | 0% | | | 1% | 1% |
| | Respondents (n) | 56 | | 57 | | 17 | |
| Kerosene | Central boiler | 0% | 0% | | | | |
| | Respondents (n) | 1 | | 0 | | 0 | |
| Natural Gas | Baseboard or wall electric resistance heat | 7% | 2% | 4% | 2% | 8% | 4% |
| | Central boiler | 41% | 4% | 47% | 4% | 44% | 6% |
| | District steam | 2% | 1% | 1% | 1% | 2% | 2% |
| | Don't know | 2% | 1% | 1% | 1% | 1% | 1% |
| | Ducted air source heat pump | 5% | 2% | 1% | 1% | 3% | 2% |

| Fuel Type | Building Primary Heating System | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| | Ductless mini-split heat pump | | | 1% | 1% | 0% | 1% |
| | Ground source heat pump | 1% | 1% | 1% | 1% | | |
| | Packaged terminal AC with heat | 3% | 1% | 2% | 1% | 7% | 3% |
| | Packaged terminal heat pump | 0% | 1% | 0% | 0% | 1% | 2% |
| | Other | 10% | 2% | 3% | 1% | 2% | 2% |
| | Respondents (n) | 429 | | 294 | | 131 | |
| Propane | Baseboard or wall electric resistance heat | 0% | 1% | | | | |
| | Central boiler | 1% | 1% | | | | |
| | Other | | | 0% | 0% | | |
| | Respondents (n) | 4 | | 1 | | 0 | |
| Wood | Central boiler | 0% | 0% | 2% | 0% | | |
| | Respondents (n) | 1 | | 4 | | 0 | |
| Wood Pellets | Central boiler | | | 2% | 1% | | |
| | Respondents (n) | 0 | | 7 | | 0 | |
| Don't know | Baseboard or wall electric resistance heat | | | 0% | 0% | | |
| | Central boiler | 1% | 1% | 4% | 1% | 2% | 2% |
| | Don't know | 1% | 1% | 3% | 1% | 0% | 1% |
| | Packaged terminal AC with heat | 0% | 0% | | | | |
| | Other | | | 0% | 1% | | |
| | Respondents (n) | 13 | | 33 | | 3 | |
| Other | Central boiler | 0% | 0% | 1% | 1% | 3% | 2% |
| | District steam | | | | | 4% | 2% |
| | Ducted air source heat pump | | | 0% | 0% | | |
| | Packaged terminal AC with heat | 0% | 0% | | | | |
| | Other | 0% | 0% | 0% | 0% | | |
| | Respondents (n) | 4 | | 6 | | 12 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 309. CLIMATE ZONE - BUILDING PRIMARY HEATING SYSTEM TYPE BY PRIMARY HEATING FUEL (PREDOMINANT FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Fuel Type | Building Primary Heating System | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| Electricity | Baseboard or wall electric resistance heat | 2% | 1% | 6% | 4% | 12% | 3% | 20% | 6% |
| | Central boiler | 3% | 1% | | | 1% | 0% | | |
| | District steam | 1% | 0% | 0% | 0% | | | | |
| | Don't know | 0% | 0% | | | | | | |
| | Ducted air source heat pump | 1% | 1% | 2% | 2% | 3% | 2% | 2% | 2% |
| | Ductless mini-split heat pump | 2% | 1% | 1% | 2% | 1% | 1% | 5% | 4% |
| | Ground source heat pump | | | 2% | 2% | | | | |
| | Packaged terminal AC with heat | 1% | 1% | 4% | 3% | 0% | 0% | 1% | 2% |
| | Packaged terminal heat pump | 0% | 0% | 1% | 2% | 0% | 0% | | |
| | Other | 0% | 0% | | | 1% | 1% | 1% | 2% |
| | Respondents (n) | 72 | | 28 | | 67 | | 36 | |
| Fuel Oil | Baseboard or wall electric resistance heat | 0% | 0% | 1% | 2% | 1% | 1% | | |
| | Central boiler | 13% | 1% | 9% | 4% | 5% | 2% | 3% | 3% |
| | District steam | 1% | 1% | 2% | 2% | 1% | 1% | | |
| | Ducted air source heat pump | 0% | 0% | | | | | | |
| | Ductless mini-split heat pump | 0% | 0% | | | | | | |
| | Ground source heat pump | 0% | 1% | | | | | | |
| | Other | 0% | 0% | 1% | 1% | | | 1% | 3% |
| | Respondents (n) | 90 | | 22 | | 14 | | 6 | |
| Kerosene | Central boiler | | | | | 1% | 0% | | |
| | Respondents (n) | 0 | | 0 | | 1 | | 0 | |
| Natural Gas | Baseboard or wall electric resistance heat | 6% | 1% | 16% | 6% | 7% | 3% | 4% | 3% |
| | Central boiler | 47% | 3% | 37% | 7% | 39% | 6% | 30% | 8% |
| | District steam | 2% | 1% | 0% | 0% | 1% | 1% | | |
| | Don't know | 1% | 1% | | | 1% | 0% | 5% | 4% |

| Fuel Type | Building Primary Heating System | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| | Ducted air source heat pump | 2% | 1% | 3% | 3% | 6% | 3% | 7% | 5% |
| | Ductless mini-split heat pump | 1% | 0% | | | 0% | 0% | | |
| | Ground source heat pump | 1% | 1% | | | | | | |
| | Packaged terminal AC with heat | 3% | 1% | 2% | 2% | 3% | 2% | 5% | 4% |
| | Packaged terminal heat pump | 0% | 0% | 0% | 1% | 1% | 1% | | |
| | Other | 2% | 1% | 9% | 5% | 14% | 4% | 13% | 6% |
| | Respondents (n) | 468 | | 96 | | 236 | | 88 | |
| Propane | Baseboard or wall electric resistance heat | | | | | | | 1% | 4% |
| | Central boiler | | | | | 1% | 0% | 0% | 1% |
| | Other | | | | | | | 0% | 0% |
| | Respondents (n) | 0 | | 0 | | 2 | | 3 | |
| Wood | Central boiler | 1% | 0% | | | 1% | 0% | | |
| | Respondents (n) | 5 | | 0 | | 1 | | 0 | |
| Wood Pellets | Central boiler | 2% | 0% | | | | | | |
| | Respondents (n) | 8 | | 0 | | 0 | | 0 | |
| Don't know | Baseboard or wall electric resistance heat | | | 1% | 1% | | | | |
| | Central boiler | 3% | 1% | 1% | 1% | 0% | 0% | 0% | 0% |
| | Don't know | 3% | 1% | 0% | 1% | 1% | 1% | | |
| | Packaged terminal AC with heat | 0% | 0% | | | | | | |
| | Other | 0% | 0% | | | | | | |
| | Respondents (n) | 39 | | 4 | | 5 | | 1 | |
| Other | Central boiler | 1% | 1% | 1% | 0% | 0% | 0% | | |
| | District steam | 0% | 0% | | | | | | |
| | Ducted air source heat pump | | | | | | | 0% | 0% |
| | Packaged terminal AC with heat | 0% | 0% | | | | | | |
| | Other | | | | | 0% | 0% | | |
| | Respondents (n) | 13 | | 2 | | 6 | | 1 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 310. DAC FLAG - BUILDING PRIMARY HEATING SYSTEM TYPE BY PRIMARY HEATING FUEL (PREDOMINANT FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Fuel Type | Building Primary Heating System | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| Electricity | Baseboard or wall electric resistance heat | 5% | 1% | 7% | 2% | 11% | 7% |
| | Central boiler | 2% | 1% | 2% | 1% | 0% | 0% |
| | District steam | | | 0% | 0% | 0% | 0% |
| | Don't know | | | 0% | 0% | 0% | 0% |
| | Ducted air source heat pump | 1% | 1% | 2% | 1% | 6% | 6% |
| | Ductless mini-split heat pump | 2% | 1% | 1% | 1% | 3% | 4% |
| | Ground source heat pump | | | | | 3% | 4% |
| | Packaged terminal AC with heat | 2% | 1% | 1% | 1% | 4% | 4% |
| | Packaged terminal heat pump | 0% | 0% | 0% | 0% | 5% | 6% |
| | Other | 0% | 0% | 1% | 1% | 3% | 4% |
| | Respondents (n) | 58 | | 91 | | 53 | |
| Fuel Oil | Baseboard or wall electric resistance heat | 0% | 0% | 1% | 1% | 3% | 5% |
| | Central boiler | 8% | 1% | 10% | 1% | 7% | 6% |
| | District steam | 1% | 1% | 1% | 1% | 0% | 0% |
| | Ducted air source heat pump | | | 0% | 0% | | |
| | Ductless mini-split heat pump | | | | | 0% | 0% |
| | Ground source heat pump | | | 0% | 0% | 0% | 0% |
| | Other | 0% | 0% | 0% | 0% | 0% | 1% |
| | Respondents (n) | 38 | | 66 | | 22 | |
| Kerosene | Central boiler | | | 0% | 0% | | |
| | Respondents (n) | 0 | | 1 | | 0 | |
| Natural Gas | Baseboard or wall electric resistance heat | 8% | 2% | 5% | 2% | 11% | 8% |
| | Central boiler | 44% | 4% | 45% | 3% | 25% | 11% |
| | District steam | 1% | 1% | 2% | 1% | 0% | 0% |

| Fuel Type | Building Primary Heating System | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB |
| | Don't know | 1% | 1% | 2% | 1% | | |
| | Ducted air source heat pump | 4% | 1% | 4% | 1% | 6% | 6% |
| | Ductless mini-split heat pump | 0% | 0% | 0% | 0% | 0% | 0% |
| | Ground source heat pump | 1% | 1% | 0% | 0% | | |
| | Packaged terminal AC with heat | 3% | 1% | 3% | 1% | 1% | 1% |
| | Packaged terminal heat pump | 0% | 0% | 0% | 0% | | |
| | Other | 8% | 2% | 6% | 2% | 5% | 5% |
| | Respondents (n) | 342 | | 395 | | 116 | |
| Propane | Baseboard or wall electric resistance heat | | | | | 3% | 0% |
| | Central boiler | 0% | 0% | 0% | 0% | | |
| | Other | | | 0% | 1% | | |
| | Respondents (n) | 2 | | 2 | | 1 | |
| Wood | Central boiler | 1% | 0% | 0% | 0% | 3% | 16% |
| | Respondents (n) | 2 | | 2 | | 2 | |
| Wood Pellets | Central boiler | 1% | 0% | 0% | 0% | 0% | 1% |
| | Respondents (n) | 3 | | 2 | | 2 | |
| Don't know | Central boiler | 3% | 1% | 2% | 1% | 0% | 0% |
| | Don't know | 2% | 1% | 1% | 1% | 0% | 1% |
| | Packaged terminal AC with heat | 0% | 0% | | | | |
| | Other | | | 0% | 0% | | |
| | Respondents (n) | 22 | | 16 | | 4 | |
| Other | Central boiler | 1% | 1% | 0% | 0% | 0% | 0% |
| | District steam | 0% | 0% | 0% | 0% | | |
| | Ducted air source heat pump | | | 0% | 0% | | |
| | Packaged terminal AC with heat | | | 0% | 0% | | |
| | Other | 0% | 1% | 0% | 0% | | |
| | Respondents (n) | 9 | | 11 | | 1 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 311. METERING TYPE - BUILDING PRIMARY HEATING SYSTEM TYPE BY PRIMARY HEATING FUEL (PREDOMINANT FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Fuel Type | Building Primary Heating System | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB | % | EB |
| Electricity | Baseboard or wall electric resistance heat | 10% | 6% | 7% | 1% | 9% | 2% | 0% | 0% | | |
| | Central boiler | 0% | 1% | 1% | 1% | 3% | 1% | | | | |
| | District steam | 1% | 1% | 0% | 0% | 1% | 1% | | | | |
| | Don't know | 0% | 0% | 0% | 0% | | | 0% | 0% | | |
| | Ducted air source heat pump | 3% | 5% | 1% | 1% | 4% | 2% | 0% | 0% | | |
| | Ductless mini-split heat pump | 1% | 1% | 2% | 1% | 2% | 1% | | | 6% | 0% |
| | Ground source heat pump | | | | | 0% | 1% | | | | |
| | Packaged terminal AC with heat | 1% | 1% | 1% | 1% | 2% | 1% | | | | |
| | Packaged terminal heat pump | | | 0% | 0% | 0% | 0% | | | | |
| | Other | | | 1% | 0% | 0% | 1% | | | | |
| | Respondents (n) | 19 | | 121 | | 69 | | 5 | | 1 | |
| Fuel Oil | Baseboard or wall electric resistance heat | 0% | 0% | 0% | 0% | 0% | 0% | | | | |
| | Central boiler | 2% | 1% | 11% | 1% | 4% | 1% | 0% | 0% | | |
| | District steam | | | 1% | 0% | 1% | 1% | | | | |
| | Ducted air source heat pump | | | | | 0% | 0% | | | | |
| | Ductless mini-split heat pump | | | | | 0% | 1% | | | | |
| | Ground source heat pump | | | 0% | 0% | 0% | 0% | | | | |
| | Other | 0% | 1% | 0% | 0% | 0% | 0% | | | | |
| | Respondents (n) | 11 | | 97 | | 25 | | 1 | | 0 | |
| Kerosene | Central boiler | | | | | 0% | 0% | | | | |
| | Respondents (n) | 0 | | 0 | | 1 | | 0 | | 0 | |
| Natural Gas | Baseboard or wall electric resistance heat | 7% | 5% | 7% | 2% | 15% | 4% | | | | |
| | Central boiler | 51% | 10% | 43% | 2% | 38% | 5% | 0% | 0% | 59% | 48% |
| | District steam | 1% | 1% | 1% | 1% | 2% | 1% | | | | |

| Fuel Type | Building Primary Heating System | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB | % | EB |
| | Don't know | 1% | 1% | 1% | 1% | 1% | 1% | 0% | 0% | | |
| | Ducted air source heat pump | 4% | 3% | 4% | 1% | 4% | 2% | 0% | 0% | | |
| | Ductless mini-split heat pump | | | 0% | 0% | 1% | 1% | | | | |
| | Ground source heat pump | | | 1% | 0% | 0% | 1% | | | | |
| | Packaged terminal AC with heat | 2% | 2% | 4% | 1% | 3% | 1% | 0% | 0% | | |
| | Packaged terminal heat pump | | | 1% | 0% | 1% | 2% | | | | |
| | Other | 7% | 4% | 7% | 1% | 3% | 2% | 0% | 0% | 31% | 32% |
| | Respondents (n) | 113 | | 559 | | 226 | | 18 | | 9 | |
| Propane | Baseboard or wall electric resistance heat | | | 0% | 0% | | | | | | |
| | Central boiler | | | 0% | 0% | | | | | | |
| | Other | | | 0% | 0% | | | | | | |
| | Respondents (n) | 0 | | 5 | | 0 | | 0 | | 0 | |
| Wood | Central boiler | 0% | 1% | 0% | 0% | 1% | 0% | | | | |
| | Respondents (n) | 2 | | 2 | | 2 | | 0 | | 0 | |
| Wood Pellets | Central boiler | 1% | 0% | 0% | 0% | 1% | 1% | | | | |
| | Respondents (n) | 1 | | 4 | | 3 | | 0 | | 0 | |
| Don't know | Baseboard or wall electric resistance heat | | | 0% | 0% | | | | | | |
| | Central boiler | 0% | 1% | 1% | 1% | 2% | 1% | 0% | 0% | 3% | 0% |
| | Don't know | 0% | 1% | 1% | 1% | | | 0% | 0% | | |
| | Packaged terminal AC with heat | | | 0% | 0% | | | | | | |
| | Other | | | | | | | 0% | 0% | | |
| | Respondents (n) | 2 | | 22 | | 7 | | 18 | | 1 | |
| Other | Central boiler | 4% | 3% | 0% | 0% | 1% | 2% | | | | |
| | District steam | 1% | 1% | 0% | 0% | 0% | 1% | | | | |
| | Ducted air source heat pump | | | 0% | 0% | | | | | | |
| | Packaged terminal AC with heat | | | 0% | 0% | | | | | | |
| | Other | | | 0% | 0% | 0% | 0% | | | | |

| Fuel Type | Building Primary Heating System | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB | % | EB |
| | Respondents (n) | 7 | | 9 | | 6 | | 0 | | 0 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 312. OWNERSHIP TYPE - BUILDING PRIMARY HEATING SYSTEM TYPE BY PRIMARY HEATING FUEL (PREDOMINANT FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Fuel Type | Building Primary Heating System | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| Electricity | Baseboard or wall electric resistance heat | 2% | 0% | 3% | 2% | 2% | 2% | 6% | 2% |
| | Central boiler | 1% | 1% | 5% | 3% | 2% | 2% | 1% | 1% |
| | District steam | | | 0% | 0% | 2% | 2% | | |
| | Don't know | 1% | 1% | | | 1% | 1% | | |
| | Ducted air source heat pump | 0% | 0% | 1% | 2% | | | 1% | 1% |
| | Ductless mini-split heat pump | 3% | 3% | 3% | 2% | | | 1% | 1% |
| | Ground source heat pump | | | | | | | 0% | 0% |
| | Packaged terminal AC with heat | 1% | 1% | 0% | 0% | 3% | 2% | 2% | 1% |
| | Packaged terminal heat pump | | | | | 1% | 1% | 0% | 0% |
| | Other | 1% | 1% | | | | | 1% | 1% |
| | Respondents (n) | 44 | | 56 | | 18 | | 74 | |
| Fuel Oil | Baseboard or wall electric resistance heat | 1% | 2% | 0% | 1% | | | 1% | 1% |
| | Central boiler | 1% | 1% | 12% | 3% | 12% | 2% | 16% | 3% |
| | District steam | | | 1% | 1% | 1% | 1% | 1% | 1% |
| | Ducted air source heat pump | | | | | 0% | 1% | | |
| | Ductless mini-split heat pump | | | 0% | 0% | | | | |
| | Ground source heat pump | | | 0% | 0% | | | | |
| | Other | | | 0% | 1% | | | 0% | 0% |
| | Respondents (n) | 7 | | 47 | | 19 | | 57 | |
| Kerosene | Central boiler | | | | | | | 0% | 0% |

| Fuel Type | Building Primary Heating System | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| | Respondents (n) | 0 | | 0 | | 0 | | 1 | |
| Natural Gas | Baseboard or wall electric resistance heat | 11% | 5% | 2% | 1% | 8% | 4% | 5% | 2% |
| | Central boiler | 54% | 10% | 49% | 7% | 40% | 6% | 42% | 5% |
| | District steam | | | 1% | 1% | 1% | 1% | 3% | 2% |
| | Don't know | 2% | 2% | 1% | 0% | 3% | 3% | 1% | 1% |
| | Ducted air source heat pump | 2% | 2% | 1% | 1% | 2% | 2% | 3% | 1% |
| | Ductless mini-split heat pump | | | | | 1% | 1% | 1% | 1% |
| | Ground source heat pump | 0% | 0% | 3% | 2% | | | | |
| | Packaged terminal AC with heat | 5% | 3% | 1% | 1% | 5% | 3% | 3% | 2% |
| | Packaged terminal heat pump | 0% | 0% | 0% | 0% | 1% | 1% | 0% | 1% |
| | Other | 1% | 0% | 3% | 2% | 5% | 3% | 6% | 2% |
| | Respondents (n) | 143 | | 281 | | 100 | | 330 | |
| Propane | Baseboard or wall electric resistance heat | | | | | | | 0% | 1% |
| | Central boiler | 0% | 0% | | | | | 0% | 1% |
| | Other | | | 0% | 0% | | | | |
| | Respondents (n) | 1 | | 1 | | 0 | | 3 | |
| Wood | Central boiler | | | 2% | 0% | | | 1% | 2% |
| | Respondents (n) | 0 | | 3 | | 0 | | 2 | |
| Wood Pellets | Central boiler | 0% | 0% | 3% | 0% | | | 1% | 3% |
| | Respondents (n) | 1 | | 4 | | 0 | | 2 | |
| Don't know | Baseboard or wall electric resistance heat | | | | | | | 0% | 0% |
| | Central boiler | 7% | 4% | 3% | 2% | 5% | 0% | 1% | 1% |
| | Don't know | 9% | 4% | 3% | 2% | | | 1% | 1% |
| | Packaged terminal AC with heat | | | 0% | 0% | | | | |
| | Other | | | | | | | 1% | 1% |
| | Respondents (n) | 16 | | 16 | | 7 | | 10 | |
| Other | Central boiler | 0% | 0% | 1% | 2% | 2% | 2% | 0% | 0% |

| Fuel Type | Building Primary Heating System | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| | District steam | | | | | 2% | 2% | 1% | 0% |
| | Ducted air source heat pump | | | 0% | 0% | | | | |
| | Packaged terminal AC with heat | | | | | 0% | 1% | | |
| | Other | | | 0% | 0% | | | 0% | 0% |
| | Respondents (n) | 1 | | 7 | | 8 | | 6 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 313. STATEWIDE - BUILDING PRIMARY HEATING SYSTEM TYPE BY PRIMARY HEATING FUEL (PREDOMINANT FOR DWELLING UNITS IN BUILDING) (BUILDING REP SURVEY)

| Fuel Type | Building Primary Heating System | Statewide | |
|---|---|---|---|
| | | % | EB |
| Electricity | Baseboard or wall electric resistance heat | 6% | 1% |
| | Central boiler | 2% | 1% |
| | District steam | 0% | 0% |
| | Don't know | 0% | 0% |
| | Ducted air source heat pump | 1% | 1% |
| | Ductless mini-split heat pump | 2% | 1% |
| | Ground source heat pump | 0% | 0% |
| | Packaged terminal AC with heat | 1% | 0% |
| | Packaged terminal heat pump | 0% | 0% |
| | Other | 1% | 0% |
| | Respondents (n) | 192 | |
| Fuel Oil | Baseboard or wall electric resistance heat | 1% | 0% |
| | Central boiler | 11% | 1% |
| | District steam | 1% | 0% |
| | Ducted air source heat pump | 0% | 0% |
| | Ductless mini-split heat pump | 0% | 0% |

| Fuel Type | Building Primary Heating System | Statewide | |
|---|---|---|---|
| | | % | EB |
| | Ground source heat pump | 0% | 0% |
| | Other | 0% | 0% |
| | Respondents (n) | 130 | |
| Kerosene | Central boiler | 0% | 0% |
| | Respondents (n) | 1 | |
| Natural Gas | Baseboard or wall electric resistance heat | 6% | 1% |
| | Central boiler | 44% | 3% |
| | District steam | 2% | 1% |
| | Don't know | 1% | 1% |
| | Ducted air source heat pump | 3% | 1% |
| | Ductless mini-split heat pump | 0% | 0% |
| | Ground source heat pump | 1% | 1% |
| | Packaged terminal AC with heat | 3% | 1% |
| | Packaged terminal heat pump | 0% | 0% |
| | Other | 6% | 1% |
| | Respondents (n) | 854 | |
| Propane | Baseboard or wall electric resistance heat | 0% | 0% |
| | Central boiler | 0% | 0% |
| | Other | 0% | 0% |
| | Respondents (n) | 5 | |
| Wood | Central boiler | 1% | 0% |
| | Respondents (n) | 5 | |
| Wood Pellets | Central boiler | 1% | 0% |
| | Respondents (n) | 7 | |
| Don't know | Baseboard or wall electric resistance heat | 0% | 0% |
| | Central boiler | 2% | 1% |
| | Don't know | 2% | 1% |

| Fuel Type | Building Primary Heating System | Statewide | |
|---|---|---|---|
| | | % | EB |
| | Packaged terminal AC with heat | 0% | 0% |
| | Other | 0% | 0% |
| | Respondents (n) | 49 | |
| Other | Central boiler | 1% | 0% |
| | District steam | 0% | 0% |
| | Ducted air source heat pump | 0% | 0% |
| | Packaged terminal AC with heat | 0% | 0% |
| | Other | 0% | 0% |
| | Respondents (n) | 22 | |

Source: Survey fields: ['Including yourself, how many people live in your home?', 'What is the typical primary heating system for the building's living units? - Selected Choice']

## TABLE 314. CLIMATE ZONE - BUILDING PRIMARY HEATING SYSTEM AGE BY PRIMARY HEATING FUEL (BUILDING REP SURVEY)

| Primary Heating Fuel | Primary Heating System Age | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Electricity | Less than 5 years | 48.7399 | 5.599808 | 46.07331 | 10.43623 | 23.65539 | 6.518356 | 21.56759 | 8.158145 |
| | 5 to 9 years | 25.80448 | 4.240757 | 14.55093 | 5.341733 | 13.76592 | 4.211871 | 29.50627 | 9.206169 |
| | 10 to 14 years | 10.46093 | 2.970027 | 12.40294 | 7.408117 | 8.054907 | 3.59357 | 18.8385 | 7.306295 |
| | 15 to 19 years | 3.672827 | 1.786113 | 7.962677 | 7.388491 | 9.473553 | 4.470589 | 6.708475 | 4.982079 |
| | 20 plus years | 8.014097 | 3.242849 | 7.808383 | 3.64755 | 31.47124 | 7.340339 | 16.12447 | 5.746729 |
| | Unknown | 3.307759 | 2.026153 | 11.20175 | 7.833063 | 13.57899 | 5.133008 | 7.254692 | 5.1363 |
| | Respondents (n) | 72 | | 28 | | 67 | | 36 | |
| Fuel Oil | Less than 5 years | 11.94432 | 3.513586 | 9.941875 | 4.414595 | 8.507568 | 8.425938 | 14.54745 | 13.11885 |
| | 5 to 9 years | 21.8702 | 4.582765 | 26.07263 | 10.22664 | 12.77338 | 8.707802 | 75.67586 | 14.85357 |
| | 10 to 14 years | 7.251949 | 2.557865 | 35.38399 | 12.1345 | 7.656811 | 7.583344 | 0 | 0 |
| | 15 to 19 years | 9.85018 | 3.076009 | 4.717472 | 2.763707 | 9.358325 | 8.385489 | 4.888345 | 5.771966 |
| | 20 plus years | 38.43676 | 5.152706 | 14.01523 | 6.435313 | 42.54987 | 14.11368 | 4.888345 | 5.771966 |

| Primary Heating Fuel | Primary Heating System Age | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| | Unknown | 10.6466 | 3.357052 | 9.868801 | 9.446995 | 19.15405 | 11.45475 | 0 | 0 |
| | Respondents (n) | 90 | | 22 | | 14 | | 6 | |
| Kerosene | Less than 5 years | | | | | 0 | | | |
| | 5 to 9 years | | | | | 0 | | | |
| | 10 to 14 years | | | | | 100 | | | |
| | 15 to 19 years | | | | | 0 | | | |
| | 20 plus years | | | | | 0 | | | |
| | Unknown | | | | | 0 | | | |
| | Respondents (n) | | | | | 1 | | | |
| Natural Gas | Less than 5 years | 17.39995 | 1.847534 | 17.5613 | 4.087638 | 24.29319 | 2.920732 | 23.78942 | 5.25616 |
| | 5 to 9 years | 21.43511 | 1.980445 | 19.12716 | 4.330132 | 19.46199 | 2.54869 | 29.17739 | 5.661606 |
| | 10 to 14 years | 18.72449 | 1.959815 | 26.27057 | 5.655492 | 19.33825 | 2.77322 | 15.8899 | 4.395808 |
| | 15 to 19 years | 10.14303 | 1.474202 | 11.51364 | 3.284037 | 7.118031 | 1.705495 | 11.88928 | 3.817344 |
| | 20 plus years | 22.01979 | 2.058452 | 21.25934 | 5.070234 | 19.76148 | 3.129547 | 12.14087 | 4.101479 |
| | Unknown | 10.27763 | 1.550552 | 4.267996 | 2.265617 | 10.02706 | 2.460019 | 7.113131 | 2.712554 |
| | Respondents (n) | 468 | | 96 | | 236 | | 88 | |
| Propane | Less than 5 years | | | | | 70 | 30 | 0 | 0 |
| | 5 to 9 years | | | | | 30 | 30 | 81.98489 | 22.26605 |
| | 10 to 14 years | | | | | 0 | 0 | 18.01511 | 22.26605 |
| | 15 to 19 years | | | | | 0 | 0 | 0 | 0 |
| | 20 plus years | | | | | 0 | 0 | 0 | 0 |
| | Unknown | | | | | 0 | 0 | 0 | 0 |
| | Respondents (n) | | | | | 2 | | 3 | |
| Wood | Less than 5 years | 38.93305 | 20.21309 | | | 0 | | | |
| | 5 to 9 years | 61.06695 | 20.21309 | | | 100 | | | |
| | 10 to 14 years | 0 | 0 | | | 0 | | | |
| | 15 to 19 years | 0 | 0 | | | 0 | | | |

| Primary Heating Fuel | Primary Heating System Age | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| | 20 plus years | 0 | 0 | | | 0 | | | |
| | Unknown | 0 | 0 | | | 0 | | | |
| | Respondents (n) | 5 | | | | 1 | | | |
| Wood Pellets | Less than 5 years | 47.37367 | 17.79231 | | | | | | |
| | 5 to 9 years | 52.62633 | 17.79231 | | | | | | |
| | 10 to 14 years | 0 | 0 | | | | | | |
| | 15 to 19 years | 0 | 0 | | | | | | |
| | 20 plus years | 0 | 0 | | | | | | |
| | Unknown | 0 | 0 | | | | | | |
| | Respondents (n) | 8 | | | | | | | |
| Other | Less than 5 years | 2.555474 | 1.749714 | 0 | 0 | 13.08306 | 10.67741 | 0 | |
| | 5 to 9 years | 14.79062 | 10.1731 | 0 | 0 | 14.34849 | 7.057612 | 100 | |
| | 10 to 14 years | 13.74582 | 10.67397 | 0 | 0 | 8.999696 | 5.096946 | 0 | |
| | 15 to 19 years | 6.464483 | 4.454239 | 51.65865 | 49.94498 | 4.596119 | 3.893139 | 0 | |
| | 20 plus years | 62.4436 | 14.86963 | 48.34135 | 49.94498 | 38.38974 | 17.54168 | 0 | |
| | Unknown | 0 | 0 | 0 | 0 | 20.58289 | 20.15529 | 0 | |
| | Respondents (n) | 13 | | 2 | | 6 | | 1 | |
| Don't know | Less than 5 years | 9.111205 | 4.58496 | 0 | 0 | 91.11348 | 10.15996 | 0 | |
| | 5 to 9 years | 8.989584 | 4.204384 | 0 | 0 | 0 | 0 | 100 | |
| | 10 to 14 years | 11.57181 | 5.028154 | 0 | 0 | 8.886516 | 10.15996 | 0 | |
| | 15 to 19 years | 4.062909 | 2.681233 | 35.17322 | 31.62937 | 0 | 0 | 0 | |
| | 20 plus years | 12.86111 | 5.694183 | 49.50511 | 32.16028 | 0 | 0 | 0 | |
| | Unknown | 53.40338 | 8.351764 | 15.32167 | 17.72299 | 0 | 0 | 0 | |
| | Respondents (n) | 39 | | 4 | | 5 | | 1 | |

Source: Survey fields: ['Including yourself, how many people currently living in your home year-round are in the following age groups? Please exclude anyone who is just visiting, children who may be away at college or those deployed in the military. (If none, please enter zero) - Less than 5 Years - Number of people:', 'What percent of the living unit primary heating systems fall into each age range? - Less than 5 Years - Enter percentages:']

## TABLE 315. DAC FLAG - BUILDING PRIMARY HEATING SYSTEM AGE BY PRIMARY HEATING FUEL (BUILDING REP SURVEY)

| Primary Heating Fuel | Primary Heating System Age | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|---|
| | | Mean | EB | Mean | EB | Mean | EB |
| Electricity | Less than 5 years | 37.38437 | 5.968853 | 27.06238 | 4.75345 | 51.51707 | 12.17987 |
| | 5 to 9 years | 19.10244 | 4.114062 | 22.07118 | 4.434986 | 19.88054 | 6.443814 |
| | 10 to 14 years | 13.43839 | 4.59265 | 8.943048 | 2.812339 | 13.01589 | 5.073091 |
| | 15 to 19 years | 6.413358 | 3.389781 | 8.813036 | 3.471876 | 3.337935 | 2.080063 |
| | 20 plus years | 13.87183 | 4.585999 | 23.60516 | 4.616585 | 12.19486 | 7.525485 |
| | Unknown | 9.789617 | 3.764102 | 9.505198 | 3.360624 | 0.053704 | 0.040687 |
| | Respondents (n) | 58 | | 91 | | 53 | |
| Fuel Oil | Less than 5 years | 8.466901 | 4.654255 | 9.905067 | 3.971438 | 15.98189 | 8.794044 |
| | 5 to 9 years | 22.36682 | 7.054184 | 27.47623 | 5.874546 | 17.59324 | 12.51731 |
| | 10 to 14 years | 17.0418 | 6.228944 | 8.185905 | 3.225784 | 0.956308 | 0.671127 |
| | 15 to 19 years | 11.35425 | 5.620647 | 2.247211 | 1.251057 | 28.2927 | 20.79229 |
| | 20 plus years | 23.1482 | 7.311533 | 42.16757 | 6.192955 | 36.66394 | 20.91441 |
| | Unknown | 17.62203 | 6.706471 | 10.01802 | 3.978195 | 0.511919 | 0.440638 |
| | Respondents (n) | 38 | | 66 | | 22 | |
| Kerosene | Less than 5 years | | | 0 | | | |
| | 5 to 9 years | | | 0 | | | |
| | 10 to 14 years | | | 100 | | | |
| | 15 to 19 years | | | 0 | | | |
| | 20 plus years | | | 0 | | | |
| | Unknown | | | 0 | | | |
| | Respondents (n) | | | 1 | | | |
| Natural Gas | Less than 5 years | 21.42651 | 2.270625 | 17.41058 | 1.91952 | 28.89454 | 7.770375 |
| | 5 to 9 years | 19.49877 | 2.106287 | 16.71581 | 1.850511 | 37.34255 | 8.466781 |
| | 10 to 14 years | 16.7417 | 1.979772 | 22.1301 | 2.201212 | 22.90689 | 7.698222 |
| | 15 to 19 years | 10.90917 | 1.807072 | 9.524562 | 1.442136 | 3.599933 | 1.55932 |
| | 20 plus years | 20.9309 | 2.329693 | 24.38987 | 2.288149 | 0.547149 | 0.418572 |

| Primary Heating Fuel | Primary Heating System Age | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|---|
| | | Mean | EB | Mean | EB | Mean | EB |
| | Unknown | 10.49296 | 1.73374 | 9.82908 | 1.534551 | 6.708943 | 5.338794 |
| | Respondents (n) | 342 | | 395 | | 116 | |
| Propane | Less than 5 years | 70 | 30 | 0 | 0 | 0 | |
| | 5 to 9 years | 30 | 30 | 34.1929 | 160.3412 | 100 | |
| | 10 to 14 years | 0 | 0 | 65.8071 | 191.9554 | 0 | |
| | 15 to 19 years | 0 | 0 | 0 | 0 | 0 | |
| | 20 plus years | 0 | 0 | 0 | 0 | 0 | |
| | Unknown | 0 | 0 | 0 | 0 | 0 | |
| | Respondents (n) | 2 | | 2 | | 1 | |
| Wood | Less than 5 years | 50 | 50 | 34.56054 | 4.961374 | 0 | 0 |
| | 5 to 9 years | 50 | 50 | 65.43946 | 4.961374 | 100 | 0 |
| | 10 to 14 years | 0 | 0 | 0 | 0 | 0 | 0 |
| | 15 to 19 years | 0 | 0 | 0 | 0 | 0 | 0 |
| | 20 plus years | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unknown | 0 | 0 | 0 | 0 | 0 | 0 |
| | Respondents (n) | 2 | | 2 | | 2 | |
| Wood Pellets | Less than 5 years | 66.66667 | 33.33333 | 22.80268 | 24.80687 | 0 | 0 |
| | 5 to 9 years | 33.33333 | 33.33333 | 77.19732 | 24.80687 | 100 | 0 |
| | 10 to 14 years | 0 | 0 | 0 | 0 | 0 | 0 |
| | 15 to 19 years | 0 | 0 | 0 | 0 | 0 | 0 |
| | 20 plus years | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unknown | 0 | 0 | 0 | 0 | 0 | 0 |
| | Respondents (n) | 3 | | 2 | | 2 | |
| Other | Less than 5 years | 0 | 0 | 8.629082 | 5.805837 | 0 | |
| | 5 to 9 years | 22.05261 | 12.48993 | 19.83112 | 12.58569 | 0 | |
| | 10 to 14 years | 3.862971 | 3.538133 | 14.34467 | 10.04616 | 0 | |
| | 15 to 19 years | 3.527186 | 3.85435 | 19.28908 | 14.34519 | 0 | |

| Primary Heating Fuel | Primary Heating System Age | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|---|
| | | Mean | EB | Mean | EB | Mean | EB |
| | 20 plus years | 59.82532 | 15.38458 | 37.90604 | 14.50208 | 100 | |
| | Unknown | 10.73191 | 10.90231 | 0 | 0 | 0 | |
| | Respondents (n) | 9 | | 11 | | 1 | |
| Don't know | Less than 5 years | 11.2368 | 6.219585 | 16.445 | 9.920482 | 86.8238 | 16.02196 |
| | 5 to 9 years | 19.40785 | 8.479275 | 0 | 0 | 8.384853 | 12.2251 |
| | 10 to 14 years | 3.834364 | 3.427129 | 18.83657 | 11.46854 | 0 | 0 |
| | 15 to 19 years | 7.798307 | 7.140154 | 0 | 0 | 2.395672 | 3.621722 |
| | 20 plus years | 14.37537 | 7.434996 | 15.82861 | 9.160778 | 0 | 0 |
| | Unknown | 43.34732 | 11.03847 | 48.88983 | 13.9847 | 2.395672 | 3.621722 |
| | Respondents (n) | 22 | | 16 | | 4 | |

Source: Survey fields: ['Including yourself, how many people currently living in your home year-round are in the following age groups? Please exclude anyone who is just visiting, children who may be away at college or those deployed in the military. (If none, please enter zero) - Less than 5 Years - Number of people:', 'What percent of the living unit primary heating systems fall into each age range? - Less than 5 Years - Enter percentages:']

## TABLE 316. OWNERSHIP TYPE - BUILDING PRIMARY HEATING SYSTEM AGE BY PRIMARY HEATING FUEL (BUILDING REP SURVEY)

| Primary Heating Fuel | Primary Heating System Age | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Electricity | Less than 5 years | 53.00478 | 12.50445 | 45.62055 | 8.217549 | 37.46854 | 6.631184 | 31.67224 | 6.238349 |
| | 5 to 9 years | 15.81579 | 7.291421 | 27.26638 | 6.387546 | 24.96513 | 4.246937 | 18.55267 | 4.843054 |
| | 10 to 14 years | 5.974834 | 2.699389 | 6.291579 | 2.898801 | 18.8662 | 6.376883 | 11.15595 | 4.025331 |
| | 15 to 19 years | 8.996391 | 4.001124 | 3.648117 | 2.277345 | 3.629284 | 3.535931 | 7.321142 | 3.654261 |
| | 20 plus years | 6.388883 | 2.929591 | 12.62014 | 5.4601 | 10.69126 | 5.472121 | 22.31 | 6.096031 |
| | Unknown | 9.819326 | 6.166487 | 4.553236 | 2.17892 | 4.379585 | 4.348136 | 8.988 | 4.057522 |
| | Respondents (n) | 44 | | 56 | | 29 | | 74 | |
| Fuel Oil | Less than 5 years | 0 | 0 | 7.125841 | 4.733386 | 4.168925 | 3.61702 | 17.94784 | 5.698897 |
| | 5 to 9 years | 0 | 0 | 23.87939 | 7.543068 | 1.953396 | 1.382423 | 27.23048 | 6.494475 |
| | 10 to 14 years | 40.26998 | 27.07282 | 5.639506 | 2.593642 | 8.226643 | 5.706139 | 8.467536 | 3.922146 |
| | 15 to 19 years | 11.94775 | 12.98937 | 14.74867 | 6.331649 | 7.339913 | 5.560633 | 6.518051 | 3.320569 |
| | 20 plus years | 14.61115 | 13.65695 | 34.54937 | 7.996399 | 63.89904 | 10.80914 | 33.53064 | 6.972388 |
| | Unknown | 33.17112 | 27.48908 | 14.05722 | 6.507753 | 14.41209 | 7.97386 | 6.305448 | 3.274469 |
| | Respondents (n) | 7 | | 48 | | 20 | | 57 | |
| Kerosene | Less than 5 years | | | | | | | 0 | |
| | 5 to 9 years | | | | | | | 0 | |
| | 10 to 14 years | | | | | | | 100 | |
| | 15 to 19 years | | | | | | | 0 | |
| | 20 plus years | | | | | | | 0 | |
| | Unknown | | | | | | | 0 | |
| | Respondents (n) | | | | | | | 1 | |
| Natural Gas | Less than 5 years | 19.82519 | 4.392045 | 17.57462 | 3.16829 | 15.23523 | 2.55081 | 20.65753 | 2.433422 |
| | 5 to 9 years | 21.82816 | 4.434558 | 20.76227 | 3.36182 | 17.86497 | 2.643999 | 20.85029 | 2.30853 |
| | 10 to 14 years | 16.86819 | 3.921931 | 21.77077 | 3.588685 | 12.97932 | 2.464912 | 20.29936 | 2.489193 |
| | 15 to 19 years | 19.90158 | 4.479756 | 11.41788 | 2.76431 | 13.25557 | 3.003976 | 5.094668 | 1.242137 |
| | 20 plus years | 11.17196 | 3.121917 | 16.94911 | 3.335045 | 29.46729 | 4.026352 | 25.02798 | 2.873579 |

| Primary Heating Fuel | Primary Heating System Age | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| | Unknown | 10.40492 | 3.414594 | 11.52535 | 2.902388 | 11.19761 | 2.820033 | 8.070177 | 1.852656 |
| | Respondents (n) | 144 | | 283 | | 131 | | 330 | |
| Propane | Less than 5 years | 0 | | 0 | | | | 60.74653 | 25.5622 |
| | 5 to 9 years | 0 | | 40 | | | | 39.25347 | 25.5622 |
| | 10 to 14 years | 100 | | 60 | | | | 0 | 0 |
| | 15 to 19 years | 0 | | 0 | | | | 0 | 0 |
| | 20 plus years | 0 | | 0 | | | | 0 | 0 |
| | Unknown | 0 | | 0 | | | | 0 | 0 |
| | Respondents (n) | 1 | | 1 | | | | 3 | |
| Wood | Less than 5 years | | | 46.66667 | 29.05933 | 0 | | 15.4762 | 14.98488 |
| | 5 to 9 years | | | 53.33333 | 29.05933 | 100 | | 84.5238 | 14.98488 |
| | 10 to 14 years | | | 0 | 0 | 0 | | 0 | 0 |
| | 15 to 19 years | | | 0 | 0 | 0 | | 0 | 0 |
| | 20 plus years | | | 0 | 0 | 0 | | 0 | 0 |
| | Unknown | | | 0 | 0 | 0 | | 0 | 0 |
| | Respondents (n) | | | 3 | | 1 | | 2 | |
| Wood Pellets | Less than 5 years | 100 | | 62.5 | 23.93568 | 0 | | 0 | 0 |
| | 5 to 9 years | 0 | | 37.5 | 23.93568 | 100 | | 100 | 0 |
| | 10 to 14 years | 0 | | 0 | 0 | 0 | | 0 | 0 |
| | 15 to 19 years | 0 | | 0 | 0 | 0 | | 0 | 0 |
| | 20 plus years | 0 | | 0 | 0 | 0 | | 0 | 0 |
| | Unknown | 0 | | 0 | 0 | 0 | | 0 | 0 |
| | Respondents (n) | 1 | | 4 | | 1 | | 2 | |
| Other | Less than 5 years | 0 | | 0.99932 | 1.347645 | 3.028173 | 2.581498 | 6.201841 | 4.896501 |
| | 5 to 9 years | 100 | | 0.972882 | 1.093546 | 26.33194 | 16.95429 | 4.768467 | 3.282011 |
| | 10 to 14 years | 0 | | 0.375564 | 0.503609 | 14.45188 | 10.97083 | 6.268747 | 4.279608 |
| | 15 to 19 years | 0 | | 0 | 0 | 3.949791 | 3.922034 | 33.48075 | 19.41369 |

| Primary Heating Fuel | Primary Heating System Age | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| | 20 plus years | 0 | | 88.52688 | 12.85475 | 52.23821 | 17.94259 | 49.28019 | 20.74855 |
| | Unknown | 0 | | 9.125349 | 11.64693 | 0 | 0 | 0 | 0 |
| | Respondents (n) | 1 | | 7 | | 8 | | 6 | |
| Don't know | Less than 5 years | 4.029707 | 3.985637 | 15.40045 | 8.116771 | 0 | 0 | 7.210974 | 4.663146 |
| | 5 to 9 years | 10.4374 | 8.142837 | 4.939277 | 4.671026 | 13.22419 | 13.16654 | 1.756388 | 1.662644 |
| | 10 to 14 years | 15.32053 | 9.772691 | 0 | 0 | 11.83871 | 12.17668 | 36.88414 | 19.91117 |
| | 15 to 19 years | 0 | 0 | 0 | 0 | 29.3871 | 18.77018 | 3.58567 | 2.583574 |
| | 20 plus years | 12.18459 | 8.584039 | 16.57 | 11.80872 | 16.1629 | 14.44263 | 1.756388 | 1.662644 |
| | Unknown | 58.02778 | 13.78527 | 63.09028 | 14.21096 | 29.3871 | 18.77018 | 48.80644 | 18.78278 |
| | Respondents (n) | 16 | | 16 | | 7 | | 10 | |

Source: Survey fields: ['Including yourself, how many people currently living in your home year-round are in the following age groups? Please exclude anyone who is just visiting, children who may be away at college or those deployed in the military. (If none, please enter zero) - Less than 5 Years - Number of people:', 'What percent of the living unit primary heating systems fall into each age range? - Less than 5 Years - Enter percentages:']

## TABLE 317. STATEWIDE - BUILDING PRIMARY HEATING SYSTEM AGE BY PRIMARY HEATING FUEL (BUILDING REP SURVEY)

| Primary Heating Fuel | Primary Heating System Age | Statewide | |
|---|---|---|---|
| | | Mean | EB |
| Electricity | Less than 5 years | 34.27532 | 3.85608 |
| | 5 to 9 years | 21.06064 | 3.072764 |
| | 10 to 14 years | 10.46518 | 2.305151 |
| | 15 to 19 years | 8.110976 | 2.549546 |
| | 20 plus years | 17.0087 | 3.252859 |
| | Unknown | 9.079196 | 2.565076 |
| | Respondents (n) | | 192 |
| Fuel Oil | Less than 5 years | 10.9328 | 2.967988 |
| | 5 to 9 years | 22.80195 | 4.090878 |
| | 10 to 14 years | 11.02014 | 2.848498 |
| | 15 to 19 years | 6.543722 | 2.181072 |
| | 20 plus years | 38.4013 | 4.612157 |
| | Unknown | 10.30009 | 2.865545 |
| | Respondents (n) | | 130 |
| Kerosene | Less than 5 years | 0 | |
| | 5 to 9 years | 0 | |
| | 10 to 14 years | 100 | |
| | 15 to 19 years | 0 | |
| | 20 plus years | 0 | |
| | Unknown | 0 | |
| | Respondents (n) | | 1 |
| Natural Gas | Less than 5 years | 18.18828 | 1.475107 |
| | 5 to 9 years | 19.60378 | 1.528212 |
| | 10 to 14 years | 18.98974 | 1.555271 |
| | 15 to 19 years | 10.21952 | 1.160643 |
| | 20 plus years | 22.39523 | 1.684333 |

| Primary Heating Fuel | Primary Heating System Age | Statewide | |
|---|---|---|---|
| | | Mean | EB |
| | Unknown | 10.60344 | 1.282928 |
| | Respondents (n) | | 854 |
| Propane | Less than 5 years | 49.5221 | 30.23316 |
| | 5 to 9 years | 37.81937 | 27.93838 |
| | 10 to 14 years | 12.65853 | 13.55765 |
| | 15 to 19 years | 0 | 0 |
| | 20 plus years | 0 | 0 |
| | Unknown | 0 | 0 |
| | Respondents (n) | | 5 |
| Wood | Less than 5 years | 36.99364 | 19.62476 |
| | 5 to 9 years | 63.00636 | 19.62476 |
| | 10 to 14 years | 0 | 0 |
| | 15 to 19 years | 0 | 0 |
| | 20 plus years | 0 | 0 |
| | Unknown | 0 | 0 |
| | Respondents (n) | | 5 |
| Wood Pellets | Less than 5 years | 51.34807 | 20.60333 |
| | 5 to 9 years | 48.65193 | 20.60333 |
| | 10 to 14 years | 0 | 0 |
| | 15 to 19 years | 0 | 0 |
| | 20 plus years | 0 | 0 |
| | Unknown | 0 | 0 |
| | Respondents (n) | | 7 |
| Other | Less than 5 years | 4.290424 | 2.549364 |
| | 5 to 9 years | 13.0436 | 7.376104 |
| | 10 to 14 years | 10.13478 | 6.96893 |
| | 15 to 19 years | 6.261008 | 3.414421 |

| Primary Heating Fuel | Primary Heating System Age | Statewide | |
|---|---|---|---|
| | | Mean | EB |
| | 20 plus years | 63.12138 | 11.76864 |
| | Unknown | 3.148814 | 3.239868 |
| | Respondents (n) | | 22 |
| Don't know | Less than 5 years | 10.54876 | 4.060131 |
| | 5 to 9 years | 9.015021 | 3.855607 |
| | 10 to 14 years | 11.22237 | 4.725114 |
| | 15 to 19 years | 4.951389 | 3.079276 |
| | 20 plus years | 14.56147 | 5.581732 |
| | Unknown | 49.70099 | 7.84887 |
| | Respondents (n) | | 49 |

Source: Survey fields: ['Including yourself, how many people currently living in your home year-round are in the following age groups? Please exclude anyone who is just visiting, children who may be away at college or those deployed in the military. (If none, please enter zero) - Less than 5 Years - Number of people:', 'What percent of the living unit primary heating systems fall into each age range? - Less than 5 Years - Enter percentages:']

## TABLE 318. CLIMATE ZONE - BUILDING SECONDARY HEATING FUEL (SITE VISITS) (PREDOMINANT SECONDARY HEATING FUEL FOR DWELLING UNITS IN BUILDING)

| Fuel Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 100% | 0% | 100% | 0% | 99% | 74% | 100% | 0% |
| Natural gas | | | | | 1% | 1% | | |
| Respondents (n) | 1 | | 1 | | 11 | | 2 | |

Source: On-site fields: ['What heating fuel does the equipment use?']

## TABLE 319. DAC FLAG - BUILDING SECONDARY HEATING FUEL (SITE VISITS) (PREDOMINANT SECONDARY HEATING FUEL FOR DWELLING UNITS IN BUILDING)

| Fuel Type | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | % | EB | % | EB |
| Electricity | 72% | 103% | 100% | 86% |
| Natural gas | 28% | 53% | | |
| Respondents (n) | 8 | | 7 | |

Source: On-site fields: ['What heating fuel does the equipment use?']

## TABLE 320. OWNERSHIP TYPE - BUILDING SECONDARY HEATING FUEL (SITE VISITS) (PREDOMINANT SECONDARY HEATING FUEL FOR DWELLING UNITS IN BUILDING)

| Fuel Type | Affordable Subsidized | | Affordable Unsubsidized | | Market-Rate Rental | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 91% | 110% | 100% | 0% | 100% | 0% |
| Natural gas | 9% | 15% | | | | |
| Respondents (n) | 11 | | 1 | | 3 | |

Source: On-site fields: ['What heating fuel does the equipment use?']

## TABLE 321. STATEWIDE - BUILDING SECONDARY HEATING FUEL (SITE VISITS) (PREDOMINANT SECONDARY HEATING FUEL FOR DWELLING UNITS IN BUILDING)

| Fuel Type | Statewide | |
|---|---|---|
| | % | EB |
| Electricity | 98% | 59% |
| Natural gas | 2% | 4% |
| Respondents (n) | 15 | |

Source: On-site fields: ['What heating fuel does the equipment use?']

## TABLE 322. BUILDING VINTAGE - DWELLING UNIT HEATING CONTROLS (BUILDING REP SURVEY)

| Heating Controls | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Controls integrated with equipment | 11% | 6.2% | 28% | 16.1% | 10% | 7.1% | 16% | 21.0% |
| Manual thermostat with a physical dial (analog) | 32% | 8.0% | 30% | 10.9% | 27% | 8.5% | 10% | 10.6% |
| Manual thermostat with buttons and a digital display (digital) | 30% | 9.8% | 26% | 7.2% | 56% | 16.3% | 25% | 17.0% |
| Programmable thermostat (does not learn occupant behavior) | 16% | 6.6% | 10% | 3.4% | 5% | 5.2% | 42% | 46.6% |
| Smart/Wi-Fi-Enabled Thermostat (learns occupant behavior) | 5% | 4.9% | 1% | 0.7% | | | 5% | 3.3% |
| Don't know | 2% | 1.7% | 4% | 2.0% | 1% | 1.1% | 1% | 1.8% |
| Other | 4% | 4.0% | 1% | 1.1% | 1% | 0.9% | | |
| Respondents (n) | 170 | | 222 | | 154 | | 66 | |

Source: On-site fields: ['What is the highest level of education anyone currently living in your household has completed?', 'What type of thermostat controls are typically provided for heating in living units? - Selected Choice']

## TABLE 323. BUILDING SIZE - DWELLING UNIT HEATING CONTROLS (BUILDING REP SURVEY)

| Dwelling Unit Heating Controls | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | EB | % | EB | % | EB | % |
| Controls integrated with equipment | 2.8% | 8.8% | 7.0% | 16.8% | 12.5% | 41.8% |
| Manual thermostat with a physical dial (analog) | 5.9% | 40.1% | 7.2% | 22.1% | 6.4% | 12.8% |
| Manual thermostat with buttons and a digital display (digital) | 5.1% | 28.9% | 10.6% | 44.1% | 9.9% | 25.2% |
| Programmable thermostat (does not learn occupant behavior) | 3.7% | 12.8% | 4.6% | 10.2% | 4.7% | 6.4% |
| Smart/Wi-Fi-Enabled Thermostat (learns occupant behavior) | 1.0% | 1.5% | 1.8% | 2.1% | 6.4% | 7.5% |
| Don't know | 2.8% | 6.2% | 1.2% | 1.0% | 2.4% | 2.5% |
| Other | 1.6% | 1.7% | 3.0% | 3.7% | 4.1% | 3.8% |
| Respondents (n) | | 424 | | 188 | | 94 |

Source: On-site fields: ['What is the highest level of education anyone currently living in your household has completed?', 'What type of thermostat controls are typically provided for heating in living units? - Selected Choice']

## TABLE 324. CLIMATE ZONE - DWELLING UNIT HEATING CONTROLS (BUILDING REP SURVEY)

| Dwelling Unit Heating Controls | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Controls integrated with equipment | 14% | 4% | 17% | 7% | 12% | 4% | 12% | 7% |
| Manual thermostat with a physical dial (analog) | 25% | 6% | 45% | 11% | 35% | 6% | 32% | 10% |
| Manual thermostat with buttons and a digital display (digital) | 40% | 7% | 21% | 8% | 30% | 6% | 38% | 10% |
| Programmable thermostat (does not learn occupant behavior) | 11% | 4% | 9% | 5% | 14% | 4% | 10% | 6% |
| Smart/Wi-Fi-Enabled Thermostat (learns occupant behavior) | 4% | 2% | 5% | 3% | 2% | 2% | 3% | 4% |
| Don't know | 2% | 2% | 2% | 3% | 6% | 3% | 3% | 4% |
| Other | 3% | 2% | 1% | 1% | 1% | 1% | 2% | 3% |
| Respondents (n) | 279 | | 104 | | 259 | | 108 | |

Source: On-site fields: ['What is the highest level of education anyone currently living in your household has completed?', 'What type of thermostat controls are typically provided for heating in living units? - Selected Choice']

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## TABLE 325. DAC FLAG - DWELLING UNIT HEATING CONTROLS (BUILDING REP SURVEY)

| Dwelling Unit Heating Controls | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Controls integrated with equipment | 0.158808 | 0.044329 | 0.125334 | 0.037144 | 0.261034 | 0.128968 |
| Manual thermostat with a physical dial (analog) | 0.295091 | 0.056067 | 0.335385 | 0.050537 | 0.272389 | 0.121866 |
| Manual thermostat with buttons and a digital display (digital) | 0.346051 | 0.065836 | 0.336144 | 0.055746 | 0.296899 | 0.128703 |
| Programmable thermostat (does not learn occupant behavior) | 0.107936 | 0.03857 | 0.138489 | 0.035712 | 0.09254 | 0.067147 |
| Smart/Wi-Fi-Enabled Thermostat (learns occupant behavior) | 0.023773 | 0.017546 | 0.026337 | 0.018015 | 0.046326 | 0.047832 |
| Don't know | 0.04786 | 0.020222 | 0.01956 | 0.013426 | 0.000119 | 0.000197 |
| Other | 0.020482 | 0.01644 | 0.018751 | 0.015615 | 0.02871 | 0.046514 |
| Respondents (n) | 250 | | 320 | | 158 | |

Source: On-site fields: ['What is the highest level of education anyone currently living in your household has completed?', 'What type of thermostat controls are typically provided for heating in living units? - Selected Choice']

## TABLE 326. METERING TYPE - DWELLING UNIT HEATING CONTROLS (BUILDING REP SURVEY)

| Dwelling Unit Heating Controls | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Controls integrated with equipment | 0.20443 | 0.090129 | 0.128767 | 0.031182 | 0.206597 | 0.05562 | | | | |
| Manual thermostat with a physical dial (analog) | 0.33746 | 0.112149 | 0.307369 | 0.039851 | 0.182045 | 0.046462 | 0.001215 | 0.000942 | 0.29879 | 0.439885 |
| Manual thermostat with buttons and a digital display (digital) | 0.359108 | 0.130707 | 0.315866 | 0.046048 | 0.391713 | 0.066379 | 0.000402 | 0.000373 | 0.219942 | 0.443194 |
| Programmable thermostat (does not learn occupant behavior) | 0.019653 | 0.015726 | 0.154036 | 0.03369 | 0.099743 | 0.037958 | 6.14E-05 | 7.82E-05 | 0.18995 | 0.382759 |
| Smart/Wi-Fi-Enabled Thermostat (learns occupant behavior) | 0.076497 | 0.070426 | 0.021696 | 0.013754 | 0.091438 | 0.037129 | | | | |
| Don't know | 0.002852 | 0.004746 | 0.031142 | 0.014652 | 0.018862 | 0.015101 | 0.000304 | 0.000281 | | |
| Other | | | 0.041124 | 0.018709 | 0.009602 | 0.011373 | | | 0.291318 | 0.374232 |
| Respondents (n) | 82 | | 472 | | 205 | | 20 | | | |

Source: On-site fields: ['What is the highest level of education anyone currently living in your household has completed?', 'What type of thermostat controls are typically provided for heating in living units? - Selected Choice']

## TABLE 327. OWNERSHIP TYPE - DWELLING UNIT HEATING CONTROLS (BUILDING REP SURVEY)

| Dwelling Unit Heating Controls | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Controls integrated with equipment | 0.188781 | 0.106421 | 0.170818 | 0.08798 | 0.234124 | 0.09129 | 0.127929 | 0.052882 |
| Manual thermostat with a physical dial (analog) | 0.144431 | 0.093256 | 0.25989 | 0.095629 | 0.264024 | 0.094465 | 0.306187 | 0.059185 |
| Manual thermostat with buttons and a digital display (digital) | 0.360239 | 0.197311 | 0.491388 | 0.145589 | 0.208007 | 0.086408 | 0.346237 | 0.076939 |
| Programmable thermostat (does not learn occupant behavior) | 0.239768 | 0.175765 | 0.052683 | 0.039311 | 0.092005 | 0.061769 | 0.124554 | 0.039183 |
| Smart/Wi-Fi-Enabled Thermostat (learns occupant behavior) | 0.053981 | 0.08863 | 0.00022 | 0.000363 | 0.082801 | 0.056767 | 0.017637 | 0.01096 |
| Don't know | 0.012162 | 0.020154 | 0.018261 | 0.014929 | 0.03366 | 0.039394 | 0.051407 | 0.024192 |
| Other | 0.000638 | 0.000745 | 0.006741 | 0.010186 | 0.08538 | 0.0607 | 0.02605 | 0.02595 |
| Respondents (n) | 126 | | 200 | | 70 | | 310 | |

Source: On-site fields: ['What is the highest level of education anyone currently living in your household has completed?', 'What type of thermostat controls are typically provided for heating in living units? - Selected Choice']

## TABLE 328. STATEWIDE - DWELLING UNIT HEATING CONTROLS (BUILDING REP SURVEY)

| Dwelling Unit Heating Controls | Statewide | |
|---|---|---|
| | % | EB |
| Controls integrated with equipment | 0.146383 | 0.034869 |
| Manual thermostat with a physical dial (analog) | 0.303637 | 0.043148 |
| Manual thermostat with buttons and a digital display (digital) | 0.351879 | 0.054295 |
| Programmable thermostat (does not learn occupant behavior) | 0.11203 | 0.027272 |
| Smart/Wi-Fi-Enabled Thermostat (learns occupant behavior) | 0.021568 | 0.010238 |
| Don't know | 0.037136 | 0.015048 |
| Other | 0.027366 | 0.015463 |
| Respondents (n) | 706 | |

Source: On-site fields: ['What is the highest level of education anyone currently living in your household has completed?', 'What type of thermostat controls are typically provided for heating in living units? - Selected Choice']

## TABLE 329. STATEWIDE - DWELLING UNIT PRIMARY HEATING SYSTEM TYPE (OCCUPANT SURVEY)

| Primary Heating System Type | Statewide | |
|---|---|---|
| | % | EB |
| Baseboard or wall electric heat | 9% | 5% |
| Baseboard radiant heat with central boiler | 21% | 10% |
| Ductless heat pump | 1% | 2% |
| Furnace with ducts to individual rooms | 11% | 8% |
| Portable electric heater | 1% | 1% |
| Radiators (hot water or steam) | 52% | 16% |
| Through-the-wall air conditioner or heat pump | 2% | 2% |
| Other | 3% | 3% |
| Respondents (n) | 111 | |

Source: Survey fields: ['What type of heating system do you primarily use to heat your home? - Selected Choice']

## TABLE 330. STATEWIDE - DWELLING UNIT SECONDARY HEATING SYSTEM TYPE (OCCUPANT SURVEY)

| Secondary Heating System Type | Statewide | |
|---|---|---|
| | % | EB |
| Through-the-wall air conditioner or heat pump | 3% | 5% |
| Baseboard or wall electric heat | 18% | 18% |
| Fireplace | 6% | 6% |
| Furnace with ducts to individual rooms | 0% | 0% |
| Portable electric heater | 48% | 36% |
| Radiators (hot water or steam) | 6% | 10% |
| Don't know | 19% | 17% |
| Respondents (n) | 30 | |

Source: Survey fields: ['Do you use any other heating systems in your home? Select all that apply. - Selected Choice', 'Are you the correct person to speak to about your building's physical features and equipment?']

## TABLE 331. STATEWIDE - DWELLING UNIT HEATING SATISFACTION (OCCUPANT SURVEY)

| Satisfaction | Statewide | |
|---|---|---|
| | % | EB |
| Not at all satisfied | 12% | 11% |
| Not too satisfied | 10% | 6% |
| Somewhat satisfied | 42% | 15% |
| Very satisfied | 36% | 11% |
| Respondents (n) | 102 | |

Source: Survey fields: ['How would you rate your satisfaction with the following in your home? - Space heating system']

BACK TO REPORT

## TABLE 332. BUILDING VINTAGE - PENETRATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Baseboard radiator | 13% | 4% | 49% | 9% | 29% | 10% | 57% | 31% | 45% | 16% |
| Cast iron radiator | 78% | 7% | 32% | 9% | 2% | 3% | | | 18% | 12% |
| Electric baseboard heater | 3% | 2% | 10% | 4% | 64% | 31% | | | 17% | 12% |
| Fan coil unit | | | | | | | | | 1% | 2% |
| Fan coil unit with hydronic coils | | | 1% | 1% | | | | | | |
| Fireplace | | | 1% | 2% | 4% | 5% | 28% | 51% | 5% | 6% |
| Portable heater | 5% | 3% | 1% | 2% | | | | | | |
| Radiant floor | | | | | | | 15% | 27% | 0% | 0% |
| Wall furnace | | | 5% | 4% | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Wall heater | 1% | 1% | 1% | 1% | 1% | 1% | | | | |
| Respondents (n) | 196 | | 147 | | 70 | | 11 | | 80 | |

Source: On-site fields: ['What type of heating system is this? ']

## TABLE 333. CLIMATE ZONE - PENETRATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Baseboard radiator | 19% | 5% | 45% | 17% | 51% | 10% | 21% | 16% |
| Cast iron radiator | 75% | 9% | 34% | 15% | 19% | 6% | 45% | 30% |
| Electric baseboard heater | 1% | 0% | 15% | 12% | 18% | 7% | 32% | 27% |
| Fan coil unit | | | | | 0% | 1% | | |
| Fan coil unit with hydronic coils | | | | | 0% | 0% | | |
| Fireplace | 0% | 0% | 6% | 6% | 1% | 2% | 0% | 0% |
| Portable heater | 5% | 3% | 0% | 0% | 3% | 3% | 1% | 2% |
| Radiant floor | 1% | 1% | | | 0% | 0% | | |
| Wall furnace | | | | | 5% | 4% | 1% | 2% |
| Wall heater | | | | | 1% | 1% | | |
| Respondents (n) | 200 | | 91 | | 172 | | 41 | |

Source: On-site fields: ['What type of heating system is this? ']

## TABLE 334. DAC FLAG - PENETRATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Baseboard radiator | 35% | 7% | 32% | 5% | 8% | 10% |
| Cast iron radiator | 49% | 10% | 52% | 7% | | |
| Electric baseboard heater | 9% | 4% | 9% | 3% | 6% | 10% |
| Fan coil unit | | | 0% | 1% | | |
| Fan coil unit with hydronic coils | | | 0% | 0% | | |
| Fireplace | 1% | 2% | 1% | 1% | | |
| Portable heater | 3% | 2% | 3% | 2% | | |
| Radiant floor | | | 1% | 1% | | |
| Wall furnace | 2% | 2% | 1% | 1% | 0% | 0% |
| Wall heater | 1% | 1% | 0% | 0% | 0% | 0% |
| Respondents (n) | 199 | | 293 | | 12 | |

Source: On-site fields: ['What type of heating system is this? ']

## TABLE 335. OWNERSHIP TYPE - PENETRATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Baseboard radiator | 41% | 16% | 9% | 5% | 21% | 8% | 27% | 7% |
| Cast iron radiator | 52% | 20% | 82% | 19% | 75% | 13% | 53% | 13% |
| Electric baseboard heater | 2% | 1% | 4% | 2% | | | 12% | 4% |
| Fan coil unit | | | 0% | 0% | | | | |
| Fan coil unit with hydronic coils | 0% | 0% | | | | | | |
| Fireplace | 0% | 0% | 0% | 1% | 2% | 2% | 1% | 1% |
| Portable heater | 4% | 6% | 4% | 3% | 2% | 4% | 3% | 3% |
| Radiant floor | 0% | 0% | | | | | 2% | 3% |
| Wall furnace | 0% | 0% | 0% | 0% | | | 3% | 2% |
| Wall heater | 1% | 0% | 0% | 0% | | | | |
| Respondents (n) | 160 | | 131 | | 66 | | 147 | |

Source: On-site fields: ['What type of heating system is this? ']

## TABLE 336. STATEWIDE - PENETRATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | Statewide | |
|---|---|---|
| | % | EB |
| Baseboard radiator | 27% | 4% |
| Cast iron radiator | 57% | 7% |
| Electric baseboard heater | 8% | 2% |
| Fan coil unit | 0% | 0% |
| Fan coil unit with hydronic coils | 0% | 0% |
| Fireplace | 1% | 1% |
| Portable heater | 4% | 2% |
| Radiant floor | 0% | 1% |
| Wall furnace | 1% | 1% |
| Wall heater | 0% | 0% |
| Respondents (n) | 504 | |

Source: On-site fields: ['What type of heating system is this? ']

## TABLE 337. BUILDING VINTAGE - SATURATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Baseboard radiator | 15% | 3% | 17% | 4% | 72% | 15% | 71% | 24% | 39% | 8% |
| Cast iron radiator | 80% | 3% | 77% | 5% | 4% | 5% | 0% | 0% | 33% | 10% |
| Electric baseboard heater | 1% | 1% | 5% | 1% | 20% | 12% | 0% | 0% | 26% | 10% |
| Fan coil unit | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Fan coil unit with hydronic coils | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Fireplace | 0% | 0% | 0% | 0% | 3% | 3% | 0% | 0% | 2% | 1% |
| Portable heater | 2% | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% |
| Radiant floor | 0% | 0% | 0% | 0% | 0% | 0% | 28% | 24% | 0% | 0% |
| Wall furnace | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Wall heater | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Respondents (n) | 182 | | 127 | | 60 | | 11 | | 71 | |

Source: On-site fields: ['What type of heating system is this? ', 'What type of combination heating and cooling system is this? ']

## TABLE 338. BUILDING SIZE - SATURATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Baseboard radiator | 41% | 4% | 11% | 3% | 42% | 7% |
| Cast iron radiator | 36% | 5% | 85% | 3% | 50% | 7% |
| Electric baseboard heater | 13% | 3% | 0% | 0% | 7% | 3% |
| Fan coil unit | 0% | 0% | 0% | 0% | 0% | 0% |
| Fan coil unit with hydronic coils | 0% | 0% | 0% | 0% | 0% | 0% |
| Fireplace | 2% | 1% | 0% | 0% | 0% | 0% |
| Portable heater | 5% | 2% | 1% | 1% | 0% | 0% |
| Radiant floor | 0% | 0% | 1% | 1% | 0% | 0% |
| Wall furnace | 1% | 0% | 0% | 0% | 0% | 0% |
| Wall heater | 1% | 0% | 0% | 0% | 0% | 0% |
| Respondents (n) | 242 | | 138 | | 71 | |

Source: On-site fields: ['What type of heating system is this? ', 'What type of combination heating and cooling system is this? ']

## TABLE 339. CLIMATE ZONE - SATURATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Baseboard radiator | 19% | 3% | 47% | 9% | 58% | 5% | 21% | 10% |
| Cast iron radiator | 75% | 3% | 33% | 8% | 20% | 4% | 45% | 14% |
| Electric baseboard heater | 1% | 0% | 17% | 7% | 14% | 4% | 32% | 14% |
| Fan coil unit | 0% | 0% | 0% | 0% | 1% | 1% | 0% | 0% |
| Fan coil unit with hydronic coils | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Fireplace | 0% | 0% | 2% | 1% | 1% | 1% | 0% | 0% |
| Portable heater | 3% | 1% | 0% | 0% | 3% | 2% | 0% | 0% |
| Radiant floor | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% |
| Wall furnace | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 1% |
| Wall heater | 0% | 0% | 0% | 0% | 1% | 1% | 0% | 0% |
| Respondents (n) | 188 | | 83 | | 142 | | 38 | |

Source: On-site fields: ['What type of heating system is this? ', 'What type of combination heating and cooling system is this? ']

## TABLE 340. DAC FLAG - SATURATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Baseboard radiator | 36% | 4% | 34% | 3% | 57% | 32% |
| Cast iron radiator | 51% | 5% | 53% | 4% | 0% | 0% |
| Electric baseboard heater | 8% | 2% | 8% | 2% | 43% | 32% |
| Fan coil unit | 0% | 0% | 0% | 0% | 0% | 0% |
| Fan coil unit with hydronic coils | 0% | 0% | 0% | 0% | 0% | 0% |
| Fireplace | 1% | 1% | 1% | 0% | 0% | 0% |
| Portable heater | 2% | 1% | 2% | 1% | 0% | 0% |
| Radiant floor | 0% | 0% | 1% | 1% | 0% | 0% |
| Wall furnace | 0% | 0% | 1% | 0% | 0% | 0% |
| Wall heater | 1% | 1% | 0% | 0% | 0% | 0% |
| Respondents (n) | 183 | | 259 | | 9 | |

Source: On-site fields: ['What type of heating system is this? ', 'What type of combination heating and cooling system is this? ']

## TABLE 341. METERING TYPE - SATURATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Baseboard radiator | 13% | 3% | 10% | 1% | 9% | 1% | 6% | 2% |
| Cast iron radiator | 10% | 1% | 13% | 1% | 12% | 1% | 10% | 2% |
| Electric baseboard heater | 3% | 1% | 2% | 0% | 2% | 0% | 8% | 3% |
| Fan coil unit | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% |
| Fan coil unit with hydronic coils | 2% | 2% | 0% | 0% | 0% | 0% | 0% | 0% |
| Fireplace | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Portable heater | 0% | 0% | 1% | 0% | 1% | 0% | 0% | 0% |
| Radiant floor | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Wall furnace | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Wall heater | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 0% |
| Respondents (n) | 188 | | 461 | | 334 | | 48 | |

Source: On-site fields: ['What type of heating system is this? ', 'What type of combination heating and cooling system is this? ']

## TABLE 342. OWNERSHIP TYPE - SATURATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Baseboard radiator | 43% | 7% | 13% | 4% | 22% | 5% | 39% | 5% |
| Cast iron radiator | 50% | 8% | 74% | 5% | 72% | 6% | 45% | 5% |
| Electric baseboard heater | 5% | 1% | 5% | 1% | 0% | 0% | 11% | 3% |
| Fan coil unit | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Fan coil unit with hydronic coils | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Fireplace | 0% | 0% | 0% | 0% | 3% | 2% | 1% | 1% |
| Portable heater | 1% | 1% | 6% | 3% | 1% | 1% | 1% | 1% |
| Radiant floor | 1% | 0% | 0% | 0% | 0% | 0% | 1% | 1% |
| Wall furnace | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 0% |
| Wall heater | 1% | 0% | 1% | 1% | 0% | 0% | 0% | 0% |
| Respondents (n) | 138 | | 119 | | 60 | | 134 | |

Source: On-site fields: ['What type of heating system is this? ', 'What type of combination heating and cooling system is this? ']

## TABLE 343. STATEWIDE - SATURATION OF DWELLING-UNIT HEATING COMPONENTS (SITE VISITS)

| Dwelling Unit Heating Component | Statewide | |
|---|---|---|
| | % | EB |
| Baseboard radiator | 25% | 3% |
| Cast iron radiator | 65% | 3% |
| Electric baseboard heater | 6% | 1% |
| Fan coil unit | 0% | 0% |
| Fan coil unit with hydronic coils | 0% | 0% |
| Fireplace | 0% | 0% |
| Portable heater | 2% | 1% |
| Radiant floor | 1% | 1% |
| Wall furnace | 0% | 0% |
| Wall heater | 0% | 0% |
| Respondents (n) | 446 | |

Source: On-site fields: ['What type of heating system is this? ', 'What type of combination heating and cooling system is this? ']

## TABLE 344. BUILDING SIZE - IN-UNIT HEATING SYSTEM YEAR LAST SERVICED (SITE VISITS)

| Year Last Serviced | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 2000-2009 | | | | | 0% | 0% |
| 2015-2019 | 2% | 4% | 18% | 33% | 0% | 0% |
| 2020 | 9% | 12% | 14% | 25% | | |
| 2021 | 88% | 76% | 68% | 29% | 100% | 70% |
| Respondents (n) | 8 | | 11 | | 8 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 345. CLIMATE ZONE - IN-UNIT HEATING SYSTEM YEAR LAST SERVICED (SITE VISITS)

| Year Last Serviced | NYC | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 2015-2019 | 16% | 27% | 2% | 4% | | |
| 2020 | 12% | 20% | 8% | 10% | | |
| 2021 | 73% | 28% | 90% | 169% | 100% | 90% |
| Respondents (n) | 17 | | 8 | | 2 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 346. DAC FLAG - IN-UNIT HEATING SYSTEM YEAR LAST SERVICED (SITE VISITS)

| Year Last Serviced | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 2000-2009 | | | 0% | 0% | | |
| 2015-2019 | | | 14% | 20% | | |
| 2020 | | | 20% | 20% | | |
| 2021 | 100% | 49% | 66% | 50% | 100% | 0% |
| Respondents (n) | 8 | | 18 | | 1 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 347. OWNERSHIP TYPE - IN-UNIT HEATING SYSTEM YEAR LAST SERVICED (SITE VISITS)

| Year Last Serviced | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 2000-2009 | 0% | 0% | | | | | | |
| 2015-2019 | 0% | 0% | 3% | 6% | | | 35% | 67% |
| 2020 | | | 12% | 16% | | | 26% | 50% |
| 2021 | 100% | 122% | 85% | 80% | 100% | 71% | 39% | 31% |
| Respondents (n) | 6 | | 7 | | 7 | | 7 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 348. STATEWIDE - IN-UNIT HEATING SYSTEM YEAR LAST SERVICED (SITE VISITS)

| Year Last Serviced | Statewide | |
|---|---|---|
| | % | EB |
| 2000-2009 | 0% | 0% |
| 2015-2019 | 13% | 21% |
| 2020 | 12% | 16% |
| 2021 | 75% | 27% |
| Respondents (n) | 27 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 349. STATEWIDE - IN-UNIT HEATING SYSTEM YEAR LAST SERVICED BY SYSTEM TYPE (SITE VISITS)

| System Type | Year Last Serviced | Statewide | |
|---|---|---|---|
| | | % | EB |
| Baseboard radiator | 2020 | 0.023038 | 0.029452 |
| | 2021 | 0.202505 | 0.140998 |
| | 2015-2019 | 0.000163 | 0.000304 |
| | Respondents (n) | 9 | |
| Cast iron radiator | 2020 | 0.09284 | 0.162753 |
| | 2021 | 0.551726 | 0.238785 |
| | 2015-2019 | 0.129546 | 0.216566 |
| | Respondents (n) | 16 | |
| Fan coil unit with hydronic coils | 2000-2009 | 0.000181 | 0 |
| | Respondents (n) | 2 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 350. BUILDING VINTAGE - PENETRATION OF BUILDING CENTRAL HYDRONIC HEATING SYSTEMS BY SCOPE (SITE VISITS)

| Hypdronic Heating Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Boiler - Heating Hot Water & DHW | 3% | 2% | 27% | 10% | 46% | 35% | 55% | 67% | 9% | 11% |
| Boiler - Heating Hot Water Only | 32% | 8% | 53% | 12% | 32% | 11% | 43% | 26% | 59% | 25% |
| Boiler - Steam Heat & DHW | 25% | 7% | 12% | 6% | 18% | 27% | | | 7% | 11% |
| Boiler - Steam Heat Only | 40% | 8% | 8% | 5% | 4% | 6% | 2% | 3% | 10% | 12% |
| Respondents (n) | 142 | | 95 | | 42 | | 19 | | 52 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 351. BUILDING SIZE - PENETRATION OF BUILDING CENTRAL HYDRONIC HEATING SYSTEMS BY SCOPE (SITE VISITS)

| Hypdronic Heating Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Boiler - Heating Hot Water & DHW | 16% | 7% | 3% | 3% | 12% | 7% |
| Boiler - Heating Hot Water Only | 50% | 12% | 26% | 8% | 31% | 10% |
| Boiler - Steam Heat & DHW | 6% | 4% | 40% | 12% | 44% | 16% |
| Boiler - Steam Heat Only | 28% | 10% | 30% | 10% | 13% | 8% |
| Respondents (n) | 155 | | 117 | | 78 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 352. CLIMATE ZONE - PENETRATION OF BUILDING CENTRAL HYDRONIC HEATING SYSTEMS BY SCOPE (SITE VISITS)

| Hypdronic Heating Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Boiler - Heating Hot Water & DHW | 8% | 4% | 17% | 18% | 18% | 8% | 2% | 2% |
| Boiler - Heating Hot Water Only | 23% | 7% | 51% | 29% | 71% | 15% | 21% | 15% |
| Boiler - Steam Heat & DHW | 36% | 10% | 25% | 25% | | | | |
| Boiler - Steam Heat Only | 32% | 9% | 7% | 6% | 10% | 6% | 76% | 84% |
| Respondents (n) | 168 | | 54 | | 110 | | 18 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 353. DAC FLAG - PENETRATION OF BUILDING CENTRAL HYDRONIC HEATING SYSTEMS BY SCOPE (SITE VISITS)

| Hypdronic Heating Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Boiler - Heating Hot Water & DHW | 13% | 6% | 15% | 5% | | |
| Boiler - Heating Hot Water Only | 45% | 10% | 45% | 9% | 14% | 21% |
| Boiler - Steam Heat & DHW | 22% | 9% | 16% | 5% | | |
| Boiler - Steam Heat Only | 20% | 7% | 24% | 6% | 0% | 1% |
| Respondents (n) | 156 | | 187 | | 7 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 354. OWNERSHIP TYPE - PENETRATION OF BUILDING CENTRAL HYDRONIC HEATING SYSTEMS BY SCOPE (SITE VISITS)

| Hypdronic Heating Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Boiler - Heating Hot Water & DHW | 14% | 9% | 3% | 3% | 2% | 3% | 12% | 7% |
| Boiler - Heating Hot Water Only | 41% | 16% | 27% | 13% | 30% | 13% | 37% | 10% |
| Boiler - Steam Heat & DHW | 26% | 15% | 37% | 17% | 44% | 14% | 20% | 11% |
| Boiler - Steam Heat Only | 19% | 11% | 32% | 14% | 23% | 12% | 30% | 12% |
| Respondents (n) | 106 | | 98 | | 46 | | 100 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 355. STATEWIDE - PENETRATION OF BUILDING CENTRAL HYDRONIC HEATING SYSTEMS BY SCOPE (SITE VISITS)

| Hypdronic Heating Type | Statewide | |
|---|---|---|
| | % | EB |
| Boiler - Heating Hot Water & DHW | 10% | 4% |
| Boiler - Heating Hot Water Only | 39% | 7% |
| Boiler - Steam Heat & DHW | 23% | 6% |
| Boiler - Steam Heat Only | 28% | 7% |
| Respondents (n) | 350 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 356. BUILDING VINTAGE - SATURATION OF BUILDING CENTRAL HYDRONIC HEATING COMPONENTS (SITE VISITS)

| Central Hydronic Heating Components | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Boiler - Heating Hot Water Only | 19% | 4% | 25% | 6% | 53% | 17% | 31% | 18% | 49% | 13% |
| Boiler - Heating Hot Water & DHW | 4% | 2% | 10% | 4% | 13% | 8% | 64% | 19% | 11% | 7% |
| Boiler - Steam Heat Only | 35% | 5% | 17% | 6% | 15% | 12% | 4% | 5% | 32% | 13% |
| Boiler - Steam Heat & DHW | 42% | 5% | 48% | 12% | 19% | 17% | 0% | 0% | 7% | 7% |
| Respondents (n) | 120 | | 74 | | 31 | | 16 | | 40 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 357. BUILDING SIZE - SATURATION OF BUILDING CENTRAL HYDRONIC HEATING COMPONENTS (SITE VISITS)

| Central Hydronic Heating Components | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Boiler - Heating Hot Water Only | 43% | 6% | 20% | 4% | 21% | 6% |
| Boiler - Heating Hot Water & DHW | 19% | 5% | 4% | 2% | 14% | 5% |
| Boiler - Steam Heat Only | 32% | 6% | 29% | 6% | 14% | 5% |
| Boiler - Steam Heat & DHW | 7% | 3% | 47% | 7% | 50% | 8% |
| Respondents (n) | 132 | | 91 | | 58 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 358. CLIMATE ZONE - SATURATION OF BUILDING CENTRAL HYDRONIC HEATING COMPONENTS (SITE VISITS)

| Central Hydronic Heating Components | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Boiler - Heating Hot Water Only | 16% | 3% | 50% | 14% | 66% | 7% | 21% | 14% |
| Boiler - Heating Hot Water & DHW | 10% | 3% | 18% | 11% | 24% | 6% | 2% | 2% |
| Boiler - Steam Heat Only | 34% | 5% | 5% | 3% | 10% | 4% | 77% | 14% |
| Boiler - Steam Heat & DHW | 40% | 5% | 27% | 13% | 0.0% | 0.0% | 0.0% | 0.0% |
| Respondents (n) | 142 | | 44 | | 78 | | 17 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 359. DAC FLAG - SATURATION OF BUILDING CENTRAL HYDRONIC HEATING COMPONENTS (SITE VISITS)

| Central Hydronic Heating Components | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Boiler - Heating Hot Water Only | 37% | 5% | 40% | 5% | 99% | 1% |
| Boiler - Heating Hot Water & DHW | 16% | 4% | 18% | 4% | 0.0% | 0.0% |
| Boiler - Steam Heat Only | 22% | 4% | 24% | 4% | 1% | 1% |
| Boiler - Steam Heat & DHW | 26% | 5% | 19% | 4% | 0.0% | 0.0% |
| Respondents (n) | 123 | | 153 | | 5 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 360. METERING TYPE - SATURATION OF BUILDING CENTRAL HYDRONIC HEATING COMPONENTS (SITE VISITS)

| Central Hydronic Heating Components | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Boiler - Heating Hot Water Only | 29% | 9% | 41% | 4% | 20% | 5% | 100% | 0.0% |
| Boiler - Heating Hot Water & DHW | 30% | 11% | 13% | 3% | 31% | 7% | 0.0% | 0.0% |
| Boiler - Steam Heat Only | 34% | 11% | 25% | 4% | 19% | 7% | 0.0% | 0.0% |
| Boiler - Steam Heat & DHW | 7% | 6% | 20% | 3% | 28% | 7% | 0.0% | 0.0% |
| Respondents (n) | 41 | | 196 | | 54 | | 1 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 361. OWNERSHIP TYPE - SATURATION OF BUILDING CENTRAL HYDRONIC HEATING COMPONENTS (SITE VISITS)

| Central Hydronic Heating Components | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Boiler - Heating Hot Water Only | 32% | 7% | 25% | 6% | 22% | 7% | 39% | 7% |
| Boiler - Heating Hot Water & DHW | 21% | 6% | 6% | 3% | 4% | 3% | 17% | 5% |
| Boiler - Steam Heat Only | 18% | 5% | 35% | 7% | 23% | 7% | 29% | 6% |
| Boiler - Steam Heat & DHW | 29% | 8% | 34% | 8% | 50% | 9% | 15% | 5% |
| Respondents (n) | 85 | | 79 | | 38 | | 79 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 362. STATEWIDE - SATURATION OF BUILDING CENTRAL HYDRONIC HEATING COMPONENTS (SITE VISITS)

| Central Hydronic Heating Components | Statewide | |
|---|---|---|
| | % | EB |
| Boiler - Heating Hot Water Only | 22% | 3% |
| Boiler - Heating Hot Water & DHW | 11% | 2% |
| Boiler - Steam Heat Only | 31% | 4% |
| Boiler - Steam Heat & DHW | 37% | 5% |
| Respondents (n) | 280 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 363. STATEWIDE - PENETRATION OF BOILERS AND FURNACES BY FUEL (SITE VISITS)

| Equipment Type | Dual fuel: gas and oil | | Dual fuel: gas and other | | Dual fuel: gas and propane | | Electricity | | Fuel oil | | Natural gas | | Propane | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Boiler - Steam | 0.46 | 0.14 | - | | 1.00 | | - | | 0.44 | 0.09 | 0.54 | 0.03 | 1.00 | |
| Boiler - Hot Water | 0.54 | 0.14 | 1.00 | | 1.00 | | - | | 0.03 | 0.03 | 0.21 | 0.02 | - | |
| Boiler - All | 0.54 | 0.14 | 1.00 | | - | | - | | 0.56 | 0.09 | 0.35 | 0.03 | - | |
| Furnace | - | - | - | | - | | - | | - | - | 0.09 | 0.02 | - | |
| Respondents (n) | 13 | | 1 | | 1 | | 1 | | 34 | | 286 | | 1 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 364. STATEWIDE - SATURATION OF BOILERS AND FURNACES BY FUEL (SITE VISITS)

| Equipment Type | Dual fuel: gas and oil | | Dual fuel: gas and other | | Dual fuel: gas and propane | | Electricity | | Fuel oil | | Natural gas | | Propane | | Statewide | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Boiler - Steam | 0.377 | 0.157 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.504 | 0.174 | 0.593 | 0.049 | 1.000 | 0.000 | 0.566 | 0.046 |
| Boiler - Hot Water | 0.479 | 0.163 | 2.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.008 | 0.008 | 0.168 | 0.031 | 0.000 | 0.000 | 0.175 | 0.029 |
| Boiler - All | 0.623 | 0.157 | 1.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.585 | 0.116 | 0.356 | 0.042 | 0.000 | 0.000 | 0.400 | 0.039 |
| Furnace | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 0.000 | 0.000 | 0.000 | 0.083 | 0.025 | 0.000 | 0.000 | 0.070 | 0.020 |
| Observations (n) | 13 | | 1 | | 1 | | 1 | | 34 | | 286 | | 1 | | 337 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

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## TABLE 365. STATEWIDE - SATURATION OF BOILERS AND FURNACES BY FUEL (SITE VISITS)

| Saturation of Boilers and Furnaces | Statewide | |
|---|---|---|
| | Mean | EB |
| Boiler - hot water | 0.05 | 0.01 |
| Boiler - steam | 0.45 | 0.04 |
| Furnace | 0.05 | 0.02 |
| Respondents (n) | 29 | |

Source: On-site fields: ['Types of loads served (select all that apply)']

## TABLE 366. BUILDING VINTAGE - BOILER EFFICIENCY (SITE VISITS)

| Boiler Efficiency | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| 80~~%~~ to 84% | 23% | 20% | 27% | 23% | 8% | 16% | 56% | 114% | 34% | 43% |
| 85% to 89% | 10% | 19% | 8% | 10% | 8% | 16% | 15% | 19% | 5% | 9% |
| 90% to 95% | 45% | 46% | 55% | 40% | 18% | 23% | 6% | 13% | 24% | 41% |
| 95%+ | 22% | 40% | 10% | 18% | 65% | 98% | 22% | 35% | 25% | 41% |
| Respondents (n) | 12 | | 15 | | 7 | | 6 | | 13 | |

Source: On-site fields: ['Enter the rated efficiency']

## TABLE 367. CLIMATE ZONE - BOILER EFFICIENCY (SITE VISITS)

| Boiler Efficiency | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 80% to 84% | 60% | 55% | 2% | 5% | 33% | 21% | 62% | 131% |
| 85% to 89% | 19% | 25% | 15% | 44% | 9% | 9% | 12% | 26% |
| 90% to 95% | 20% | 41% | 83% | 243% | 40% | 28% | 12% | 26% |
| 95%+ | | | | | 18% | 16% | 14% | 25% |
| Respondents (n) | 6 | | 3 | | 39 | | 5 | |

Source: On-site fields: ['Enter the rated efficiency']

## TABLE 368. DAC FLAG - BOILER EFFICIENCY (SITE VISITS)

| Boiler Efficiency | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 80% to 84% | 18% | 25% | 32% | 19% | 13% | 0% |
| 85% to 89% | 16% | 16% | 7% | 7% | | |
| 90% to 95% | 23% | 17% | 48% | 31% | | |
| 95%+ | 43% | 36% | 13% | 19% | | |
| Respondents (n) | 17 | | 35 | | 1 | |

Source: On-site fields: ['Enter the rated efficiency']

## TABLE 369. OWNERSHIP TYPE - BOILER EFFICIENCY (SITE VISITS)

| Boiler Efficiency | Affordable Subsidized | | Affordable Unsubsidized | | Market-Rate Rental | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 80% to 84% | 25% | 21% | 56% | 38% | 16% | 12% |
| 85% to 89% | 11% | 19% | 1% | 2% | 34% | 28% |
| 90% to 95% | 30% | 31% | 41% | 27% | 38% | 35% |
| 95%+ | 34% | 27% | 2% | 3% | 12% | 18% |
| Respondents (n) | 17 | | 19 | | 17 | |

Source: On-site fields: ['Enter the rated efficiency']

## TABLE 370. STATEWIDE - BOILER EFFICIENCY (SITE VISITS)

| Boiler Efficiency | Statewide | |
|---|---|---|
| | % | EB |
| 80% to 84% | 32% | 16% |
| 85% to 89% | 17% | 13% |
| 90% to 95% | 42% | 32% |
| 95%+ | 9% | 7% |
| Respondents (n) | 53 | |

Source: On-site fields: ['Enter the rated efficiency']

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## TABLE 371. STATEWIDE - BOILER EFFICIENCY BY FUEL (SITE VISITS)

| Fuel Type | Boiler Efficiency | Statewide | |
|---|---|---|---|
| | | % | EB |
| Fuel oil | 85% to 89% | 6% | 15% |
| | Respondents (n) | 3 | |
| Natural gas | 80% to 84% | 32% | 16% |
| | 85% to 89% | 11% | 10% |
| | 90% to 95% | 42% | 32% |
| | 95%+ | 9% | 7% |
| | Respondents (n) | 49 | |
| Propane | 90% to 95% | 1% | 0% |
| | Respondents (n) | 1 | |

Source: On-site fields: ['Enter the rated efficiency']

## TABLE 372. STATEWIDE - BOILER CAPACITY BY FUEL TYPE (SITE VISITS)

| Fuel Type | Boiler Capacity [MBH] | Statewide | |
|---|---|---|---|
| | | % | EB |
| Dual fuel: gas and oil | 1,000 to 10,000 | 3% | 2% |
| | >10,000 | 0.1% | 0% |
| | Respondents (n) | 6 | |
| Fuel oil | 100 to 999 | 6% | 3% |
| | 1,000 to 10,000 | 6% | 3% |
| | >10,000 | 0.4% | 1% |
| | Respondents (n) | 32 | |
| Natural gas | <100 | 2% | 2% |
| | 100 to 999 | 62% | 9% |
| | 1,000 to 10,000 | 18% | 5% |
| | >10,000 | 2% | 1% |
| | Respondents (n) | 287 | |
| Propane | 100 to 999 | 1% | 3% |
| | Respondents (n) | 2 | |

Source: On-site fields: ['Enter the input capacity ']

## TABLE 373. CLIMATE ZONE - FURNACE EFFICIENCY (SITE VISITS)

| Furnace Efficiency | NYC | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 70% to 79% | 100% | 0% | | | | |
| 80% to 84% | | | 86% | 72% | 9% | 26% |
| 90% to 94% | | | 1% | 1% | 82% | 239% |
| 95% and above | | | 14% | 13% | 9% | 26% |
| Respondents (n) | 1 | | 8 | | 3 | |

Source: On-site fields: ['Enter the rated efficiency']

## TABLE 374. DAC FLAG - FURNACE EFFICIENCY (SITE VISITS)

| Furnace Efficiency | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | % | EB | % | EB |
| 70% to 79% | | | 9% | 17% |
| 80% to 84% | 58% | 95% | 56% | 58% |
| 90% to 94% | 18% | 38% | 24% | 46% |
| 95% and above | 24% | 31% | 11% | 17% |
| Respondents (n) | 5 | | 7 | |

Source: On-site fields: ['Enter the rated efficiency']

## TABLE 375. OWNERSHIP TYPE - FURNACE EFFICIENCY (SITE VISITS)

| Furnace Efficiency | Affordable Subsidized | | Affordable Unsubsidized | | Market-Rate Rental | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 70% to 79% | | | 52% | 106% | | |
| 80% to 84% | | | 22% | 28% | 75% | 92% |
| 90% to 94% | 16% | 101% | | | 25% | 60% |
| 95% and above | 84% | 530% | 26% | 24% | | |
| Respondents (n) | 2 | | 6 | | 4 | |

Source: On-site fields: ['Enter the rated efficiency']

## TABLE 376. STATEWIDE - FURNACE EFFICIENCY (SITE VISITS)

| Furnace Efficiency | Statewide | |
|---|---|---|
| | % | EB |
| 70% to 79% | 31% | 56% |
| 80% to 84% | 38% | 36% |
| 90% to 94% | 22% | 40% |
| 95% and above | 8% | 6% |
| Respondents (n) | 12 | |

Source: On-site fields: ['Enter the rated efficiency']

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## TABLE 377. STATEWIDE - FURNACE EFFICIENCY BY FUEL (SITE VISITS)

| Fuel Type | Furnace Efficiency | Statewide | |
|---|---|---|---|
| | | % | EB |
| Natural gas | 70% to 79% | 31% | 56% |
| | 80% to 84% | 38% | 36% |
| | 90% to 94% | 22% | 40% |
| | 95% and above | 8% | 6% |
| | Respondents (n) | 12 | |

Source: On-site fields: ['Enter the rated efficiency']

## TABLE 378. STATEWIDE - FURNACE CAPACITY BY FUEL TYPE (SITE VISITS)

| Fuel Type | Furnace Capacity [MBH] | Statewide | |
|---|---|---|---|
| | | % | EB |
| Dual fuel: gas and oil | 1,000 to 10,000 | 3% | 2% |
| | >10,000 | 0.1% | 0% |
| | Respondents (n) | 6 | |
| Fuel oil | 100 to 999 | 6% | 3% |
| | 1,000 to 10,000 | 6% | 3% |
| | >10,000 | 0.4% | 1% |
| | Respondents (n) | 32 | |
| Natural gas | < 100 | 5% | 3% |
| | 100 to 999 | 59% | 9% |
| | 1,000 to 10,000 | 18% | 5% |
| | >10,000 | 2% | 1% |
| | Respondents (n) | 306 | |
| Propane | 100 to 999 | 1% | 3% |
| | Respondents (n) | 2 | |

Source: On-site fields: ['Enter the input capacity of this system.']

## TABLE 379. BUILDING VINTAGE - BUILDING PRIMARY COOLING SYSTEM TYPE (SITE VISITS) (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING)

| Dwelling Primary Cooling System | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Ducted split-system AC | 26% | 61% | 3% | 6% | | | 63% | 73% | | |
| Ductless mini-split AC | | | 15% | 19% | | | 37% | 87% | 22% | 30% |
| Packaged terminal AC | | | 1% | 2% | | | | | | |
| Portable AC | | | | | 37% | 67% | | | | |
| Through-the-wall AC | | | 4% | 4% | 26% | 20% | | | 39% | 91% |
| Window AC | 74% | 58% | 77% | 124% | 37% | 21% | | | 39% | 91% |
| Respondents (n) | 4 | | 14 | | 11 | | 4 | | 4 | |

Source: fields: ['What type of local cooling equipment is this?']

## TABLE 380. BUILDING SIZE - BUILDING PRIMARY COOLING SYSTEM TYPE (SITE VISITS) (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING)

| Dwelling Primary Cooling System | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Ducted split-system AC | 1% | 2% | 2% | 4% | 23% | 24% |
| Ductless mini-split AC | | | 98% | 128% | 8% | 13% |
| Packaged terminal AC | 0% | 0% | | | | |
| Portable AC | | | 0.3% | 1% | | |
| Through-the-wall AC | 7% | 5% | | | 12% | 14% |
| Window AC | 92% | 149% | | | 58% | 35% |
| Respondents (n) | 14 | | 6 | | 17 | |

Source: fields: ['What type of local cooling equipment is this?']

## TABLE 381. CLIMATE ZONE - BUILDING PRIMARY COOLING SYSTEM TYPE (SITE VISITS) (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING)

| Building Primary Cooling System | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Ducted split-system AC | 8% | 9% | | | 1% | 1% | 61% | 143% |
| Ductless mini-split AC | 66% | 112% | 86% | 173% | 1% | 1% | | |
| Packaged terminal AC | | | | | | | 18% | 41% |
| Portable AC | | | | | | | 4% | 10% |
| Through-the-wall AC | 4% | 5% | 6% | 7% | 2% | 2% | | |
| Window AC | 22% | 13% | 8% | 8% | 97% | 171% | 18% | 41% |
| Respondents (n) | 15 | | 6 | | 12 | | 4 | |

Source: fields: ['What type of local cooling equipment is this?']

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## TABLE 382. DAC FLAG - BUILDING PRIMARY COOLING SYSTEM TYPE (SITE VISITS) (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING)

| Dwelling Primary Cooling System | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | % | EB | % | EB |
| Ducted split-system AC | 1% | 2% | 25% | 39% |
| Ductless mini-split AC | 75% | 77% | 18% | 29% |
| Packaged terminal AC | 3% | 6% | | |
| Portable AC | | | 2% | 3% |
| Through-the-wall AC | 6% | 6% | 2% | 1% |
| Window AC | 14% | 13% | 54% | 81% |
| Respondents (n) | 14 | | 23 | |

Source: fields: ['What type of local cooling equipment is this?']

## TABLE 383. METERING TYPE - BUILDING PRIMARY COOLING SYSTEM TYPE (SITE VISITS) (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING)

| Dwelling Primary Cooling System | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Ducted split-system AC | 14% | 25% | 12% | 10% | | |
| Ductless mini-split AC | 38% | 28% | 32% | 55% | 68% | 159% |
| Packaged terminal AC | 3% | 5% | | | | |
| Portable AC | | | 2% | 3% | | |
| Through-the-wall AC | 14% | 21% | 14% | 10% | 17% | 40% |
| Window AC | 31% | 27% | 41% | 40% | 16% | 22% |
| Respondents (n) | 13 | | 20 | | 4 | |

Source: fields: ['What type of local cooling equipment is this?']

## TABLE 384. OWNERSHIP TYPE - BUILDING PRIMARY COOLING SYSTEM TYPE (SITE VISITS) (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING)

| Dwelling Primary Cooling System | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Ducted split-system AC | 14% | 19% | | | 20% | 43% | 4% | 6% |
| Ductless mini-split AC | 3% | 3% | 100% | 0% | | | 34% | 62% |
| Packaged terminal AC | 0% | 1% | | | | | | |
| Portable AC | 2% | 4% | | | | | | |
| Through-the-wall AC | 25% | 21% | | | | | 3% | 5% |
| Window AC | 56% | 33% | | | 80% | 43% | 59% | 120% |
| Respondents (n) | 25 | | 1 | | 5 | | 6 | |

Source: fields: ['What type of local cooling equipment is this?']

## TABLE 385. STATEWIDE - BUILDING PRIMARY COOLING SYSTEM TYPE (SITE VISITS) (PREDOMINANT HEATING SYSTEM FOR DWELLING UNITS IN BUILDING)

| Dwelling Primary Cooling System | Statewide | |
|---|---|---|
| | % | EB |
| Ducted split-system AC | 4% | 4% |
| Ductless mini-split AC | 60% | 71% |
| Packaged terminal AC | 0% | 0% |
| Portable AC | 0% | 0% |
| Through-the-wall AC | 3% | 2% |
| Window AC | 32% | 38% |
| Respondents (n) | 37 | |

Source: fields: ['What type of local cooling equipment is this?']

## TABLE 386. STATEWIDE - DWELLING UNIT PRIMARY COOLING SYSTEM TYPE (OCCUPANT SURVEY)

| Dwelling Primary Cooling System | Statewide | |
|---|---|---|
| | % | EB |
| Central air conditioner system with ducts to individual rooms | 6% | 3% |
| Ductless heat pump | 2% | 2% |
| No air conditioning | 8% | 6% |
| Through-the-wall air conditioner or heat pump | 7% | 3% |
| Window air conditioner | 69% | 17% |
| Don't know | 0% | 1% |
| Other | 8% | 8% |
| Respondents (n) | 116 | |

Source: Survey fields: ['What is the primary type of cooling equipment you use in your home? - Selected Choice']

## TABLE 387. STATEWIDE - DWELLING UNIT SECONDARY COOLING SYSTEM TYPE (OCCUPANT SURVEY)

| Dwelling Secondary Cooling System | Statewide | |
|---|---|---|
| | % | EB |
| Central air conditioner system with ducts to individual rooms | 7% | 7% |
| Through-the-wall air conditioner or heat pump | 4% | 6% |
| Window air conditioner | 62% | 44% |
| Don't know | 0% | 0% |
| Other | 27% | 24% |
| Respondents (n) | 33 | |

Source: Survey fields: ['Do you use any other cooling systems in your home? Select all that apply. - Selected Choice']

## TABLE 388. STATEWIDE - DWELLING UNIT COOLING ISSUES (OCCUPANT SURVEY)

| Dwelling Unit Cooling Issues | Statewide | |
|---|---|---|
| | Mean | EB |
| Cooling is uneven from room to room | 74% | 25% |
| My home is often too cold in summer | 0% | 0% |
| My home is often too hot in summer | 100% | 0% |
| The cooling system is noisy | 65% | 27% |
| The cooling system often breaks | 0% | 0% |
| There are unusable spaces in my home due to lack of cooling | 25% | 25% |
| None of the above | 0% | 0% |
| Respondents (n) | 5 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Which of the following cooling issues have your experienced?']

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## TABLE 389. BUILDING VINTAGE - PENETRATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Central DX | 6% | 3% | 3% | 2% | 10% | 8% | 89% | 10% | 1% | 1% |
| Packaged Terminal AC | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Portable AC | 9% | 3% | 8% | 7% | 4% | 4% | 0% | 0% | 1% | 1% |
| Through the wall AC | 4% | 2% | 36% | 10% | 43% | 22% | 0% | 0% | 50% | 13% |
| Window AC | 89% | 3% | 61% | 10% | 53% | 23% | 11% | 10% | 58% | 13% |
| Respondents (n) | 110 | | 93 | | 44 | | 18 | | 54 | |

Source: On-site fields: ['What type of cooling system is this? ']

## TABLE 390. BUILDING SIZE - PENETRATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Central DX | 16% | 4% | 4% | 2% | 8% | 5% |
| Packaged Terminal AC | 0% | 0% | 0% | 0% | 0% | 0% |
| Portable AC | 6% | 3% | 9% | 3% | 4% | 3% |
| Through the wall AC | 31% | 5% | 14% | 5% | 41% | 8% |
| Window AC | 54% | 6% | 82% | 5% | 49% | 8% |
| Respondents (n) | 171 | | 95 | | 53 | |

Source: On-site fields: ['What type of cooling system is this? ']

## TABLE 391. CLIMATE ZONE - PENETRATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central DX | 8% | 3% | 2% | 1% | 17% | 5% | 10% | 9% |
| Packaged Terminal AC | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% |
| Portable AC | 10% | 3% | 0% | 0% | 2% | 2% | 5% | 5% |
| Through the wall AC | 14% | 3% | 48% | 11% | 40% | 7% | 4% | 4% |
| Window AC | 80% | 4% | 63% | 10% | 41% | 7% | 80% | 13% |
| Respondents (n) | 134 | | 66 | | 99 | | 20 | |

Source: On-site fields: ['What type of cooling system is this? ']

## TABLE 392. METERING TYPE - PENETRATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central DX | 16% | 7% | 12% | 2% | 11% | 2% | 16% | 7% |
| Packaged Terminal AC | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Portable AC | 3% | 1% | 6% | 2% | 5% | 1% | 3% | 2% |
| Through the wall AC | 24% | 5% | 27% | 3% | 29% | 3% | 24% | 8% |
| Window AC | 59% | 7% | 61% | 4% | 59% | 4% | 66% | 9% |
| Respondents (n) | 126 | | 324 | | 240 | | 38 | |

Source: On-site fields: ['What type of cooling system is this? ']

## TABLE 393. OWNERSHIP TYPE - PENETRATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central DX | 11% | 4% | 10% | 5% | 14% | 6% | 12% | 4% |
| Packaged Terminal AC | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Portable AC | 9% | 5% | 11% | 5% | 5% | 3% | 5% | 2% |
| Through the wall AC | 25% | 7% | 14% | 5% | 22% | 6% | 33% | 6% |
| Window AC | 62% | 7% | 77% | 6% | 68% | 7% | 54% | 6% |
| Respondents (n) | 100 | | 71 | | 57 | | 91 | |

Source: On-site fields: ['What type of cooling system is this? ']

## TABLE 394. STATEWIDE - PENETRATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | Statewide | |
|---|---|---|
| | % | EB |
| Central DX | 10% | 2% |
| Packaged Terminal AC | 0% | 0% |
| Portable AC | 6% | 2% |
| Through the wall AC | 24% | 4% |
| Window AC | 64% | 4% |
| Respondents (n) | 319 | |

Source: On-site fields: ['What type of cooling system is this? ']

## TABLE 395. BUILDING VINTAGE - SATURATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Central DX | 6% | 3% | 3% | 2% | 6% | 4% | 89% | 10% | 1% | 1% |
| Packaged Terminal AC | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Portable AC | 5% | 2% | 4% | 2% | 4% | 3% | 0% | 0% | 1% | 1% |
| Through the wall AC | 3% | 1% | 35% | 10% | 40% | 22% | 0% | 0% | 45% | 12% |
| Window AC | 85% | 4% | 58% | 9% | 50% | 23% | 11% | 10% | 53% | 12% |
| Respondents (n) | 110 | | 93 | | 44 | | 18 | | 54 | |

Source: On-site fields: ['Quantity of identical system(s)']

## TABLE 396. BUILDING SIZE - SATURATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Central DX | 15% | 4% | 4% | 2% | 8% | 5% |
| Packaged Terminal AC | 0% | 0% | 0% | 0% | 0% | 0% |
| Portable AC | 4% | 2% | 6% | 2% | 3% | 3% |
| Through the wall AC | 30% | 5% | 12% | 4% | 41% | 8% |
| Window AC | 50% | 5% | 78% | 5% | 48% | 8% |
| Respondents (n) | 171 | | 95 | | 53 | |

Source: On-site fields: ['Quantity of identical system(s)']

## TABLE 397. CLIMATE ZONE - SATURATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central DX | 7% | 3% | 2% | 1% | 17% | 5% | 10% | 9% |
| Packaged Terminal AC | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% |
| Portable AC | 6% | 2% | 0% | 0% | 2% | 2% | 5% | 5% |
| Through the wall AC | 12% | 3% | 42% | 10% | 40% | 7% | 4% | 4% |
| Window AC | 75% | 4% | 57% | 10% | 41% | 7% | 80% | 13% |
| Respondents (n) | 134 | | 66 | | 99 | | 20 | |

Source: On-site fields: ['Quantity of identical system(s)']

## TABLE 398. DAC FLAG - SATURATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Central DX | 16% | 4% | 6% | 2% | 0% | 0% |
| Packaged Terminal AC | 0% | 0% | 0% | 0% | 0% | 0% |
| Portable AC | 6% | 2% | 2% | 1% | 0% | 0% |
| Through the wall AC | 28% | 5% | 34% | 5% | 0% | 0% |
| Window AC | 50% | 5% | 58% | 5% | 100% | 0% |
| Respondents (n) | 135 | | 180 | | 4 | |

Source: On-site fields: ['Quantity of identical system(s)']

## TABLE 399. OWNERSHIP TYPE - SATURATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central DX | 11% | 4% | 9% | 5% | 14% | 6% | 12% | 4% |
| Packaged Terminal AC | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Portable AC | 8% | 5% | 6% | 3% | 2% | 1% | 4% | 2% |
| Through the wall AC | 20% | 5% | 14% | 5% | 20% | 5% | 32% | 6% |
| Window AC | 61% | 7% | 71% | 6% | 64% | 7% | 52% | 6% |
| Respondents (n) | 100 | | 71 | | 57 | | 91 | |

Source: On-site fields: ['Quantity of identical system(s)']

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## TABLE 400. STATEWIDE - SATURATION OF DWELLING-UNIT COOLING COMPONENTS (SITE VISITS)

| Dwelling Unit Cooling Components | Statewide | |
|---|---|---|
| | % | EB |
| Central DX | 9% | 2% |
| Packaged Terminal AC | 0% | 0% |
| Portable AC | 5% | 2% |
| Through the wall AC | 24% | 4% |
| Window AC | 62% | 4% |
| Respondents (n) | 319 | |

Source: On-site fields: ['Quantity of identical system(s)']

## TABLE 401. BUILDING VINTAGE - DWELLING UNIT PERCENTAGE OF CONDITIONED SPACE MECHANICALLY COOLED (SITE VISITS)

| Percentage of Conditioned Space with Mechanical Cooling | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| 100% | 100% | 46% | 100% | 0% | 100% | 144% | 100% | 38% | 100% | 115% |
| Respondents (n) | 14 | | 6 | | 3 | | 17 | | 5 | |

Source: On-site fields: ['Enter the percentage of conditioned area in the dwelling unit this system serves as the primary cooling system']

## TABLE 402. BUILDING SIZE - DWELLING UNIT PERCENTAGE OF CONDITIONED SPACE MECHANICALLY COOLED (SITE VISITS)

| Percentage of Conditioned Space with Mechanical Cooling | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 100% | 100% | 32% | 100% | 76% | 100% | 22% |
| Respondents (n) | 30 | | 12 | | 3 | |

Source: On-site fields: ['Enter the percentage of conditioned area in the dwelling unit this system serves as the primary cooling system']

## TABLE 403. CLIMATE ZONE - DWELLING UNIT PERCENTAGE OF CONDITIONED SPACE MECHANICALLY COOLED (SITE VISITS)

| Percentage of Conditioned Space with Mechanical Cooling | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 100% | 100% | 23% | 100% | 54% | 100% | 32% | 100% | 90% |
| Respondents (n) | 10 | | 4 | | 23 | | 8 | |

Source: On-site fields: ['Enter the percentage of conditioned area in the dwelling unit this system serves as the primary cooling system']

## TABLE 404. DAC FLAG - DWELLING UNIT PERCENTAGE OF CONDITIONED SPACE MECHANICALLY COOLED (SITE VISITS)

| Percentage of Conditioned Space with Mechanical Cooling | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | % | EB | % | EB |
| 100% | 100% | 26% | 100% | 38% |
| Respondents (n) | 25 | | 20 | |

Source: On-site fields: ['Enter the percentage of conditioned area in the dwelling unit this system serves as the primary cooling system']

## TABLE 405. OWNERSHIP TYPE - DWELLING UNIT PERCENTAGE OF CONDITIONED SPACE MECHANICALLY COOLED (SITE VISITS)

| Percentage of Conditioned Space with Mechanical Cooling | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 100% | 100% | 105% | 100% | 73% | 100% | 30% | 100% | 31% |
| Respondents (n) | 18 | | 5 | | 7 | | 15 | |

Source: On-site fields: ['Enter the percentage of conditioned area in the dwelling unit this system serves as the primary cooling system']

## TABLE 406. STATEWIDE - DWELLING UNIT PERCENTAGE OF CONDITIONED SPACE MECHANICALLY COOLED (SITE VISITS)

| Percentage of Conditioned Space with Mechanical Cooling | Statewide | |
|---|---|---|
| | % | EB |
| 100 | 100% | 27% |
| Respondents (n) | 45 | |

Source: On-site fields: ['Enter the percentage of conditioned area in the dwelling unit this system serves as the primary cooling system']

## TABLE 407. STATEWIDE - SATURATION OF BUILDING CENTRAL HYDRONIC COOLING COMPONENTS (SITE VISITS)

| Hydronic Cooling Components | Statewide | |
|---|---|---|
| | Mean | EB |
| Chiller | 0.17 | 0.12 |
| Cooling Tower | - | - |
| Respondents (n) | 72 | |

Source: On-site fields: ['Enter the heat rejection method.', 'What type of cooling system is this? ']

## TABLE 408. CLIMATE ZONE - SATURATION OF BUILDING CENTRAL HYDRONIC COOLING COMPONENTS (SITE VISITS)

| Hydronic Cooling Components | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Chiller | 0.38 | 0.32 | 0.40 | 0.31 | 0.00 | 0.00 | 0.27 | 0.32 |
| Cooling Tower | - | - | - | - | - | - | - | - |
| Respondents (n) | 16 | | 18 | | 32 | | 6 | |

Source: On-site fields: ['Enter the heat rejection method.', 'What type of cooling system is this? ']

## TABLE 409. BUILDING VINTAGE - SATURATION OF BUILDING CENTRAL HYDRONIC COOLING COMPONENTS (SITE VISITS)

| Hydronic Cooling Components | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Chiller | - | - | 0.13 | 0.11 | 0.41 | 0.37 | - | - | 0.48 | 0.17 |
| Cooling Tower | - | - | - | - | - | - | - | - | - | - |
| Respondents (n) | 6 | | 18 | | 6 | | 12 | | 30 | |

Source: On-site fields: ['Enter the heat rejection method.', 'What type of cooling system is this? ']

## TABLE 410. OWNERSHIP TYPE - SATURATION OF BUILDING CENTRAL HYDRONIC COOLING COMPONENTS (SITE VISITS)

| Hydronic Cooling Components | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Chiller | 0.05 | 0.04 | 0.51 | 0.36 | 0.50 | 0.43 | 0.05 | 0.03 |
| Cooling Tower | - | - | - | - | - | - | - | - |
| Respondents (n) | 34 | | 8 | | 6 | | 24 | |

Source: On-site fields: ['Enter the heat rejection method.', 'What type of cooling system is this? ']

## TABLE 411. DAC FLAG - SATURATION OF BUILDING CENTRAL HYDRONIC COOLING COMPONENTS (SITE VISITS)

| Hydronic Cooling Components | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Chiller | 0.05 | 0.05 | 0.28 | 0.18 | 0.03 | 0.04 |
| Cooling Tower | - | - | - | - | - | - |
| Respondents (n) | 22 | | 38 | | 6 | |

Source: On-site fields: ['Enter the heat rejection method.', 'What type of cooling system is this? ']

## TABLE 412. CLIMATE ZONE - COOLING EQUIPMENT AGE (SITE VISITS)

| Cooling Equipment Age | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Less than 2 Years | 24% | 10% | 9% | 6% | 24% | 18% | 37% | 62% |
| 2 to 4 Years | 21% | 8% | 26% | 25% | 4% | 4% | 45% | 63% |
| 5 to 9 Years | 40% | 13% | 25% | 22% | 27% | 19% | 18% | 19% |
| 10 to 14 Years | 8% | 7% | 21% | 24% | 9% | 11% | 1% | 1% |
| 15 to 19 Years | 1% | 2% | 16% | 18% | 28% | 21% | | |
| 20 or More Years | 5% | 6% | 2% | 3% | 8% | 11% | | |
| Respondents (n) | 76 | | 42 | | 40 | | 15 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 413. DAC FLAG - COOLING EQUIPMENT AGE (SITE VISITS)

| Cooling Equipment Age | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Less than 2 Years | 21% | 10% | 22% | 12% | 71% | 69% |
| 2 to 4 Years | 18% | 8% | 17% | 8% | | |
| 5 to 9 Years | 42% | 20% | 34% | 13% | | |
| 10 to 14 Years | 4% | 3% | 10% | 8% | 29% | 58% |
| 15 to 19 Years | 15% | 10% | 10% | 9% | | |
| 20 or More Years | | | 7% | 5% | | |
| Respondents (n) | 76 | | 91 | | 6 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 414. OWNERSHIP TYPE - COOLING EQUIPMENT AGE (SITE VISITS)

| Cooling Equipment Age | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Less than 2 Years | 3% | 1% | 34% | 19% | 13% | 11% | 16% | 9% |
| 2 to 4 Years | 37% | 25% | 18% | 14% | 31% | 14% | 20% | 20% |
| 5 to 9 Years | 31% | 23% | 36% | 19% | 44% | 16% | 43% | 32% |
| 10 to 14 Years | 21% | 18% | 0% | 1% | 4% | 7% | 14% | 19% |
| 15 to 19 Years | 8% | 13% | 5% | 8% | 0% | 1% | 4% | 4% |
| 20 or More Years | | | 5% | 5% | 8% | 8% | 4% | 6% |
| Respondents (n) | 57 | | 49 | | 32 | | 35 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 415. STATEWIDE - COOLING EQUIPMENT AGE (SITE VISITS)

| Cooling Equipment Age | Statewide | |
|---|---|---|
| | % | EB |
| Less than 2 Years | 28% | 12% |
| 2 to 4 Years | 18% | 7% |
| 5 to 9 Years | 32% | 10% |
| 10 to 14 Years | 7% | 4% |
| 15 to 19 Years | 5% | 4% |
| 20 or More Years | 10% | 10% |
| Respondents (n) | 173 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 416. STATEWIDE - COOLING EQUIPMENT AGE BY COOLING SYSTEM TYPE (SITE VISITS)

| Cooling Equipment | Age | Statewide | |
|---|---|---|---|
| | | % | EB |
| Central DX | 10 to 14 Years | 0% | 0% |
| | 15 to 19 Years | 1% | 1% |
| | 20 or More Years | 8% | 10% |
| | 5 to 9 Years | 2% | 2% |
| | Less than 2 Years | 0% | 0% |
| | Respondents (n) | 21 | |
| Portable AC | 2 to 4 Years | 0% | 1% |
| | 5 to 9 Years | 3% | 2% |
| | Less than 2 Years | 0% | 0% |
| | Respondents (n) | 8 | |
| Through-the-wall AC | 10 to 14 Years | 0% | 0% |
| | 15 to 19 Years | 3% | 4% |
| | 2 to 4 Years | 1% | 1% |
| | 5 to 9 Years | 5% | 4% |
| | Less than 2 Years | 1% | 1% |
| | Respondents (n) | 33 | |
| Window AC | 10 to 14 Years | 6% | 4% |
| | 15 to 19 Years | 1% | 1% |
| | 2 to 4 Years | 17% | 6% |
| | 20 or More Years | 2% | 3% |
| | 5 to 9 Years | 22% | 8% |
| | Less than 2 Years | 27% | 12% |
| | Respondents (n) | 111 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 417. BUILDING VINTAGE - CENTRAL AIR CONDITIONER SEER RATING (SITE VISITS)

| Central Air Conditioning SEER Rating | Pre-1940 | | 1940 to 1978 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 10 to 10.9 | | | | | | | 10% | 22% |
| 11 to 11.9 | | | 24% | 51% | | | | |
| 13 to 13.9 | 100% | 0.0% | 47% | 101% | 55% | 119% | 9% | 13% |
| 14 to 14.9 | | | 24% | 51% | 45% | 131% | 81% | 146% |
| 17 to 17.9 | | | 5% | 7% | | | | |
| Respondents (n) | 1 | | 5 | | 3 | | 5 | |

Source: On-site fields: ['What type of cooling system is this? ', 'Enter the rated cooling efficiency type']

## TABLE 418. CLIMATE ZONE - CENTRAL AIR CONDITIONER SEER RATING (SITE VISITS)

| Central Air Conditioning SEER Rating | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 10 to 10.9 | | | 4% | 7% | | | | |
| 11 to 11.9 | | | | | 25% | 53% | | |
| 13 to 13.9 | 100% | 260% | 4% | 4% | 50% | 106% | | |
| 14 to 14.9 | | | 92% | 177% | 25% | 53% | 100% | 0.0% |
| 17 to 17.9 | | | | | 0.2% | 0.3% | | |
| Respondents (n) | 2 | | 6 | | 5 | | 1 | |

Source: On-site fields: ['What type of cooling system is this? ', 'Enter the rated cooling efficiency type']

## TABLE 419. DAC FLAG - CENTRAL AIR CONDITIONER SEER RATING (SITE VISITS)

| Central Air Conditioning SEER Rating | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | % | EB | % | EB |
| 10 to 10.9 | | | 1% | 2% |
| 11 to 11.9 | | | 27% | 51% |
| 13 to 13.9 | 13% | 27% | 71% | 102% |
| 14 to 14.9 | 85% | 84% | 1% | 2% |
| 17 to 17.9 | 2% | 2% | | |
| Respondents (n) | 6 | | 8 | |

Source: On-site fields: ['What type of cooling system is this? ', 'Enter the rated cooling efficiency type']

## TABLE 420. OWNERSHIP TYPE - CENTRAL AIR CONDITIONER SEER RATING (SITE VISITS)

| Central Air Conditioning SEER Rating | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 10 to 10.9 | 21% | 39% | | | | | | |
| 11 to 11.9 | | | | | | | 12% | 27% |
| 13 to 13.9 | 25% | 25% | | | 100% | 0.0% | 87% | 142% |
| 14 to 14.9 | 53% | 68% | 100% | 0.0% | | | 1% | 3% |
| 17 to 17.9 | 2% | 2% | | | | | | |
| Respondents (n) | 8 | | 1 | | 1 | | 4 | |

Source: On-site fields: ['What type of cooling system is this? ', 'Enter the rated cooling efficiency type']

## TABLE 421. STATEWIDE - CENTRAL AIR CONDITIONER SEER RATING (SITE VISITS)

| Central Air Conditioning SEER Rating | Statewide | |
|---|---|---|
| | % | EB |
| 10 to 10.9 | 0.1% | 0.2% |
| 11 to 11.9 | 12% | 21% |
| 13 to 13.9 | 84% | 87% |
| 14 to 14.9 | 4% | 4% |
| 17 to 17.9 | 0.01% | 0.01% |
| Respondents (n) | 14 | |

Source: On-site fields: ['What type of cooling system is this? ', 'Enter the rated cooling efficiency type']

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## TABLE 422. CLIMATE ZONE - WHO OWNS ROOM OR WINDOW AIR CONDITIONING SYSTEMS (BUILDING REP SURVEYS)

| Room Air Conditioning Ownership | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Building | 8% | 2% | 5% | 6% | 21% | 9% | 7% | 8% |
| Tenant | 91% | 4% | 95% | 15% | 79% | 13% | 93% | 22% |
| Third party | 0.3% | 0% | | | | | | |
| Don't know | 0.2% | 0% | | | | | | |
| Respondents (n) | 390 | | 53 | | 116 | | 50 | |

Source: Survey fields: ['Who typically owns the window air conditioners?']

## TABLE 423. DAC FLAG - WHO OWNS ROOM OR WINDOW AIR CONDITIONING SYSTEMS (BUILDING REP SURVEYS)

| Room Air Conditioning Ownership | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Building | 7.86% | 3.30% | 8.10% | 3.33% | 38.77% | 31.05% |
| Tenant | 91.86% | 4.71% | 91.61% | 5.77% | 61.23% | 35.05% |
| Third party | 0.29% | 0.47% | | | | |
| Don't know | | | 0.29% | 0.48% | | |
| Respondents (n) | 240 | | 274 | | 66 | |

Source: Survey fields: ['Who typically owns the window air conditioners?']

## TABLE 424. OWNERSHIP TYPE - WHO OWNS ROOM OR WINDOW AIR CONDITIONING SYSTEMS (BUILDING REP SURVEYS)

| Room Air Conditioning Ownership | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Building | 4% | 4% | 4% | 3% | 5% | 4% | 10% | 4% |
| Tenant | 96% | 15% | 95% | 10% | 93% | 5% | 90% | 7% |
| Third party | | | 0.4% | 0.7% | | | | |
| Don't know | | | | | 1% | 2% | | |
| Respondents (n) | 100 | | 222 | | 77 | | 196 | |

Source: Survey fields: ['Who typically owns the window air conditioners?']

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## TABLE 425. STATEWIDE - WHO OWNS ROOM OR WINDOW AIR CONDITIONING SYSTEMS (BUILDING REP SURVEYS)

| Room Air Conditioning Ownership | Statewide | |
|---|---|---|
| | % | EB |
| Building | 8% | 3% |
| Tenant | 91% | 5% |
| Third party | 0.2% | 0.3% |
| Don't know | 0.2% | 0.3% |
| Respondents (n) | 595 | |

Source: Survey fields: ['Who typically owns the window air conditioners?']

## TABLE 426. STATEWIDE - SYSTEM TYPE SERVED BY DUCTING (SITE VISITS)

| Duct Service | Statewide | |
|---|---|---|
| | % | EB |
| Cooling only | 18% | 15% |
| Heating and cooling | 14% | 21% |
| Heating only | 65% | 58% |
| Ventilation only | 2% | 2% |
| Respondents (n) | 81 | |

Source: On-site fields: ['What type of service does this central system provide?']

## TABLE 427. STATEWIDE - PERCENTAGE OF HEATING AND COOLING DUCTING IN UNCONDITIONED SPACE (SITE VISITS)

| Percentage of Ducts in Unconditioned Space | Statewide | |
|---|---|---|
| | % | EB |
| 0% | 31% | 30% |
| 5% | 10% | 11% |
| 20% | 1% | 2% |
| 30% | 27% | 41% |
| 50% | 4% | 4% |
| 70% | 1% | 2% |
| 90% | 10% | 14% |
| 100% | 16% | 12% |
| Respondents (n) | 80 | |

Source: On-site fields: ['What percentage of the duct distribution is in unconditioned space?']

## TABLE 428. STATEWIDE - PERCENTAGE OF HEATING AND COOLING DUCTING IN UNCONDITIONED SPACE INSULATED (SITE VISITS)

| Percentage of Ducts in Unconditioned Space and Insulated | Statewide | |
|---|---|---|
| | % | EB |
| 0% | 70% | 49% |
| 40% | 8% | 14% |
| 50% | 1% | 2% |
| 90% | 0.02% | 0.04% |
| 95% | 2% | 2% |
| 100% | 19% | 26% |
| Respondents (n) | 54 | |

Source: On-site fields: ['What percentage of the duct is insulated?']

## TABLE 429. CLIMATE ZONE - DISTRIBUTION OF IN-UNIT THERMOSTATS BY TYPE (SITE VISITS)

| Thermostat Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Manual analog | 27% | 15% | 57% | 24% | 40% | 10% | 49% | 24% |
| Manual digital | 36% | 10% | 21% | 16% | 34% | 10% | 3% | 2% |
| Programmable | 15% | 8% | 12% | 12% | 18% | 7% | 30% | 22% |
| Smart | 2% | 2% | 9% | 11% | | | | |
| Thermostatic radiator valve | 18% | 12% | 0.4% | 0.4% | 3% | 3% | 17% | 15% |
| Other | 3% | 3% | | | 6% | 5% | 1% | 2% |
| Respondents (n) | 65 | | 59 | | 155 | | 54 | |

Source: On-site fields: ['Thermostat type?']

## TABLE 430. DAC FLAG - DISTRIBUTION OF IN-UNIT THERMOSTATS BY TYPE (SITE VISITS)

| Thermostat Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Manual analog | 37% | 14% | 33% | 7% | 65% | 47% |
| Manual digital | 30% | 10% | 32% | 8% | | |
| Programmable | 18% | 6% | 13% | 5% | 35% | 36% |
| Smart | 1% | 2% | 3% | 3% | | |
| Thermostatic radiator valve | 8% | 6% | 16% | 7% | | |
| Other | 4% | 4% | 3% | 3% | | |
| Respondents (n) | 124 | | 192 | | 17 | |

Source: On-site fields: ['Thermostat type?']

## TABLE 431. OWNERSHIP TYPE - DISTRIBUTION OF IN-UNIT THERMOSTATS BY TYPE (SITE VISITS)

| Thermostat Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Manual analog | 29% | 20% | 61% | 38% | 2% | 2% | 27% | 10% |
| Manual digital | 50% | 32% | 7% | 5% | 44% | 19% | 41% | 18% |
| Programmable | 15% | 18% | 6% | 5% | 23% | 15% | 9% | 4% |
| Smart | | | 0% | 0% | 4% | 7% | 1% | 2% |
| Thermostatic radiator valve | 7% | 7% | 26% | 28% | 14% | 13% | 18% | 15% |
| Other | | | 0% | 0% | 14% | 13% | 4% | 3% |
| Respondents (n) | 119 | | 80 | | 30 | | 104 | |

Source: On-site fields: ['Thermostat type?']

## TABLE 432. STATEWIDE - DISTRIBUTION OF IN-UNIT THERMOSTATS BY TYPE (SITE VISITS)

| Thermostat Type | Statewide | |
|---|---|---|
| | % | EB |
| Manual analog | 35% | 11% |
| Manual digital | 32% | 8% |
| Programmable | 14% | 5% |
| Smart | 2% | 1% |
| Thermostatic radiator valve | 14% | 8% |
| Other | 3% | 2% |
| Respondents (n) | 333 | |

Source: On-site fields: ['Thermostat type?']

## TABLE 433. STATEWIDE - AVERAGE IN-UNIT THERMOSTAT SETTINGS AND SETBACKS (OCCUPANT SURVEY)

| In-Unit Thermostat Settings and Setbacks | Statewide | |
|---|---|---|
| | Mean | EB |
| Heating Setback | 65.3 | 1.6 |
| Heating Setpoint | 69.6 | 0.6 |
| Respondents (n) | 64 | |

Source: Survey fields: ['To what temperature do you usually set your thermostat? - Typical heating setpoint? - Temperature:', 'To what temperature do you usually set your thermostat? - Heating setpoint when away from home or sleeping? - Temperature:', 'To what temperature do you usually set your thermostat? - Typical cooling setpoint? - Temperature:', 'To what temperature do you usually set your thermostat? - Cooling setpoint when away or sleeping? - Temperature:']

## TABLE 434. STATEWIDE - AVERAGE IN-UNIT THERMOSTAT SETTINGS AND SETBACKS (OCCUPANT SURVEY)

| In-Unit Thermostat Settings And Setbacks | Statewide | |
|---|---|---|
| | Mean | EB |
| Cooling Setback | 72.6 | 0.9 |
| Cooling Setpoint | 71.9 | 0.8 |
| Respondents (n) | 49 | |

Source: Survey fields: ['To what temperature do you usually set your thermostat? - Typical heating setpoint? - Temperature:', 'To what temperature do you usually set your thermostat? - Heating setpoint when away from home or sleeping? - Temperature:', 'To what temperature do you usually set your thermostat? - Typical cooling setpoint? - Temperature:', 'To what temperature do you usually set your thermostat? - Cooling setpoint when away or sleeping? - Temperature:']

## TABLE 435. BUILDING VINTAGE - IN-UNIT SMART THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Response | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Yes | 1% | 1% | 1% | 2% | | | | | 5% | 7% |
| No | 99% | 14% | 99% | 13% | 100% | 30% | 100% | 21% | 82% | 22% |
| Respondents (n) | 76 | | 96 | | 53 | | 33 | | 75 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 436. CLIMATE ZONE - IN-UNIT SMART THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Response | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Yes | 2% | 2% | 9% | 11% | | | | |
| No | 98% | 16% | 91% | 28% | 100% | 12% | 100% | 31% |
| Respondents (n) | 65 | | 59 | | 155 | | 54 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 437. DAC FLAG - IN-UNIT SMART THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Response | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Yes | 1% | 2% | 3% | 3% | | |
| No | 99% | 15% | 97% | 11% | 13% | 6% |
| Respondents (n) | 124 | | 192 | | 17 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 438. OWNERSHIP TYPE - IN-UNIT SMART THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Response | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Yes | | | 0.1% | 0.2% | 4% | 7% | 1% | 2% |
| No | 100% | 41% | 100% | 46% | 96% | 17% | 99% | 22% |
| Respondents (n) | 119 | | 80 | | 30 | | 104 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 439. STATEWIDE - IN-UNIT SMART THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Response | Statewide | |
|---|---|---|
| | % | EB |
| Yes | 2% | 1% |
| No | 98% | 15% |
| Respondents (n) | 333 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 440. BUILDING VINTAGE - IN-UNIT SMART THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Temperature Control | 1940 to 1978 | | Unknown | |
|---|---|---|---|---|
| | % | EB | % | EB |
| Manually Change the Temperature | 100% | 0% | | |
| Programmed to Change Temperature | | | 100% | 0% |
| Respondents (n) | 1 | | 1 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 441. CLIMATE ZONE - IN-UNIT SMART THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Temperature Control | NYC | | Climate Zone 4 | |
|---|---|---|---|---|
| | % | EB | % | EB |
| Manually Change the Temperature | 100% | 0% | | |
| Programmed to Change Temperature | | | 100% | 0% |
| Respondents (n) | 1 | | 1 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 442. DAC FLAG - IN-UNIT SMART THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Temperature Control | Not in a DAC designated Census Tract | |
|---|---|---|
| | % | EB |
| Manually Change the Temperature | 30% | 187% |
| Programmed to Change Temperature | 70% | 445% |
| Respondents (n) | 2 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 443. OWNERSHIP TYPE - IN-UNIT SMART THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Temperature Control | Affordable Unsubsidized | | Co-Ops and Condos | |
|---|---|---|---|---|
| | % | EB | % | EB |
| Manually Change the Temperature | | | 100% | 0% |
| Programmed to Change Temperature | 100% | 0% | | |
| Respondents (n) | 1 | | 1 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 444. STATEWIDE - IN-UNIT SMART THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Temperature Control | Statewide | |
|---|---|---|
| | % | EB |
| Manually Change the Temperature | 96% | 607% |
| Programmed to Change Temperature | 4% | 25% |
| Respondents (n) | 2 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 445. BUILDING VINTAGE - IN-UNIT PROGRAMMABLE THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Thermostat Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Have a programmable thermostat | 5% | 4% | 7% | 5% | 2% | 1% | 22% | 18% | 13% | 11% |
| Have other thermostat | 95% | 12% | 93% | 14% | 98% | 23% | 78% | 57% | 74% | 23% |
| Respondents (n) | 67 | | 96 | | 55 | | 16 | | 69 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 446. CLIMATE ZONE - IN-UNIT PROGRAMMABLE THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Thermostat Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Have a programmable thermostat | 7% | 10% | 13% | 13% | 10% | 6% | 23% | 25% |
| Have other thermostat | 93% | 18% | 87% | 29% | 90% | 14% | 77% | 36% |
| Respondents (n) | 69 | | 57 | | 139 | | 38 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 447. DAC FLAG - IN-UNIT PROGRAMMABLE THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Thermostat Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Have a programmable thermostat | 6% | 4% | 7% | 3% | 8% | 9% |
| Have other thermostat | 94% | 15% | 93% | 11% | 4% | 7% |
| Respondents (n) | 100 | | 189 | | 14 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 448. OWNERSHIP TYPE - IN-UNIT PROGRAMMABLE THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Thermostat Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Have a programmable thermostat | 2% | 1% | 3% | 4% | 7% | 9% | 5% | 3% |
| Have other thermostat | 98% | 39% | 97% | 45% | 93% | 15% | 95% | 23% |
| Respondents (n) | 109 | | 71 | | 31 | | 92 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 449. STATEWIDE - IN-UNIT PROGRAMMABLE THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Thermostat Type | Statewide | |
|---|---|---|
| | % | EB |
| Have a programmable thermostat | 9% | 7% |
| Have other thermostat | 91% | 15% |
| Respondents (n) | 303 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 450. BUILDING VINTAGE - IN-UNIT PROGRAMMABLE THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Thermostat Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Programmed | | | 25% | 48% | | | | | 4% | 6% |
| Not programmed | 100% | 76% | 75% | 50% | 100% | 0% | 100% | 83% | 81% | 88% |
| Respondents (n) | 4 | | 7 | | 4 | | 4 | | 7 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 451. CLIMATE ZONE - IN-UNIT PROGRAMMABLE THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Thermostat Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Programmed | | | 5% | 14% | 25% | 43% | | |
| Not programmed | 100% | 111% | 95% | 139% | 75% | 57% | 100% | 115% |
| Respondents (n) | 2 | | 3 | | 15 | | 6 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 452. DAC FLAG - IN-UNIT PROGRAMMABLE THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Thermostat Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Programmed | 18% | 15% | 18% | 25% | | |
| Not programmed | 82% | 109% | 82% | 43% | 15% | 16% |
| Respondents (n) | 5 | | 18 | | 3 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 453. OWNERSHIP TYPE - IN-UNIT PROGRAMMABLE THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Thermostat Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Programmed | 9% | 8% | | | 18% | 116% | 15% | 28% |
| Not programmed | 91% | 43% | 100% | 140% | 82% | 516% | 85% | 41% |
| Respondents (n) | 12 | | 4 | | 2 | | 8 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 454. STATEWIDE - IN-UNIT PROGRAMMABLE THERMOSTAT PRESENCE AND USE (SITE VISITS)

| Thermostat Type | Statewide | |
|---|---|---|
| | % | EB |
| Programmed | 9% | 11% |
| Not programmed | 91% | 57% |
| Respondents (n) | 26 | |

Source: On-site fields: ['Is the programmable or smart thermostat programmed to operate on a schedule?', 'Thermostat type?']

## TABLE 455. CLIMATE ZONE - IN-UNIT CONNECTED THERMOSTAT FOR PRIMARY HEATING AND/OR COOLING SYSTEM (SITE VISITS)

| Response | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Yes | 2% | 2% | 9% | 11% | | | | |
| No | 98% | 16% | 91% | 28% | 100% | 12% | 100% | 31% |
| Respondents (n) | 65 | | 59 | | 155 | | 54 | |

Source: On-site fields: ['Thermostat type?']

## TABLE 456. DAC FLAG - IN-UNIT CONNECTED THERMOSTAT FOR PRIMARY HEATING AND/OR COOLING SYSTEM (SITE VISITS)

| Response | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Yes | 1% | 2% | 3% | 3% | | |
| No | 99% | 15% | 97% | 11% | 100% | 51% |
| Respondents (n) | 124 | | 192 | | 17 | |

Source: On-site fields: ['Thermostat type?']

## TABLE 457. OWNERSHIP TYPE - IN-UNIT CONNECTED THERMOSTAT FOR PRIMARY HEATING AND/OR COOLING SYSTEM (SITE VISITS)

| Response | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Yes | | | 0.1% | 0.2% | 4% | 7% | 1% | 2% |
| No | 100% | 41% | 99.9% | 45.8% | 96% | 17% | 99% | 22% |
| Respondents (n) | 119 | | 80 | | 30 | | 104 | |

Source: On-site fields: ['Thermostat type?']

## TABLE 458. STATEWIDE - IN-UNIT CONNECTED THERMOSTAT FOR PRIMARY HEATING AND/OR COOLING SYSTEM (SITE VISITS)

| Response | Statewide | |
|---|---|---|
| | % | EB |
| Yes | 2% | 1% |
| No | 98% | 15% |
| Respondents (n) | 333 | |

Source: On-site fields: ['Thermostat type?']

## TABLE 459. BUILDING VINTAGE - PRIMARY DOMISTIC HOT WATER SERVICE TYPE FOR DWELLING UNITS PER BUILDING (SITE VISITS)

| Dwelling Primary Hot Water Source | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Central | 91% | 12% | 94% | 20% | 46% | 34% | 73% | 44% | 73% | 39% |
| Local | 9% | 11% | 6% | 6% | 54% | 43% | 27% | 22% | 1% | 1% |
| Respondents (n) | 83 | | 42 | | 22 | | 14 | | 24 | |

Source: On-site fields: ['Is this a central or local system?']

## TABLE 460. BUILDING SIZE - PRIMARY DOMISTIC HOT WATER SERVICE TYPE FOR DWELLING UNITS PER BUILDING (SITE VISITS)

| Dwelling Primary Hot Water Source | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Central | 85% | 19% | 90% | 25% | 100% | 21% |
| Local | 15% | 7% | 10% | 12% | | |
| Respondents (n) | 119 | | 40 | | 26 | |

Source: On-site fields: ['Is this a central or local system?']

## TABLE 461. CLIMATE ZONE - PRIMARY DOMISTIC HOT WATER SERVICE TYPE FOR DWELLING UNITS PER BUILDING (SITE VISITS)

| Dwelling Primary Hot Water Source | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | | Statewide | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Central | 93% | 18% | 99% | 62% | 81% | 19% | 87% | 50% | 87% | 15% |
| Local | 7% | 7% | 1% | 1% | 19% | 12% | 13% | 22% | 13% | 6% |
| Respondents (n) | 71 | | 24 | | 69 | | 21 | | 185 | |

Source: On-site fields: ['Is this a central or local system?']

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## TABLE 462. DAC FLAG - PRIMARY DOMISTIC HOT WATER SERVICE TYPE FOR DWELLING UNITS PER BUILDING (SITE VISITS)

| Dwelling Primary Hot Water Source | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Central | 82% | 16% | 91% | 13% | 26% | 38% |
| Local | 18% | 14% | 9% | 5% | | |
| Respondents (n) | 77 | | 99 | | 9 | |

Source: On-site fields: ['Is this a central or local system?']

## TABLE 463. OWNERSHIP TYPE - PRIMARY DOMISTIC HOT WATER SERVICE TYPE FOR DWELLING UNITS PER BUILDING (SITE VISITS)

| Dwelling Primary Hot Water Source | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Central | 98% | 69% | 95% | 35% | 100% | 22% | 80% | 21% |
| Local | 2% | 1% | 5% | 6% | | | 20% | 12% |
| Respondents (n) | 47 | | 58 | | 18 | | 62 | |

Source: On-site fields: ['Is this a central or local system?']

## TABLE 464. STATEWIDE - PRIMARY DOMISTIC HOT WATER SERVICE TYPE FOR DWELLING UNITS PER BUILDING (SITE VISITS)

| Dwelling Primary Hot Water Source | Statewide | |
|---|---|---|
| | % | EB |
| Central | 87% | 15% |
| Local | 13% | 6% |
| Respondents (n) | 185 | |

Source: On-site fields: ['Is this a central or local system?']

## TABLE 465. BUILDING VINTAGE - DWELLING UNIT DOMESTIC HOT WATER SYSTEM TYPE PER DWELLING UNIT (SITE VISITS)

| Dwelling Primary Hot Water Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Building central system | | | | | | | | | | |
| Direct-heated tank | 100% | 22% | 100% | 27% | 96% | 59% | 93% | 82% | 63% | 42% |
| Direct-heated tankless | | | | | | | 1% | 2% | | |
| Heat pump water heater | | | | | 1% | 1% | 6% | 8% | | |
| Other | | | | | 3% | 5% | | | | |
| Respondents (n) | 16 | | 27 | | 17 | | 10 | | 24 | |

Source: On-site fields: ['Type of DHW system']

## TABLE 466. BUILDING SIZE - DWELLING UNIT DOMESTIC HOT WATER SYSTEM TYPE PER DWELLING UNIT (SITE VISITS)

| Dwelling Primary Hot Water Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Building central system | | | | | | |
| Direct-heated tank | 98% | 25% | 100% | 55% | 100% | 0.0% |
| Direct-heated tankless | 0.2% | 0.3% | | | | |
| Heat pump water heater | 1.0% | 0.9% | | | | |
| Other | 1.2% | 2.0% | | | | |
| Respondents (n) | 78 | | 15 | | 1 | |

Source: On-site fields: ['Type of DHW system']

## TABLE 467. CLIMATE ZONE - DWELLING UNIT DOMESTIC HOT WATER SYSTEM TYPE PER DWELLING UNIT (SITE VISITS)

| Dwelling Primary Hot Water Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Building central system | | | | | | | | |
| Direct-heated tank | 88% | 42% | 100% | 72% | 97% | 26% | 100% | 79% |
| Direct-heated tankless | | | | | 0.2% | 0.4% | | |
| Heat pump water heater | | | | | 3% | 3% | | |
| Other | 12% | 24% | | | | | | |
| Respondents (n) | 7 | | 20 | | 54 | | 13 | |

Source: On-site fields: ['Type of DHW system']

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## TABLE 468. DAC FLAG - DWELLING UNIT DOMESTIC HOT WATER SYSTEM TYPE PER DWELLING UNIT (SITE VISITS)

| Dwelling Primary Hot Water Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Building central system | | | | | | |
| Direct-heated tank | 93% | 21% | 98% | 24% | 37% | 195% |
| Direct-heated tankless | | | 0.2% | 0.3% | | |
| Heat pump water heater | 7% | 8% | 0.3% | 0.4% | | |
| Other | | | 1.3% | 2.2% | | |
| Respondents (n) | 42 | | 50 | | 2 | |

Source: On-site fields: ['Type of DHW system']

## TABLE 469. METERING TYPE - DWELLING UNIT DOMESTIC HOT WATER SYSTEM TYPE PER DWELLING UNIT (SITE VISITS)

| Dwelling Primary Hot Water Type | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Building central system | | | | | | |
| Direct-heated tank | 94% | 15% | 87% | 24% | 0.004% | 0.0% |
| Direct-heated tankless | 2% | 1% | | | | |
| Heat pump water heater | 3% | 3% | 13% | 16% | | |
| Other | 1% | 2% | | | | |
| Respondents (n) | 89 | | 13 | | 2 | |

Source: On-site fields: ['Type of DHW system']

## TABLE 470. OWNERSHIP TYPE - DWELLING UNIT DOMESTIC HOT WATER SYSTEM TYPE PER DWELLING UNIT (SITE VISITS)

| Dwelling Primary Hot Water Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Building central system | | | | | | | | |
| Direct-heated tank | 88% | 19% | 98% | 55% | 84% | 57% | 100% | 22% |
| Direct-heated tankless | 4% | 7% | | | | | | |
| Heat pump water heater | 7% | 9% | 2% | 2% | | | | |
| Other | | | | | 16% | 35% | | |
| Respondents (n) | 38 | | 18 | | 5 | | 33 | |

Source: On-site fields: ['Type of DHW system']

## TABLE 471. STATEWIDE - DWELLING UNIT DOMESTIC HOT WATER SYSTEM TYPE PER DWELLING UNIT (SITE VISITS)

| Dwelling Primary Hot Water Type | Statewide | |
|---|---|---|
| | % | EB |
| Building central system | | |
| Direct-heated tank | 98% | 23% |
| Direct-heated tankless | 0.1% | 0.2% |
| Heat pump water heater | 1% | 1% |
| Other | 1% | 2% |
| Respondents (n) | 94 | |

Source: On-site fields: ['Type of DHW system']

## TABLE 472. BUILDING VINTAGE - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (BUILDING REP SURVEY)

| Dwelling Hot Water Fuel Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 7% | 2% | 11% | 3% | 36% | 12% | 30% | 21% |
| Fuel Oil | 13% | 3% | 12% | 7% | 1% | 1% | 2% | 2% |
| Kerosene | | | | | | | 4% | 7% |
| Natural Gas | 72% | 5% | 74% | 10% | 33% | 9% | 60% | 43% |
| Propane | 0% | 0% | 0% | 1% | 2% | 4% | 1% | 1% |
| Solar | 0% | 0% | | | 2% | 4% | | |
| Wood | | | | | 9% | 7% | | |
| Wood Pellets | | | | | 9% | 7% | | |
| Don't know | 6% | 2% | 3% | 3% | 7% | 6% | 3% | 4% |
| Other | 1% | 1% | 0% | 0% | | | 1% | 1% |
| Respondents (n) | 492 | | 329 | | 186 | | 71 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit water heating']

## TABLE 473. BUILDING SIZE - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (BUILDING REP SURVEY)

| Dwelling Hot Water Fuel Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 16% | 3% | 11% | 3% | 11% | 5% |
| Fuel Oil | 7% | 2% | 14% | 3% | 12% | 5% |
| Kerosene | 0.1% | 0.2% | | | | |
| Natural Gas | 74% | 5% | 62% | 5% | 66% | 7% |
| Propane | 1% | 1% | 0.4% | 1% | | |
| Solar | 0.2% | 0.4% | 0.4% | 1% | 1% | 1% |
| Wood | 0.2% | 0.4% | 2% | 1% | | |
| Wood Pellets | | | 2% | 1% | | |
| Don't know | 2% | 1% | 9% | 2% | 5% | 3% |
| Other | 0.2% | 0.3% | 1% | 1% | 5% | 3% |
| Respondents (n) | 624 | | 455 | | 186 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit water heating']

## TABLE 474. CLIMATE ZONE - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (BUILDING REP SURVEY)

| Dwelling Hot Water Fuel Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 13% | 2% | 17% | 6% | 20% | 5% | 33% | 9% |
| Fuel Oil | 11% | 2% | 11% | 5% | 6% | 3% | 2% | 2% |
| Kerosene | | | | | 1% | 1% | | |
| Natural Gas | 65% | 4% | 69% | 11% | 71% | 7% | 62% | 10% |
| Propane | 0% | 0% | 1% | 2% | 1% | 1% | 2% | 2% |
| Solar | 1% | 1% | | | | | 1% | 2% |
| Wood | 1% | 1% | | | 1% | 1% | | |
| Wood Pellets | 1% | 1% | | | | | | |
| Don't know | 6% | 2% | 1% | 1% | 1% | 1% | 0.3% | 0% |
| Other | 1% | 1% | 0.5% | 1% | 0% | 0% | 0.1% | 0% |
| Respondents (n) | 695 | | 152 | | 332 | | 135 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit water heating']

## TABLE 475. DAC FLAG - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (BUILDING REP SURVEY)

| Dwelling Hot Water Fuel Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 13% | 3% | 14% | 3% | 35% | 13% |
| Fuel Oil | 7% | 2% | 10% | 2% | 10% | 8% |
| Kerosene | | | 0.3% | 0.4% | | |
| Natural Gas | 71% | 4% | 71% | 4% | 51% | 16% |
| Propane | 0% | 1% | 0% | 1% | | |
| Solar | | | 1% | 1% | 0.2% | 0.3% |
| Wood | 1% | 1% | 0.4% | 0.5% | 3% | 4% |
| Wood Pellets | 1% | 1% | 0.2% | 0.4% | 0.2% | 0% |
| Don't know | 6% | 2% | 3% | 1% | 0.4% | 1% |
| Other | 1% | 1% | 1% | 0.4% | 0.2% | 0.3% |
| Respondents (n) | 476 | | 586 | | 201 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit water heating']

## TABLE 476. OWNERSHIP TYPE - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (BUILDING REP SURVEY)

| Dwelling Hot Water Fuel Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 7% | 3% | 10% | 4% | 14% | 5% | 12% | 3% |
| Fuel Oil | 2% | 2% | 12% | 4% | 10% | 4% | 16% | 4% |
| Kerosene | | | | | | | 0% | 0% |
| Natural Gas | 74% | 12% | 65% | 8% | 65% | 7% | 66% | 6% |
| Propane | 0.01% | 0.02% | 1% | 1% | | | 1% | 1% |
| Solar | | | 1% | 1% | 1% | 1% | 0.2% | 0.3% |
| Wood | | | 2% | 2% | | | 1% | 1% |
| Wood Pellets | 0.01% | 0.02% | 2% | 2% | | | 1% | 1% |
| Don't know | 16% | 7% | 6% | 3% | 8% | 4% | 3% | 2% |
| Other | 1% | 1% | 1% | 2% | 3% | 2% | 0.3% | 0.4% |
| Respondents (n) | 213 | | 415 | | 152 | | 485 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit water heating']

## TABLE 477. STATEWIDE - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (BUILDING REP SURVEY)

| Dwelling Hot Water Fuel Type | Statewide | |
|---|---|---|
| | % | EB |
| Electricity | 13% | 2% |
| Fuel Oil | 10% | 2% |
| Kerosene | 0.1% | 0.1% |
| Natural Gas | 68% | 3% |
| Propane | 1% | 0.5% |
| Solar | 0.4% | 0.4% |
| Wood | 1% | 1% |
| Wood Pellets | 1% | 1% |
| Don't know | 5% | 1% |
| Other | 1% | 0.5% |
| Respondents (n) | 1265 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit water heating']

## TABLE 478. BUILDING VINTAGE - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (SITE VISITS)

| Dwelling Hot Water Fuel Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Electricity | 12% | 8% | 31% | 17% | 89% | 48% | 86% | 58% | 85% | 56% |
| Natural gas | 88% | 44% | 69% | 34% | 9% | 9% | 14% | 18% | 0.4% | 0.4% |
| Other | | | | | 2% | 4% | | | | |
| Respondents (n) | 16 | | 27 | | 17 | | 10 | | 24 | |

Source: On-site fields: ['DHW fuel']

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## TABLE 479. BUILDING SIZE - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (SITE VISITS)

| Dwelling Hot Water Fuel Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 51% | 19% | 95% | 111% | | |
| Natural gas | 48% | 39% | 5% | 3% | 100% | 0% |
| Other | 1% | 2% | | | | |
| Respondents (n) | 78 | | 15 | | 1 | |

Source: On-site fields: ['DHW fuel']

## TABLE 480. CLIMATE ZONE - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (SITE VISITS)

| Dwelling Hot Water Fuel Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | | Statewide | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Electricity | 58% | 57% | 95% | 74% | 47% | 17% | 94% | 84% | 61% | 33% |
| Natural gas | 37% | 54% | 5% | 6% | 53% | 27% | 6% | 4% | 38% | 27% |
| Other | 4% | 8% | | | | | | | 1% | 1% |
| Respondents (n) | 7 | | 20 | | 54 | | 13 | | 94 | |

Source: On-site fields: ['DHW fuel']

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## TABLE 481. DAC FLAG - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (SITE VISITS)

| Dwelling Hot Water Fuel Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 40% | 16% | 45% | 19% | 14% | 74% |
| Natural gas | 60% | 33% | 54% | 26% | | |
| Other | | | 1% | 2% | | |
| Respondents (n) | 42 | | 50 | | 2 | |

Source: On-site fields: ['DHW fuel']

## TABLE 482. OWNERSHIP TYPE - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (SITE VISITS)

| Dwelling Hot Water Fuel Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 51% | 17% | 23% | 19% | 58% | 124% | 65% | 24% |
| Natural gas | 49% | 23% | 77% | 55% | 37% | 58% | 35% | 22% |
| Other | | | | | 4% | 9% | | |
| Respondents (n) | 38 | | 18 | | 5 | | 33 | |

Source: On-site fields: ['DHW fuel']

## TABLE 483. STATEWIDE - PRIMARY DWELLING UNIT WATER HEATING FUEL TYPE PER BUILDING (SITE VISITS)

| Dwelling Hot Water Fuel Type | Statewide | |
|---|---|---|
| | % | EB |
| Electricity | 61% | 33% |
| Natural gas | 38% | 27% |
| Other | 1% | 1% |
| Respondents (n) | 94 | |

Source: On-site fields: ['DHW fuel']

## TABLE 484. BUILDING VINTAGE - BUILDING CENTRAL WATER HEATING FUEL TYPE (SITE VISITS)

| Central Water Heating Fuel | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| District Steam | | | 3% | 3% | | | | | | |
| Electricity | 9% | 8% | 8% | 8% | 83% | 44% | 38% | 47% | 43% | 47% |
| Fuel oil | 0% | 0% | 8% | 10% | 2% | 2% | | | 1% | 1% |
| Natural gas | 91% | 16% | 79% | 20% | 12% | 8% | 62% | 30% | 42% | 34% |
| Propane | | | 1% | 2% | | | | | | |
| Other | | | | | 4% | 6% | | | | |
| Respondents (n) | 83 | | 42 | | 22 | | 13 | | 24 | |

Source: On-site fields: ['What fuel does the DHW equipment use?']

## TABLE 485. BUILDING SIZE - BUILDING CENTRAL WATER HEATING FUEL TYPE (SITE VISITS)

| Central Water Heating Fuel | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| District Steam | | | | | 17% | 13% |
| Electricity | 16% | 7% | 6% | 9% | 25% | 22% |
| Fuel oil | 2% | 2% | | | | |
| Natural gas | 82% | 19% | 94% | 39% | 52% | 20% |
| Propane | 0.2% | 0.4% | | | | |
| Other | | | | | 7% | 12% |
| Respondents (n) | 119 | | 39 | | 26 | |

Source: On-site fields: ['What fuel does the DHW equipment use?']

## TABLE 486. CLIMATE ZONE - BUILDING CENTRAL WATER HEATING FUEL TYPE (SITE VISITS)

| Central Water Heating Fuel | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| District Steam | 2% | 1% | | | | | | |
| Electricity | 9% | 6% | 25% | 41% | 18% | 9% | 38% | 34% |
| Fuel oil | 0% | 0% | 1% | 0% | 7% | 8% | | |
| Natural gas | 89% | 35% | 75% | 56% | 75% | 19% | 61% | 43% |
| Propane | | | | | | | 1% | 2% |
| Other | 1% | 1% | | | | | | |
| Respondents (n) | 70 | | 24 | | 69 | | 21 | |

Source: On-site fields: ['What fuel does the DHW equipment use?']

## TABLE 487. DAC FLAG - BUILDING CENTRAL WATER HEATING FUEL TYPE (SITE VISITS)

| Central Water Heating Fuel | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| District Steam | 0.5% | 1% | 2% | 2% | | |
| Electricity | 14% | 8% | 11% | 6% | 12% | 21% |
| Fuel oil | 4% | 5% | 0.1% | 0.1% | 0.1% | 0.1% |
| Natural gas | 81% | 20% | 86% | 14% | 2% | 3% |
| Propane | | | 0% | 1% | | |
| Other | | | 1% | 1% | | |
| Respondents (n) | 77 | | 98 | | 9 | |

Source: On-site fields: ['What fuel does the DHW equipment use?']

## TABLE 488. OWNERSHIP TYPE - BUILDING CENTRAL WATER HEATING FUEL TYPE (SITE VISITS)

| Central Water Heating Fuel | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| District Steam | | | | | 9% | 8% | 2% | 3% |
| Electricity | 1% | 1% | 1% | 1% | 17% | 16% | 22% | 13% |
| Fuel oil | 1% | 1% | | | | | 1% | 1% |
| Natural gas | 98% | 78% | 99% | 45% | 75% | 28% | 73% | 24% |
| Propane | | | 0% | 0% | | | | |
| Other | | | | | | | 3% | 5% |
| Respondents (n) | 47 | | 58 | | 18 | | 61 | |

Source: On-site fields: ['What fuel does the DHW equipment use?']

## TABLE 489. STATEWIDE - BUILDING CENTRAL WATER HEATING FUEL TYPE (SITE VISITS)

| Central Water Heating Fuel | Statewide | |
|---|---|---|
| | % | EB |
| District Steam | 1% | 1% |
| Electricity | 12% | 5% |
| Fuel oil | 1% | 1% |
| Natural gas | 85% | 20% |
| Propane | 0.1% | 0.2% |
| Other | 0.5% | 1% |
| Respondents (n) | 184 | |

Source: On-site fields: ['What fuel does the DHW equipment use?']

## TABLE 490. BUILDING VINTAGE - DISTRIBUTION OF COMMON AREA DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Common Area Water Heaters | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 85% | 24% | 82% | 22% | 9% | 13% | 85% | 54% | 17% | 8% |
| Storage-Electric | 8% | 7% | 13% | 12% | 91% | 51% | 15% | 19% | 65% | 78% |
| Instantaneous-Fossil Fuel | 4% | 4% | 5% | 8% | | | | | | |
| Instantaneous-Electric | 4% | 6% | | | | | | | | |
| Respondents (n) | 41 | | 26 | | 10 | | 10 | | 14 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 491. BUILDING SIZE - DISTRIBUTION OF COMMON AREA DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Common Area Water Heaters | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 67% | 18% | 96% | 68% | 52% | 64% |
| Storage-Electric | 31% | 13% | 1% | 2% | 48% | 102% |
| Instantaneous-Fossil Fuel | 3% | 3% | 3% | 5% | | |
| Instantaneous-Electric | | | 0.1% | 0.2% | | |
| Respondents (n) | 69 | | 27 | | 5 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 492. CLIMATE ZONE - DISTRIBUTION OF COMMON AREA DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Common Area Water Heaters | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 95% | 83% | 43% | 23% | 68% | 19% | 37% | 36% |
| Storage-Electric | 3% | 3% | 57% | 103% | 28% | 14% | 61% | 54% |
| Instantaneous-Fossil Fuel | 3% | 5% | | | 4% | 6% | 2% | 3% |
| Instantaneous-Electric | | | | | 0% | 1% | | |
| Respondents (n) | 25 | | 12 | | 52 | | 12 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 493. DAC FLAG - DISTRIBUTION OF COMMON AREA DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Common Area Water Heaters | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 76% | 33% | 80% | 16% | | |
| Storage-Electric | 16% | 10% | 17% | 10% | 18% | 111% |
| Instantaneous-Fossil Fuel | 5% | 6% | 2% | 4% | | |
| Instantaneous-Electric | 3% | 4% | | | | |
| Respondents (n) | 41 | | 58 | | 2 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 494. METERING TYPE - DISTRIBUTION OF COMMON AREA DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Common Area Water Heaters | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 100% | 32% | 80% | 26% | 57% | 18% | 0.006% | 0% |
| Storage-Electric | | | 17% | 6% | 28% | 23% | | |
| Instantaneous-Fossil Fuel | | | 2% | 3% | 15% | 26% | | |
| Instantaneous-Electric | | | 1% | 1% | | | | |
| Respondents (n) | 9 | | 80 | | 19 | | 1 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 495. OWNERSHIP TYPE - DISTRIBUTION OF COMMON AREA DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Common Area Water Heaters | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 96% | 82% | 98% | 76% | 83% | 34% | 60% | 25% |
| Storage-Electric | 4% | 3% | 2% | 2% | | | 40% | 18% |
| Instantaneous-Fossil Fuel | | | 0.1% | 0% | 17% | 34% | 0.5% | 1% |
| Instantaneous-Electric | 1% | 1% | | | | | | |
| Respondents (n) | 25 | | 34 | | 6 | | 36 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 496. STATEWIDE - DISTRIBUTION OF COMMON AREA DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Common Area Water Heaters | Statewide | |
|---|---|---|
| | % | EB |
| Storage-Fossil Fuel | 81% | 37% |
| Storage-Electric | 16% | 6% |
| Instantaneous-Fossil Fuel | 3% | 3% |
| Instantaneous-Electric | 0.1% | 0.1% |
| Respondents (n) | 101 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 497. BUILDING VINTAGE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Dwelling Water Heaters | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 88% | 44% | 64% | 22% | 11% | 11% | 13% | 20% | 0.4% | 0.4% |
| Storage-Electric | 12% | 8% | 36% | 19% | 89% | 45% | 86% | 62% | 85% | 56% |
| Instantaneous-Fossil Fuel | | | | | | | 1% | 2% | | |
| Respondents (n) | 16 | | 27 | | 14 | | 8 | | 24 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 498. BUILDING SIZE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Dwelling Water Heaters | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 47% | 41% | 5% | 3% | 100% | 0% |
| Storage-Electric | 53% | 20% | 95% | 111% | | |
| Instantaneous-Fossil Fuel | 0.1% | 0.2% | | | | |
| Respondents (n) | 73 | | 15 | | 1 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 499. CLIMATE ZONE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Dwelling Water Heaters | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 39% | 58% | 5% | 6% | 49% | 17% | 6% | 3% |
| Storage-Electric | 61% | 60% | 95% | 74% | 51% | 19% | 94% | 84% |
| Instantaneous-Fossil Fuel | | | | | 0.2% | 0.4% | | |
| Respondents (n) | 6 | | 20 | | 50 | | 13 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 500. DAC FLAG - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Dwelling Water Heaters | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 63% | 34% | 53% | 25% | | |
| Storage-Electric | 37% | 16% | 47% | 20% | 14% | 74% |
| Instantaneous-Fossil Fuel | | | 0.1% | 0.2% | | |
| Respondents (n) | 40 | | 47 | | 2 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 501. METERING TYPE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Dwelling Water Heaters | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 42% | 26% | 45% | 53% | 0% | 0% |
| Storage-Electric | 58% | 27% | 55% | 25% | | |
| Instantaneous-Fossil Fuel | 0.5% | 1% | | | | |
| Respondents (n) | 82 | | 11 | | 2 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 502. OWNERSHIP TYPE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Dwelling Water Heaters | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Storage-Fossil Fuel | 46% | 23% | 78% | 57% | 42% | 59% | 29% | 14% |
| Storage-Electric | 50% | 18% | 22% | 19% | 58% | 137% | 71% | 27% |
| Instantaneous-Fossil Fuel | 4% | 6% | | | | | | |
| Respondents (n) | 36 | | 16 | | 4 | | 33 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 503. STATEWIDE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY TYPE (SITE VISITS)

| Type of Dwelling Water Heaters | Statewide | |
|---|---|---|
| | % | EB |
| Storage-Fossil Fuel | 37% | 28% |
| Storage-Electric | 63% | 34% |
| Instantaneous-Fossil Fuel | 0.1% | 0.1% |
| Respondents (n) | 89 | |

Source: On-site fields: ['What type of DHW system is this? ']

## TABLE 504. STATEWIDE - DISTRIBUTION OF DWELLING UNIT WATER HEATER TANKS BY SIZE AND FUEL TYPE (SITE VISITS)

| Fuel Type | Size | Statewide | |
|---|---|---|---|
| | | % | EB |
| Electricity | 0-55 Gallons | 61% | 32% |
| | >55 Gallons | 0.1% | 0.1% |
| | Respondents (n) | 54 | |
| Natural gas | 0-55 Gallons | 24% | 10% |
| | >55 Gallons | 15% | 26% |
| | Respondents (n) | 36 | |

Source: On-site fields: ['DHW fuel']

## TABLE 505. BUILDING VINTAGE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY FUEL (SITE VISITS)

| Dwelling Water Heater Fuel | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Electricity | 12% | 8% | 36% | 19% | 89% | 45% | 86% | 59% | 85% | 56% |
| Natural gas | 88% | 44% | 64% | 22% | 11% | 11% | 14% | 20% | 0% | 0% |
| Respondents (n) | 16 | | 27 | | 14 | | 7 | | 24 | |

Source: On-site fields: ['DHW fuel']

## TABLE 506. BUILDING SIZE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY FUEL (SITE VISITS)

| Dwelling Water Heater Fuel | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 53% | 20% | 95% | 111% | | |
| Natural gas | 47% | 41% | 5% | 3% | 100% | 0% |
| Respondents (n) | 72 | | 15 | | 1 | |

Source: On-site fields: ['DHW fuel']

## TABLE 507. CLIMATE ZONE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY FUEL (SITE VISITS)

| Dwelling Water Heater Fuel | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 61% | 60% | 95% | 74% | 51% | 19% | 94% | 84% |
| Natural gas | 39% | 58% | 5% | 6% | 49% | 17% | 6% | 3% |
| Respondents (n) | 6 | | 20 | | 49 | | 13 | |

Source: On-site fields: ['DHW fuel']

## TABLE 508. DAC FLAG - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY FUEL (SITE VISITS)

| Dwelling Water Heater Fuel | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 37% | 16% | 47% | 20% | 14% | 74% |
| Natural gas | 63% | 34% | 53% | 25% | | |
| Respondents (n) | 40 | | 46 | | 2 | |

Source: On-site fields: ['DHW fuel']

## TABLE 509. METERING TYPE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY FUEL (SITE VISITS)

| Dwelling Water Heater Fuel | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 58% | 27% | 55% | 25% | | |
| Natural gas | 42% | 26% | 45% | 52% | 0% | 0% |
| Respondents (n) | 79 | | 11 | | 2 | |

Source: On-site fields: ['DHW fuel']

## TABLE 510. OWNERSHIP TYPE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY FUEL (SITE VISITS)

| Dwelling Water Heater Fuel | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 52% | 19% | 22% | 19% | 58% | 137% | 71% | 27% |
| Natural gas | 48% | 23% | 78% | 57% | 42% | 59% | 29% | 14% |
| Respondents (n) | 35 | | 16 | | 4 | | 33 | |

Source: On-site fields: ['DHW fuel']

## TABLE 511. STATEWIDE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY FUEL (SITE VISITS)

| Dwelling Water Heater Fuel | Statewide | |
|---|---|---|
| | % | EB |
| Electricity | 63% | 34% |
| Natural gas | 37% | 28% |
| Respondents (n) | 88 | |

Source: On-site fields: ['DHW fuel']

## TABLE 512. BUILDING VINTAGE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY EQUIPMENT AGE (SITE VISIT)

| Dwelling Hot Water Heater Age | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Less than 2 Years | | | 31% | 33% | 66% | 121% | | | 27% | 50% |
| 2 to 4 Years | 36% | 44% | | | | | | | 1% | 1% |
| 5 to 9 Years | 32% | 29% | 8% | 9% | 8% | 10% | 100% | 0% | 43% | 50% |
| 10 to 14 Years | 32% | 40% | 20% | 25% | 13% | 10% | | | 28% | 50% |
| 15 to 19 Years | | | 36% | 33% | 8% | 11% | | | | |
| 20 or More Years | | | 5% | 7% | 5% | 8% | | | | |
| Respondents (n) | 10 | | 15 | | 10 | | 1 | | 10 | |

Source: On-site fields: ['Year of manufacture', 'What type of DHW system is this? ']

## TABLE 513. BUILDING SIZE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY EQUIPMENT AGE (SITE VISIT)

| Dwelling Hot Water Heater Age | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Less than 2 Years | 23% | 20% | | | | |
| 2 to 4 Years | 1% | 2% | 9% | 16% | | |
| 5 to 9 Years | 21% | 18% | 35% | 43% | 100% | 0% |
| 10 to 14 Years | 17% | 12% | 32% | 44% | | |
| 15 to 19 Years | 9% | 9% | 25% | 43% | | |
| 20 or More Years | 29% | 47% | | | | |
| Respondents (n) | 36 | | 9 | | 1 | |

Source: On-site fields: ['Year of manufacture', 'What type of DHW system is this? ']

## TABLE 514. CLIMATE ZONE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY EQUIPMENT AGE (SITE VISIT)

| Dwelling Hot Water Heater Age | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Less than 2 Years | | | 31% | 59% | 22% | 25% | 91% | 194% |
| 2 to 4 Years | | | 1% | 2% | 3% | 3% | | |
| 5 to 9 Years | 26% | 162% | 33% | 58% | 21% | 18% | 2% | 5% |
| 10 to 14 Years | | | 34% | 58% | 27% | 25% | 6% | 8% |
| 15 to 19 Years | | | | | 25% | 25% | 1% | 1% |
| 20 or More Years | 74% | 469% | | | 2% | 3% | | |
| Respondents (n) | 2 | | 8 | | 31 | | 5 | |

Source: On-site fields: ['Year of manufacture', 'What type of DHW system is this? ']

## TABLE 515. DAC FLAG - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY EQUIPMENT AGE (SITE VISIT)

| Dwelling Hot Water Heater Age | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Less than 2 Years | 18% | 21% | 19% | 19% | | |
| 2 to 4 Years | 7% | 10% | 6% | 11% | | |
| 5 to 9 Years | 42% | 24% | 20% | 18% | 1% | 0% |
| 10 to 14 Years | 25% | 21% | 25% | 21% | | |
| 15 to 19 Years | 8% | 14% | 21% | 19% | | |
| 20 or More Years | | | 8% | 9% | | |
| Respondents (n) | 20 | | 25 | | 1 | |

Source: On-site fields: ['Year of manufacture', 'What type of DHW system is this? ']

## TABLE 516. METERING TYPE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY EQUIPMENT AGE (SITE VISIT)

| Dwelling Hot Water Heater Age | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Less than 2 Years | 14% | 11% | 7% | 14% | | |
| 2 to 4 Years | 5% | 4% | | | | |
| 5 to 9 Years | 33% | 20% | 44% | 61% | | |
| 10 to 14 Years | 16% | 9% | 32% | 40% | 0% | 0% |
| 15 to 19 Years | 8% | 6% | 8% | 16% | | |
| 20 or More Years | 23% | 36% | 8% | 16% | | |
| Respondents (n) | 39 | | 7 | | 2 | |

Source: On-site fields: ['Year of manufacture', 'What type of DHW system is this? ']

## TABLE 517. OWNERSHIP TYPE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY EQUIPMENT AGE (SITE VISIT)

| Dwelling Hot Water Heater Age | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Less than 2 Years | | | 7% | 13% | | | 36% | 28% |
| 2 to 4 Years | 3% | 4% | 9% | 11% | | | | |
| 5 to 9 Years | 29% | 23% | 28% | 20% | 84% | 182% | 14% | 14% |
| 10 to 14 Years | 46% | 26% | 11% | 14% | 16% | 46% | 26% | 23% |
| 15 to 19 Years | 14% | 17% | 5% | 9% | | | 24% | 24% |
| 20 or More Years | 8% | 14% | 40% | 62% | | | | |
| Respondents (n) | 16 | | 13 | | 3 | | 14 | |

Source: On-site fields: ['Year of manufacture', 'What type of DHW system is this? ']

## TABLE 518. STATEWIDE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY EQUIPMENT AGE (SITE VISIT)

| Dwelling Hot Water Heater Age | Statewide | |
|---|---|---|
| | % | EB |
| Less than 2 Years | 20% | 17% |
| 2 to 4 Years | 1% | 2% |
| 5 to 9 Years | 28% | 20% |
| 10 to 14 Years | 16% | 10% |
| 15 to 19 Years | 9% | 8% |
| 20 or More Years | 26% | 41% |
| Respondents (n) | 46 | |

Source: On-site fields: ['Year of manufacture', 'What type of DHW system is this? ']

## TABLE 519. STATEWIDE - DISTRIBUTION OF DWELLING UNIT DIRECT WATER HEATERS BY EQUIPMENT TYPE AND AGE (SITE VISIT)

| Dwelling Water Heater Type and Age | Age | Statewide | |
|---|---|---|---|
| | | % | EB |
| Direct-heated tank | Less than 2 Years | 20% | 17% |
| | 2 to 4 Years | 1% | 2% |
| | 5 to 9 Years | 27% | 20% |
| | 10 to 14 Years | 15% | 10% |
| | 15 to 19 Years | 9% | 8% |
| | 20 or More Years | 26% | 41% |
| | Respondents (n) | 46 | |
| Heat pump water heater | 10 to 14 Years | 0.3% | 0% |
| | Respondents (n) | 2 | |
| Other | 10 to 14 Years | 1% | 0% |
| | Respondents (n) | 1 | |

Source: On-site fields: ['Year of manufacture', 'What type of DHW system is this? ']

## TABLE 520. BUILDING VINTAGE - PERCENTAGE OF DWELLING UNIT DIRECT WATER HEATERS WITH ENERGY STAR LABEL (SITE VISITS)

| Ownership Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Affordable Subsidized | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Affordable Unsubsidized | 0 | 0 | 0.107723 | 0.110260942 | 0 | 0 | | | 0 | 0 |
| Co-Ops and Condos | | | | | 1 | 0 | 0 | 0 | | |
| Market-Rate Rental | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Respondents (n) | 15 | | 26 | | 12 | | 7 | | 22 | |

Source: On-site fields: ['Does the DHW unit or documentation have an ENERGY STAR logo?']

## TABLE 521. BUILDING SIZE - PERCENTAGE OF DWELLING UNIT DIRECT WATER HEATERS WITH ENERGY STAR LABEL (SITE VISITS)

| Ownership Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Affordable Subsidized | 0.191051 | 0.123873 | 0 | 0 | | |
| Affordable Unsubsidized | 0.026845 | 0.034493 | 0 | 0 | | |
| Co-Ops and Condos | 1 | 0 | 0 | 0 | 0 | 0 |
| Market-Rate Rental | 0 | 0 | 0 | 0 | | |
| Respondents (n) | 67 | | 14 | | 1 | |

Source: On-site fields: ['Does the DHW unit or documentation have an ENERGY STAR logo?']

BACK TO REPORT

## TABLE 522. CLIMATE ZONE - PERCENTAGE OF DWELLING UNIT DIRECT WATER HEATERS WITH ENERGY STAR LABEL (SITE VISITS)

| Ownership Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Affordable Subsidized | | | 0 | 0 | 0 | 0 | 0.38991 | 0.223841 |
| Affordable Unsubsidized | 0 | 0 | | | 0.088745 | 0.088981 | 0 | 0 |
| Co-Ops and Condos | 0 | 0 | 1 | 0 | | | | |
| Market-Rate Rental | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Respondents (n) | 6 | | 18 | | 45 | | 13 | |

Source: On-site fields: ['Does the DHW unit or documentation have an ENERGY STAR logo?']

## TABLE 523. DAC FLAG - PERCENTAGE OF DWELLING UNIT DIRECT WATER HEATERS WITH ENERGY STAR LABEL (SITE VISITS)

| Ownership Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Affordable Subsidized | 0.044779 | 0.041271 | 0 | 0 | | |
| Affordable Unsubsidized | 0 | 0 | 0.10099 | 0.107519 | | |
| Co-Ops and Condos | 0 | 0 | 0.229189 | 0.264992 | | |
| Market-Rate Rental | 0 | 0 | 0 | 0 | 0 | 0 |
| Respondents (n) | 37 | | 43 | | 2 | |

Source: On-site fields: ['Does the DHW unit or documentation have an ENERGY STAR logo?']

## TABLE 524. METERING TYPE - PERCENTAGE OF DWELLING UNIT DIRECT WATER HEATERS WITH ENERGY STAR LABEL (SITE VISITS)

| Ownership Type | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Affordable Subsidized | 0.196721 | 0.126032 | 0 | 0 | 0 | 0 |
| Affordable Unsubsidized | 0 | 0 | 1 | 0 | | |
| Co-Ops and Condos | 0.183908 | 0.174341 | | | | |
| Market-Rate Rental | 0.00449 | 0.003542 | 0 | 0 | | |
| Respondents (n) | 76 | | 8 | | 2 | |

Source: On-site fields: ['Does the DHW unit or documentation have an ENERGY STAR logo?']

## TABLE 525. STATEWIDE - PERCENTAGE OF DWELLING UNIT DIRECT WATER HEATERS WITH ENERGY STAR LABEL (SITE VISITS)

| Ownership Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Affordable Subsidized | 18% | 12% |
| Affordable Unsubsidized | 3% | 3% |
| Co-Ops and Condos | 13% | 14% |
| Market-Rate Rental | 0% | 0% |
| Respondents (n) | 82 | |

Source: On-site fields: ['Does the DHW unit or documentation have an ENERGY STAR logo?']

## TABLE 526. STATEWIDE - DWELLING UNIT WATER HEATING RELIABILITY (OCCUPANT SURVEY)

| Water Heater Reliability | Statewide | |
|---|---|---|
| | % | EB |
| Very satisfied | 63% | 15% |
| Somewhat satisfied | 26% | 12% |
| Not too satisfied | 6% | 5% |
| Not at all satisfied | 5% | 5% |
| Respondents (n) | 114 | |

Source: Survey fields: ['How would you rate your satisfaction with the following in your home? - Water heating system']

## TABLE 527. BUILDING VINTAGE - DISTRIBUTION OF DWELLING UNIT LABELED SHOWERHEAD FLOW RATE (SITE VISITS)

| Showerhead Flow Rate | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| 1.5 | 11% | 8% | 3% | 5% | 5% | 4% | 14% | 10% | 1% | 1% |
| 1.6 - 2.0 | 46% | 13% | 62% | 25% | 69% | 44% | 53% | 27% | 67% | 40% |
| 2.1 - 2.5 | 32% | 13% | 30% | 14% | 26% | 29% | 28% | 23% | 19% | 22% |
| 2.6 - 3.5 | 11% | 6% | 5% | 9% | | | 5% | 6% | | |
| Respondents (n) | 64 | | 46 | | 29 | | 24 | | 27 | |

Source: On-site fields: ['Shower head gpm']

## TABLE 528. BUILDING SIZE - DISTRIBUTION OF DWELLING UNIT LABELED SHOWERHEAD FLOW RATE (SITE VISITS)

| Showerhead Flow Rate | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 1.5 | 1% | 2% | 9% | 10% | 8% | 7% |
| 1.6 - 2.0 | 64% | 25% | 45% | 20% | 75% | 88% |
| 2.1 - 2.5 | 22% | 7% | 28% | 16% | 17% | 29% |
| 2.6 - 3.5 | 13% | 16% | 18% | 11% | | |
| Respondents (n) | 118 | | 53 | | 19 | |

Source: On-site fields: ['Shower head gpm']

## TABLE 529. CLIMATE ZONE - DISTRIBUTION OF DWELLING UNIT LABELED SHOWERHEAD FLOW RATE (SITE VISITS)

| Showerhead Flow Rate | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 1.5 | 7% | 8% | 0% | 1% | 4% | 4% | 1% | 1% |
| 1.6 - 2.0 | 57% | 22% | 81% | 56% | 62% | 15% | 60% | 34% |
| 2.1 - 2.5 | 17% | 10% | 18% | 21% | 32% | 12% | 38% | 25% |
| 2.6 - 3.5 | 19% | 11% | | | 2% | 2% | | |
| Respondents (n) | 41 | | 17 | | 99 | | 33 | |

Source: On-site fields: ['Shower head gpm']

## TABLE 530. DAC FLAG - DISTRIBUTION OF DWELLING UNIT LABELED SHOWERHEAD FLOW RATE (SITE VISITS)

| Showerhead Flow Rate | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 1.5 | 10% | 7% | 4% | 3% | | |
| 1.6 - 2.0 | 55% | 13% | 54% | 16% | 2% | 5% |
| 2.1 - 2.5 | 25% | 11% | 32% | 10% | 12% | 27% |
| 2.6 - 3.5 | 9% | 9% | 9% | 6% | | |
| Respondents (n) | 78 | | 108 | | 4 | |

Source: On-site fields: ['Shower head gpm']

## TABLE 531. OWNERSHIP TYPE - DISTRIBUTION OF DWELLING UNIT LABELED SHOWERHEAD FLOW RATE (SITE VISITS)

| Showerhead Flow Rate | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 1.5 | 26% | 23% | 9% | 15% | | | 7% | 9% |
| 1.6 - 2.0 | 52% | 37% | 66% | 35% | 37% | 61% | 52% | 14% |
| 2.1 - 2.5 | 22% | 23% | 20% | 21% | 23% | 22% | 36% | 16% |
| 2.6 - 3.5 | | | 5% | 6% | 40% | 22% | 5% | 8% |
| Respondents (n) | 61 | | 48 | | 13 | | 68 | |

Source: On-site fields: ['Shower head gpm']

## TABLE 532. STATEWIDE - DISTRIBUTION OF DWELLING UNIT LABELED SHOWERHEAD FLOW RATE (SITE VISITS)

| Showerhead Flow Rate | Statewide | |
|---|---|---|
| | % | EB |
| 1.5 | 5% | 4% |
| 1.6 - 2.0 | 57% | 17% |
| 2.1 - 2.5 | 24% | 8% |
| 2.6 - 3.5 | 14% | 9% |
| Respondents (n) | 190 | |

Source: On-site fields: ['Shower head gpm']

## TABLE 533. BUILDING VINTAGE - DISTRIBUTION OF DWELLING UNIT BATHROOM LABELED FAUCET FLOW RATE (SITE VISITS)

| Bathroom Faucet Flow Rate | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| 1.5 | 50% | 11% | 73% | 13% | 71% | 37% | 75% | 39% | 15% | 9% |
| 1.6 - 2.2 | 34% | 10% | 16% | 12% | 25% | 22% | 13% | 15% | 3% | 3% |
| 2.3 | 15% | 9% | 11% | 7% | 5% | 5% | 12% | 12% | 70% | 113% |
| Respondents (n) | 72 | | 72 | | 32 | | 20 | | 26 | |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 534. BUILDING SIZE - DISTRIBUTION OF DWELLING UNIT BATHROOM LABELED FAUCET FLOW RATE (SITE VISITS)

| Bathroom Faucet Flow Rate | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 1.5 | 66% | 21% | 59% | 28% | 57% | 27% |
| 1.6 - 2.2 | 26% | 18% | 23% | 12% | 25% | 20% |
| 2.3 | 9% | 5% | 18% | 15% | 18% | 19% |
| Respondents (n) | 135 | | 60 | | 27 | |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 535. CLIMATE ZONE - DISTRIBUTION OF DWELLING UNIT BATHROOM LABELED FAUCET FLOW RATE (SITE VISITS)

| Bathroom Faucet Flow Rate | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 1.5 | 66% | 21% | 59% | 28% | 57% | 27% |
| 1.6 - 2.2 | 26% | 18% | 23% | 12% | 25% | 20% |
| 2.3 | 9% | 5% | 18% | 15% | 18% | 19% |
| Respondents (n) | 135 | | 60 | | 27 | |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 536. DAC FLAG - DISTRIBUTION OF DWELLING UNIT BATHROOM LABELED FAUCET FLOW RATE (SITE VISITS)

| Bathroom Faucet Flow Rate | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 1.5 | 60% | 12% | 67% | 27% | 0.1% | 0.2% |
| 1.6 - 2.2 | 28% | 9% | 20% | 9% | | |
| 2.3 | 12% | 10% | 13% | 6% | 12% | 36% |
| Respondents (n) | 99 | | 120 | | 3 | |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 537. OWNERSHIP TYPE - DISTRIBUTION OF DWELLING UNIT BATHROOM LABELED FAUCET FLOW RATE (SITE VISITS)

| Bathroom Faucet Flow Rate | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 1.5 | 79% | 31% | 57% | 24% | 57% | 80% | 59% | 15% |
| 1.6 - 2.2 | 17% | 17% | 30% | 19% | 9% | 9% | 29% | 18% |
| 2.3 | 4% | 5% | 13% | 13% | 34% | 40% | 13% | 10% |
| Respondents (n) | 73 | | 59 | | 14 | | 76 | |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 538. STATEWIDE - DISTRIBUTION OF DWELLING UNIT BATHROOM LABELED FAUCET FLOW RATE (SITE VISITS)

| Bathroom Faucet Flow Rate | Statewide | |
|---|---|---|
| | EB | % |
| 1.5 | 16% | 62% |
| 1.6 - 2.2 | 11% | 24% |
| 2.3 | 7% | 13% |
| Respondents (n) | | 222 |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 539. BUILDING VINTAGE - DISTRIBUTION OF DWELLING UNIT KITCHEN LABELED FAUCET FLOW RATE (SITE VISITS)

| Kitchen Faucet Flow Rate | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| 1.5 | 25% | 10% | 21% | 11% | 13% | 8% | 83% | 60% | 17% | 21% |
| 1.6 - 2.2 | 60% | 11% | 68% | 16% | 40% | 37% | 17% | 24% | 46% | 33% |
| 2.3 | 15% | 8% | 11% | 9% | 47% | 52% | | | 24% | 28% |
| Respondents (n) | 67 | | 57 | | 30 | | 12 | | 25 | |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 540. BUILDING SIZE - DISTRIBUTION OF DWELLING UNIT KITCHEN LABELED FAUCET FLOW RATE (SITE VISITS)

| Kitchen Faucet Flow Rate | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | EB | % | EB | % | EB | % |
| 1.5 | 8% | 18% | 17% | 33% | 35% | 29% |
| 1.6 - 2.2 | 28% | 73% | 22% | 55% | 46% | 68% |
| 2.3 | 6% | 9% | 12% | 12% | 4% | 2% |
| Respondents (n) | | 112 | | 57 | | 22 |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 541. CLIMATE ZONE - DISTRIBUTION OF DWELLING UNIT KITCHEN LABELED FAUCET FLOW RATE (SITE VISITS)

| Kitchen Faucet Flow Rate | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 1.5 | 23% | 12% | 33% | 51% | 28% | 11% | 13% | 14% |
| 1.6 - 2.2 | 67% | 23% | 38% | 50% | 58% | 14% | 80% | 55% |
| 2.3 | 9% | 9% | 29% | 51% | 14% | 8% | 7% | 6% |
| Respondents (n) | 43 | | 12 | | 103 | | 33 | |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 542. DAC FLAG - DISTRIBUTION OF DWELLING UNIT KITCHEN LABELED FAUCET FLOW RATE (SITE VISITS)

| Kitchen Faucet Flow Rate | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| 1.5 | 25% | 9% | 27% | 10% | | |
| 1.6 - 2.2 | 60% | 13% | 59% | 13% | 13% | 18% |
| 2.3 | 15% | 8% | 14% | 8% | | |
| Respondents (n) | 87 | | 101 | | 3 | |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 543. OWNERSHIP TYPE - DISTRIBUTION OF DWELLING UNIT KITCHEN LABELED FAUCET FLOW RATE (SITE VISITS)

| Kitchen Faucet Flow Rate | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| 1.5 | 44% | 32% | 31% | 19% | | | 34% | 21% |
| 1.6 - 2.2 | 55% | 32% | 60% | 24% | 100% | 20% | 52% | 18% |
| 2.3 | 1% | 1% | 9% | 9% | | | 14% | 12% |
| Respondents (n) | 70 | | 58 | | 4 | | 59 | |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 544. STATEWIDE - DISTRIBUTION OF DWELLING UNIT KITCHEN LABELED FAUCET FLOW RATE (SITE VISITS)

| Kitchen Faucet Flow Rate | Statewide | |
|---|---|---|
| | % | EB |
| 1.5 | 25% | 8% |
| 1.6 - 2.2 | 66% | 18% |
| 2.3 | 10% | 6% |
| Respondents (n) | 191 | |

Source: On-site fields: ['Locations of sinks (select all that apply)', 'Aerator gpm']

## TABLE 545. BUILDING VINTAGE - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Room | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Bathroom | 1.047604 | 0.012948443 | 1.034037 | 0.028878012 | 1.037744 | 0.024094397 | 1.190139 | 0.115682059 |
| Kitchen | 1.018054 | 0.007931749 | 0.976693 | 0.015047649 | 1.02706 | 0.029545298 | 0.980072 | 0.019766386 |
| Respondents (n) | 393 | | 281 | | 138 | | 89 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 546. BUILDING SIZE - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Room | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Bathroom | 1.082307192 | 0.025954 | 1.055644 | 0.026733 | 1.13114 | 0.048503 |
| Kitchen | 1.047397102 | 0.030233 | 1.000297 | 0.01514 | 1.008787 | 0.008747 |
| Respondents (n) | 588 | | 311 | | 182 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 547. CLIMATE ZONE - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Room | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Bathroom | 1.085182 | 0.023736 | 1.094758 | 0.046108 | 1.033612 | 0.021338 | 1.119664 | 0.075607 |
| Kitchen | 1.038964 | 0.023781 | 1.065941 | 0.044536 | 0.99579 | 0.002743 | 1.039599 | 0.038028 |
| Respondents (n) | 414 | | 187 | | 373 | | 107 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 548. DAC FLAG - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Room | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | Mean | EB | Mean | EB |
| Bathroom | 1.059156 | 0.020253 | 1.099608 | 0.02758 |
| Kitchen | 1.030876 | 0.017476 | 1.015275 | 0.012373 |
| Respondents (n) | 464 | | 599 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 549. OWNERSHIP TYPE - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Room | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Bathroom | 1.035508 | 0.033335 | 1.072036 | 0.032089 | 1.145162 | 0.052305 | 1.028611 | 0.019472 |
| Kitchen | 1.002127 | 0.003122 | 1.027884 | 0.021732 | 1.056796 | 0.043346 | 0.992255 | 0.010179 |
| Respondents (n) | 329 | | 287 | | 142 | | 323 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 550. STATEWIDE - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Room | Statewide | |
|---|---|---|
| | Mean | EB |
| Bathroom | 1.074167 | 0.017698 |
| Kitchen | 1.024051 | 0.016459 |
| Respondents (n) | 1081 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 551. BUILDING VINTAGE - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Dwelling Unit | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Bathroom | 1.085616 | 0.024014 | 1.086417 | 0.039955 | 1.266372 | 0.146306 | 1.081598 | 0.046274 | 1.045799 | 0.037847 |
| Respondents (n) | 202 | | 141 | | 65 | | 44 | | 89 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 552. BUILDING SIZE - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Dwelling Unit | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Bathroom | 1.076549 | 0.031119 | 1.064878 | 0.022469 | 1.257675 | 0.064603 |
| Respondents (n) | 293 | | 160 | | 88 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 553. CLIMATE ZONE - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Dwelling Unit | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Bathroom | 1.113224 | 0.027961 | 1.065203 | 0.033411 | 1.01664 | 0.00904 | 1.156539 | 0.100635 |
| Respondents (n) | 211 | | 92 | | 185 | | 53 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 554. DAC FLAG - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Dwelling Unit | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Bathroom | 1.03821 | 0.014847 | 1.097299 | 0.019003 | 1.076442 | 0.086859 |
| Respondents (n) | 234 | | 298 | | 9 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 555. METERING TYPE - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Dwelling Unit | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Bathroom | 4.340541 | 0.215553 | 4.317029 | 0.078378 | 4.549451 | 0.078621 | 4.587719 | 0.277817 |
| Respondents (n) | 236 | | 560 | | 402 | | 55 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 556. OWNERSHIP TYPE - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Dwelling Unit | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Bathroom | 1.011425 | 0.007936188 | 1.092524 | 0.046072 | 1.292299 | 0.063529 | 1.036407 | 0.014659 |
| Respondents (n) | 162 | | 144 | | 70 | | 165 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 557. STATEWIDE - AVERAGE NUMBER OF SHOWERHEADS AND FAUCETS PER DWELING UNIT (SITE VISITS)

| Dwelling Unit | Statewide | |
|---|---|---|
| | Mean | EB |
| Bathroom | 1.06895 | 0.016911606 |
| Respondents (n) | 541 | |

Source: On-site fields: ['Quantity of sink', 'Locations of sinks (select all that apply)', 'Quantity of identical shower head ']

## TABLE 558. BUILDING VINTAGE - AVERAGE NUMBER OF COMMON AREA LAMPS PER BUILDING (SITE VISITS)

| Common Area Lamps per Building Size | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 5.98 | 0.46 | 6.48 | 0.58 | 8.27 | 0.95 | 5.33 | 1.19 | 6.00 | 0.84 |
| Mid Rise (4 to 7 floors) | 9.68 | 0.85 | 16.09 | 4.03 | 10.36 | 1.15 | 9.47 | 1.07 | 15.22 | 3.33 |
| High Rise (8 or more floors) | 14.76 | 1.60 | 18.58 | 2.20 | 18.12 | 2.22 | 9.21 | 0.85 | 10.00 | 4.00 |
| Respondents (n) | 142 | | 100 | | 45 | | 31 | | 54 | |

Source: On-site fields: ['Number of lamps per fixture']

## TABLE 559. CLIMATE ZONE - AVERAGE NUMBER OF COMMON AREA LAMPS PER BUILDING (SITE VISITS)

| Common Area Lamps per Building Size | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 6.91 | 0.61 | 5.62 | 0.93 | 6.12 | 0.48 | 6.63 | 1.11 |
| Mid Rise (4 to 7 floors) | 11.41 | 0.93 | 21.30 | 2.37 | 5.86 | 0.80 | 5.90 | 0.51 |
| High Rise (8 or more floors) | 16.62 | 1.36 | 18.94 | 3.53 | 9.36 | 2.08 | | |
| Respondents (n) | 165 | | 55 | | 121 | | 31 | |

Source: On-site fields: ['Number of lamps per fixture']

## TABLE 560. DAC FLAG - AVERAGE NUMBER OF COMMON AREA LAMPS PER BUILDING (SITE VISITS)

| Common Area Lamps per Building Size | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 5.98 | 0.41 | 6.39 | 0.45 | 5.49 | 1.46 |
| Mid Rise (4 to 7 floors) | 11.16 | 1.26 | 12.08 | 1.41 | 11.00 | - |
| High Rise (8 or more floors) | 12.90 | 1.20 | 18.00 | 2.14 | | |
| Respondents (n) | 168 | | 197 | | 7 | |

Source: On-site fields: ['Number of lamps per fixture']

## TABLE 561. OWNERSHIP TYPE - AVERAGE NUMBER OF COMMON AREA LAMPS PER BUILDING (SITE VISITS)

| Common Area Lamps per Building Size | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 8.35 | 1.51 | 5.98 | 0.59 | 6.91 | 0.91 | 6.36 | 0.51 |
| Mid Rise (4 to 7 floors) | 9.15 | 1.06 | 12.30 | 1.16 | 15.13 | 3.88 | 8.75 | 0.71 |
| High Rise (8 or more floors) | 14.96 | 2.18 | 13.14 | 2.07 | 17.05 | 1.94 | 18.83 | 4.19 |
| Respondents (n) | 112 | | 103 | | 48 | | 109 | |

Source: On-site fields: ['Number of lamps per fixture']

## TABLE 562. STATEWIDE - AVERAGE NUMBER OF COMMON AREA LAMPS PER BUILDING (SITE VISITS)

| Common Area Lamps per Building Size | Statewide | |
|---|---|---|
| | Mean | EB |
| Low Rise (1 to 3 floors) | 6.38 | 0.37 |
| Mid Rise (4 to 7 floors) | 11.76 | 0.89 |
| High Rise (8 or more floors) | 16.23 | 1.32 |
| Respondents (n) | 372 | |

Source: On-site fields: ['Number of lamps per fixture']

## TABLE 563. BUILDING VINTAGE - DISTRIBUTION OF COMMON AREA LAMPS BY LAMP TYPE (SITE VISITS)

| Common Area Lamp Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Compact Fluorescent | 16% | 3% | 13% | 3% | 19% | 10% | 18% | 8% | 12% | 6% |
| HID | 0.4% | 0.4% | 0.5% | 1% | 0.1% | 0.2% | | | 2% | 2% |
| Incandescent / Halogen | 5% | 2% | 8% | 2% | 11% | 8% | 1% | 1% | 7% | 5% |
| LED | 62% | 4% | 68% | 5% | 52% | 12% | 73% | 17% | 56% | 11% |
| Linear Fluorescent | 17% | 3% | 10% | 2% | 17% | 10% | 8% | 4% | 8% | 5% |
| Other | 0% | 0% | 1% | 1% | 1% | 1% | | | 0% | 0% |
| Respondents (n) | 771 | | 620 | | 284 | | 140 | | 306 | |

Source: On-site fields: ['Lamp technology']

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## TABLE 564. BUILDING SIZE - DISTRIBUTION OF COMMON AREA LAMPS BY LAMP TYPE (SITE VISITS)

| Common Area Lamp Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Compact Fluorescent | 18% | 3% | 16% | 3% | 7% | 2% |
| HID | 1% | 0.5% | | | 0.02% | 0.04% |
| Incandescent / Halogen | 8% | 2% | 6% | 2% | 2% | 1% |
| LED | 65% | 5% | 57% | 5% | 71% | 4% |
| Linear Fluorescent | 8% | 2% | 20% | 4% | 19% | 3% |
| Other | 0% | 0% | 1% | 1% | 1% | 1% |
| Respondents (n) | 868 | | 702 | | 551 | |

Source: On-site fields: ['Lamp technology']

## TABLE 565. CLIMATE ZONE - DISTRIBUTION OF COMMON AREA LAMPS BY LAMP TYPE (SITE VISITS)

| Common Area Lamp Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Compact Fluorescent | 16% | 3% | 10% | 5% | 16% | 4% | 19% | 10% |
| HID | 0.2% | 0.3% | 2% | 3% | 1% | 1% | 1% | 1% |
| Incandescent / Halogen | 4% | 2% | 7% | 5% | 9% | 3% | 12% | 8% |
| LED | 62% | 4% | 67% | 13% | 67% | 6% | 51% | 15% |
| Linear Fluorescent | 17% | 3% | 13% | 6% | 7% | 2% | 17% | 9% |
| Other | 0.4% | 0.2% | 1% | 1% | 0.1% | 0.2% | | |
| Respondents (n) | 1097 | | 361 | | 504 | | 159 | |

Source: On-site fields: ['Lamp technology']

## TABLE 566. DAC FLAG - DISTRIBUTION OF COMMON AREA LAMPS BY LAMP TYPE (SITE VISITS)

| Common Area Lamp Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Compact Fluorescent | 13% | 3% | 15% | 2% | 2% | 3% |
| HID | 1% | 1% | 0.4% | 0.4% | | |
| Incandescent / Halogen | 5% | 2% | 7% | 2% | 1% | 2% |
| LED | 63% | 5% | 66% | 4% | 8% | 5% |
| Linear Fluorescent | 17% | 3% | 12% | 2% | 2% | 3% |
| Other | 0.4% | 0.3% | 0.4% | 0.3% | | |
| Respondents (n) | 953 | | 1142 | | 26 | |

Source: On-site fields: ['Lamp technology']

## TABLE 567. OWNERSHIP TYPE - DISTRIBUTION OF COMMON AREA LAMPS BY LAMP TYPE (SITE VISITS)

| Common Area Lamp Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Compact Fluorescent | 11% | 4% | 16% | 4% | 17% | 4% | 18% | 4% |
| HID | 0.2% | 0.1% | 0.1% | 0.1% | | | 0% | 0% |
| Incandescent / Halogen | 4% | 2% | 7% | 3% | 4% | 2% | 6% | 2% |
| LED | 62% | 8% | 57% | 7% | 65% | 6% | 62% | 6% |
| Linear Fluorescent | 21% | 5% | 20% | 5% | 14% | 4% | 13% | 3% |
| Other | 2% | 2% | 1% | 1% | 0.3% | 0.4% | 1% | 1% |
| Respondents (n) | 675 | | 525 | | 365 | | 556 | |

Source: On-site fields: ['Lamp technology']

## TABLE 568. STATEWIDE - DISTRIBUTION OF COMMON AREA LAMPS BY LAMP TYPE (SITE VISITS)

| Common Area Lamp Type | Statewide | |
|---|---|---|
| | % | EB |
| Compact Fluorescent | 17% | 2% |
| HID | 0.3% | 0.2% |
| Incandescent / Halogen | 6% | 1% |
| LED | 62% | 3% |
| Linear Fluorescent | 14% | 2% |
| Other | 1% | 0.4% |
| Respondents (n) | 2121 | |

Source: On-site fields: ['Lamp technology']

## TABLE 569. STATEWIDE - DISTRIBUTION OF COMMON AREA LAMPS BY COMMON AREA SPACE TYPE AND LAMP TYPE (SITE VISITS)

| Space Type | Lamp Type | Statewide | |
|---|---|---|---|
| | | % | EB |
| Club house | Compact Fluorescent | 0.1% | 0.1% |
| | Incandescent / Halogen | 0.0% | 0.1% |
| | LED | 1.1% | 0.4% |
| | Linear Fluorescent | 0.1% | 0.1% |
| | Respondents (n) | 114 | |
| Corridor | Compact Fluorescent | 2% | 1% |
| | Incandescent / Halogen | 1% | 0.3% |
| | LED | 13% | 1% |
| | Linear Fluorescent | 2% | 1% |
| | Other | 0.1% | 0.1% |
| | Respondents (n) | 620 | |
| Gym/Exercise | Compact Fluorescent | 0.03% | 0.04% |
| | Incandescent / Halogen | 0.03% | 0.05% |
| | LED | 0.4% | 0.2% |
| | Linear Fluorescent | 0.0% | 0.0% |
| | Respondents (n) | 38 | |
| Indoor parking | Incandescent / Halogen | 0.1% | 0.2% |
| | LED | 0.4% | 0.2% |
| | Linear Fluorescent | 0.1% | 0.1% |
| | Respondents (n) | 22 | |
| Kitchen | Compact Fluorescent | 0.01% | 0.02% |
| | LED | 0.09% | 0.07% |
| | Linear Fluorescent | 0.001% | 0.002% |
| | Respondents (n) | 10 | |
| Laundry | Compact Fluorescent | 0.4% | 0.3% |
| | Incandescent / Halogen | 0.2% | 0.2% |

| Space Type | Lamp Type | Statewide | |
|---|---|---|---|
| | | % | EB |
| | LED | 4.2% | 0.7% |
| | Linear Fluorescent | 1.2% | 0.4% |
| | Other | 0.2% | 0.2% |
| | Respondents (n) | 231 | |
| Lobby/Vestibule | Compact Fluorescent | 1.1% | 0.4% |
| | Incandescent / Halogen | 0.5% | 0.3% |
| | LED | 7.3% | 0.9% |
| | Linear Fluorescent | 1.2% | 0.5% |
| | Other | 0.0% | 0.0% |
| | Respondents (n) | 363 | |
| Mechanical | Compact Fluorescent | 4.5% | 0.9% |
| | HID | 0.00% | 0.01% |
| | Incandescent / Halogen | 1.2% | 0.5% |
| | LED | 11.8% | 1.2% |
| | Linear Fluorescent | 5.0% | 0.9% |
| | Other | 0.1% | 0.2% |
| | Respondents (n) | 842 | |
| Office | Compact Fluorescent | 0.01% | 0.02% |
| | Incandescent / Halogen | 0.00% | 0.01% |
| | LED | 0.9% | 0.3% |
| | Linear Fluorescent | 0.3% | 0.2% |
| | Respondents (n) | 105 | |
| Outside | Compact Fluorescent | 1.7% | 0.5% |
| | HID | 0.2% | 0.2% |
| | Incandescent / Halogen | 0.9% | 0.4% |
| | LED | 9.3% | 1.1% |
| | Linear Fluorescent | 0.0% | 0.0% |

| Space Type | Lamp Type | Statewide | |
|---|---|---|---|
| | | % | EB |
| | Other | 0.1% | 0.1% |
| | Respondents (n) | 449 | |
| Restroom | Compact Fluorescent | 0.1% | 0.1% |
| | LED | 0.3% | 0.2% |
| | Linear Fluorescent | 0.01% | 0.01% |
| | Other | 0.001% | 0.002% |
| | Respondents (n) | 42 | |
| Stairwell | Compact Fluorescent | 2.0% | 0.6% |
| | Incandescent / Halogen | 0.6% | 0.3% |
| | LED | 7.7% | 1.0% |
| | Linear Fluorescent | 0.6% | 0.3% |
| | Respondents (n) | 370 | |
| Storage | Compact Fluorescent | 2.0% | 0.6% |
| | Incandescent / Halogen | 0.6% | 0.4% |
| | LED | 7.6% | 1.0% |
| | Linear Fluorescent | 3.6% | 0.8% |
| | Other | 0.01% | 0.02% |
| | Respondents (n) | 408 | |
| Tenant storage | Compact Fluorescent | 0.1% | 0.1% |
| | Incandescent / Halogen | 0.0% | 0.0% |
| | LED | 0.6% | 0.3% |
| | Linear Fluorescent | 0.2% | 0.2% |
| | Respondents (n) | 36 | |
| Other | Compact Fluorescent | 0.2% | 0.2% |
| | LED | 1.1% | 0.4% |
| | Linear Fluorescent | 0.3% | 0.2% |
| | Respondents (n) | 74 | |

Source: On-site fields: ['Lamp technology']

## TABLE 570. BUILDING VINTAGE - DISTRIBUTION OF COMMON AREA LAMPS BY CONTROL TYPE (SITE VISITS)

| Lighting Control Types | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| BMS | | | 0.4% | 0.5% | | | | | | |
| Circuit breaker | 33% | 3.8% | 26.6% | 6.3% | 13.7% | 2.6% | 29.5% | 6.7% | 19.0% | 6.8% |
| Light sensor dimming | 0.2% | 0.2% | | | | | 0.2% | 0.2% | | |
| Light sensor on/off | 2.5% | 1.7% | 4.1% | 1.5% | 0.9% | 1.0% | 5.2% | 3.3% | 0.3% | 0.2% |
| Manual switch | 55% | 4% | 53% | 5% | 63% | 31% | 40% | 8% | 73% | 16% |
| Networked timer | 1.3% | 2.1% | 0.0% | 0.0% | | | 0.4% | 0.6% | | |
| Occupancy & light sensor | 0.5% | 0.4% | 1.4% | 1.2% | 0.2% | 0.2% | 1.8% | 2.9% | 0.2% | 0.3% |
| Occupancy sensor | 3.1% | 1.7% | 1.7% | 1.1% | 18.6% | 15.5% | 20.6% | 7.9% | 5.7% | 5.5% |
| Timer | 4.4% | 1.8% | 12.9% | 4.7% | 3.9% | 1.7% | 2.5% | 1.6% | 1.6% | 1.5% |
| Respondents (n) | 1220 | | 952 | | 458 | | 374 | | 404 | |

Source: On-site fields: ['Fixture counts', 'Select all lighting control strategies in use. (select all that apply)']

BACK TO REPORT

## TABLE 571. BUILDING SIZE - DISTRIBUTION OF COMMON AREA LAMPS BY CONTROL TYPE (SITE VISITS)

| Lighting Control Types | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| BMS | 0.3% | 0.4% | | | | |
| Circuit breaker | 24% | 5% | 42% | 5.0% | 41.5% | 3.8% |
| Light sensor dimming | | | 0.3% | 0.3% | 0.3% | 0.2% |
| Light sensor on/off | 3% | 1% | 1% | 0.5% | 0.8% | 0.7% |
| Manual switch | 58% | 4% | 45% | 4.2% | 50% | 3.4% |
| Networked timer | | | 0.1% | 0.2% | 0.01% | 0.02% |
| Occupancy & light sensor | 0.4% | 0.5% | 1.1% | 0.6% | 0.8% | 0.4% |
| Occupancy sensor | 7.1% | 2.6% | 5.0% | 2.1% | 3.5% | 1.1% |
| Timer | 7.1% | 3.2% | 5.6% | 2.3% | 2.9% | 1.3% |
| Respondents (n) | 1139 | | 1184 | | 1085 | |

Source: On-site fields: ['Fixture counts', 'Select all lighting control strategies in use. (select all that apply)']

## TABLE 572. CLIMATE ZONE - DISTRIBUTION OF COMMON AREA LAMPS BY CONTROL TYPE (SITE VISITS)

| Lighting Control Types | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| BMS | | | | | 0.4% | 0.5% | | |
| Circuit breaker | 44% | 4% | 24% | 8% | 14% | 6% | 19% | 8% |
| Light sensor dimming | 0.2% | 0.2% | | | | | | |
| Light sensor on/off | 1% | 0.4% | 0.04% | 0.07% | 6% | 2% | 2% | 1% |
| Manual switch | 46% | 4% | 70% | 14% | 58% | 5% | 79% | 24% |
| Networked timer | | | | | 0.4% | 0.4% | | |
| Occupancy & light sensor | 1% | 0.4% | 0.1% | 0.2% | 0.4% | 1% | | |
| Occupancy sensor | 5% | 2% | 5% | 6% | 8% | 3% | 0.3% | 0.2% |
| Timer | 3% | 2% | 1% | 1% | 12% | 4% | | |
| Respondents (n) | 1902 | | 499 | | 795 | | 212 | |

Source: On-site fields: ['Fixture counts', 'Select all lighting control strategies in use. (select all that apply)']

## TABLE 573. OWNERSHIP TYPE - DISTRIBUTION OF COMMON AREA LAMPS BY CONTROL TYPE (SITE VISITS)

| Lighting Control Types | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| BMS | | | | | | | 0.2% | 0.2% |
| Circuit breaker | 39.8% | 5.6% | 35.2% | 5.6% | 43.3% | 8.5% | 37.2% | 6.4% |
| Light sensor dimming | 0.7% | 0.5% | | | 0.7% | 0.8% | | |
| Light sensor on/off | 0.7% | 0.4% | 0.4% | 0.4% | 2.0% | 1.0% | 2.2% | 1.0% |
| Manual switch | 55.1% | 6.5% | 53.4% | 6.2% | 40.9% | 4.6% | 46.2% | 4.1% |
| Networked timer | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.0% | 0.0% |
| Occupancy & light sensor | 0.8% | 0.9% | 0.1% | 0.2% | 2.8% | 1.3% | 0.6% | 0.7% |
| Occupancy sensor | 1.7% | 1.2% | 6.2% | 3.4% | 2.4% | 1.1% | 7.9% | 2.6% |
| Timer | 1.2% | 0.9% | 4.7% | 2.3% | 7.9% | 6.0% | 5.7% | 2.4% |
| Respondents (n) | 1103 | | 743 | | 632 | | 930 | |

Source: On-site fields: ['Fixture counts', 'Select all lighting control strategies in use. (select all that apply)']

## TABLE 574. STATEWIDE - DISTRIBUTION OF COMMON AREA LAMPS BY CONTROL TYPE (SITE VISITS)

| Lighting Control Types | Statewide | |
|---|---|---|
| | % | EB |
| BMS | 0.1% | 0.2% |
| Circuit breaker | 34% | 3.3% |
| Light sensor dimming | 0.1% | 0.1% |
| Light sensor on/off | 2.0% | 0.6% |
| Manual switch | 51% | 2.9% |
| Networked timer | 0.1% | 0.1% |
| Occupancy & light sensor | 0.8% | 0.4% |
| Occupancy sensor | 5.9% | 1.6% |
| Timer | 6.1% | 1.8% |
| Respondents (n) | 3408 | |

Source: On-site fields: ['Fixture counts', 'Select all lighting control strategies in use. (select all that apply)']

## TABLE 575. BUILDING VINTAGE - PERCENTAGE OF BUIDINGS WITH EXTERIOR LAMPS BY EXTERIOR CATEGORY (SITE VISITS)

| Exterior Lamps by Category | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Building | 69% | 4% | 69% | 5% | 72% | 10% | 41% | 9% | 84% | 6% |
| Crown/Canopy | 16% | 3% | 9% | 3% | 6% | 3% | 17% | 6% | 0% | 0% |
| Landscape | 10% | 3% | 5% | 2% | 8% | 5% | 19% | 13% | 0% | 0% |
| Parking | 4% | 2% | 8% | 3% | 14% | 9% | 23% | 7% | 15% | 6% |
| Respondents (n) | 199 | | 154 | | 92 | | 56 | | 118 | |

Source: On-site fields: ['Fixture counts', 'Exterior space location']

## TABLE 576. BUILDING SIZE - PERCENTAGE OF BUIDINGS WITH EXTERIOR LAMPS BY EXTERIOR CATEGORY (SITE VISITS)

| Exterior Lamps by Category | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Building | 78% | 4% | 51% | 5% | 52% | 6% |
| Crown/Canopy | 9% | 3% | 27% | 4% | 24% | 5% |
| Landscape | 3% | 1% | 16% | 3% | 12% | 4% |
| Parking | 9% | 2% | 6% | 2% | 12% | 4% |
| Respondents (n) | 296 | | 210 | | 113 | |

Source: On-site fields: ['Fixture counts', 'Exterior space location']

## TABLE 577. CLIMATE ZONE - PERCENTAGE OF BUIDINGS WITH EXTERIOR LAMPS BY EXTERIOR CATEGORY (SITE VISITS)

| Exterior Lamps by Category | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Building | 56% | 4% | 83% | 7% | 76% | 5% | 85% | 8% |
| Crown/Canopy | 26% | 3% | 1% | 0% | 0% | 0% | 0% | 0% |
| Landscape | 13% | 3% | 0% | 0% | 3% | 2% | 0% | 0% |
| Parking | 4% | 1% | 17% | 7% | 13% | 4% | 15% | 8% |
| Respondents (n) | 285 | | 131 | | 146 | | 57 | |

Source: On-site fields: ['Fixture counts', 'Exterior space location']

## TABLE 578. OWNERSHIP TYPE - PERCENTAGE OF BUIDINGS WITH EXTERIOR LAMPS BY EXTERIOR CATEGORY (SITE VISITS)

| Exterior Lamps by Category | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Building | 61% | 6% | 66% | 6% | 42% | 6% | 62% | 5% |
| Crown/Canopy | 21% | 5% | 21% | 5% | 28% | 6% | 14% | 4% |
| Landscape | 13% | 4% | 10% | 4% | 24% | 5% | 7% | 3% |
| Parking | 5% | 1% | 4% | 2% | 5% | 2% | 11% | 3% |
| Respondents (n) | 244 | | 142 | | 94 | | 139 | |

Source: On-site fields: ['Fixture counts', 'Exterior space location']

## TABLE 579. STATEWIDE - PERCENTAGE OF BUIDINGS WITH EXTERIOR LAMPS BY EXTERIOR CATEGORY (SITE VISITS)

| Exterior Lamps by Category | Statewide | |
|---|---|---|
| | Mean | EB |
| Building | 64% | 3% |
| Crown/Canopy | 18% | 2% |
| Landscape | 9% | 2% |
| Parking | 8% | 2% |
| Respondents (n) | 619 | |

Source: On-site fields: ['Fixture counts', 'Exterior space location']

## TABLE 580. BUILDING VINTAGE - DISTRIBUTION OF COMMON AREA LAMPS BY CONTROL TYPE (SITE VISITS)

| Common Area Lamp Amounts per Location | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Building Perimeter | 1.22 | 0.07 | 1.36 | 0.12 | 1.01 | 0.01 | 1.20 | 0.11 | 1.25 | 0.09 |
| Courtyard | 2.67 | 1.32 | 1.00 | 0.00 | 1.00 | 0.00 | 1.14 | 0.17 | 1.00 | 0.00 |
| Driveway | | | 2.00 | 1.00 | | | | | 1.00 | 0.00 |
| Landscape | | | 3.00 | 0.00 | 1.00 | 0.00 | | | | |
| Other | | | 1.00 | 0.00 | | | | | | |
| Parking Garage | | | 1.21 | 0.25 | | | 1.16 | 0.12 | 1.40 | 0.23 |
| Parking Lot | 1.00 | 0.00 | 1.00 | 0.00 | 1.02 | 0.02 | 1.03 | 0.04 | 1.55 | 0.36 |
| Roof | 2.51 | 0.76 | 1.24 | 0.14 | 1.00 | 0.00 | 1.09 | 0.10 | 1.87 | 0.22 |
| Walkway | 2.00 | 0.00 | 3.82 | 1.64 | 1.00 | 0.00 | | | 1.00 | 0.00 |
| Respondents (n) | 184 | | 147 | | 89 | | 55 | | 116 | |

Source: On-site fields: ['Select all lighting control strategies in use. (select all that apply)']

## TABLE 581. BUILDING SIZE - DISTRIBUTION OF COMMON AREA LAMPS BY CONTROL TYPE (SITE VISITS)

| Common Area Lamp Amounts per Location | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Building Perimeter | 1.35 | 0.09 | 1.13 | 0.05 | 1.09 | 0.04 |
| Courtyard | 1.00 | 0.00 | 2.12 | 0.86 | 1.00 | 0.00 |
| Driveway | 1.00 | 0.00 | | | 2.00 | 1.00 |
| Landscape | 2.60 | 0.65 | | | | |
| Other | 1.00 | 0.00 | | | | |
| Parking Garage | 1.00 | 0.00 | 1.05 | 0.03 | 1.41 | 0.28 |
| Parking Lot | 1.13 | 0.12 | 1.05 | 0.06 | 1.21 | 0.18 |
| Roof | 1.14 | 0.11 | 2.30 | 0.67 | 1.35 | 0.22 |
| Walkway | 2.92 | 1.16 | 1.94 | 0.11 | 1.00 | 0.00 |
| Respondents (n) | 284 | | 200 | | 109 | |

Source: On-site fields: ['Select all lighting control strategies in use. (select all that apply)']

## TABLE 582. CLIMATE ZONE - DISTRIBUTION OF COMMON AREA LAMPS BY CONTROL TYPE (SITE VISITS)

| Common Area Lamp Amounts per Location | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Building Perimeter | 1.23 | 0.10 | 1.27 | 0.10 | 1.31 | 0.10 | 1.14 | 0.12 |
| Courtyard | 2.26 | 0.97 | 1.00 | 0.00 | 1.00 | 0.00 | | |
| Driveway | 2.00 | 1.00 | 1.00 | 0.00 | | | | |
| Landscape | 1.00 | 0.00 | | | 3.00 | 0.00 | | |
| Other | | | | | 1.00 | 0.00 | | |
| Parking Garage | 1.04 | 0.05 | 1.79 | 0.14 | 1.00 | 0.00 | 1.01 | 0.02 |
| Parking Lot | 1.06 | 0.07 | 1.58 | 0.39 | 1.01 | 0.01 | 1.00 | 0.00 |
| Roof | 1.96 | 0.47 | 1.87 | 0.17 | 1.00 | 0.00 | | |
| Walkway | 1.72 | 0.40 | | | 4.82 | 1.67 | 1.00 | 0.00 |
| Respondents (n) | 263 | | 129 | | 144 | | 55 | |

Source: On-site fields: ['Select all lighting control strategies in use. (select all that apply)']

## TABLE 583. OWNERSHIP TYPE - DISTRIBUTION OF COMMON AREA LAMPS BY CONTROL TYPE (SITE VISITS)

| Common Area Lamp Amounts per Location | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Building Perimeter | 1.34 | 0.24 | 1.14 | 0.05 | 1.03 | 0.02 | 1.31 | 0.09 |
| Courtyard | 1.00 | 0.00 | 3.88 | 2.33 | 1.09 | 0.09 | 1.25 | 0.25 |
| Driveway | | | | | 2.00 | 1.00 | 1.00 | 0.00 |
| Landscape | | | | | 1.00 | 0.00 | 3.00 | 0.00 |
| Other | | | | | | | 1.00 | 0.00 |
| Parking Garage | 1.05 | 0.07 | 1.76 | 0.15 | 1.00 | 0.00 | 1.06 | 0.08 |
| Parking Lot | 1.21 | 0.11 | 1.14 | 0.14 | | | 1.06 | 0.06 |
| Roof | 1.19 | 0.12 | 1.38 | 0.14 | 4.81 | 2.40 | 1.26 | 0.15 |
| Walkway | 1.90 | 0.13 | 2.00 | 0.00 | 1.00 | 0.00 | 6.00 | 0.00 |
| Respondents (n) | 236 | | 138 | | 85 | | 132 | |

Source: On-site fields: ['Select all lighting control strategies in use. (select all that apply)']

## TABLE 584. STATEWIDE - DISTRIBUTION OF COMMON AREA LAMPS BY CONTROL TYPE (SITE VISITS)

| Common Area Lamp Amounts per Location | Statewide | |
|---|---|---|
| | Mean | EB |
| Building Perimeter | 1.27 | 0.06 |
| Courtyard | 2.05 | 0.80 |
| Driveway | 1.23 | 0.33 |
| Landscape | 2.60 | 0.65 |
| Other | 1.00 | 0.00 |
| Parking Garage | 1.10 | 0.06 |
| Parking Lot | 1.12 | 0.10 |
| Roof | 1.95 | 0.46 |
| Walkway | 2.40 | 0.66 |
| Respondents (n) | 591 | |

Source: On-site fields: ['Select all lighting control strategies in use. (select all that apply)']

## TABLE 585. STATEWIDE - AVERAGE NUMBER OF EXTERIOR LAMPS PER BULDING BY EXTERIOR CATEGORY (SITE VISITS)

| Category | Exterior Area | Statewide | |
|---|---|---|---|
| | | % | EB |
| Compact Fluorescent | Building Perimeter | 7.7% | 2.3% |
| | Courtyard | 0.4% | 0.4% |
| | Parking Lot | 0.1% | 0.2% |
| | Roof | 1.7% | 1.2% |
| | Walkway | 2.4% | 3.9% |
| | Respondents (n) | 62 | |
| General Service LED | Building Perimeter | 25.1% | 4.9% |
| | Courtyard | 2.6% | 1.5% |
| | Driveway | 0.3% | 0.5% |
| | Landscape | 0.1% | 0.2% |

| Category | Exterior Area | Statewide | |
|---|---|---|---|
| | | % | EB |
| | Parking Garage | 0.5% | 0.5% |
| | Parking Lot | 1.9% | 1.4% |
| | Roof | 11.8% | 8.8% |
| | Walkway | 0.4% | 0.5% |
| | Respondents (n) | 181 | |
| HID (Non-LED Including Induction) | Building Perimeter | 0.4% | 0.5% |
| | Courtyard | 0.01% | 0.01% |
| | Parking Lot | 0.3% | 0.3% |
| | Respondents (n) | 13 | |
| Incandescent/Halogen | Building Perimeter | 4.1% | 2.1% |
| | Courtyard | 6.0% | 10.0% |
| | Parking Lot | 0.8% | 1.0% |
| | Roof | 3.8% | 5.7% |
| | Respondents (n) | 25 | |
| LED HID Retrofit | Building Perimeter | 0.4% | 0.9% |
| | Courtyard | 0.01% | 0.01% |
| | Parking Lot | 0.01% | 0.01% |
| | Respondents (n) | 5 | |
| LED Panel | Building Perimeter | 3.6% | 1.8% |
| | Courtyard | 1.0% | 1.1% |
| | Parking Garage | 0.03% | 0.03% |
| | Parking Lot | 0.04% | 0.04% |
| | Roof | 0.1% | 0.1% |
| | Respondents (n) | 32 | |
| LED Tube | Building Perimeter | 0.3% | 0.3% |
| | Courtyard | 0.1% | 0.2% |
| | Driveway | 0.1% | 0.2% |

| Category | Exterior Area | Statewide | |
|---|---|---|---|
| | | % | EB |
| | Parking Garage | 0.6% | 0.5% |
| | Parking Lot | 0.1% | 0.1% |
| | Roof | 2.4% | 1.8% |
| | Walkway | 0.3% | 0.4% |
| | Respondents (n) | 21 | |
| Linear Fluorescent | Building Perimeter | 0.4% | 0.5% |
| | Courtyard | 0.8% | 1.5% |
| | Parking Garage | 0.3% | 0.5% |
| | Roof | 4.3% | 2.9% |
| | Respondents (n) | 16 | |
| Other LED | Building Perimeter | 9.6% | 3.2% |
| | Courtyard | 1.5% | 1.6% |
| | Landscape | 1.1% | 1.9% |
| | Other | 0.4% | 0.3% |
| | Parking Lot | 0.8% | 0.8% |
| | Roof | 1.0% | 0.8% |
| | Walkway | 0.0% | 0.0% |
| | Respondents (n) | 133 | |
| Other | Building Perimeter | 0.4% | 0.3% |
| | Respondents (n) | 4 | |

Source: On-site fields: ['Number of lamps per fixture']

## TABLE 586. STATEWIDE - DISTRIBUTION OF EXTERIOR LAMPS BY CONTROL TYPE AND EXTERIOR CATEGORY (SITE VISITS)

| Area | Number of Lamps | Statewide | |
|---|---|---|---|
| | | % | EB |
| Building Perimeter | 1 | 71% | 9% |
| | 2 | 20% | 8% |
| | 3 | 2% | 3% |
| | 4 | 5% | 6% |
| | 5 | 1% | 1% |
| | Respondents (n) | 326 | |
| Courtyard | 1 | 18% | 6% |
| | 2 | 8% | 8% |
| | 14 | 23% | 40% |
| | Respondents (n) | 33 | |
| Driveway | 1 | 100% | 258% |
| | Respondents (n) | 2 | |
| Landscape | 1 | 11% | 67% |
| | 3 | 89% | 564% |
| | Respondents (n) | 2 | |
| Other | 1 | 1 | 0 |
| | Respondents (n) | 6 | |
| Parking Garage | 1 | 54% | 42% |
| | 2 | 46% | 49% |
| | Respondents (n) | 20 | |
| Parking Lot | 1 | 82% | 34% |
| | 2 | 17% | 26% |
| | 3 | 0% | 0% |
| | 4 | 0% | 1% |
| | Respondents (n) | 41 | |
| Roof | 1 | 33% | 9% |

| Area | Number of Lamps | Statewide | |
|---|---|---|---|
| | | % | EB |
| | 2 | 31% | 15% |
| | 4 | 2% | 3% |
| | 20 | 13% | 23% |
| | 30 | 20% | 34% |
| | Respondents (n) | 55 | |
| Walkway | 1 | 5% | 8% |
| | 2 | 16% | 21% |
| | 6 | 78% | 152% |
| | Respondents (n) | 7 | |

Source: On-site fields: ['Exterior space location']

## TABLE 587. BUILDING VINTAGE - DISTRIBUTION OF COMMON AREA LAMPS IN STORAGE BY LAMP TYPE (SITE VISITS)

| Common Area Lamps in Storage | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Compact Fluorescent | 7% | 4% | 7% | 4% | 1% | 2% | 14% | 16% | 0.3% | 0.4% |
| General Service LED | 32% | 10% | 29% | 16% | 24% | 22% | 37% | 38% | 21% | 16% |
| Incandescent/Halogen | 1% | 1% | 2% | 2% | 29% | 32% | | | | |
| LED Panel | 4% | 3% | 16% | 14% | 13% | 16% | 4% | 5% | | |
| LED Tube | 27% | 13% | 12% | 8% | 16% | 10% | 22% | 23% | 44% | 74% |
| Linear Fluorescent | 26% | 9% | 27% | 13% | 15% | 16% | 23% | 17% | 8% | 5% |
| Other LED | 2% | 3% | 7% | 5% | 2% | 4% | 0% | 1% | 11% | 13% |
| Other | 0.2% | 0.3% | | | | | | | | |
| Respondents (n) | 214 | | 108 | | 53 | | 25 | | 24 | |

Source: On-site fields: ['Lamp technology']

## TABLE 588. BUILDING SIZE - DISTRIBUTION OF COMMON AREA LAMPS IN STORAGE BY LAMP TYPE (SITE VISITS)

| Common Area Lamps in Storage | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Compact Fluorescent | 9% | 5% | 8% | 4% | 3% | 3% |
| General Service LED | 49% | 18% | 20% | 9% | 12% | 7% |
| Incandescent/Halogen | 8% | 6% | 1% | 1% | | |
| LED Panel | 6% | 5% | 5% | 4% | 2% | 2% |
| LED Tube | 9% | 4% | 34% | 23% | 57% | 20% |
| Linear Fluorescent | 14% | 6% | 25% | 7% | 26% | 8% |
| Other LED | 3% | 5% | 7% | 5% | 1% | 1% |
| Other | 0.4% | 1% | | | | |
| Respondents (n) | 163 | | 147 | | 114 | |

Source: On-site fields: ['Lamp technology']

## TABLE 589. CLIMATE ZONE - DISTRIBUTION OF COMMON AREA LAMPS IN STORAGE BY LAMP TYPE (SITE VISITS)

| Common Area Lamps in Storage | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Compact Fluorescent | 6% | 3% | 27% | 24% | 7% | 4% | 23% | 35% |
| General Service LED | 27% | 9% | 30% | 18% | 39% | 18% | 35% | 36% |
| Incandescent/Halogen | 1% | 1% | | | 4% | 3% | 28% | 29% |
| LED Panel | 6% | 4% | 9% | 11% | 16% | 16% | | |
| LED Tube | 31% | 15% | 3% | 3% | 16% | 12% | | |
| Linear Fluorescent | 24% | 6% | 27% | 11% | 15% | 9% | 14% | 15% |
| Other LED | 6% | 4% | 4% | 6% | 3% | 3% | | |
| Other | 0.2% | 0.4% | | | | | | |
| Respondents (n) | 278 | | 43 | | 77 | | 26 | |

Source: On-site fields: ['Lamp technology']

## TABLE 590. DAC FLAG - DISTRIBUTION OF COMMON AREA LAMPS IN STORAGE BY LAMP TYPE (SITE VISITS)

| Common Area Lamps in Storage | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Compact Fluorescent | 9% | 4% | 7% | 4% | | |
| General Service LED | 25% | 10% | 34% | 10% | | |
| Incandescent/Halogen | 3% | 2% | 3% | 3% | | |
| LED Panel | 7% | 5% | 9% | 7% | | |
| LED Tube | 18% | 12% | 23% | 11% | 16% | 0% |
| Linear Fluorescent | 37% | 13% | 17% | 4% | | |
| Other LED | 2% | 3% | 6% | 4% | | |
| Other | 0.4% | 1% | | | | |
| Respondents (n) | 168 | | 255 | | 1 | |

Source: On-site fields: ['Lamp technology']

## TABLE 591. OWNERSHIP TYPE - DISTRIBUTION OF COMMON AREA LAMPS IN STORAGE BY LAMP TYPE (SITE VISITS)

| Common Area Lamps in Storage | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Compact Fluorescent | 3% | 3% | 11% | 6% | 5% | 4% | 8% | 6% |
| General Service LED | 12% | 7% | 31% | 16% | 22% | 12% | 25% | 10% |
| Incandescent/Halogen | | | 2% | 3% | | | 4% | 4% |
| LED Panel | 21% | 23% | 4% | 6% | 3% | 4% | 2% | 2% |
| LED Tube | 34% | 20% | 17% | 11% | 33% | 14% | 42% | 37% |
| Linear Fluorescent | 28% | 11% | 29% | 13% | 20% | 10% | 17% | 7% |
| Other LED | 1% | 1% | 5% | 8% | 18% | 13% | 2% | 2% |
| Other | 1% | 2% | | | | | | |
| Respondents (n) | 108 | | 111 | | 78 | | 127 | |

Source: On-site fields: ['Lamp technology']

## TABLE 592. STATEWIDE - DISTRIBUTION OF COMMON AREA LAMPS IN STORAGE BY LAMP TYPE (SITE VISITS)

| Common Area Lamps in Storage | Statewide | |
|---|---|---|
| | % | EB |
| Compact Fluorescent | 8% | 3% |
| General Service LED | 32% | 9% |
| Incandescent/Halogen | 4% | 3% |
| LED Panel | 5% | 3% |
| LED Tube | 26% | 12% |
| Linear Fluorescent | 21% | 5% |
| Other LED | 5% | 3% |
| Other | 0.2% | 0.3% |
| Respondents (n) | 424 | |

Source: On-site fields: ['Lamp technology']

## TABLE 593. BUILDING VINTAGE - DISTRIBUTION OF IN-UNIT LAMPS BY LAMP TYPE (SITE VISITS)

| In-Unit Lamp Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Compact Fluorescent | 12% | 2% | 10% | 2% | 12% | 4% | 21% | 6% | 11% | 5% |
| General ServiceLED | 73% | 5% | 62% | 5% | 48% | 11% | 74% | 9% | 48% | 8% |
| Incandescent/Halogen | 9% | 2% | 16% | 3% | 23% | 7% | 2% | 1% | 17% | 9% |
| LED Panel | 2% | 1% | 10% | 3% | 2% | 1% | 2% | 1% | 9% | 3% |
| LED Tube | 1% | 1% | 1% | 0.4% | 7% | 4% | 2% | 1% | 0.2% | 0.3% |
| Linear Fluorescent | 2% | 1% | 2% | 1% | 8% | 6% | 0.4% | 0.3% | 1% | 1% |
| Other | 1% | 0.5% | 0.1% | 0.1% | | | | | 1% | 1% |
| Respondents (n) | 302 | | 203 | | 123 | | 61 | | 209 | |

Source: On-site fields: ['Lamp technology']

## TABLE 594. BUILDING SIZE - DISTRIBUTION OF IN-UNIT LAMPS BY LAMP TYPE (SITE VISITS)

| In-Unit Lamp Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Compact Fluorescent | 12% | 2% | 16% | 3% | 9% | 3% |
| General Service LED | 67% | 6% | 64% | 6% | 61% | 6% |
| Incandescent/Halogen | 12% | 2% | 10% | 3% | 18% | 4% |
| LED Panel | 3.0% | 0.9% | 5.8% | 1.6% | 5.4% | 2.6% |
| LED Tube | 1.0% | 0.6% | 2.0% | 0.7% | 3.0% | 1.3% |
| Linear Fluorescent | 3.3% | 2.2% | 1.9% | 0.9% | 3.1% | 1.1% |
| Other | 1.0% | 0.9% | 0.4% | 0.3% | | |
| Respondents (n) | 505 | | 257 | | 136 | |

Source: On-site fields: ['Lamp technology']

## TABLE 595. CLIMATE ZONE - DISTRIBUTION OF IN-UNIT LAMPS BY LAMP TYPE (SITE VISITS)

| In-Unit Lamp Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Compact Fluorescent | 16% | 3% | 5% | 3% | 9% | 2% | 13% | 5% |
| General Service LED | 63% | 5% | 62% | 11% | 69% | 6% | 75% | 13% |
| Incandescent/Halogen | 10% | 2% | 20% | 9% | 14% | 3% | 6% | 3% |
| LED Panel | 6% | 1% | 12% | 3% | 3% | 1% | 2% | 2% |
| LED Tube | 1.8% | 0.7% | 0.3% | 0.5% | 1.7% | 0.7% | 0.1% | 0.1% |
| Linear Fluorescent | 2.9% | 1.5% | 0.3% | 0.2% | 2.1% | 0.8% | 4.1% | 3.9% |
| Other | 0.8% | 0.6% | 0.6% | 0.6% | 0.2% | 0.1% | 0.1% | 0.1% |
| Respondents (n) | 343 | | 144 | | 302 | | 109 | |

Source: On-site fields: ['Lamp technology']

## TABLE 596. DAC FLAG - DISTRIBUTION OF IN-UNIT LAMPS BY LAMP TYPE (SITE VISITS)

| In-Unit Lamp Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Compact Fluorescent | 17% | 3% | 7% | 1% | 1% | 1% |
| General Service LED | 64% | 5% | 67% | 4% | 9% | 4% |
| Incandescent/Halogen | 11% | 3% | 14% | 2% | 1% | 2% |
| LED Panel | 3.2% | 0.8% | 7.5% | 1.9% | 1.9% | 1.5% |
| LED Tube | 1.7% | 0.5% | 1.2% | 0.4% | 0.004% | 0.004% |
| Linear Fluorescent | 1.3% | 0.5% | 2.8% | 0.8% | | |
| Other | 1.2% | 0.9% | 0.6% | 0.4% | | |
| Respondents (n) | 303 | | 458 | | 109 | |

Source: On-site fields: ['Lamp technology']

## TABLE 597. OWNERSHIP TYPE - DISTRIBUTION OF IN-UNIT LAMPS BY LAMP TYPE (SITE VISITS)

| In-Unit Lamp Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Compact Fluorescent | 25% | 7% | 20% | 6% | 7% | 2% | 11% | 2% |
| General Service LED | 60% | 10% | 61% | 8% | 56% | 5% | 73% | 8% |
| Incandescent/Halogen | 6% | 3% | 10% | 3% | 21% | 4% | 10% | 3% |
| LED Panel | 4% | 2% | 2% | 1% | 13% | 4% | 3% | 1% |
| LED Tube | 3% | 2% | 3% | 1% | 1% | 1% | 1% | 0.4% |
| Linear Fluorescent | 2% | 1% | 4% | 2% | 1% | 1% | 3% | 1% |
| Other | 0.2% | 0.1% | 1% | 1% | 1% | 1% | 0.1% | 0.1% |
| Respondents (n) | 276 | | 237 | | 132 | | 253 | |

Source: On-site fields: ['Lamp technology']

## TABLE 598. STATEWIDE - DISTRIBUTION OF IN-UNIT LAMPS BY LAMP TYPE (SITE VISITS)

| In-Unit Lamp Type | Statewide | |
|---|---|---|
| | % | EB |
| Compact Fluorescent | 13% | 2% |
| General Service LED | 66% | 4% |
| Incandescent/Halogen | 12% | 1% |
| LED Panel | 4% | 1% |
| LED Tube | 2% | 0.5% |
| Linear Fluorescent | 3% | 1% |
| Other | 1% | 0.5% |
| Respondents (n) | 898 | |

Source: On-site fields: ['Lamp technology']

## TABLE 599. BUILDING VINTAGE - AVERAGE NUMBER OF IN-UNIT LAMPS PER DWELLING UNIT BY TYPE (SITE VISITS)

| In-Unit Lamp Count per Dwelling | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| General Service LED | 13.10 | 0.94 | 11.77 | 1.48 | 11.37 | 4.03 | 13.31 | 1.74 | 9.47 | 1.49 |
| CFL | 6.33 | 0.79 | 4.13 | 1.28 | 11.90 | 3.90 | 2.99 | 1.27 | 3.97 | 1.42 |
| Inefficient | 4.74 | 0.78 | 4.67 | 1.23 | 13.52 | 4.00 | 0.65 | 0.38 | 4.59 | 1.39 |
| LED Panel | 3.14 | 0.70 | 3.97 | 1.41 | 4.47 | 3.33 | 0.83 | 0.75 | 1.26 | 0.58 |
| Linear Fluorescent | 1.27 | 0.40 | 0.59 | 0.26 | 6.31 | 3.68 | 0.29 | 0.14 | 0.52 | 0.21 |
| Linear LED | 1.42 | 0.43 | 0.38 | 0.23 | 5.75 | 3.49 | 1.15 | 1.06 | 0.11 | 0.08 |
| Other | 0.82 | 0.36 | 0.95 | 0.95 | - | - | - | - | 0.87 | 0.60 |
| Respondents (n) | 203 | | 146 | | 63 | | 42 | | 88 | |

Source: On-site fields: ['Lamp technology', 'Fixture counts']

BACK TO REPORT

## TABLE 600. BUILDING SIZE - AVERAGE NUMBER OF IN-UNIT LAMPS PER DWELLING UNIT BY TYPE (SITE VISITS)

| In-Unit Lamp Count per Dwelling | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| General Service LED | 13.80 | 1.43 | 11.25 | 0.92 | 13.04 | 1.43 |
| CFL | 6.52 | 1.52 | 5.59 | 0.79 | 5.02 | 1.26 |
| Inefficient | 6.50 | 1.53 | 4.21 | 0.76 | 5.40 | 1.33 |
| LED Panel | 2.73 | 1.41 | 2.93 | 0.68 | 3.88 | 1.28 |
| Linear Fluorescent | 2.66 | 1.41 | 0.91 | 0.34 | 3.47 | 1.27 |
| Linear LED | 1.84 | 1.40 | 1.51 | 0.42 | 2.26 | 0.74 |
| Other | 0.76 | 0.38 | 0.65 | 0.33 | - | - |
| Respondents (n) | 295 | | 162 | | 85 | |

Source: On-site fields: ['Lamp technology', 'Fixture counts']

## TABLE 601. CLIMATE ZONE - AVERAGE NUMBER OF IN-UNIT LAMPS PER DWELLING UNIT BY TYPE (SITE VISITS)

| In-Unit Lamp Count per Dwelling | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| General Service LED | 12.87 | 1.17 | 11.52 | 1.39 | 10.55 | 0.67 | 12.98 | 1.34 |
| CFL | 6.99 | 1.12 | 2.58 | 1.01 | 3.57 | 0.59 | 5.94 | 1.98 |
| Inefficient | 5.61 | 1.12 | 5.27 | 1.37 | 4.20 | 0.72 | 6.00 | 2.01 |
| LED Panel | 3.80 | 1.03 | 2.77 | 0.92 | 1.01 | 0.31 | 2.38 | 1.65 |
| Linear Fluorescent | 1.87 | 0.92 | 0.22 | 0.12 | 2.06 | 0.53 | 3.02 | 1.54 |
| Linear LED | 2.11 | 0.94 | 0.28 | 0.25 | 0.86 | 0.32 | 0.15 | 0.07 |
| Other | 0.88 | 0.36 | 0.82 | 0.56 | 0.09 | 0.07 | 0.07 | 0.06 |
| Respondents (n) | 214 | | 92 | | 183 | | 53 | |

Source: On-site fields: ['Lamp technology', 'Fixture counts']

## TABLE 602. DAC FLAG - AVERAGE NUMBER OF IN-UNIT LAMPS PER DWELLING UNIT BY TYPE (SITE VISITS)

| In-Unit Lamp Count per Dwelling | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| General Service LED | 10.44 | 0.62 | 13.96 | 0.79 | 10.09 | 2.00 |
| CFL | 4.04 | 0.55 | 5.43 | 0.71 | 5.99 | 3.75 |
| Inefficient | 4.04 | 0.62 | 6.16 | 0.76 | 4.53 | 3.59 |
| LED Panel | 1.13 | 0.28 | 3.97 | 0.77 | 2.25 | 1.80 |
| Linear Fluorescent | 1.24 | 0.31 | 2.16 | 0.53 | - | - |
| Linear LED | 0.78 | 0.21 | 1.42 | 0.46 | 0.02 | 0.02 |
| Other | 0.69 | 0.35 | 0.89 | 0.43 | - | - |
| Respondents (n) | 234 | | 299 | | 9 | |

Source: On-site fields: ['Lamp technology', 'Fixture counts']

## TABLE 603. METERING TYPE - AVERAGE NUMBER OF IN-UNIT LAMPS PER DWELLING UNIT BY TYPE (SITE VISITS)

| In-Unit Lamp Count per Dwelling | Building-level meter only | | Direct metered dwelling units | | Building-level meter with dwelling unit submeters | | Unknown | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| General Service LED | 42.39 | 2.66 | 47.71 | 2.75 | 49.09 | 2.51 | 59.37 | 10.01 |
| CFL | 14.00 | 2.15 | 21.52 | 2.68 | 21.23 | 2.18 | 18.47 | 5.25 |
| Inefficient | 16.33 | 2.40 | 20.73 | 2.74 | 21.62 | 2.38 | 32.62 | 7.75 |
| LED Panel | 7.09 | 1.71 | 11.05 | 2.51 | 12.33 | 2.26 | 30.52 | 9.27 |
| Linear Fluorescent | 8.23 | 1.82 | 7.93 | 2.35 | 8.53 | 1.75 | 13.71 | 4.00 |
| Linear LED | 5.81 | 1.53 | 6.13 | 2.30 | 6.32 | 1.67 | 12.22 | 4.74 |
| Other | 0.52 | 0.44 | 2.52 | 0.81 | 2.19 | 0.76 | 5.84 | 3.62 |
| Respondents (n) | 235 | | 562 | | 403 | | 54 | |

Source: On-site fields: ['Lamp technology', 'Fixture counts']

## TABLE 604. OWNERSHIP TYPE - AVERAGE NUMBER OF IN-UNIT LAMPS PER DWELLING UNIT BY TYPE (SITE VISITS)

| In-Unit Lamp Count per Dwelling | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| General Service LED | 7.08 | 0.74 | 11.48 | 2.05 | 22.58 | 2.07 | 12.94 | 0.72 |
| CFL | 3.92 | 0.70 | 6.98 | 2.12 | 7.23 | 1.62 | 5.52 | 0.71 |
| Inefficient | 1.83 | 0.48 | 5.77 | 2.11 | 14.18 | 1.99 | 4.36 | 0.70 |
| LED Panel | 0.96 | 0.47 | 2.57 | 1.95 | 13.42 | 2.50 | 1.66 | 0.46 |
| Linear Fluorescent | 1.18 | 0.33 | 2.34 | 1.94 | 2.78 | 1.26 | 1.67 | 0.45 |
| Linear LED | 2.14 | 0.68 | 2.67 | 1.96 | 3.63 | 1.37 | 0.55 | 0.22 |
| Other | 0.12 | 0.07 | 0.88 | 0.50 | 1.96 | 1.11 | 0.37 | 0.29 |
| Respondents (n) | 164 | | 143 | | 70 | | 165 | |

Source: On-site fields: ['Lamp technology', 'Fixture counts']

## TABLE 605. STATEWIDE - AVERAGE NUMBER OF IN-UNIT LAMPS PER DWELLING UNIT BY TYPE (SITE VISITS)

| In-Unit Lamp Count per Dwelling | Statewide | |
|---|---|---|
| | Mean | EB |
| General Service LED | 9.76 | 0.75 |
| CFL | 4.36 | 0.44 |
| Inefficient | 3.43 | 0.43 |
| LED Panel | 1.73 | 0.30 |
| Linear Fluorescent | 1.03 | 0.23 |
| Linear LED | 0.91 | 0.21 |
| Other | 0.48 | 0.18 |
| Respondents (n) | 542 | |

Source: On-site fields: ['Lamp technology', 'Fixture counts']

## TABLE 606. STATEWIDE - DISTRIBUTION OF IN-UNIT INTERIOR LAMPS BY LAMP TYPE AND ROOM (SITE VISITS)

| Lamp Type | Room | Statewide | |
|---|---|---|---|
| | | % | EB |
| Compact Fluorescent | Bathroom | 2.5% | 0.9% |
| | Bedroom | 3.3% | 0.8% |
| | Closet | 0.1% | 0.1% |
| | Dining room | 0.0% | 0.1% |
| | Exterior | 0.0% | 0.0% |
| | Hallway | 1.7% | 0.6% |
| | Kitchen | 2.6% | 0.7% |
| | Living room | 3.0% | 0.9% |
| | Other | 0.1% | 0.1% |
| | Respondents (n) | 488 | |
| General Service LED | Bathroom | 12.4% | 1.4% |
| | Bedroom | 15.8% | 1.6% |
| | Closet | 0.5% | 0.2% |
| | Dining room | 2.4% | 1.5% |
| | Exterior | 0.1% | 0.1% |
| | Garage | 0.0% | 0.0% |
| | Hallway | 7.3% | 1.5% |
| | Kitchen | 10.3% | 1.5% |
| | Laundry room | 0.1% | 0.1% |
| | Living room | 15.6% | 2.2% |
| | Other | 1.1% | 0.4% |
| | Respondents (n) | 2129 | |
| Incandescent/Halogen | Bathroom | 2.3% | 0.6% |
| | Bedroom | 3.0% | 0.6% |
| | Closet | 0.1% | 0.1% |

| Lamp Type | Room | Statewide | |
|---|---|---|---|
| | | % | EB |
| | Dining room | 0.7% | 0.6% |
| | Exterior | 0.1% | 0.1% |
| | Hallway | 1.1% | 0.4% |
| | Kitchen | 1.8% | 0.6% |
| | Laundry room | 0.0% | 0.0% |
| | Living room | 2.4% | 0.8% |
| | Other | 0.1% | 0.1% |
| | Respondents (n) | 443 | |
| LED Panel | Bathroom | 0.8% | 0.2% |
| | Bedroom | 0.7% | 0.3% |
| | Closet | 0.1% | 0.1% |
| | Dining room | 0.1% | 0.1% |
| | Exterior | 0.0% | 0.1% |
| | Hallway | 0.6% | 0.2% |
| | Kitchen | 0.9% | 0.3% |
| | Living room | 1.1% | 0.6% |
| | Other | 0.1% | 0.1% |
| | Respondents (n) | 296 | |
| LED Tube | Bathroom | 0.2% | 0.1% |
| | Bedroom | 0.2% | 0.2% |
| | Closet | 0.1% | 0.1% |
| | Hallway | 0.2% | 0.3% |
| | Kitchen | 0.6% | 0.2% |
| | Laundry room | 0.1% | 0.1% |
| | Living room | 0.1% | 0.1% |
| | Respondents (n) | 88 | |
| Linear Fluorescent | Bathroom | 0.34% | 0.24% |

| Lamp Type | Room | Statewide | |
|---|---|---|---|
| | | % | EB |
| | Bedroom | 0.10% | 0.11% |
| | Closet | 0.01% | 0.02% |
| | Dining room | 0.01% | 0.02% |
| | Hallway | 0.52% | 0.76% |
| | Kitchen | 1.13% | 0.40% |
| | Laundry room | 0.00% | 0.00% |
| | Living room | 0.10% | 0.12% |
| | Other | 0.48% | 0.76% |
| | Respondents (n) | 132 | |
| Other | Bathroom | 0.03% | 0.03% |
| | Bedroom | 0.03% | 0.05% |
| | Closet | 0.02% | 0.02% |
| | Dining room | 0.01% | 0.01% |
| | Hallway | 0.05% | 0.08% |
| | Kitchen | 0.32% | 0.39% |
| | Living room | 0.20% | 0.26% |
| | Other | 0.03% | 0.05% |
| | Respondents (n) | 27 | |

Source: On-site fields: ['Room location']

## TABLE 607. STATEWIDE - AVERAGE NUMBER OF IN-UNIT LAMPS PER DWELLING UNIT BY LAMP TYPE AND ROOM (SITE VISITS)

| Room | Statewide | |
|---|---|---|
| | Mean | EB |
| Bathroom | 1.95 | 0.07 |
| Bedroom | 1.81 | 0.05 |
| Closet | 0.36 | 0.05 |
| Dining room | 3.53 | 0.88 |
| Exterior | 1.31 | 0.18 |
| Garage | 2.00 | 0.00 |
| Hallway | 2.03 | 0.14 |
| Kitchen | 2.03 | 0.09 |
| Laundry room | 1.36 | 0.23 |
| Living room | 2.42 | 0.12 |
| Other | 2.30 | 0.50 |
| Respondents (n) | 3773 | |

Source: On-site fields: ['Room location', 'Lamp technology', 'Fixture counts']

## TABLE 608. BUILDING VINTAGE - DISTRIBUTION OF BUILDING LAUNDRY TYPE (BUILDING REP SURVEY)

| Has Common Laundry | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Yes | 35% | 4% | 58% | 8% | 55% | 13% | 51% | 24% |
| No | 65% | 5% | 42% | 10% | 45% | 13% | 49% | 42% |
| Respondents (n) | 492 | | 329 | | 186 | | 71 | |

Source: Survey fields: ['Which of the following amenities does this building have? Please select all that apply.']

## TABLE 609. CLIMATE ZONE - DISTRIBUTION OF BUILDING LAUNDRY TYPE (BUILDING REP SURVEY)

| Has Common Laundry | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Yes | 40% | 3% | 63% | 9% | 66% | 7% | 58% | 10% |
| No | 60% | 4% | 37% | 9% | 34% | 6% | 42% | 10% |
| Respondents (n) | 695 | | 152 | | 332 | | 135 | |

Source: Survey fields: ['Which of the following amenities does this building have? Please select all that apply.']

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## TABLE 610. DAC FLAG - DISTRIBUTION OF BUILDING LAUNDRY TYPE (BUILDING REP SURVEY)

| Has Common Laundry | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Yes | 47% | 4% | 57% | 4% | 47% | 14% |
| No | 53% | 4% | 43% | 4% | 53% | 17% |
| Respondents (n) | 476 | | 586 | | 201 | |

Source: Survey fields: ['Which of the following amenities does this building have? Please select all that apply.']

## TABLE 611. OWNERSHIP TYPE - DISTRIBUTION OF BUILDING LAUNDRY TYPE (BUILDING REP SURVEY)

| Has Common Laundry | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Yes | 51% | 10% | 33% | 6% | 64% | 7% | 51% | 5% |
| No | 49% | 11% | 67% | 8% | 36% | 7% | 49% | 6% |
| Respondents (n) | 213 | | 415 | | 152 | | 485 | |

Source: Survey fields: ['Which of the following amenities does this building have? Please select all that apply.']

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## TABLE 612. STATEWIDE - DISTRIBUTION OF BUILDING LAUNDRY TYPE (BUILDING REP SURVEY)

| Has Common Laundry | Statewide | |
|---|---|---|
| | % | EB |
| Yes | 48% | 3% |
| No | 52% | 3% |
| Respondents (n) | 1265 | |

Source: Survey fields: ['Which of the following amenities does this building have? Please select all that apply.']

## TABLE 613. CLIMATE ZONE - PERCENTAGE OF COMMON AREA CLOTHES WASHERS WITH ENERGY STAR LABEL (SITE VISITS)

| Ownership Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Affordable Subsidized | 12% | 7% | 39% | 15% | 32% | 10% | 51% | 16% |
| Affordable Unsubsidized | 6% | 4% | 18% | 14% | 3% | 3% | 0% | 0% |
| Co-Ops and Condos | 36% | 10% | 0% | 0% | | | | |
| Market-Rate Rental | 34% | 12% | 19% | 19% | 31% | 8% | 0% | 0% |
| Respondents (n) | 112 | | 33 | | 104 | | 21 | |

Source: On-site fields: ['Does the equipment have an energy star logo?']

## TABLE 614. DAC FLAG - PERCENTAGE OF COMMON AREA CLOTHES WASHERS WITH ENERGY STAR LABEL (SITE VISITS)

| Ownership Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Affordable Subsidized | 22% | 7% | 57% | 15% | 20% | 24% |
| Affordable Unsubsidized | 4% | 2% | 18% | 10% | | |
| Co-Ops and Condos | 11% | 10% | 41% | 11% | | |
| Market-Rate Rental | 51% | 12% | 26% | 8% | 0% | 0% |
| Respondents (n) | 105 | | 160 | | 5 | |

Source: On-site fields: ['Does the equipment have an energy star logo?']

## TABLE 615. STATEWIDE - PERCENTAGE OF COMMON AREA CLOTHES WASHERS WITH ENERGY STAR LABEL (SITE VISITS)

| Ownership Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Affordable Subsidized | 18% | 6% |
| Affordable Unsubsidized | 18% | 11% |
| Co-Ops and Condos | 36% | 10% |
| Market-Rate Rental | 24% | 6% |
| Respondents (n) | 270 | |

Source: On-site fields: ['Does the equipment have an energy star logo?']

## TABLE 616. STATEWIDE - DISTRIBUTION OF COMMON AREA CLOTHES WASHER TYPE BY WASHER VINTAGE (SITE VISITS)

| Age | Washer Type | Statewide | |
|---|---|---|---|
| | | % | EB |
| Less than 2 years | Front loading | 9% | 10% |
| | Top loading | 0.4% | 0.5% |
| | Respondents (n) | 13 | |
| 2 to 4 years | Front loading | 3% | 4% |
| | Top loading | 3% | 4% |
| | Respondents (n) | 11 | |
| 5 to 9 years | Front loading | 14% | 8% |
| | Top loading | 27% | 29% |
| | Respondents (n) | 23 | |
| 10 to 14 years | Front loading | 3% | 2% |
| | Top loading | 9% | 11% |
| | Respondents (n) | 13 | |
| 15 to 20 years | Front loading | 5% | 6% |
| | Top loading | 0.6% | 0.5% |
| | Respondents (n) | 6 | |
| 20 or more years | Front loading | 10% | 10% |
| | Top loading | 18% | 24% |
| | Respondents (n) | 11 | |

Source: On-site fields: ['Washer configuration']

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## TABLE 617. STATEWIDE - DISTRIBUTION OF IN-UNIT CLOTHES WASHER TYPE BY WASHER VINTAGE (SITE VISITS)

| Washer Type | Age | Statewide | |
|---|---|---|---|
| | | % | EB |
| Combo washer/dryer | 5 to 9 years | 15% | 0% |
| | Respondents (n) | 1 | |
| Front loader | 10 to 14 years | 49% | 41% |
| | 2 to 4 years | 2% | 3% |
| | 5 to 9 years | 1% | 1% |
| | Less than 2 years | 5% | 7% |
| | Respondents (n) | 11 | |
| Stacked washer/dryer | 5 to 9 years | 7% | 0% |
| | Respondents (n) | 1 | |
| Top loader | 10 to 14 years | 4% | 10% |
| | 5 to 9 years | 15% | 18% |
| | Less than 2 years | 1% | 2% |
| | Respondents (n) | 5 | |

Source: On-site fields: ['Washer configuration']

## TABLE 618. BUILDING SIZE - COMMON AREA CLOTHES WASHER TYPE (SITE VISITS)

| Common Area Washer Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Front loading | 39% | 14% | 82% | 27% | 90% | 18% |
| Top loading | 61% | 19% | 18% | 10% | 10% | 5% |
| Respondents (n) | 134 | | 71 | | 86 | |

Source: On-site fields: ['Washer configuration']

## TABLE 619. DAC FLAG - COMMON AREA CLOTHES WASHER TYPE (SITE VISITS)

| Common Area Washer Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Front loading | 77% | 28% | 61% | 13% | 2% | 2% |
| Top loading | 23% | 8% | 39% | 9% | 98% | 188% |
| Respondents (n) | 112 | | 174 | | 5 | |

Source: On-site fields: ['Washer configuration']

## TABLE 620. OWNERSHIP TYPE - COMMON AREA CLOTHES WASHER TYPE (SITE VISITS)

| Common Area Washer Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Front loading | 78% | 27% | 77% | 45% | 87% | 24% | 65% | 19% |
| Top loading | 22% | 13% | 23% | 14% | 13% | 9% | 35% | 13% |
| Respondents (n) | 100 | | 62 | | 49 | | 80 | |

Source: On-site fields: ['Washer configuration']

## TABLE 621. STATEWIDE - COMMON AREA CLOTHES WASHER TYPE (SITE VISITS)

| Common Area Washer Type | Statewide | |
|---|---|---|
| | % | EB |
| Front loading | 67% | 15% |
| Top loading | 33% | 9% |
| Respondents (n) | 291 | |

Source: On-site fields: ['Washer configuration']

## TABLE 622. BUILDING SIZE - IN-UNIT CLOTHES WASHER TYPE (SITE VISITS)

| In-Unit Washer Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Combo washer/dryer | 14% | 17% | | | | |
| Front loader | 25% | 18% | 50% | 32% | 92% | 46% |
| Stacked washer/dryer | 4% | 7% | 1% | 2% | | |
| Top loader | 57% | 23% | 48% | 74% | 8% | 14% |
| Respondents (n) | 27 | | 20 | | 12 | |

Source: On-site fields: ['Washer configuration']

## TABLE 623. DAC FLAG - IN-UNIT CLOTHES WASHER TYPE (SITE VISITS)

| In-Unit Washer Type | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | % | EB | % | EB |
| Combo washer/dryer | 6% | 11% | 7% | 13% |
| Front loader | 32% | 15% | 36% | 11% |
| Stacked washer/dryer | | | 9% | 13% |
| Top loader | 61% | 43% | 48% | 27% |
| Respondents (n) | 23 | | 36 | |

Source: On-site fields: ['Washer configuration']

## TABLE 624. OWNERSHIP TYPE - IN-UNIT CLOTHES WASHER TYPE (SITE VISITS)

| In-Unit Washer Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Combo washer/dryer | | | 6% | 11% | | | 3% | 5% |
| Front loader | 44% | 77% | 12% | 14% | 92% | 11% | 61% | 64% |
| Stacked washer/dryer | | | | | 4% | 8% | 4% | 7% |
| Top loader | 56% | 75% | 82% | 138% | 3% | 5% | 32% | 14% |
| Respondents (n) | 9 | | 9 | | 26 | | 15 | |

Source: On-site fields: ['Washer configuration']

## TABLE 625. STATEWIDE - IN-UNIT CLOTHES WASHER TYPE (SITE VISITS)

| In-Unit Washer Type | Statewide | |
|---|---|---|
| | % | EB |
| Combo washer/dryer | 6% | 7% |
| Front loader | 41% | 18% |
| Stacked washer/dryer | 3% | 3% |
| Top loader | 50% | 36% |
| Respondents (n) | 59 | |

Source: On-site fields: ['Washer configuration']

## TABLE 626. STATEWIDE - AVERAGE NUMBER OF CLOTHES WASHER LOADS PER WEEK PER DWELLING UNIT BY LAUNDRY TYPE (OCCUPANT SURVEY)

| Laundry Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Common laundry area only | 2.58 | 0.42 |
| In-unit and common laundry areas | 3.06 | 0.61 |
| In-unit laundry only | 3.29 | 0.51 |
| Respondents (n) | 94 | |

Source: Survey fields: ['Approximately how many loads of laundry does your household wash in a typical week?']

## TABLE 627. STATEWIDE - IN-UNIT AVERAGE NUMBER OF CLOTHES WASHER AND DRYER LOADS PER DAY (OCCUPANT SURVEY)

| In-Unit Average Loads per Day | Statewide | |
|---|---|---|
| | Mean | EB |
| Clothes Washer Loads per Day | 0.46 | 0.08 |
| Dryer Loads per Day | 0.75 | 0.17 |
| Respondents (n) | 19 | |

Source: Survey fields: ['Approximately how many loads of laundry does your household wash in a typical week?']

## TABLE 628. STATEWIDE - WATER TEMPERATURE FOR WASH CYCLE OF CLOTHES WASHER (OCCUPANT SURVEY)

| Water Temperature For Wash Cycle | Statewide | |
|---|---|---|
| | % | EB |
| Hot | 21% | 18% |
| Warm | 39% | 16% |
| Cold | 36% | 26% |
| Don't know | 3% | 3% |
| Respondents (n) | 93 | |

Source: Survey fields: ['What water temperature setting do you usually use for the wash cycle of your clothes washer?']

## TABLE 629. STATEWIDE - WATER TEMPERATURE FOR RINSE CYCLE OF CLOTHES WASHER (OCCUPANT SURVEY)

| Water Temperature For Wash Cycle | Statewide | |
|---|---|---|
| | % | EB |
| Hot | 4% | 3% |
| Warm | 43% | 23% |
| Cold | 46% | 27% |
| Don't know | 7% | 5% |
| Respondents (n) | 94 | |

Source: Survey fields: ['What water temperature setting do you usually use for the rinse cycle of your clothes washer?']

## TABLE 630. BUILDING VINTAGE - COMMON AREA PRIMARY CLOTHES DRYER FUEL (BUILDING REP SURVEY)

| Common Area Dryer Fuel | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 32% | 7% | 44% | 12% | 83% | 25% | 72% | 54% |
| Fuel Oil | | | 0.4% | 0.7% | 0.1% | 0.2% | | |
| Natural Gas | 65% | 9% | 50% | 9% | 14% | 6% | 24% | 16% |
| Propane | 0.7% | 1.2% | | | 1.1% | 1.8% | 1.0% | 1.6% |
| Don't know | 2.2% | 1.8% | 6.3% | 5.5% | 2.0% | 2.5% | 2.5% | 2.3% |
| Respondents (n) | 182 | | 213 | | 115 | | 39 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Common area clothes dryers']

## TABLE 631. CLIMATE ZONE - COMMON AREA PRIMARY CLOTHES DRYER FUEL (BUILDING REP SURVEY)

| Common Area Dryer Fuel | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 38% | 7% | 61% | 18% | 40% | 8% | 42% | 14% |
| Fuel Oil | 1.4% | 1.7% | | | | | | |
| Natural Gas | 56% | 8% | 39% | 10% | 54% | 9% | 51% | 16% |
| Propane | | | | | 3.0% | 2.8% | 0.3% | 0.5% |
| Don't know | 4.5% | 2.5% | 0.7% | 0.7% | 2.7% | 2.0% | 6.8% | 7.1% |
| Respondents (n) | 311 | | 91 | | 217 | | 84 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Common area clothes dryers']

## TABLE 632. DAC FLAG - COMMON AREA PRIMARY CLOTHES DRYER FUEL (BUILDING REP SURVEY)

| Common Area Dryer Fuel | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 38% | 7% | 39% | 6% | 50% | 25% |
| Fuel Oil | | | | | 0.7% | 0.9% |
| Natural Gas | 57% | 7% | 57% | 6% | 42% | 23% |
| Propane | 1.0% | 1.2% | 0.0% | 0.1% | 6.3% | 10.5% |
| Don't know | 4.3% | 2.5% | 3.5% | 1.9% | 0.6% | 0.9% |
| Respondents (n) | 230 | | 338 | | 102 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Common area clothes dryers']

## TABLE 633. STATEWIDE - COMMON AREA PRIMARY CLOTHES DRYER FUEL (BUILDING REP SURVEY)

| Common Area Dryer Fuel | Statewide | |
|---|---|---|
| | % | EB |
| Electricity | 39% | 6% |
| Fuel Oil | 0.3% | 0.5% |
| Natural Gas | 55% | 6% |
| Propane | 0.6% | 0.6% |
| Don't know | 4% | 2% |
| Respondents (n) | 679 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Common area clothes dryers']

## TABLE 634. BUILDING VINTAGE - COMMON AREA PRIMARY CLOTHES DRYER FUEL (SITE VISITS)

| Common Area Dryer Fuel | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Electric | 44% | 17% | 52% | 14% | 72% | 47% | 25% | 19% | 42% | 30% |
| Natural gas | 56% | 17% | 48% | 13% | 28% | 14% | 75% | 50% | 38% | 30% |
| Propane | | | | | | | | | 13% | 21% |
| Respondents (n) | 71 | | 76 | | 45 | | 25 | | 34 | |

Source: On-site fields: ['Fuel type']

## TABLE 635. BUILDING SIZE - COMMON AREA PRIMARY CLOTHES DRYER FUEL (SITE VISITS)

| Common Area Dryer Fuel | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electric | 48% | 16% | 55% | 23% | 27% | 12% |
| Natural gas | 50% | 18% | 45% | 18% | 73% | 21% |
| Propane | 2% | 4% | | | | |
| Respondents (n) | 117 | | 67 | | 67 | |

Source: On-site fields: ['Fuel type']

## TABLE 636. CLIMATE ZONE - COMMON AREA PRIMARY CLOTHES DRYER FUEL (SITE VISITS)

| Common Area Dryer Fuel | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electric | 38% | 17% | 43% | 33% | 56% | 15% | 89% | 131% |
| Natural gas | 62% | 21% | 43% | 41% | 44% | 14% | 11% | 6% |
| Propane | | | 14% | 24% | | | | |
| Respondents (n) | 100 | | 34 | | 97 | | 20 | |

Source: On-site fields: ['Fuel type']

## TABLE 637. DAC FLAG - COMMON AREA PRIMARY CLOTHES DRYER FUEL (SITE VISITS)

| Common Area Dryer Fuel | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electric | 53% | 25% | 48% | 10% | 7% | 15% |
| Natural gas | 47% | 10% | 51% | 12% | 0.6% | 1.4% |
| Propane | | | 1.1% | 1.9% | | |
| Respondents (n) | 95 | | 151 | | 5 | |

Source: On-site fields: ['Fuel type']

## TABLE 638. OWNERSHIP TYPE - COMMON AREA PRIMARY CLOTHES DRYER FUEL (SITE VISITS)

| Common Area Dryer Fuel | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electric | 31% | 18% | 57% | 39% | 34% | 19% | 56% | 18% |
| Natural gas | 69% | 31% | 43% | 28% | 66% | 23% | 44% | 15% |
| Propane | | | | | | | 0.5% | 0.8% |
| Respondents (n) | 83 | | 53 | | 37 | | 78 | |

Source: On-site fields: ['Fuel type']

## TABLE 639. STATEWIDE - COMMON AREA PRIMARY CLOTHES DRYER FUEL (SITE VISITS)

| Common Area Dryer Fuel | Statewide | |
|---|---|---|
| | % | EB |
| Electric | 49% | 13% |
| Natural gas | 51% | 11% |
| Propane | 0.9% | 1.5% |
| Respondents (n) | 251 | |

Source: On-site fields: ['Fuel type']

## TABLE 640. BUILDING VINTAGE - IN-UNIT PRIMARY CLOTHES DRYER FUEL (BUILDING REP SURVEY)

| In-Unit Dryer Fuel | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 72% | 12% | 60% | 25% | 81% | 20% | 48% | 31% |
| Fuel Oil | | | | | 0.07% | 0.12% | | |
| Natural Gas | 28% | 11% | 40% | 25% | 16% | 8% | 51% | 63% |
| Propane | | | | | 3% | 6% | | |
| Wood | | | | | | | | |
| Other | | | | | | | 0.93% | 1.57% |
| Respondents (n) | 78 | | 64 | | 68 | | 37 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit clothes dryers']

## TABLE 641. BUILDING SIZE - IN-UNIT PRIMARY CLOTHES DRYER FUEL (BUILDING REP SURVEY)

| In-Unit Dryer Fuel | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 66% | 10% | 65% | 12% | 67% | 21% |
| Fuel Oil | | | 0.04% | 0.07% | | |
| Natural Gas | 34% | 10% | 34% | 10% | 33% | 12% |
| Propane | | | 1.43% | 2.18% | | |
| Wood | | | 0.04% | 0.07% | | |
| Other | | | 0.04% | 0.07% | | |
| Respondents (n) | 109 | | 146 | | 58 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit clothes dryers']

## TABLE 642. CLIMATE ZONE - IN-UNIT PRIMARY CLOTHES DRYER FUEL (BUILDING REP SURVEY)

| In-Unit Dryer Fuel | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 63% | 9% | 79% | 20% | 80% | 14% | 70% | 21% |
| Fuel Oil | 0.8% | 1.3% | | | | | | |
| Natural Gas | 34% | 9% | 19% | 12% | 20% | 9% | 30% | 17% |
| Propane | 2.3% | 2.2% | | | | | | |
| Wood | | | 2.1% | 3.5% | | | | |
| Other | | | | | | | 0.4% | 0.7% |
| Respondents (n) | 193 | | 50 | | 67 | | 29 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit clothes dryers']

## TABLE 643. DAC FLAG - IN-UNIT PRIMARY CLOTHES DRYER FUEL (BUILDING REP SURVEY)

| In-Unit Dryer Fuel | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electricity | 72% | 11% | 67% | 10% | 83% | 25% |
| Fuel Oil | | | | | 0.3% | 0.4% |
| Natural Gas | 28% | 10% | 32% | 6.6% | 15.5% | 12.1% |
| Propane | | | 0.6% | 1.0% | 0.5% | 0.6% |
| Wood | | | | | 0.3% | 0.4% |
| Other | | | 0.6% | 1.0% | | |
| Respondents (n) | 78 | | 144 | | 104 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit clothes dryers']

## TABLE 644. OWNERSHIP TYPE - IN-UNIT PRIMARY CLOTHES DRYER FUEL (BUILDING REP SURVEY)

| In-Unit Dryer Fuel | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electricity | 29% | 20% | 63% | 17% | 52% | 11% | 81% | 14% |
| Fuel Oil | | | 0.02% | 0.03% | | | | |
| Natural Gas | 71% | 34% | 35% | 13% | 48% | 11% | 19% | 8% |
| Propane | | | 2.28% | 3.76% | | | | |
| Wood | | | 0.02% | 0.03% | | | | |
| Other | | | 0.02% | 0.03% | | | | |
| Respondents (n) | 27 | | 82 | | 66 | | 138 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit clothes dryers']

## TABLE 645. STATEWIDE - IN-UNIT PRIMARY CLOTHES DRYER FUEL (BUILDING REP SURVEY)

| In-Unit Dryer Fuel | Statewide | |
|---|---|---|
| | % | EB |
| Electricity | 66% | 8% |
| Fuel Oil | 0.02% | 0.03% |
| Natural Gas | 34% | 7% |
| Propane | 0.6% | 0.9% |
| Wood | 0.02% | 0.03% |
| Other | 0.02% | 0.03% |
| Respondents (n) | 313 | |

Source: Survey fields: ['What type of fuel is used for the following equipment types? - Living unit clothes dryers']

## TABLE 646. BUILDING VINTAGE - IN-UNIT PRIMARY CLOTHES DRYER FUEL (SITE VISITS)

| In-Unit Dryer Fuel | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Electric | 21% | 14% | 81% | 33% | 9% | 12% | 83% | 56% | 100% | 81% |
| Natural gas | 79% | 79% | 19% | 24% | 91% | 79% | 17% | 32% | | |
| Respondents (n) | 20 | | 10 | | 5 | | 10 | | 2 | |

Source: On-site fields: ['Fuel type']

## TABLE 647. CLIMATE ZONE - IN-UNIT PRIMARY CLOTHES DRYER FUEL (SITE VISITS)

| In-Unit Dryer Fuel | NYC | | Climate Zone 4 | | Climate Zone 5 | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electric | 25% | 11% | 93% | 110% | 76% | 27% |
| Natural gas | 75% | 39% | 7% | 17% | 24% | 23% |
| Respondents (n) | 25 | | 4 | | 18 | |

Source: On-site fields: ['Fuel type']

## TABLE 648. DAC FLAG - IN-UNIT PRIMARY CLOTHES DRYER FUEL (SITE VISITS)

| In-Unit Dryer Fuel | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | % | EB | % | EB |
| Electric | 89% | 47% | 53% | 29% |
| Natural gas | 11% | 11% | 47% | 25% |
| Respondents (n) | 18 | | 29 | |

Source: On-site fields: ['Fuel type']

## TABLE 649. STATEWIDE - IN-UNIT PRIMARY CLOTHES DRYER FUEL (SITE VISITS)

| In-Unit Dryer Fuel | Statewide | |
|---|---|---|
| | % | EB |
| Electric | 61% | 42% |
| Natural gas | 39% | 18% |
| Respondents (n) | 47 | |

Source: On-site fields: ['Fuel type']

## TABLE 650. BUILDING VINTAGE - DISTRIBUTION OF COMMON AREA CLOTHES DRYER AGE (SITE VISITS)

| Age of Common Area Clothes Dryers | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Less than 2 years | 15% | 18% | 15% | 16% | 58% | 59% | | | 1% | 1% |
| 2 to 4 years | 2% | 4% | 9% | 11% | 8% | 10% | | | 37% | 65% |
| 5 to 9 years | 5% | 6% | 57% | 29% | 8% | 10% | 82% | 128% | 12% | 18% |
| 10 to 14 years | 23% | 15% | 2% | 2% | 4% | 8% | 18% | 24% | | |
| 15 to 20 years | 38% | 37% | 17% | 20% | | | | | 37% | 65% |
| 20 or more years | 17% | 15% | | | 21% | 39% | | | | |
| Respondents (n) | 20 | | 17 | | 10 | | 6 | | 13 | |

Source: On-site fields: ['Select the type of equipment', 'Enter the year of installation or manufacture']

## TABLE 651. CLIMATE ZONE - DISTRIBUTION OF COMMON AREA CLOTHES DRYER AGE (SITE VISITS)

| Age of Common Area Clothes Dryers | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Less than 2 years | 17% | 21% | 1.2% | 1.1% | 12% | 13% | 0.8% | 1.5% |
| 2 to 4 years | 13% | 24% | 74% | 138% | 3% | 3% | 2% | 2% |
| 5 to 9 years | | | 14% | 25% | 54% | 29% | 10% | 8% |
| 10 to 14 years | 7% | 9% | 0.4% | 0.7% | 12% | 13% | 81% | 136% |
| 15 to 20 years | 46% | 71% | 10% | 19% | 12% | 13% | | |
| 20 or more years | 17% | 33% | | | 8% | 12% | 7% | 8% |
| Respondents (n) | 8 | | 9 | | 35 | | 14 | |

Source: On-site fields: ['Select the type of equipment', 'Enter the year of installation or manufacture']

## TABLE 652. DAC FLAG - DISTRIBUTION OF COMMON AREA CLOTHES DRYER AGE (SITE VISITS)

| Age of Common Area Clothes Dryers | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Less than 2 years | 15% | 18% | 18% | 13% | 0.10% | 0.13% |
| 2 to 4 years | 2% | 2% | 12% | 12% | | |
| 5 to 9 years | 29% | 21% | 24% | 15% | | |
| 10 to 14 years | 12% | 14% | 13% | 11% | 0.05% | 0.12% |
| 15 to 20 years | 29% | 51% | 27% | 31% | 13% | 32% |
| 20 or more years | 13% | 16% | 6% | 6% | | |
| Respondents (n) | 16 | | 46 | | 4 | |

Source: On-site fields: ['Select the type of equipment', 'Enter the year of installation or manufacture']

## TABLE 653. OWNERSHIP TYPE - DISTRIBUTION OF COMMON AREA CLOTHES DRYER AGE (SITE VISITS)

| Age of Common Area Clothes Dryers | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Less than 2 years | 1% | 1% | 6% | 6% | 45% | 61% | 0% | 1% |
| 2 to 4 years | 3% | 3% | 2% | 3% | 33% | 78% | 3% | 6% |
| 5 to 9 years | 7% | 4% | 7% | 6% | | | 18% | 12% |
| 10 to 14 years | 36% | 55% | 18% | 24% | | | 8% | 10% |
| 15 to 20 years | 1% | 2% | 62% | 100% | 22% | 53% | 66% | 115% |
| 20 or more years | 51% | 86% | 5% | 5% | | | 5% | 8% |
| Respondents (n) | 28 | | 20 | | 4 | | 14 | |

Source: On-site fields: ['Select the type of equipment', 'Enter the year of installation or manufacture']

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## TABLE 654. STATEWIDE - DISTRIBUTION OF COMMON AREA CLOTHES DRYER AGE (SITE VISITS)

| Age of Common Area Clothes Dryers | Statewide | |
|---|---|---|
| | % | EB |
| Less than 2 years | 9% | 8% |
| 2 to 4 years | 8% | 9% |
| 5 to 9 years | 16% | 10% |
| 10 to 14 years | 10% | 8% |
| 15 to 20 years | 45% | 47% |
| 20 or more years | 11% | 12% |
| Respondents (n) | 66 | |

Source: On-site fields: ['Select the type of equipment', 'Enter the year of installation or manufacture']

## TABLE 655. BUILDING VINTAGE - DISTRIBUTION OF IN=UNIT CLOTHES DRYER AGE (SITE VISITS)

| Age of In-Unit Clothes Dryers | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Less than 2 years | | | 25% | 58% | | | | | 56% | 356% |
| 2 to 4 years | 1% | 2% | | | | | | | | |
| 5 to 9 years | 33% | 56% | 75% | 220% | 50% | 316% | 23% | 68% | 44% | 275% |
| 10 to 14 years | 46% | 88% | | | 50% | 316% | 77% | 163% | | |
| 15 to 20 years | 21% | 33% | | | | | | | | |
| Respondents (n) | 7 | | 3 | | 2 | | 3 | | 2 | |

Source: On-site fields: ['Select the type of equipment', 'Enter the year of installation or manufacture']

## TABLE 656. CLIMATE ZONE - DISTRIBUTION OF IN=UNIT CLOTHES DRYER AGE (SITE VISITS)

| Age of In-Unit Clothes Dryers | NYC | | Climate Zone 4 | | Climate Zone 5 | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Less than 2 years | | | 22% | 141% | 17% | 33% |
| 2 to 4 years | 3% | 5% | | | | |
| 5 to 9 years | 8% | 12% | 78% | 490% | 82% | 102% |
| 10 to 14 years | 58% | 69% | | | 1.0% | 2.0% |
| 15 to 20 years | 31% | 47% | | | | |
| Respondents (n) | 9 | | 2 | | 6 | |

Source: On-site fields: ['Select the type of equipment', 'Enter the year of installation or manufacture']

## TABLE 657. DAC FLAG - DISTRIBUTION OF IN=UNIT CLOTHES DRYER AGE (SITE VISITS)

| Age of In-Unit Clothes Dryers | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | % | EB | % | EB |
| Less than 2 years | | | 9% | 11% |
| 2 to 4 years | | | 1.3% | 2.4% |
| 5 to 9 years | 96% | 184% | 62% | 93% |
| 10 to 14 years | 4% | 10% | 10% | 11% |
| 15 to 20 years | | | 17% | 24% |
| Respondents (n) | 4 | | 13 | |

Source: On-site fields: ['Select the type of equipment', 'Enter the year of installation or manufacture']

## TABLE 658. OWNERSHIP TYPE - DISTRIBUTION OF IN=UNIT CLOTHES DRYER AGE (SITE VISITS)

| Age of In-Unit Clothes Dryers | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Less than 2 years | 3% | 6% | 17% | 48% | 4% | 9% | | |
| 2 to 4 years | | | | | 4% | 9% | | |
| 5 to 9 years | 3% | 5% | 3% | 8% | 14% | 29% | 100% | 0% |
| 10 to 14 years | 95% | 184% | 81% | 235% | 4% | 9% | | |
| 15 to 20 years | | | | | 73% | 115% | | |
| Respondents (n) | 6 | | 3 | | 6 | | 2 | |

Source: On-site fields: ['Select the type of equipment', 'Enter the year of installation or manufacture']

## TABLE 659. STATEWIDE - DISTRIBUTION OF IN=UNIT CLOTHES DRYER AGE (SITE VISITS)

| Age of In-Unit Clothes Dryers | Statewide | |
|---|---|---|
| | % | EB |
| Less than 2 years | 7% | 9% |
| 2 to 4 years | 1% | 2% |
| 5 to 9 years | 31% | 30% |
| 10 to 14 years | 39% | 48% |
| 15 to 20 years | 21% | 30% |
| Respondents (n) | 17 | |

Source: On-site fields: ['Select the type of equipment', 'Enter the year of installation or manufacture']

## TABLE 660. BUILDING VINTAGE - DISTRIBUTION OF COMMON AREA CLOTHES DRYER TYPE (SITE VISITS)

| Type of Common Area Dryers | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Combo washer and dryer | | | | | 0.2% | 0.3% | | |
| Front loading | 64% | 10% | 69% | 20% | 99% | 50% | 53% | 13% |
| Stacked washer/dryer | 6% | 9% | 0.5% | 0.8% | | | | |
| Top loading | 27% | 17% | 31% | 21% | 1% | 1% | 47% | 57% |
| Don't know | 3% | 3% | | | | | | |
| Respondents (n) | 171 | | 188 | | 94 | | 29 | |

Source: On-site fields: ['What is the main type of clothes dryers in the common laundry area(s)?']

## TABLE 661. OWNERSHIP TYPE - DISTRIBUTION OF COMMON AREA CLOTHES DRYER TYPE (SITE VISITS)

| Type of Common Area Dryers | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Combo washer and dryer | 4% | 7% | | | | | | |
| Front loading | 82% | 22% | 54% | 19% | 98% | 15% | 87% | 15% |
| Stacked washer/dryer | 6% | 9% | 8% | 13% | 0.5% | 0.8% | 0.7% | 1.0% |
| Top loading | 3% | 3% | 37% | 27% | 2% | 2% | 11% | 5% |
| Don't know | 4% | 6% | 0.7% | 0.9% | | | 1.1% | 1.2% |
| Respondents (n) | 113 | | 178 | | 84 | | 227 | |

Source: On-site fields: ['What is the main type of clothes dryers in the common laundry area(s)?']

## TABLE 662. STATEWIDE - DISTRIBUTION OF COMMON AREA CLOTHES DRYER TYPE (SITE VISITS)

| Type of Common Area Dryers | Statewide | |
|---|---|---|
| | % | EB |
| Combo washer and dryer | 0.3% | 0.5% |
| Front loading | 76% | 9% |
| Stacked washer/dryer | 3% | 4% |
| Top loading | 20% | 9% |
| Don't know | 0.8% | 0.6% |
| Respondents (n) | 602 | |

Source: On-site fields: ['What is the main type of clothes dryers in the common laundry area(s)?']

## TABLE 663. BUILDING VINTAGE - DISTRIBUTION OF IN-UNIT CLOTHES DRYER TYPE (SITE VISITS)

| Type of In-Unit Dryers | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Combo washer and dryer | 8% | 6% | 3% | 4% | 27% | 23% | 1.3% | 2.4% |
| No clothes dryers in units | 11% | 7% | 10% | 7% | 6% | 5% | | |
| Stacked washer/dryer | 7% | 6% | 3% | 5% | 9% | 10% | 3% | 3% |
| Standalone | 34% | 10% | 33% | 15% | 42% | 22% | 42% | 40% |
| Don't know | 40% | 13% | 51% | 50% | 15% | 15% | 54% | 92% |
| Respondents (n) | 69 | | 43 | | 46 | | 15 | |

Source: On-site fields: ['What type of clothes dryers are included in most of the building's living units?']

## TABLE 664. OWNERSHIP TYPE - DISTRIBUTION OF IN-UNIT CLOTHES DRYER TYPE (SITE VISITS)

| Type of In-Unit Dryers | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Combo washer and dryer | | | 8% | 9% | 7% | 7% | 18% | 10% |
| No clothes dryers in units | 16% | 21% | 14% | 8% | 8% | 7% | 8% | 7% |
| Stacked washer/dryer | 0% | 0% | 2% | 3% | 5% | 5% | 9% | 7% |
| Standalone | 41% | 33% | 19% | 12% | 15% | 9% | 45% | 12% |
| Don't know | 44% | 31% | 57% | 20% | 65% | 13% | 19% | 9% |
| Respondents (n) | 22 | | 60 | | 46 | | 85 | |

Source: On-site fields: ['What type of clothes dryers are included in most of the building's living units?']

## TABLE 665. STATEWIDE - DISTRIBUTION OF IN-UNIT CLOTHES DRYER TYPE (SITE VISITS)

| Type of In-Unit Dryers | Statewide | |
|---|---|---|
| | % | EB |
| Combo washer and dryer | 9% | 4% |
| No clothes dryers in units | 11% | 4% |
| Stacked washer/dryer | 6% | 3% |
| Standalone | 38% | 8% |
| Don't know | 37% | 8% |
| Respondents (n) | 213 | |

Source: On-site fields: ['What type of clothes dryers are included in most of the building's living units?']

## TABLE 666. BUILDING VINTAGE - PERCENTAGE OF DWELLING UNITS WITH VENTED CLOTHES DRYERS (SITE VISITS)

| Type of In-Unit Dryers | Statewide | |
|---|---|---|
| | % | EB |
| Combo washer and dryer | 9% | 4% |
| No clothes dryers in units | 11% | 4% |
| Stacked washer/dryer | 6% | 3% |
| Standalone | 38% | 8% |
| Don't know | 37% | 8% |
| Respondents (n) | 213 | |

Source: On-site fields: ['Venting type']

## TABLE 667. CLIMATE ZONE - PERCENTAGE OF DWELLING UNITS WITH VENTED CLOTHES DRYERS (SITE VISITS)

| Building Size | Venting Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| Low Rise (1 to 3 floors) | Directly to outside | 27% | 17% | 54% | 60% | 77% | 23% | 97% | 0% |
| | To common vent | | | 9% | 12% | 15% | 17% | | |
| | Ventless dryer | 10% | 12% | | | 8% | 13% | | |
| | Respondents (n) | 9 | | 5 | | 17 | | 4 | |
| Mid Rise (4 to 7 floors) | Directly to outside | 15% | 10% | 37% | 0% | 0.5% | 0% | | |
| | To common vent | 6% | 4% | | | | | 3% | 0% |
| | Ventless dryer | 31% | 43% | | | | | | |
| | Respondents (n) | 15 | | 1 | | 4 | | 1 | |
| High Rise (8 or more floors) | Directly to outside | 1% | 2% | | | | | | |
| | To common vent | 6% | 3% | | | | | | |
| | Ventless dryer | 4% | 4% | | | | | | |
| | Respondents (n) | 10 | | 0 | | 0 | | 0 | |

Source: On-site fields: ['Venting type']

## TABLE 668. OWNERSHIP TYPE - PERCENTAGE OF DWELLING UNITS WITH VENTED CLOTHES DRYERS (SITE VISITS)

| Building Size | Venting Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| | To common vent | | | | | 4% | 6% | 5% | 6% |
| | Ventless dryer | 7% | 20% | 15% | 18% | | | 0.6% | 1.0% |
| | Respondents (n) | 3 | | 10 | | 6 | | 16 | |
| Mid Rise (4 to 7 floors) | Directly to outside | 41% | 76% | 59% | 375% | 34% | 16% | | |
| | To common vent | | | 0.6% | 3% | 19% | 15% | | |
| | Ventless dryer | 38% | 77% | | | 5% | 9% | 58% | 0 |
| | Respondents (n) | 6 | | 2 | | 12 | | 1 | |
| High Rise (8 or more floors) | Directly to outside | | | | | 4% | 7% | | |
| | To common vent | | | | | 22% | 9% | | |
| | Ventless dryer | 0.6% | 0% | | | 4% | 7% | | |
| | Respondents (n) | 2 | | 0 | | 8 | | 0 | |

Source: On-site fields: ['Venting type']

## TABLE 669. STATEWIDE - PERCENTAGE OF DWELLING UNITS WITH VENTED CLOTHES DRYERS (SITE VISITS)

| Building Size | Venting Type | Statewide | |
|---|---|---|---|
| | | % | EB |
| Low Rise (1 to 3 floors) | Directly to outside | 39% | 14% |
| | To common vent | 4% | 3% |
| | Ventless dryer | 7% | 7% |
| | Respondents (n) | 35 | |
| Mid Rise (4 to 7 floors) | Directly to outside | 27% | 33% |
| | To common vent | 3% | 2% |
| | Ventless dryer | 16% | 22% |
| | Respondents (n) | 21 | |
| High Rise (8 or more floors) | Directly to outside | 0.5% | 0.9% |
| | To common vent | 3.0% | 1.5% |
| | Ventless dryer | 0.5% | 0.9% |
| | Respondents (n) | 10 | |

Source: On-site fields: ['Venting type']

## TABLE 670. BUILDING VINTAGE - AVERAGE REFRIGERATOR VINTAGE PER DWELLING UNIT (SITE VISITS)

| Refrigerator Age | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Statewide | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Less than 2 years | 15% | 7% | 21% | 11% | 16% | 21% | 3% | 5% | 17% | 7% |
| 2 to 4 years | 7% | 5% | 11% | 7% | 5% | 5% | 37% | 27% | 12% | 5% |
| 5 to 9 years | 32% | 10% | 37% | 11% | 17% | 21% | 29% | 21% | 34% | 9% |
| 10 to 14 years | 21% | 9% | 18% | 8% | 23% | 22% | 28% | 26% | 17% | 6% |
| 15 to 20 years | 17% | 7% | 6% | 5% | 16% | 21% | 3% | 5% | 13% | 6% |
| 20 or more years | 8% | 4% | 6% | 5% | 23% | 22% | | | 7% | 3% |
| Respondents (n) | 98 | | 73 | | 39 | | 21 | | 285 | |

Source: On-site fields: ['Refrigerator year of manufacture']

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## TABLE 671. DAC FLAG - AVERAGE REFRIGERATOR VINTAGE PER DWELLING UNIT (SITE VISITS)

| Refrigerator Age | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Less than 2 years | 20% | 7% | 8% | 5% | 6% | 12% |
| 2 to 4 years | 14% | 7% | 11% | 6% | | |
| 5 to 9 years | 34% | 9% | 33% | 9% | 6% | 12% |
| 10 to 14 years | 21% | 9% | 23% | 8% | 0.1% | 0.1% |
| 15 to 20 years | 9% | 5% | 14% | 6% | | |
| 20 or more years | 2% | 2% | 11% | 5% | | |
| Respondents (n) | 126 | | 152 | | 7 | |

Source: On-site fields: ['Refrigerator year of manufacture']

## TABLE 672. OWNERSHIP TYPE - AVERAGE REFRIGERATOR VINTAGE PER DWELLING UNIT (SITE VISITS)

| Refrigerator Age | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Less than 2 years | 1.6% | 1.0% | 29% | 17% | 6% | 7% | 12% | 10% |
| 2 to 4 years | 12% | 17% | 5% | 5% | 7% | 9% | 23% | 16% |
| 5 to 9 years | 50% | 31% | 32% | 21% | 36% | 17% | 29% | 14% |
| 10 to 14 years | 23% | 14% | 13% | 12% | 21% | 13% | 19% | 14% |
| 15 to 20 years | 1.5% | 1.3% | 16% | 15% | 11% | 11% | 14% | 10% |
| 20 or more years | 12% | 17% | 6% | 4% | 19% | 14% | 3% | 3% |
| Respondents (n) | 103 | | 80 | | 29 | | 73 | |

Source: On-site fields: ['Refrigerator year of manufacture']

## TABLE 673. STATEWIDE - AVERAGE REFRIGERATOR VINTAGE PER DWELLING UNIT (SITE VISITS)

| Refrigerator Age | Statewide | |
|---|---|---|
| | % | EB |
| Less than 2 years | 17% | 7% |
| 2 to 4 years | 12% | 5% |
| 5 to 9 years | 34% | 9% |
| 10 to 14 years | 17% | 6% |
| 15 to 20 years | 13% | 6% |
| 20 or more years | 7% | 3% |
| Respondents (n) | 285 | |

Source: On-site fields: ['Refrigerator year of manufacture']

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## TABLE 674. BUILDING VINTAGE - AVERAGE REFRIGERATOR SIZE PER DWELLING UNIT BY CLIMATE ZONE AND OWNERSHIP TYPE (SITE VISITS)

| Ownership Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Affordable Subsidized | 13.99 | 1.37 | 14.90 | 0.43 | 15.51 | 1.20 | 15.66 | 2.15 | 15.66 | 0.47 |
| Affordable Unsubsidized | 16.07 | 0.84 | 15.99 | 0.65 | 17.23 | 1.58 | 18.25 | 0.05 | 18.44 | 1.11 |
| Co-Ops and Condos | 15.18 | 1.44 | 16.71 | 0.91 | 15.70 | 4.00 | | | 19.77 | 1.60 |
| Market-Rate Rental | 17.57 | 1.08 | 17.67 | 0.49 | 15.67 | 1.93 | 18.24 | 1.98 | 17.51 | 1.01 |
| Respondents (n) | 98 | | 103 | | 54 | | 28 | | 71 | |

Source: On-site fields: ['Refrigerator cubic feet']

## TABLE 675. STATEWIDE - AVERAGE REFRIGERATOR SIZE PER DWELLING UNIT BY CLIMATE ZONE AND OWNERSHIP TYPE (SITE VISITS)

| Ownership Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Affordable Subsidized | 14.47 | 1.03 |
| Affordable Unsubsidized | 16.53 | 0.80 |
| Co-Ops and Condos | 15.49 | 1.00 |
| Market-Rate Rental | 16.25 | 0.65 |
| Respondents (n) | 354 | |

Source: On-site fields: ['Refrigerator cubic feet']

## TABLE 676. BUILDING VINTAGE - AVERAGE IN-UNIT DISHWASHER VINTAGE PER DWELLING UNIT (SITE VISITS)

| Dishwasher Age | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Statewide | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Less than 2 years | | | 19% | 40% | 5% | 9% | | | 7% | 9% |
| 5 to 9 years | 50% | 28% | 15% | 19% | 36% | 63% | 100% | 0% | 81% | 46% |
| 10 to 14 years | 21% | 26% | 33% | 71% | | | | | 3% | 4% |
| 15 to 20 years | 29% | 54% | 33% | 71% | | | | | 6% | 8% |
| 20 or more years | | | | | 59% | 62% | | | 2% | 3% |
| Respondents (n) | 8 | | 5 | | 6 | | 2 | | 24 | |

Source: On-site fields: ['Dishwasher year of manufacture']

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## TABLE 677. DAC FLAG - AVERAGE IN-UNIT DISHWASHER VINTAGE PER DWELLING UNIT (SITE VISITS)

| Dishwasher Age | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Less than 2 years | 1.5% | 3% | 17% | 31% | 14% | 0% |
| 5 to 9 years | 39% | 36% | 60% | 30% | | |
| 10 to 14 years | 30% | 36% | 11% | 14% | | |
| 15 to 20 years | 11% | 15% | 12% | 21% | | |
| 20 or more years | 19% | 18% | | | | |
| Respondents (n) | 12 | | 11 | | 1 | |

Source: On-site fields: ['Dishwasher year of manufacture']

## TABLE 678. OWNERSHIP TYPE - AVERAGE IN-UNIT DISHWASHER VINTAGE PER DWELLING UNIT (SITE VISITS)

| Dishwasher Age | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Less than 2 years | 8% | 16% | 4% | 8% | | | 3% | 6% |
| 5 to 9 years | 8% | 16% | 82% | 91% | 100% | 1% | 76% | 52% |
| 10 to 14 years | | | 1.8% | 1.8% | | | 2.0% | 4% |
| 15 to 20 years | 72% | 153% | 6% | 11% | | | 19% | 37% |
| 20 or more years | 13% | 17% | 6% | 11% | | | | |
| Respondents (n) | 5 | | 9 | | 3 | | 7 | |

Source: On-site fields: ['Dishwasher year of manufacture']

## TABLE 679. STATEWIDE - AVERAGE IN-UNIT DISHWASHER VINTAGE PER DWELLING UNIT (SITE VISITS)

| Dishwasher Age | Statewide | |
|---|---|---|
| | % | EB |
| Less than 2 years | 7% | 9% |
| 5 to 9 years | 81% | 46% |
| 10 to 14 years | 3% | 4% |
| 15 to 20 years | 6% | 8% |
| 20 or more years | 2% | 3% |
| Respondents (n) | 24 | |

Source: On-site fields: ['Dishwasher year of manufacture']

## TABLE 680. STATEWIDE - AVERAGE NUMBER OF DISHWASHER LOADS PER WEEK BY CLIMATE ZONE AND OWNERSHIP TYPE (OCCUPANT SURVEY)

| Ownership Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Affordable Subsidized | 4.08 | 0.74 |
| Affordable Unsubsidized | 1.38 | 0.53 |
| Co-Ops and Condos | 4.11 | 0.54 |
| Market-Rate Rental | 2.98 | 0.64 |
| Respondents (n) | 54 | |

Source: Survey fields: ['Approximately how many loads of dishes does your household wash in a typical week in the dishwasher?', 'Are you involved in the financial decision-making about upgrades to this building's equipment or physical structures? As a reminder, we aren't trying to sell you anything.']

## TABLE 681. BUILDING VINTAGE - DISTRIBUTION OF IN-UNIT STOVE-TOP COOKING FUEL (SITE VISITS)

| Stovetop Cooking Fuel | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Electric | 14% | 5% | 48% | 8% | 74% | 40% | 57% | 20% | 50% | 20% |
| Natural gas | 86% | 7% | 52% | 8% | 26% | 10% | 43% | 15% | 36% | 15% |
| Respondents (n) | 198 | | 142 | | 64 | | 44 | | 87 | |

Source: On-site fields: ['Cooktop fuel type']

## TABLE 682. CLIMATE ZONE - DISTRIBUTION OF IN-UNIT STOVE-TOP COOKING FUEL (SITE VISITS)

| Stovetop Cooking Fuel | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electric | 9% | 5% | 42% | 19% | 66% | 10% | 60% | 32% |
| Natural gas | 91% | 8% | 58% | 20% | 34% | 8% | 40% | 22% |
| Respondents (n) | 215 | | 92 | | 178 | | 50 | |

Source: On-site fields: ['Cooktop fuel type']

## TABLE 683. DAC FLAG - DISTRIBUTION OF IN-UNIT STOVE-TOP COOKING FUEL (SITE VISITS)

| Stovetop Cooking Fuel | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electric | 29% | 6% | 36% | 6% | 6% | 10% |
| Natural gas | 71% | 8% | 64% | 6% | 8% | 10% |
| Respondents (n) | 230 | | 296 | | 9 | |

Source: On-site fields: ['Cooktop fuel type']

## TABLE 684. OWNERSHIP TYPE - DISTRIBUTION OF IN-UNIT STOVE-TOP COOKING FUEL (SITE VISITS)

| Stovetop Cooking Fuel | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electric | 7% | 2% | 15% | 8% | 4% | 3% | 36% | 8% |
| Natural gas | 93% | 23% | 85% | 18% | 96% | 10% | 64% | 12% |
| Respondents (n) | 160 | | 144 | | 70 | | 161 | |

Source: On-site fields: ['Cooktop fuel type']

## TABLE 685. STATEWIDE - DISTRIBUTION OF IN-UNIT STOVE-TOP COOKING FUEL (SITE VISITS)

| Stovetop Cooking Fuel | Statewide | |
|---|---|---|
| | % | EB |
| Electric | 27% | 4% |
| Natural gas | 73% | 7% |
| Respondents (n) | 535 | |

Source: On-site fields: ['Cooktop fuel type']

## TABLE 686. BUILDING VINTAGE - DISTRIBUTION OF IN-UNIT OVEN PRIMARY COOKING FUEL (SITE VISITS)

| Oven Cooking Fuel | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB | % | EB |
| Electric | 14% | 5% | 47% | 9% | 75% | 40% | 57% | 20% | 51% | 20% |
| Natural gas | 86% | 7% | 53% | 9% | 25% | 10% | 43% | 15% | 35% | 16% |
| Respondents (n) | 195 | | 137 | | 62 | | 44 | | 85 | |

Source: On-site fields: ['Cooktop fuel type']

## TABLE 687. CLIMATE ZONE - DISTRIBUTION OF IN-UNIT OVEN PRIMARY COOKING FUEL (SITE VISITS)

| Oven Cooking Fuel | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electric | 9% | 5% | 44% | 20% | 66% | 10% | 54% | 34% |
| Natural gas | 91% | 8% | 56% | 21% | 34% | 8% | 46% | 28% |
| Respondents (n) | 210 | | 89 | | 176 | | 48 | |

Source: On-site fields: ['Cooktop fuel type']

## TABLE 688. DAC FLAG - DISTRIBUTION OF IN-UNIT OVEN PRIMARY COOKING FUEL (SITE VISITS)

| Oven Cooking Fuel | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Electric | 28% | 6% | 36% | 6% | 6% | 10% |
| Natural gas | 72% | 8% | 64% | 7% | 8% | 10% |
| Respondents (n) | 228 | | 286 | | 9 | |

Source: On-site fields: ['Cooktop fuel type']

## TABLE 689. OWNERSHIP TYPE - DISTRIBUTION OF IN-UNIT OVEN PRIMARY COOKING FUEL (SITE VISITS)

| Oven Cooking Fuel | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Electric | 7% | 2% | 15% | 8% | 5% | 4% | 35% | 8% |
| Natural gas | 93% | 23% | 85% | 18% | 95% | 9% | 65% | 13% |
| Respondents (n) | 160 | | 141 | | 64 | | 158 | |

Source: On-site fields: ['Cooktop fuel type']

## TABLE 690. STATEWIDE - DISTRIBUTION OF IN-UNIT OVEN PRIMARY COOKING FUEL (SITE VISITS)

| Oven Cooking Fuel | Statewide | |
|---|---|---|
| | % | EB |
| Electric | 27% | 4% |
| Natural gas | 73% | 7% |
| Respondents (n) | 523 | |

Source: On-site fields: ['Cooktop fuel type']

## TABLE 691. BUILDING VINTAGE - PERCENTAGE OF IN-UNIT EQUIPMENT LESS THAN 10 YEARS OLD THAT IS ENERGY STAR (SITE VISITS)

| In-Unit Equipment Type | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Clothes Dryer | 29% | 34% | 0% | 0% | 0% | 0% | 0% | 0% | 88% | 21% |
| Clothes Washer | 5% | 7% | 0% | 0% | 0% | 0% | 0% | 0% | 88% | 21% |
| Combination Washer/Dryer | 0% | 0% | | | | | | | 0% | 0% |
| Dishwasher | 70% | 27% | 31% | 32% | 0% | 0% | 0% | 0% | 100% | 0% |
| Microwave | 0% | 0% | 7% | 7% | 0% | 0% | 0% | 0% | 0% | 0% |
| Primary Cooling System | 50% | 8% | 40% | 11% | 6% | 5% | 61% | 29% | 15% | 11% |
| Primary Heating System | 0% | 0% | 43% | 38% | 0% | 0% | | | 0% | 0% |
| Refrigerator | 5% | 3% | 7% | 4% | 8% | 7% | 0% | 0% | 1% | 1% |
| Stacked Washer/Dryer | 0% | 0% | | | | | 0% | 0% | | |
| Respondents (n) | 169 | | 119 | | 54 | | 39 | | 85 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 692. CLIMATE ZONE - PERCENTAGE OF IN-UNIT EQUIPMENT LESS THAN 10 YEARS OLD THAT IS ENERGY STAR (SITE VISITS)

| In-Unit Equipment Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Clothes Dryer | 0.420303 | 0.371537 | 0.294014 | 0.41514 | 0 | 0 | | |
| Clothes Washer | 0.381684 | 0.361547 | 0.294014 | 0.41514 | 0 | 0 | 0 | 0 |
| Combination Washer/Dryer | | | | | | | 0 | 0 |
| Dishwasher | 0.5141 | 0.262431 | 0 | 0 | 0.538059 | 0.218069 | | |
| Microwave | 0 | 0 | 0 | 0 | 0.031379 | 0.031002 | 0 | 0 |
| Primary Cooling System | 0.548936 | 0.079849 | 0.459798 | 0.185288 | 0.07456 | 0.043999 | 0 | 0 |
| Primary Heating System | 0 | 0 | | | 0.225734 | 0.215156 | | |
| Refrigerator | 0.036696 | 0.028296 | 0 | 0 | 0.116071 | 0.051007 | 0 | 0 |
| Stacked Washer/Dryer | | | | | 0 | 0 | 0 | 0 |
| Respondents (n) | 162 | | 75 | | 178 | | 51 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 693. DAC FLAG - PERCENTAGE OF IN-UNIT EQUIPMENT LESS THAN 10 YEARS OLD THAT IS ENERGY STAR (SITE VISITS)

| In-Unit Equipment Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB |
| Clothes Dryer | 0 | 0 | 0.250804 | 0.183509406 | | |
| Clothes Washer | 0 | 0 | 0.131723 | 0.103655815 | | |
| Combination Washer/Dryer | | | 0 | 0 | | |
| Dishwasher | 0.655327 | 0.252866126 | 0.300303 | 0.178153167 | 1 | 0 |
| Microwave | 0.056404 | 0.054445026 | 0 | 0 | 0 | 0 |
| Primary Cooling System | 0.414227 | 0.097067034 | 0.464366 | 0.081894976 | 0 | 0 |
| Primary Heating System | 0 | 0 | 0.203537 | 0.194358904 | | |
| Refrigerator | 0.080231 | 0.032524045 | 0.030873 | 0.016972686 | 0 | 0 |
| Stacked Washer/Dryer | | | 0 | 0 | 0 | 0 |
| Respondents (n) | 197 | | 253 | | 16 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 694. OWNERSHIP TYPE - PERCENTAGE OF IN-UNIT EQUIPMENT LESS THAN 10 YEARS OLD THAT IS ENERGY STAR (SITE VISITS)

| In-Unit Equipment Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Clothes Dryer | 0% | 0% | 0% | 0% | 70% | 35% | 0% | 0% |
| Clothes Washer | 0% | 0% | 0% | 0% | 35% | 37% | 0% | 0% |
| Combination Washer/Dryer | | | 0% | 0% | | | 0% | 0% |
| Dishwasher | 0% | 0% | 45% | 37% | 69% | 32% | 60% | 24% |
| Microwave | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% |
| Primary Cooling System | 49% | 19% | 38% | 12% | 73% | 10% | 40% | 15% |
| Primary Heating System | 0% | 0% | 25% | 25% | 0% | 0% | | |
| Refrigerator | 2% | 1% | 5% | 3% | 9% | 9% | 6% | 4% |
| Stacked Washer/Dryer | | | | | | | 0% | 0% |
| Respondents (n) | 139 | | 130 | | 68 | | 129 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 695. STATEWIDE - PERCENTAGE OF IN-UNIT EQUIPMENT LESS THAN 10 YEARS OLD THAT IS ENERGY STAR (SITE VISITS)

| In-Unit Equipment Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Clothes Dryer | 22% | 17% |
| Clothes Washer | 11% | 9% |
| Combination Washer/Dryer | 0% | 0% |
| Dishwasher | 52% | 17% |
| Microwave | 1% | 1% |
| Primary Cooling System | 49% | 7% |
| Primary Heating System | 7% | 8% |
| Refrigerator | 5% | 2% |
| Stacked Washer/Dryer | 0% | 0% |
| Respondents (n) | 466 | |

Source: On-site fields: ['Enter the year of installation or manufacture']

## TABLE 696. BUILDING VINTAGE - AVERAGE AGE OF IN-UNIT APPLIANCES PER UNIT BY TYPE (SITE VISITS)

| In-Unit Appliance | Pre-1940 | | 1940 to 1978 | | 1979 to 2006 | | 2007 to Present | | Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Dryer | 12.29 | 1.72 | 3.91 | 1.24 | 9.50 | 2.50 | 12.01 | 1.93 | 3.61 | 2.95 |
| Washer | 10.92 | 1.26 | 6.33 | 2.07 | 9.50 | 2.50 | 8.57 | 1.01 | 2.74 | 1.97 |
| Respondents (n) | 15 | | 5 | | 4 | | 7 | | 4 | |

Source: On-site fields: ['Dishwasher year of manufacture', 'Enter the year of installation or manufacture', 'Refrigerator year of manufacture']

## TABLE 697. CLIMATE ZONE - AVERAGE AGE OF IN-UNIT APPLIANCES PER UNIT BY TYPE (SITE VISITS)

| In-Unit Appliance | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Dryer | 13.65 | 1.25 | 6.43 | 2.43 | 5.03 | 1.19 | | |
| Washer | 12.09 | 0.89 | 6.43 | 2.43 | 7.20 | 0.93 | 9.00 | 0.00 |
| Respondents (n) | 18 | | 4 | | 12 | | 1 | |

Source: On-site fields: ['Dishwasher year of manufacture', 'Enter the year of installation or manufacture', 'Refrigerator year of manufacture']

## TABLE 698. DAC FLAG - AVERAGE AGE OF IN-UNIT APPLIANCES PER UNIT BY TYPE (SITE VISITS)

| In-Unit Appliance | Designated as DAC | | Not in a DAC designated Census Tract | |
|---|---|---|---|---|
| | Mean | EB | Mean | EB |
| Dryer | 7.21 | 0.30 | 9.16 | 2.55 |
| Washer | 8.63 | 1.74 | 8.39 | 1.01 |
| Respondents (n) | 9 | | 26 | |

Source: On-site fields: ['Dishwasher year of manufacture', 'Enter the year of installation or manufacture', 'Refrigerator year of manufacture']

## TABLE 699. OWNERSHIP TYPE - AVERAGE AGE OF IN-UNIT APPLIANCES PER UNIT BY TYPE (SITE VISITS)

| In-Unit Appliance | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Dryer | 12.33 | 1.49 | 9.95 | 3.62 | 15.08 | 2.75 | 6.00 | 1.00 |
| Washer | 12.34 | 1.58 | 12.21 | 0.84 | 11.16 | 1.72 | 6.88 | 0.80 |
| Respondents (n) | 11 | | 6 | | 12 | | 6 | |

Source: On-site fields: ['Dishwasher year of manufacture', 'Enter the year of installation or manufacture', 'Refrigerator year of manufacture']

## TABLE 700. STATEWIDE - AVERAGE AGE OF IN-UNIT APPLIANCES PER UNIT BY TYPE (SITE VISITS)

| In-Unit Appliance | Statewide | |
|---|---|---|
| | Mean | EB |
| Dryer | 10.98 | 1.68 |
| Washer | 10.03 | 0.93 |
| Respondents (n) | 35 | |

Source: On-site fields: ['Dishwasher year of manufacture', 'Enter the year of installation or manufacture', 'Refrigerator year of manufacture']

## TABLE 701. CLIMATE ZONE - AVERAGE NUMBER OF APPLIANCES PER UNIT BY TYPE (SITE VISITS)

| Type | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | | NYC | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Dishwasher | 47.61% | 8.11% | 54.41% | 4.41% | 34.60% | 11.60% | 37.75% | 3.72% |
| Dryer | 7.10% | 3.46% | 14.57% | 3.29% | 35.80% | 11.98% | 14.26% | 2.65% |
| Freezer | 0.09% | 0.07% | 2.32% | 1.17% | 8.22% | 6.76% | 3.02% | 1.38% |
| Refrigerator | 98.01% | 3.19% | 100.35% | 1.98% | 113.21% | 9.13% | 102.69% | 2.29% |
| Washer | 7.10% | 3.46% | 15.54% | 3.39% | 42.77% | 15.69% | 17.84% | 3.02% |
| Respondents (n) | 110 | | 217 | | 64 | | 233 | |

Source: On-site fields: ['Dishwasher year of manufacture', 'Enter the year of installation or manufacture', 'Refrigerator year of manufacture']

## TABLE 702. OWNERSHIP TYPE - AVERAGE NUMBER OF APPLIANCES PER UNIT BY TYPE (SITE VISITS)

| Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Dishwasher | 18.33% | 5.87% | 23.31% | 5.43% | 73.25% | 5.78% | 44.65% | 4.93% |
| Dryer | 7.53% | 4.57% | 6.89% | 3.15% | 40.47% | 6.24% | 12.02% | 2.80% |
| Freezer | 7.50% | 4.58% | 3.60% | 2.40% | 1.97% | 1.96% | 1.65% | 0.88% |
| Refrigerator | 100.05% | 0.04% | 105.53% | 3.49% | 100.37% | 1.46% | 100.89% | 1.35% |
| Washer | 10.91% | 5.46% | 7.74% | 3.26% | 46.38% | 7.49% | 16.50% | 3.61% |
| Respondents (n) | 188 | | 170 | | 73 | | 193 | |

Source: On-site fields: ['Dishwasher year of manufacture', 'Enter the year of installation or manufacture', 'Refrigerator year of manufacture']

## TABLE 703. DAC FLAG - AVERAGE NUMBER OF APPLIANCES PER UNIT BY TYPE (SITE VISITS)

| Type | Designated as DAC | | Not in a DAC designated Census Tract | | Unknown | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Dishwasher | 35.10% | 3.83% | 53.22% | 3.41% | 48.73% | 9.58% |
| Dryer | 12.94% | 2.80% | 15.23% | 2.34% | 17.32% | 7.79% |
| Freezer | 6.41% | 2.11% | 1.26% | 0.68% | 0.11% | 0.08% |
| Refrigerator | 101.60% | 1.28% | 100.94% | 1.38% | 104.33% | 7.49% |
| Washer | 15.29% | 2.98% | 17.39% | 2.70% | 17.32% | 7.79% |
| Respondents (n) | 232 | | 299 | | 71 | |

Source: On-site fields: ['Dishwasher year of manufacture', 'Enter the year of installation or manufacture', 'Refrigerator year of manufacture']

## TABLE 704. STATEWIDE - AVERAGE NUMBER OF APPLIANCES PER UNIT BY TYPE (SITE VISITS)

| Type | Statewide | |
|---|---|---|
| | % | EB |
| Dishwasher | 41.54% | 2.83% |
| Dryer | 15.85% | 2.25% |
| Freezer | 3.30% | 1.07% |
| Refrigerator | 103.35% | 2.10% |
| Washer | 18.92% | 2.49% |
| Respondents (n) | 624 | |

Source: On-site fields: ['Dishwasher year of manufacture', 'Enter the year of installation or manufacture', 'Refrigerator year of manufacture']

## TABLE 705. STATEWIDE - PERCENTAGE OF APPLIANCES THAT ARE WI-FI ENABLED PER UNIT (OCCUPANT SURVEY)

| Type | Statewide | |
|---|---|---|
| | % | EB |
| Washer | 0.00% | 0.00% |
| Dryer | 0.00% | 0.00% |
| Freezer | 1.24% | 1.24% |
| Refrigerator | 0.00% | 0.00% |
| Stove/Oven | 1.24% | 1.24% |
| Window or Room AC | 6.25% | 3.38% |
| Respondents (n) | 135 | |

Source: Survey fields: ['Select all equipment in your home that can be controlled by WiFi.']

## TABLE 706. CLIMATE ZONE - PERCENTAGE OF IN-UNIT EQUIPMENT OWNED BY BUILDING (BUILDING REP SURVEY)

| Type | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | | NYC | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Washer/Dryer | 54.93% | 9.03% | 76.10% | 5.93% | 54.44% | 10.51% | 56.35% | 4.03% |
| Refrigerator/Freezer | 0.00% | 0.00% | 57.82% | 17.92% | 100.00% | 0.00% | 38.40% | 21.58% |
| Window or Room AC | 5.20% | 3.33% | 19.78% | 4.82% | 6.76% | 4.67% | 8.18% | 1.37% |
| Respondents (n) | 110 | | 205 | | 90 | | 631 | |

Source: Survey fields: ['Who owns the clothes washers and dryers in the building's living units?']

## TABLE 707. METERING TYPE - PERCENTAGE OF IN-UNIT EQUIPMENT OWNED BY BUILDING (BUILDING REP SURVEY)

| Type | Direct metered dwelling units | | Building-level meter only | | Building-level meter with dwelling unit | | Other | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Washer/Dryer | 53.18% | 4.09% | 56.42% | 9.26% | 69.21% | 4.62% | 33.33% | 30.85% |
| Refrigerator/Freezer | 37.39% | 15.71% | 0.00% | 0.00% | 78.93% | 15.35% | | |
| Window or Room AC | 4.49% | 1.13% | 25.04% | 8.37% | 35.03% | 7.57% | 0.00% | 0.00% |
| Respondents (n) | 110 | | 115 | | 272 | | 9 | |

Source: Survey fields: ['Who owns the clothes washers and dryers in the building's living units?']

## TABLE 708. OWNERSHIP TYPE - PERCENTAGE OF IN-UNIT EQUIPMENT OWNED BY BUILDING (BUILDING REP SURVEY)

| Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Washer/Dryer | 53.32% | 12.16% | 54.45% | 7.01% | 11.37% | 3.63% | 72.60% | 4.97% |
| Refrigerator/Freezer | 14.50% | 12.83% | 83.32% | 23.73% | 0.00% | 0.00% | 29.91% | 20.52% |
| Window or Room AC | 3.92% | 2.67% | 4.34% | 1.64% | 5.37% | 2.66% | 10.19% | 2.18% |
| Respondents (n) | 110 | | 321 | | 174 | | 359 | |

Source: Survey fields: ['Who owns the clothes washers and dryers in the building's living units?']

## TABLE 709. STATEWIDE - PERCENTAGE OF IN-UNIT EQUIPMENT OWNED BY BUILDING (BUILDING REP SURVEY)

| Type | Statewide | |
|---|---|---|
| | % | EB |
| Washer/Dryer | 55.90% | 3.47% |
| Refrigerator/Freezer | 51.17% | 14.40% |
| Window or Room AC | 8.33% | 1.54% |
| Respondents (n) | 110 | |

Source: Survey fields: ['Who owns the clothes washers and dryers in the building's living units?']

## TABLE 710. CLIMATE ZONE - TELEVISIONS PER DWELLING BY TYPE (SITE VISITS)

| Television Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Cathode ray tube | 1.0 | 0.0 | 1.0 | 0.0 | 1.0 | 0.0 | | |
| Flat screen LCD/LED | 1.1 | 0.03 | 1.0 | 0.02 | 1.3 | 0.1 | 1.6 | 0.2 |
| Flat screen plasma | 1.0 | 0.0 | 1.0 | 0.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Respondents (n) | 225 | | 120 | | 147 | | 59 | |

Source: On-site fields: ['Number of identical televisions']

## TABLE 711. OWNERSHIP TYPE - TELEVISIONS PER DWELLING BY TYPE (SITE VISITS)

| Television Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Cathode ray tube | 1 | 0 | | | | | 1 | 0 |
| Flat screen LCD/LED | 1.0 | 0.01 | 1.1 | 0.1 | 1.1 | 0.04 | 1.2 | 0.05 |
| Flat screen plasma | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| Respondents (n) | 180 | | 158 | | 88 | | 152 | |

Source: On-site fields: ['Number of identical televisions']

## TABLE 712. STATEWIDE - TELEVISIONS PER DWELLING BY TYPE (SITE VISITS)

| Television Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Cathode ray tube | 1 | 0 |
| Flat screen LCD/LED | 1.1 | 0.03 |
| Flat screen plasma | 1 | 0 |
| Respondents (n) | 578 | |

Source: On-site fields: ['Number of identical televisions']

## TABLE 713. CLIMATE ZONE - AVERAGE DWELLING UNIT TELEVISION SIZE (SITE VISITS)

| Ownership Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Affordable Subsidized | 46.0 | 2.1 | 41.8 | 1.8 | 41.6 | 1.6 | 40.1 | 2.4 |
| Affordable Unsubsidized | 41.7 | 2.1 | 48.4 | 2.5 | 43.1 | 1.8 | 45.4 | 3.4 |
| Co-Ops and Condos | 46.1 | 1.5 | 43.9 | 4.5 | | | | |
| Market-Rate Rental | 49.0 | 2.0 | 48.5 | 2.3 | 44.4 | 1.6 | 44.8 | 3.2 |
| Respondents (n) | 215 | | 117 | | 164 | | 55 | |

Source: On-site fields: ['Television screen size']

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## TABLE 714. STATEWIDE - AVERAGE DWELLING UNIT TELEVISION SIZE (SITE VISITS)

| Ownership Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Affordable Subsidized | 43.8 | 1.6 |
| Affordable Unsubsidized | 42.5 | 1.7 |
| Co-Ops and Condos | 45.5 | 1.4 |
| Market-Rate Rental | 46.0 | 1.2 |
| Respondents (n) | 551 | |

Source: On-site fields: ['Television screen size']

## TABLE 715. OWNERSHIP TYPE - AVERAGE DWELLING UNIT TELEVISION SIZE BY TELEVISION TYPE (SITE VISITS)

| Television Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Cathode ray tube | 26.8 | 3.7 | | | | | | |
| Flat screen LCD/LED | 45.8 | 2.1 | 41.7 | 1.8 | 45.9 | 1.5 | 47.4 | 1.3 |
| Flat screen plasma | 34.3 | 4.6 | 48.1 | 3.5 | 48.0 | 0.0 | 40.5 | 3.4 |
| Respondents (n) | 167 | | 152 | | 86 | | 144 | |

Source: On-site fields: ['Television screen size']

## TABLE 716. STATEWIDE - AVERAGE DWELLING UNIT TELEVISION SIZE BY TELEVISION TYPE (SITE VISITS)

| Television Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Cathode ray tube | 27.6 | 3.0 |
| Flat screen LCD/LED | 45.1 | 0.8 |
| Flat screen plasma | 39.7 | 2.9 |
| Respondents (n) | 549 | |

Source: On-site fields: ['Television screen size']

## TABLE 717. CLIMATE ZONE - SATURATION OF ENTERTAINMENT AND COMMUNICATIONS EQUIPMENT PER DWELLING UNIT (SITE VISITS)

| Equipment Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Dwelling Cable Boxes | 1.1 | 0.1 | 1.1 | 0.04 | 1.3 | 0.2 | 1.0 | 0.05 |
| Video Game System | 1.1 | 0.1 | 1.4 | 0.3 | 1.1 | 0.1 | 1.9 | 0.4 |
| Respondents (n) | 47 | | 26 | | 18 | | 12 | |

Source: On-site fields: ['Number of video gaming systems', 'Number of cable television boxes']

## TABLE 718. OWNERSHIP TYPE - SATURATION OF ENTERTAINMENT AND COMMUNICATIONS EQUIPMENT PER DWELLING UNIT (SITE VISITS)

| Equipment Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Dwelling Cable Boxes | 1.0 | 0.01 | 1.2 | 0.2 | 1.2 | 0.1 | 1.2 | 0.1 |
| Video Game System | 1.2 | 0.2 | 1.2 | 0.2 | 1.1 | 0.1 | 1.1 | 0.1 |
| Respondents (n) | 27 | | 27 | | 24 | | 30 | |

Source: On-site fields: ['Number of video gaming systems', 'Number of cable television boxes']

## TABLE 719. STATEWIDE - SATURATION OF ENTERTAINMENT AND COMMUNICATIONS EQUIPMENT PER DWELLING UNIT (SITE VISITS)

| Equipment Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Dwelling Cable Boxes | 1.2 | 0.1 |
| Video Game System | 1.2 | 0.1 |
| Respondents (n) | 102 | |

Source: On-site fields: ['Number of video gaming systems', 'Number of cable television boxes']

## TABLE 720. CLIMATE ZONE - PERCENTAGE OF DWELLING UNITS WITH SMART STRIPS BY TYPE (SITE VISITS)

| Powerstrip Type | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| On/off power strip | 95% | 17% | 100% | 74% | 100% | 33% | 48% | 44% |
| Smart strip (Tier 1 APS) | 5% | 4% | | | | | 52% | 62% |
| Respondents (n) | 61 | | 16 | | 15 | | 14 | |

Source: On-site fields: ['Type of powerstrip']

## TABLE 721. OWNERSHIP TYPE - PERCENTAGE OF DWELLING UNITS WITH SMART STRIPS BY TYPE (SITE VISITS)

| Powerstrip Type | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| On/off power strip | 100% | 40% | 100% | 32% | 93% | 21% | 90% | 30% |
| Smart strip (Tier 1 APS) | | | | | 7% | 13% | 10% | 7% |
| Respondents (n) | 25 | | 26 | | 25 | | 30 | |

Source: On-site fields: ['Type of powerstrip']

## TABLE 722. STATEWIDE - PERCENTAGE OF DWELLING UNITS WITH SMART STRIPS BY TYPE (SITE VISITS)

| Powerstrip Type | Statewide | |
|---|---|---|
| | % | EB |
| On/off power strip | 91% | 15% |
| Smart strip (Tier 1 APS) | 9% | 7% |
| Respondents (n) | 106 | |

Source: On-site fields: ['Type of powerstrip']

## TABLE 723. CLIMATE ZONE - AVERAGE NUMBER OF SMART STRIPS PER DWELLING UNIT BY TYPE (SITE VISITS)

| Count | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Powerstrip Count | 2.2 | 0.2 | 1.9 | 0.4 | 2.0 | 0.3 | 3.1 | 0.8 |
| Respondents (n) | 61 | | 16 | | 15 | | 14 | |

Source: On-site fields: ['Count of powerstrips of this type']

## TABLE 724. OWNERSHIP TYPE - AVERAGE NUMBER OF SMART STRIPS PER DWELLING UNIT BY TYPE (SITE VISITS)

| Count | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Powerstrip Count | 2.1 | 0.5 | 1.8 | 0.2 | 2.3 | 0.3 | 2.7 | 0.4 |
| Respondents (n) | 25 | | 26 | | 25 | | 30 | |

Source: On-site fields: ['Count of powerstrips of this type']

## TABLE 725. STATEWIDE - AVERAGE NUMBER OF SMART STRIPS PER DWELLING UNIT BY TYPE (SITE VISITS)

| Count | Statewide | |
|---|---|---|
| | Mean | EB |
| Powerstrip Count | 2.3 | 0.2 |
| Respondents (n) | 106 | |

Source: On-site fields: ['Count of powerstrips of this type']

## TABLE 726. CLIMATE ZONE - AVERAGE NUMBER OF IN-UNIT OFFICE EQUIPMENT TYPES PER DWELLING UNIT (SITE VISITS)

| Count | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Computer Count | 1.3 | 0.1 | 1.2 | 0.1 | 1.1 | 0.1 | 1.2 | 0.1 |
| Respondents (n) | 117 | | 25 | | 115 | | 38 | |

Source: On-site fields: ['Number of computers of this type']

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## TABLE 727. OWNERSHIP TYPE - AVERAGE NUMBER OF IN-UNIT OFFICE EQUIPMENT TYPES PER DWELLING UNIT (SITE VISITS)

| Count | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Computer Count | 1.2 | 0.1 | 1.3 | 0.1 | 1.4 | 0.1 | 1.2 | 0.1 |
| Respondents (n) | 77 | | 64 | | 64 | | 90 | |

Source: On-site fields: ['Number of computers of this type']

## TABLE 728. STATEWIDE - AVERAGE NUMBER OF IN-UNIT OFFICE EQUIPMENT TYPES PER DWELLING UNIT (SITE VISITS)

| Count | Statewide | |
|---|---|---|
| | Mean | EB |
| Computer Count | 1.3 | 0.1 |
| Respondents (n) | 295 | |

Source: On-site fields: ['Number of computers of this type']

## TABLE 729. STATEWIDE - AVERAGE NUMBER OF HOURS COMPUTER USED PER DAY (OCCUPANT SURVEY)

| Computer Type | Statewide | |
|---|---|---|
| | Mean | EB |
| Desktop computer | 7.4 | 1.5 |
| Laptop computer | 3.4 | 0.4 |
| Respondents (n) | 64 | |

Source: Survey fields: ['About how many hours each day is the laptop computer typically used in your home?']

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## TABLE 730. STATEWIDE - PERCENTAGE OF DWELLING UNITS WITH CONNECTED DEVICES BY DEVICE TYPE (OCCUPANT SURVEY)

| Has Connected Device | Statewide | |
|---|---|---|
| | % | EB |
| Yes | 24% | 12% |
| No | 76% | 17% |
| Respondents (n) | 110 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Select all equipment in your home that can be controlled by WiFi.']

## TABLE 731. STATEWIDE - PERCENTAGE OF DWELLING UNITS WITH CONNECTED DEVICES BY DEVICE TYPE (OCCUPANT SURVEY)

| Equipment Type | Statewide | |
|---|---|---|
| | % | EB |
| Clothes Dryer | 0% | 0% |
| Clothes Washer | 0% | 0% |
| Cooling Equipment | 35% | 14% |
| Heating Equipment | 14% | 10% |
| Lighting | 63% | 14% |
| Security System | 24% | 11% |
| Standalone Freezer | 2% | 2% |
| Standalone Oven | 2% | 2% |
| Thermostat | 25% | 12% |
| Respondents (n) | 23 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Select all equipment in your home that can be controlled by WiFi.']

## TABLE 732. STATEWIDE - PERCENTAGE OF DWELLING UNITS WITH CONNECTED/SMART DEVICES (OCCUPANT SURVEY)

| Equipment Type | Statewide | |
|---|---|---|
| | % | EB |
| Clothes dryer | | |
| Clothes washer | | |
| Cooling equipment | | |
| Heating equipment | | |
| Lighting | 14% | 6% |
| Security system | | |
| Standalone freezer | | |
| Standalone oven | | |
| Thermostat | 7% | 4% |
| None controlled by WiFi | | |
| Respondents (n) | 110 | |

*Note: Values represent percentage of respondents that selected a particular option. Respondents could select multiple options for this field.*

Source: Survey fields: ['Select all equipment in your home that can be controlled by WiFi.']

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## TABLE 733. CLIMATE ZONE - PERCENTAGE OF BUILDINGS WITH SOLAR PV GENERATION (SITE VISITS)

| Building Size | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Low Rise (1 to 3 floors) | 6% | 4% | 0 | 0 | 3% | 2% | 0 | 0 |
| Mid Rise (4 to 7 floors) | 13% | 5% | 6% | 6% | 0 | 0 | 78% | 21% |
| High Rise (8 or more floors) | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Respondents (n) | 169 | | 55 | | 123 | | 31 | |

Source: On-site fields: ['Generation type']

## TABLE 734. OWNERSHIP TYPE - PERCENTAGE OF BUILDINGS WITH SOLAR PV GENERATION (SITE VISITS)

| Building Size | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate | |
|---|---|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB | % | EB |
| Low Rise (1 to 3 floors) | 0 | 0 | 7% | 4% | 0 | 0 | 2% | 2% |
| Mid Rise (4 to 7 floors) | 11% | 7% | 15% | 10% | 12% | 9% | 11% | 7% |
| High Rise (8 or more floors) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Respondents (n) | 117 | | 103 | | 48 | | 110 | |

Source: On-site fields: ['Generation type']

## TABLE 735. STATEWIDE - PERCENTAGE OF BUILDINGS WITH SOLAR PV GENERATION (SITE VISITS)

| Building Size | Statewide | |
|---|---|---|
| | % | EB |
| Low Rise (1 to 3 floors) | 2% | 1% |
| Mid Rise (4 to 7 floors) | 9% | 4% |
| High Rise (8 or more floors) | 0 | 0 |
| Respondents (n) | 378 | |

Source: On-site fields: ['Generation type']

## TABLE 736. CLIMATE ZONE - AVERAGE SOLAR PV GENERATION CAPACITY FOR BUILDINGS WITH SOLAR PV SYSTEMS (SITE VISITS)

| Building Size | Response | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| Low Rise (1 to 3 floors) | Yes | 100% | -100% | | | 58% | 106% | | |
| | No | | | | | 42% | 121% | | |
| | Respondents (n) | 1 | | 0 | | 3 | | 0 | |
| Mid Rise (4 to 7 floors) | Yes | 64% | 46% | 41% | 119% | | | 100% | -100% |
| | No | 36% | 39% | 59% | 170% | 100% | 265% | | |
| | Respondents (n) | 10 | | 3 | | 3 | | 1 | |
| High Rise (8 or more floors) | No | 100% | -100% | | | 100% | 42% | | |
| | Respondents (n) | 1 | | 0 | | 3 | | 0 | |

Source: On-site fields: ['Total capacity (kW)']

## TABLE 737. OWNERSHIP TYPE - AVERAGE SOLAR PV GENERATION CAPACITY FOR BUILDINGS WITH SOLAR PV SYSTEMS (SITE VISITS)

| Building Size | Response | Affordable Subsidized | | Affordable Unsubsidized | | Co-Ops and Condos | | Market-Rate Rental | |
|---|---|---|---|---|---|---|---|---|---|
| | | % | EB | % | EB | % | EB | % | EB |
| Low Rise (1 to 3 floors) | Yes | | | 100% | 144% | | | 50% | 316% |
| | No | | | | | | | 50% | 316% |
| | Respondents (n) | 0 | | 2 | | 0 | | 2 | |
| Mid Rise (4 to 7 floors) | Yes | 31% | 39% | 50% | 145% | 100% | 628% | 86% | 159% |
| | No | 69% | 48% | 50% | 145% | 0% | 3% | 14% | 18% |
| | Respondents (n) | 6 | | 3 | | 2 | | 6 | |
| High Rise (8 or more floors) | No | 1 | 0 | 1 | -1 | 1 | -1 | | |
| | Respondents (n) | 2 | | 1 | | 1 | | 0 | |

Source: On-site fields: ['Total capacity (kW)']

## TABLE 738. STATEWIDE - AVERAGE SOLAR PV GENERATION CAPACITY FOR BUILDINGS WITH SOLAR PV SYSTEMS (SITE VISITS)

| Building Size | Response | Statewide | |
|---|---|---|---|
| | | % | EB |
| Low Rise (1 to 3 floors) | Yes | 63% | 74% |
| | No | 37% | 87% |
| | Respondents (n) | 4 | |
| Mid Rise (4 to 7 floors) | Yes | 73% | 68% |
| | No | 27% | 39% |
| | Respondents (n) | 17 | |
| High Rise (8 or more floors) | No | 100% | 230% |
| | Respondents (n) | 4 | |

Source: On-site fields: ['Total capacity (kW)']

## TABLE 739. STATEWIDE - PERCENTAGE OF BUILDINGS WITH ON-SITE GENERATION GRID INTERCONNECTIVITY BY TYPE (SITE VISITS)

| Building Size | Statewide | |
|---|---|---|
| | Mean | EB |
| Low Rise (1 to 3 floors) | 33.5 | 0.7 |
| Mid Rise (4 to 7 floors) | 37.0 | 7.4 |
| Respondents (n) | 10 | |

Source: On-site fields: ['Is system interconnected to the grid?']

## TABLE 740. CLIMATE ZONE - PERCENTAGE OF BUILDINGS WITH ON-SITE GENERATION GRID INTERCONNECTIVITY BY TYPE (SITE VISITS)

| Building Size | NYC | | Climate Zone 4 | | Climate Zone 5 | | Climate Zone 6 | |
|---|---|---|---|---|---|---|---|---|
| | Mean | EB | Mean | EB | Mean | EB | Mean | EB |
| Low Rise (1 to 3 floors) | 23.0 | 0 | | | 33.9 | 0 | | |
| Mid Rise (4 to 7 floors) | 37.6 | 4.9 | 14.7 | 0 | | | 46.2 | 0 |
| Respondents (n) | 7 | | 1 | | 1 | | 1 | |

Source: On-site fields: ['Is system interconnected to the grid?']

## TABLE 741. BUILDING SIZE - PERCENTAGE OF BUILDINGS WITH ENERGY STORAGE SYSTEMS BY TYPE (SITE VISITS)

| Energy Storage Type | Low Rise (1 to 3 floors) | | Mid Rise (4 to 7 floors) | | High Rise (8 or more floors) | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Fuel cells | | | 100% | 0% | | |
| None | 100% | 0% | | | | |
| Other | | | | | 100% | 0% |
| Respondents (n) | 1 | | 1 | | 1 | |

Source: On-site fields: ['Energy storage type']

## TABLE 742. CLIMATE ZONE - PERCENTAGE OF BUILDINGS WITH ENERGY STORAGE SYSTEMS BY TYPE (SITE VISITS)

| Energy Storage Type | NYC | | Climate Zone 5 | |
|---|---|---|---|---|
| | % | EB | % | EB |
| Fuel cells | 100% | 0% | | |
| None | | | 100% | 630% |
| Other | | | 0% | 2% |
| Respondents (n) | 1 | | 2 | |

Source: On-site fields: ['Energy storage type']

## TABLE 743. OWNERSHIP TYPE - PERCENTAGE OF BUILDINGS WITH ENERGY STORAGE SYSTEMS BY TYPE (SITE VISITS)

| Energy Storage Type | Affordable Subsidized | | Affordable Unsubsidized | | Market-Rate Rental | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Fuel cells | | | 100% | 0 | | |
| None | | | | | 100% | 0 |
| Other | 100% | 0 | | | | |
| Respondents (n) | 1 | | 1 | | 1 | |

Source: On-site fields: ['Energy storage type']

## TABLE 744. STATEWIDE - PERCENTAGE OF BUILDINGS WITH ENERGY STORAGE SYSTEMS BY TYPE (SITE VISITS)

| Energy Storage Type | Affordable Subsidized | | Affordable Unsubsidized | | Market-Rate Rental | |
|---|---|---|---|---|---|---|
| | % | EB | % | EB | % | EB |
| Fuel cells | | | 100% | 0 | | |
| None | | | | | 100% | 0 |
| Other | 100% | 0 | | | | |
| Respondents (n) | 1 | | 1 | | 1 | |

Source: On-site fields: ['Energy storage type']

# APPENDIX B. WEIGHTS & METHODOLOGY

This appendix to the New York State Energy Research and Development Authority (NYSERDA) 2022 Statewide Multifamily Building Study (SMBS) report provides more information about the study methodology than would reasonably fit in the main body of the report. This appendix is intended for readers who use the study and need a deeper understanding of the study weighting and methodology.

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# B.1 PROJECT SUMMARY

## B.1.1 Background and Study Objectives

NYSERDA, in coordination with lead contractor Cadmus and subcontractors Leede Research (Leede), GDS Associates (GDS), Steven Winter Associates (SWA), and Ridgeline Analytics (Ridgeline), developed and implemented a work plan that allowed key study components to be completed in time to inform the NYS energy plan.

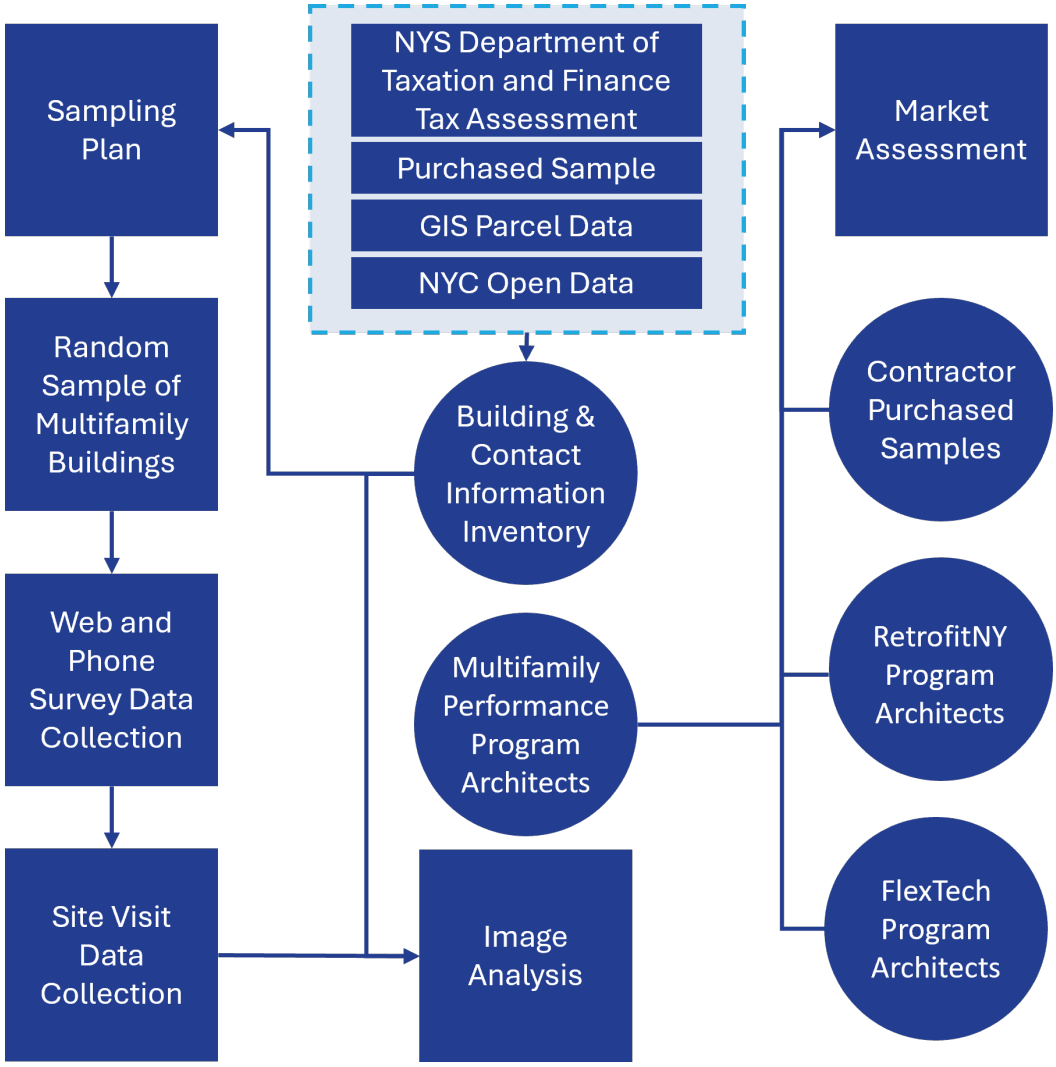
The study team characterized multifamily buildings throughout NYS, with a multifamily building defined as a residential structure containing five or more living units. Primary data collection included surveys of 1,472 respondents and site visits at 434 buildings.

In addition to the building stock assessment, the project encompassed two other components—a market assessment to inform a baseline understanding of industry practices, market drivers, and barriers in the NYS multifamily market, and an image analysis study, which used computer vision with aerial imagery to estimate characteristics of every multifamily building in NYS. Documenting the results of these two additional components falls outside of the scope of this report, which presents findings solely for the building assessment component. Separate reports or findings are available for the market assessment and image analysis components.

The primary objectives of the Statewide Multifamily Baseline Study (SMBS) are to provide a profile of multifamily buildings in NYS based on data from a representative sample of buildings and dwelling units. This data includes the saturation of energy-consuming equipment that uses electricity, natural gas, and other fuels; key building characteristics such as insulation, window types, and air leakage rates; and energy management practices. The SMBS also collected customer household and demographic information.

Information provided in this study will be used by NYSERDA, the New York State Department of Public Service, energy efficiency program administrators throughout the NYS, and other entities for a variety of purposes, such as informing program planning and setting baselines for savings calculations. This information also provided necessary inputs to the market assessment and image analysis components of the study, as shown in Figure 1.

FIGURE 1. MULTIFAMILY BUILDING STUDY PROJECT FLOW CHART




## B.1.2 Market Segment Definitions

The SMBS characterized multifamily buildings, which are defined for the purposes of this study as residential structures comprising five or more living units.

## B.1.3 Building Assessment Project Team

The study team for the building assessment component included NYSERDA; Cadmus as the lead contractor; and Leede, GDS, SWA, and Ridgeline as subcontractors.

As the lead contractor working under the direction of NYSERDA, Cadmus completed the following tasks:

- Managed all aspects of the project.
- Developed the work plan and sampling plan.
- Developed the sample frame used for recruiting.

- Developed study protocols with input from GDS, SWA, and Ridgeline.
- Conducted all analysis and generated all data tables.
- Designed and created the primary building assessment report.
- Provided all reporting, including designing and creating the primary building assessment report and generating this detailed documentation of the methodology.
- Updated and deployed the iPad-based data collection tool, which was used to collect data during site visits.

Under the leadership and guidance of NYSERDA and Cadmus, GDS completed the following tasks:

- Conducted project training for GDS field staff.
- Conducted site visits for 190 of the 434 buildings in the study.
- Performed initial data cleaning and quality control (QC) of GDS site visit data.

Under the leadership and guidance of NYSERDA and Cadmus, SWA completed the following tasks:

- Conducted project training for SWA field staff.
- Conducted site visits for 183 of the 434 buildings in the study.
- Performed initial data cleaning and QC of SWA site visit data.

Under the leadership and guidance of NYSERDA and Cadmus, Ridgeline completed the following tasks:

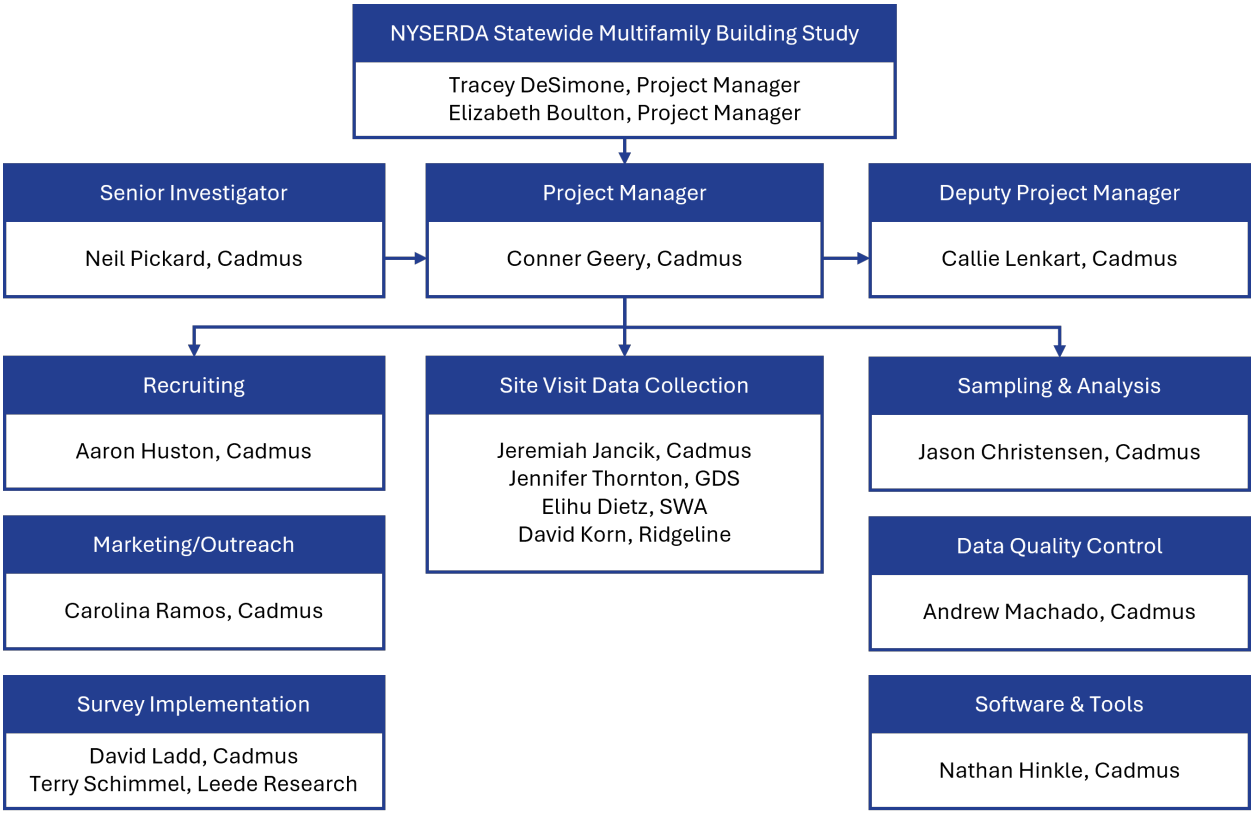
- Conducted project training for Ridgeline field staff.
- Conducted site visits for 59 of the 434 buildings in the study.
- Performed initial data cleaning and QC of Ridgeline site visit data.

Under the leadership and guidance of NYSERDA and Cadmus, Leede completed the following tasks:

- Provided staff to administer the survey by phone to SMBS postcard recipients who called the toll-free number provided on the postcards.
- Provided staff to recruit additional respondents by calling postcard and email recipients who had not responded.
- Conducted surveys by phone for 277 building representatives and occupants.

Figure 2 shows key members of the building assessment study team at NYSERDA, Cadmus, Leede, GDS, SWA, and Ridgeline. Other project staff at each organization provided guidance and additional project management support, and performed essential tasks such as scheduling and completing site visits.

FIGURE 2. BUILDING ASSESSMENT STUDY TEAM




## B.1.4 Overall Approach

NYSERDA has attempted to reach the multifamily sector in multiple previous studies. It has been historically difficult to reach key stakeholders like building owners and managers for a variety of reasons, including lack of up-to-date contact information, multiple potential contacts for a single building, and low response rates within the sector. Discussions with working groups consisting of representatives from NYSERDA and each major NYS utility led to three decisions:

- The SMBS included separate stratified samples for the following characteristics:
  - **Building Size:** low-rise (1 to 3 floors), mid-rise (4 to 7 floors), and high-rise (8 or more floors) housing
  - **Ownership Type:** affordable subsidized, affordable census block, co-op and condo, and market-rate rental buildings
  - **Building Vintage:** pre-1940, 1940 to 1978, 1979 to 2006, and 2007 to present
  - **Dwelling Unit Meter Type:** Building-level metered and direct metered
  - **Disadvantaged Communities[1]:** Designated as DAC and Not in a DAC designated Census Tract

[1] More information on disadvantaged communities in New York can be found at https://climate.ny.gov/Resources/Disadvantaged-Communities-Criteria

    - **Geographic region:** the service area of each of the state's IOUs
- Cadmus identified segmentation to use for analysis and reporting that differed from the sampling segmentation listed above except for building size and ownership type. Based on discussions with NYSERDA and other stakeholders, segmenting by climate zones was more useful than by IOU service area for reporting purposes; these zones were defined as NYC (designated as Climate Zone 4a), Long Island and Westchester County (designated as Climate Zone 4b), western and southern New York (Climate Zone 5), and upstate New York (Climate Zone 6). Identified reporting segments also included DAC designation and dwelling unit metering type (direct metered or building-level metered).
- The 2022 SMBS recruited participants primarily through email and postcards. Building representatives were reached using datasets of potential contact information from tax assessor data and commercially available contact information, and some representatives eventually referred Cadmus to occupants. Multifamily buildings were sampled from a population dataset built from disparate data sources.

With the nested design employed by the 2022 SMBS, the study team first recruited respondents to complete an extensive phone or online survey, which collected a variety of data essential to characterizing multifamily buildings. The survey also asked respondents whether they would be interested in participating in a site visit. Respondents who agreed to the site visit made up the sample frame for recruiting site visit participants.

### B.1.5 Population Dataset

Before the analysis, a single dataset with detailed information on the attributes and energy usage for every multifamily building in NYS did not exist. Developing population data that identified essentially every multifamily building in NYS was necessary to support the image analysis component of the project, and those data also supported the building stock assessment. Drawing on numerous sources, including an earlier NYSERDA attempt to develop a similar dataset, Cadmus and population data subcontractor Res-Intel ultimately arrived at population data that documented the basic characteristics of approximately 130,000 buildings throughout NYS.

Partial population data can be found in several public sources including NYS tax assessor data, GIS parcel data, NYC PLUTO, and NYC Open Data, as well as in commercially available databases like Costar, Data Axel, and Reonomy. It is important to note that individually these datasets are incomplete; a key value of this baseline study is that it consolidated all these sources into one a combined dataset that was more reliable than any of the sources on their own. Data was not available on baseline energy use conditions of most NYS multifamily buildings. New York City (NYC) Local Law 87 mandates that buildings over 50,000 gross square feet undergo periodic energy audit and retro-commissioning measures, and the audit data collected is publicly available. However, multifamily buildings in NYC that are larger than 50,000 square feet are less than 15% of the total NYS multifamily building population.

Cadmus and population data subcontractor Res-Intel used the various aforementioned parcel-level data sources to identify sites with potential multifamily buildings based on property use codes. NYSERDA defines multifamily as a single building containing five or more residential units, requiring a building-level population. Existing data sources report a single value for the

entire parcel for each attribute, even for properties that comprise more than one building. To develop a building-level dataset, the team sourced building footprint data from county and city GIS systems, OpenStreetMap, and Bing Maps to locate individual structures, then extracted building height measurements from LiDAR data where available. The team disaggregated the parcel-level data to the buildings identified on each parcel, distributing and recalculating attributes reported as a single value into distinct values for the individual buildings on that property. The analysis estimated floors for each building by comparing the reported floors value for the parcel to the LiDAR height measurements and distributed the reported residential units (if available) among the buildings proportionally by approximate total floor area. After creating an initial list of over half a million buildings on potential multifamily properties, the team applied a series of exclusions (summarized in Table 1) to remove buildings that did not meet the criteria of likely containing at least five residential units, ultimately arriving at the population dataset containing basic characteristics of approximately 130,000 buildings throughout NYS, shown by Climate Zone in Table 2.

TABLE 1. BUILDING POPULATION EXCLUSIONS

| Exclusion Category | Building Count | Percentage |
|---|---|---|
| Residential Units <5 | 161,087 | 29% |
| Building Dimensions | 154,275 | 28% |
| Residential Floor Area | 65,629 | 12% |
| Use Code | 26,010 | 5% |
| Duplicate Entries | 11,680 | 2% |
| GIS Analysis | 4,064 | 1% |
| Incomplete Address* | 5,188 | 1% |
| Ineligible Utility* | 1,984 | 0% |
| Unknown Building Units* | 386 | 0% |
| **Remainder: Total Buildings Assessment Sample Frame** | **122,604** | **22%** |

*Excluded from the building assessment sample frame due to study eligibility requirements, but included in the image analysis study as likely multifamily buildings

TABLE 2. 2022 MULTIFAMILY BUILDING STUDY POPULATION ESTIMATES

| Climate Zone | Population | | |
|---|---|---|---|
| | Low-Rise (1-3 Floors) | Mid-Rise (4-7 Floors) | High-Rise (8+ Floors) |
| Climate Zone 4A | 20,246 | 47,381 | 8,194 |
| Climate Zone 4B | 9,166 | 2,522 | 446 |
| Climate Zone 5 | 27,884 | 2,933 | 337 |
| Climate Zone 6 | 9,395 | 1,042 | 65 |
| **Total** | **66,691** | **53,878** | **9,042** |

## B.1.6 Sample Design

Cadmus developed a sampling plan with the goal of achieving 90% confidence and ±20% precision for most parameters of interest at the State level and 90% confidence and ±15% precision within each of the identified IOU territories, shown in Table 3. Cadmus designed a nested approach in which surveys would recruit participants interested in site visits; this approach involved surveying approximately 2,500 building representatives and visiting 750 buildings to collect detailed information. At a 90% confidence level, statewide precision reached ±2% for surveys, and ±4% for site visits. After further work with the 2022 SMBS data, Cadmus apportioned site visit targets for stratifications including geographic region, building size, ownership type, building vintage, dwelling unit meter type, and DAC distinction. Cadmus used these metrics because of their importance in characterizing the efficiency of a building. Geographic regions with the largest populations and greatest variability were assigned a larger proportion of samples, consistent with standard statistical sampling methods.

Cadmus reviewed the resulting sample size distributions and reallocated sample sizes to achieve sufficient coverage in each geographic region and to ensure that the 90% confidence and ±20% precision target would be met within each geographic region. Table 3 displays the target site visit completions for each building size and ownership type within each IOU territory.

TABLE 3. TARGET SITE VISIT SAMPLE SIZES

| Building Size | Ownership Type | Central Hudson Gas and Electric | Consolidated Edison | NYSEG & RGE | National Grid | Orange and Rockland Utilities | PSEG Long Island | Statewide |
|---|---|---|---|---|---|---|---|---|
| 1-3 Floors | Affordable Subsidized | 13 | 14 | 17 | 15 | 10 | 19 | 88 |
| | Affordable Census Block | 14 | 16 | 18 | 15 | 14 | 13 | 90 |
| | Co-ops and Condos | - | 17 | - | - | - | 21 | 38 |
| | Market-Rate Rental | 19 | 15 | 22 | 21 | 18 | 22 | 117 |
| | **Subtotal** | **46** | **62** | **57** | **51** | **42** | **75** | **333** |
| 4-7 Floors | Affordable Subsidized | 10 | 16 | 13 | 15 | - | 8 | 62 |
| | Affordable Census Block | 9 | 17 | 11 | 14 | 8 | 13 | 72 |
| | Co-ops and Condos | - | 16 | - | - | - | 10 | 26 |
| | Market-Rate Rental | 21 | 16 | 19 | 21 | 21 | 13 | 111 |
| | **Subtotal** | **40** | **65** | **43** | **50** | **29** | **44** | **271** |
| 8+ Floors | Affordable Subsidized | - | 19 | 8 | 9 | - | - | 36 |
| | Affordable Census Block | - | 14 | - | 7 | - | 7 | 28 |
| | Co-ops and Condos | - | 17 | - | - | - | 10 | 27 |
| | Market-Rate Rental | - | 21 | 8 | 11 | - | 10 | 50 |
| | **Subtotal** | **-** | **71** | **16** | **27** | **-** | **27** | **141** |
| **Total** | | **86** | **198** | **116** | **128** | **71** | **146** | **745** |

## B.1.7 Sample Frame

The 2022 SMBS did not use customer information provided by IOUs to recruit customers for the study, largely because the project timeline did not allow enough time to request and receive customer information. Instead, Cadmus initially constructed the study sample frame by randomly selecting multifamily buildings from a data set created using several sources, including county tax assessor data, NYC PLUTO data, commercial parcel data, and NYSERDA LMI data. Due to difficulties reaching original targets, Cadmus opened the study sample frame after six months of recruitment to allow any building representative to respond to the survey, asking screening questions about their building to ensure they met the study criteria and were not duplicating previous data.

Cadmus worked with industry organizations such as housing authorities and other affiliates to increase reach, and NYSERDA worked with Kelliher Samets Volk Agency (KSV) to create a social media marketing campaign to encourage participation in the study.

## B.1.8 Recruitment Overview

Using a nested design, the study first recruited building representatives such as property owners, property managers, and other engaged parties to complete an extensive survey, which collected a variety of data essential to characterizing multifamily buildings. Data collected for each building included year built and number of units, characteristics of space and water heating equipment, and information about major appliances and other end-use equipment. The survey also asked respondents whether they would be interested in participating in a site visit, and respondents who said yes made up the sample frame for recruiting site visit participants. Building representatives who had completed the survey asked building occupants to complete a separate occupant survey and agree to a dwelling unit site visit. The SMBS initially provided a $50 gift card to building representatives and a $30 gift card to occupants who completed a survey, which required an average of 33 minutes to complete, and a $150 gift card per building to building representatives and $50 to occupants who completed a site visit, which took an average of 2.6 hours to complete. Up to $100 was given to building representatives for recruiting two dwelling unit occupants per building to participate. After six months of recruitment, incentives increased to attract more participants:

- $200 for building representatives for completing the building representative survey (up from $50)
- $250 for building representatives for allowing a site visit (up from $150)
- $50 each for building representatives for up to two referred occupants (no change)
- $50 for occupants for completing the occupant survey (up from $30)
- $50 for occupants for permitting a dwelling unit site visit (no change)

Total incentives possible for a building representative reached $550 for surveys and site visits at three buildings.

The recruitment process began with the study team sending postcards (in batches) to a randomly selected set of households, encouraging them to complete the survey using a link to an online version or by calling a field agent using a toll-free number. Approximately 10 days after each mailing, the study team followed up with phone calls to nonresponders for each record where a phone number was matched to the sampled address. Additionally, NYSERDA followed these attempts with an email reminder to a subset of nonresponders if email addresses were available.

As study team members responsible for completing site visits, GDS, SWA, and Ridgeline each handled recruiting and scheduling site visit participants from the group of survey respondents who expressed a willingness to participate. Geographic regions were divided among the three companies to avoid confusion during recruiting and to allow each company to realize efficiencies by focusing on a smaller geographic area.

## B.1.9 Summary of Data Collection Activities

The 2022 SMBS sample design and recruitment led to completion of 1,337 surveys between April 4, 2022, and August 15,2023, as shown in Table 4. The study team completed 434 site visits between June 21, 2022, and July 27, 2023.

TABLE 4. SITE VISITS AND SURVEY COMPLETIONS BY BUILDING SIZE

| Respondent Type | Target Survey Completions | Survey Completions | Target Site Visit Completions | Site Visit Completions |
|---|---|---|---|---|
| Low-rise (1-3 Floors) | 1200 | 671 | 333 | 243 |
| Mid-rise (4-7 Floors) | 807 | 486 | 271 | 120 |
| High-rise (8+ Floors) | 456 | 180 | 141 | 71 |
| **Total** | **2,463** | **1,337** | **745** | **434** |

Table 5 shows survey completions and site visits by IOU territory.

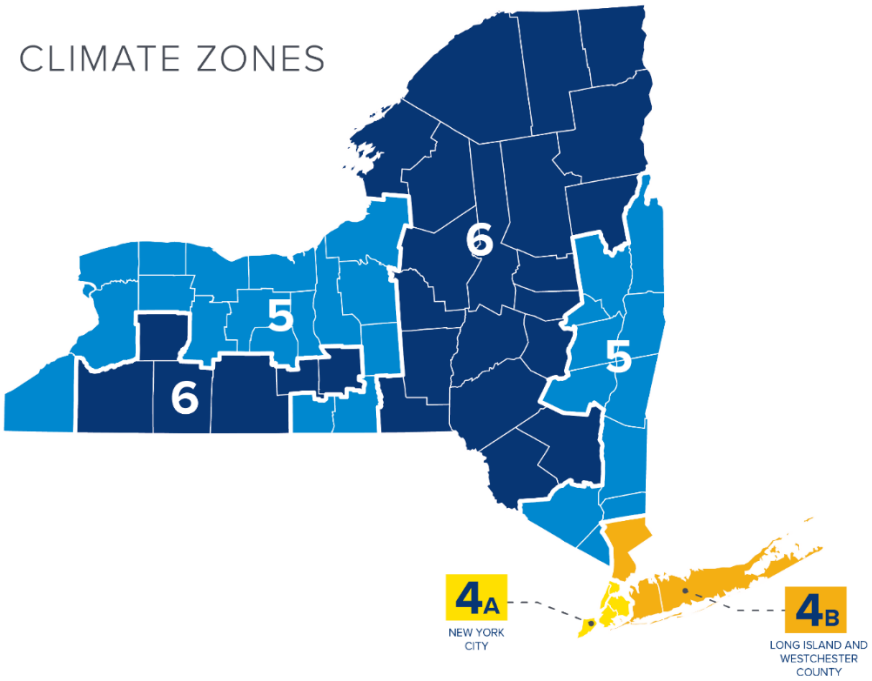
TABLE 5. SURVEY COMPLETIONS AND SITE VISITS BY IOU TERRITORY

| Economic Development Region | Survey Completions | Target Site Visits Completions | Site Visits Completions |
|---|---|---|---|
| Central Hudson Gas and Electric | 83 | 86 | 29 |
| Consolidated Edison | 625 | 198 | 184 |
| NYSEG & RGE | 263 | 116 | 68 |
| National Grid | 239 | 128 | 81 |
| Orange and Rockland Utilities | 25 | 71 | 12 |
| PSEG Long Island | 102 | 146 | 60 |
| **Total** | **239** | **128** | **434** |

## B.1.10 Climate Zones

The 62 counties within NYS vary in climate from Climate Zone 4 to Climate Zone 6, as shown in Figure 3 and as defined in the 2009 and 2015 International Energy Conservation Code. The 2022 SMBS study team grouped survey and site visit participants into the four climate zones and sub-zones by county, as shown in Table 6.

## FIGURE 3. NEW YORK STATE CLIMATE ZONE MAP




## TABLE 6. NEW YORK STATE CLIMATE ZONE BY COUNTY

| | | | |
|---|---|---|---|
| **CLIMATE ZONE 4A** | | | |
| Bronx | Richmond | Queens | New York |
| Kings | | | |
| **CLIMATE ZONE 4B** | | | |
| Nassau | Suffolk | Westchester | |
| **CLIMATE ZONE 5** | | | |
| Albany | Erie | Ontario | Saratoga |
| Cayuga | Genesee | Orange | Schenectady |
| Chautauqua | Greene | Oswego | Seneca |
| Chemung | Livingston | Orleans | Tioga |
| Columbia | Monroe | Putnam | Washington |
| Cortland | Niagara | Rensselaer | Wayne |
| Dutchess | Onondaga | Rockland | Yates |
| **CLIMATE ZONE 6** | | | |
| Allegany | Franklin | Montgomery | Sullivan |
| Broome | Fulton | Oneida | Tompkins |
| Cattaraugus | Hamilton | Otsego | Ulster |
| Chenango | Herkimer | Schoharie | Warren |
| Clinton | Jefferson | Schuyler | Wyoming |
| Delaware | Lewis | St. Lawrence | |
| Essex | Madison | Steuben | |

Table 7 shows survey and site visit completions by climate zone.

TABLE 7. SURVEY AND SITE VISIT COMPLETIONS BY CLIMATE ZONE

| Climate Zone | Survey Completions | Site Visit Completions |
|---|---|---|
| Climate Zone 4A | 587 | 173 |
| Climate Zone 4B | 146 | 73 |
| Climate Zone 5 | 487 | 153 |
| Climate Zone 6 | 117 | 35 |
| **Total** | **1,337** | **434** |

## B.2 WEIGHTS

When calculating totals, means, proportions, or other summary statistics for a population that encompasses more than one of the strata, a sample weight must be applied to each observation to provide the appropriate contribution for the population.

Cadmus developed the sample frame and sample design based on initial population data. However, the population data was revised as Cadmus gained additional information from the image analysis study. This additional information included parcels having more buildings than the original population data showed, the actual number of floors or ownership type differing from original strata assignments, and buildings that did not exist in the original population data. This resulted in changes to population counts within the ownership type and building size strata from the initial sample design. Absent these changes, strata weights for the initial sample design would not have been necessary. Because population counts did change, Cadmus applied strata weights for ownership type and building size, in addition to climate zone, building vintage, and DAC flags, which were not included in the initial sample design.

Cadmus also applied a non-response adjustment factor to scale the responding sample to resemble the original sample.[2] These weights were calculated dynamically within the analysis because the non-response counts varied for each reporting metric, resulting in hundreds of unique weights. Therefore, the non-response weights are not included in the tables in this section.

### B.2.1 Weighting Overview

The basic function of a weight is to estimate the number of buildings each single building represents. If 50 out of 1,000 buildings are sampled in a given stratum, the resulting weight would be 20 (Population (N)/sample size (n)). For example, if a single ground-source heat pump is observed in one building (which statistically represents 20 buildings), you can estimate that 20 buildings in the population have a ground-source heat pump. If you observe an average of eight

[2] Post-stratification or non-response adjustment? | Published in Survey Practice. Accessed September 5, 2024.

LEDs in each dwelling unit, you can estimate that the population of 1,000 units has a total of 8,000 LEDs (50 dwelling units * 8 bulbs * 20 weight, or 8 bulbs * 1,000 dwelling units).

For the 2022 SMBS, stratifying by building size and ownership type within each major investor-owned utility (IOU) territory results in 72 distinct strata, representing combinations of the following categories:

- Building Size: 1-3 floors, 4-7 floors, 8+ floors.
- Ownership Type: Affordable subsidized, affordable census block, market-rate rental, co-ops and condos.
- IOU Territory: Central Hudson Gas & Electric, Consolidated Edison, NYSEG & RGE, National Grid, Orange and Rockland Utilities, and PSE&G Long Island.

The study assumed that the random sampling within each IOU territory resulted in representative samples of the populations in each of these strata. Accordingly, when characterizing specific parameters within each stratum, applying sampling weights to the results was unnecessary.

When calculating totals, means, proportions, or other summary statistics for a population that encompasses more than one of the six strata, a sample weight was applied to each observation to give it the appropriate contribution for the population. Cadmus calculated a weight for each of the strata and for each primary data collection method—survey and site visit—by dividing the estimated population of multifamily buildings in that stratum by the achieved sample size in that stratum.

The analysis for a given characteristic often involved recalculating stratum weights to account for a smaller sample size, because in many cases values for a given characteristic were not known for some of the sampled buildings. The study team calculated a new weight for each stratum as the stratum population (which was always the same for that stratum) divided by the number of buildings in the sample with observed values. Cadmus recalculated weights only when the subset of buildings with observed values were meant to be representative of the population of that stratum. Site weights that assume a full sample size for each stratum are provided for each observation in the 2022 SMBS survey and site visit datasets.

## B.2.2 Estimation Methods

Cadmus used SAS statistical software to calculate weighted mean and proportion tables, which are presented in Appendix A. For tables presenting proportions and distributions, Cadmus used the SAS procedure PROC SURVEYFREQ. For tables presenting means, Cadmus used the SAS procedure PROC SURVEYMEANS. Inputs to these procedures are outlined in Table 8.

TABLE 8. SAS PROCEDURES USED IN MULTIFAMILY BUILDING STUDY ANALYSIS

| Procedure | Statement | Input |
|---|---|---|
| PROC SURVEYFREQ[a] | TABLE | Grouping variables used in the rows and columns for the tables. These could include either a stratification variable or any variable used to report results. |
| | WEIGHT | If reporting whole-unit results, WEIGHT is specified as the case weight. If reporting component-level results, WEIGHT is specified as the case weight multiplied by the number of components within the dwelling unit. If the sample proportions were impacted by survey non-response, WEIGHT also includes a non-response adjustment to scale the proportions to match the original sample. |
| PROC SURVEYMEANS[b] | VAR | Grouping variable used in the rows for the tables. This could include either a stratification variable or any variable used to report results. |
| | STRATA | Grouping variable used in the columns for the tables. This could be a stratification variable or any variable used to report results. |
| | BY | Grouping variable used in the columns for the tables, such as building vintage or climate zone. Using the BY statement provides completely separate analyses of the BY groups for each column. |
| | WEIGHT | If reporting whole-unit results, WEIGHT is specified as the case weight. If reporting component-level results, WEIGHT is specified as the case weight multiplied by the number of components within the dwelling unit. If the sample proportions were impacted by survey non-response, WEIGHT also includes a non-response adjustment to scale the proportions to match the original sample. |

[a] https://support.sas.com/documentation/cdl/en/statug/63347/HTML/default/viewer.htm#statug_surveyfreq_sect003.htm
[b] https://support.sas.com/documentation/cdl/en/statug/63033/HTML/default/viewer.htm#statug_surveymeans_sect006.htm

Estimates and standard errors produced using the methods outlined above are weighted estimates using stratified estimation methods and are representative of what is expected in the population based on the sample. To understand the methodology of the SAS procedures used in this analysis, or to perform this analysis with a different program, please see the *B.2.2.1 Formulas* section below.

### *B.2.2.1 Formulas*

Formulas in this section allow estimation of building and dwelling unit metrics. If estimating at a component level, replace the population of buildings ($N$) and sample size of buildings ($n$) with the estimated population of components ($\widehat{M}$) and number of sampled components ($m$). The formulas in this section use the notations provided in Table 9 for stratified estimation.

TABLE 9. NOTATION FOR STRATIFIED ESTIMATION

| Symbol | Description |
|---|---|
| $Y, y$ | Observation within population (upper case) or sample (lower case) |
| $i$ | Building identifier |
| $l$ | Stratum defined by a unique combination of climate zone and building type |
| $N, n$ | Population of buildings (upper case) and sample size (lower case) of buildings |
| $\widehat{M}, m$ | Estimated population of components (upper case) and sample size of components (lower case), where $\widehat{M} = N * m$ |

Note that all estimates are parameter-level metrics but use building-level population stratified estimation formulas. The population sizes, $Nl$, correspond to building population sizes in each of the six strata.

#### B.2.2.1.1 Estimation within a Single Stratum

Calculating means or proportions within a single stratum, such as for one climate zone and building vintage, does not require stratification weighting. Use the formulas for mean and proportion estimates in Equation 1 through Equation 4. *These equations should be used only within a single stratum and, in most cases for this study, Equation 5 through Equation 8 will also be necessary when conducting the analysis on a given characteristic.*

***Equation 1: Means***

Means were calculated using Equation 1, where $y_{il}$ represents the observed metric for building *i* in stratum *l*, $n_l$ represents the number of instances in the sample in stratum *l* with that metric observed, and $\bar{y}_l$ represents the estimated mean of the observed metric in stratum *l*.

$$\bar{y}_l = \frac{1}{n_l}\sum_{i=1}^{n_l} y_{il}$$

***Equation 2: Stand Errors of Estimated Means***

Standard errors of the estimated means were calculated using Equation 2, where the $y_{il}$ and $n_l$ are the same as in Equation 1, $N_l$ represents the population size of buildings in stratum *l*, and $SE(\bar{yl})$ represents the standard error of the estimated mean in stratum *l*. Again, this equation is valid only for results within a given stratum, and additional equations were needed when results span two or more strata.

$$SE(\bar{y}_l) = \sqrt{\left(1 - \frac{n_l}{N_l}\right)\left(\frac{1}{n_l}\right)\left(\frac{1}{n_l - 1}\sum_{i=1}^{n_l}(y_{il} - \bar{y}_l)^2\right)}$$

***Equation 3: Proportions***

Proportions were calculated using Equation 3, where $n_{l^*}$ represents the number of observations with the characteristic of interest (for example, buildings of a certain height) and $n_l$ represents the number of buildings in the sample in stratum *l* with a known value for that characteristic. For example, to estimate the proportion of walls within each cladding category, calculate $n_{l^*}$ by counting the number of walls in stratum *l* with known values, such as wood or vinyl siding, brick, stucco, sandstone, none, or other, then divide each $n_{l^*}$ by $n_l$, the total number of walls with cladding recorded in the stratum. The result was one $\hat{p}_l$ value for each characteristic (wood or vinyl siding, brick, stucco, sandstone, none, and other).

$$\hat{p}_l = \frac{n_l^*}{n_l}$$

***Equation 4: Standard Errors of Estimated Proportions***

Standard errors of estimated proportions were calculated using Equation 4, where $nl$ is the same as above and $Nl$ represents the population size of observations in stratum *l*. The estimate from Equation 3 results in $\hat{p}l$, and $SE(\hat{p}l)$ represents the standard error of the estimated proportion in stratum *l*.

$$SE(\hat{p}_l) = \sqrt{\left(1 - \frac{n_l}{N_l}\right)\frac{\hat{p}_l(1-\hat{p}_l)}{n_l}}$$

### B.2.2.1.2 Stratified Estimation: Combining Multiple Strata

Estimating means or proportions for populations that include multiple combined strata requires stratification weighting. Equation 5 through Equation 8 were used to estimate values that represent more than one stratum, such as statewide values and values that represent all buildings within each climate zone. These build on Equation 1 through Equation 4 above.

***Equation 5: Combined Means***

Means were calculated using Equation 5, where $\bar{y}_l$ is the mean within stratum *l* and $N_l$ is the population size of buildings in stratum *l*. The products of the population sizes and mean estimates were summed, then divided by the sum of the population sizes. In the summation notation, *L* represents the total number of strata. The result is a combined mean estimate, $\bar{y}$. For example, to estimate the mean conditioned floor area for New York State (NYS), the user should assign *l*=1 to 6 to represent the six strata defined for the study. The user should sum the population sizes from the six strata to calculate the denominator in Equation 5 and divide the sum of the product of each stratum population size $Nl$ with the stratum mean estimate $\bar{y}l$ by the summed population sizes.

$$\bar{y} = \frac{\sum_{l=1}^{L} N_l * \bar{y}_l}{\sum_{l=1}^{L} N_l}$$

***Equation 6: Standard Errors of Estimated Means***

Standard errors of estimated means were calculated using Equation 6 with the standard error of the estimated mean in each stratum *l*, $SE(\bar{y}_l)$, defined above in Equation 2. The products of the squared population sizes, $N_l$, were summed with the squared mean standard errors, $SE(\bar{y}_l)$, then the square root of the sum was divided by the sum of the population sizes.

$$SE(\bar{y}) = \frac{1}{\sum_{l=1}^{L} N_l}\sqrt{\sum_{l=1}^{L} N_l^2 * SE(\bar{y}_l)^2}$$

***Equation 7: Proportions***

Proportions were calculated using Equation 7, where $\hat{p}_l$ represents the proportion in each stratum *l* and is defined above in Equation 3. The population size, $N_l$, represents the number of buildings in each stratum *l*. Similar to the combined mean estimate, the product of the

population sizes and the strata proportions were summed, then divided by the sum of the strata population sizes.

$$\hat{p} = \frac{\sum_{l=1}^{L} N_l * \hat{p}_l}{\sum_{l=1}^{L} N_l}$$

***Equation 8: Standard Errors of Combined Proportion Estimates***

Standard errors of the combined proportion estimates were calculated using Equation 8, with the standard error of the estimated proportion in each stratum, $\hat{p}_l$, calculated using Equation 4 and the strata population sizes $N_l$. The product of the squared population sizes, $N_l$, and squared standard errors, $SE(\hat{pl})$, were summed in each stratum, then the square root of the sum was divided by the sum of the population sizes.

$$SE(\hat{p}) = \sqrt{\frac{\sum_{l=1}^{L} N_l^2 * SE(\hat{p}_l)^2}{\sum_{l=1}^{L} N_l}}$$

## B.2.3 Statistical Confidence, Precision, and Error Bounds

Detailed in the B.1.5 Population Dataset section below, Cadmus developed a sampling plan with the goal of achieving 90% confidence and ±10% precision for most parameters of interest statewide. Precision represents uncertainty with a level of confidence. When the study achieves ±10% precision at the 90% confidence level, one can be 90% confident that any random sample of the same population would yield a result within ±10% of the study's result.

Data tables provided in Appendix A include error bounds for all values. Cadmus calculated the error bounds as the standard error multiplied by a t-statistic, and they provide the half-width of the 90% confidence interval. Error bounds are equivalent to absolute precision and have the same units as the estimate. When reporting precision, absolute precision is typically reported for percentages or distributions, while relative precision is typically reported for means or totals. To calculate the relative precision for a given mean or total, divide the error bound by the associated estimate. With percentages, the reported error bound represents the absolute precision.

With a total sample size of 1,337 across the six strata, the precision for survey results easily falls within the target 90/10 for NYS and for each stratum. Even with smaller strata sample sizes, however, results are often delivered within the 90/10 target given the relatively small coefficients of variation for many characteristics in buildings.

Site visit results for key metrics easily fall within the 90/10 target at the statewide level, with a total sample size of 434 sites, and often meet 90/10 within climate zones.

## B.2.4 Survey Stratification Weights

Cadmus calculated a weight for each of the strata by dividing the estimated population of multi-family buildings in that stratum by the achieved sample size. The following tables show the population counts, achieved sample sizes, and weights for each of the strata.

Table 10 shows the population, survey completions, and calculated survey weights by ownership type.

TABLE 10. SURVEY STRATIFICATION WEIGHTS – OWNERSHIP TYPE

| Ownership Type | Population Buildings | Sample Completions Building Rep Survey | Sample Weights Building Rep Survey |
|---|---|---|---|
| Affordable Subsidized | 9,990 | 245 | 41 |
| Affordable Census Block | 41,589 | 407 | 102 |
| Co-ops and Condos | 15,283 | 215 | 71 |
| Market-Rate Rental | 55,742 | 471 | 118 |
| **Total** | **122,604** | **1,338** | **N/A** |

Table 11 shows the population, survey completions, and calculated survey weights by building size.

TABLE 11. SURVEY STRATIFICATION WEIGHTS – BUILDING SIZE

| Building Size | Population Buildings | Sample Completions Building Rep Survey | Sample Weights Building Rep Survey |
|---|---|---|---|
| 1-3 Floors | 60,659 | 674 | 90 |
| 4-7 Floors | 53,032 | 488 | 109 |
| 8+ Floors | 8,913 | 180 | 50 |
| **Total** | **122,604** | **1,342** | **N/A** |

Table 12 shows the population, survey completions, and calculated survey weights by climate zone.

TABLE 12. SURVEY STRATIFICATION WEIGHTS – CLIMATE ZONE

| Climate Zone | Population Buildings | Sample Completions Building Rep Survey | Sample Weights Building Rep Survey |
|---|---|---|---|
| Climate Zone 4 | 11,186 | 153 | 73 |
| Climate Zone 5 | 27,206 | 338 | 80 |
| Climate Zone 6 | 8,622 | 147 | 59 |
| NYC | 75,590 | 703 | 108 |
| **Total** | **122,604** | **1,341** | **N/A** |

Table 13 shows the population, survey completions, and calculated survey weights by building vintage.

TABLE 13. SURVEY STRATIFICATION WEIGHTS – BUILDING VINTAGE

| Building Vintage | Population Buildings | Sample Completions Building Rep Survey[a] | Sample Weights Building Rep Survey |
|---|---|---|---|
| 1940 to 1978 | 26,197 | 59 | 444 |
| 1979 to 2006 | 12,740 | 22 | 579 |
| 2007 to Present | 8,387 | 3 | 2,796 |
| Pre-1940 | 63,912 | 77 | 830 |
| **Total** | **111,236** | **161** | **N/A** |

[a] Building vintage could not be determined for 1,181 of the building rep survey respondents.

Table 14 shows the population, survey completions, and calculated survey weights by building vintage.

TABLE 14. SURVEY STRATIFICATION WEIGHTS – DACS

| DAC Census Tract | Population Buildings | Sample Completions Building Rep Survey | Sample Weights Building Rep Survey |
|---|---|---|---|
| Designated as DAC | 58,628 | 470 | 125 |
| Not in a DAC designated Census Tract | 62,063 | 581 | 107 |
| **Total** | **120,691** | **1,051** | **N/A** |

## B.2.5 Site Visit Stratification Weights

Cadmus calculated a weight for each of the strata by dividing the estimated population of buildings in that stratum by the achieved site visit sample size. The following tables show the population counts, achieved sample sizes, and weights for each of the strata.

Table 15 shows the population, site visit completion, and calculated weight by ownership type.

TABLE 15. SITE VISIT STRATIFICATION WEIGHTS – OWNERSHIP TYPE

| Ownership Type | Population Buildings | Sample Completions Site Visits | Sample Weights Site Visits |
|---|---|---|---|
| Affordable Subsidized | 9,990 | 134 | 75 |
| Affordable Census Block | 41,589 | 123 | 338 |
| Co-ops and Condos | 15,283 | 49 | 312 |
| Market-Rate Rental | 55,742 | 129 | 432 |
| **Total** | **122,604** | **435** | **N/A** |

Table 16 shows the population, site visit completion, and calculated weight by building size.

TABLE 16. SITE VISIT STRATIFICATION WEIGHTS – BUILDING SIZE

| Building Size | Population Buildings | Sample Completions Site Visits | Sample Weights Site Visits |
|---|---|---|---|
| 1-3 Floors | 60,659 | 243 | 250 |
| 4-7 Floors | 53,032 | 121 | 438 |
| 8+ Floors | 8,913 | 71 | 126 |
| **Total** | **122,604** | **435** | **N/A** |

Table 17 shows the population, site visit completion, and calculated weight by climate zone.

TABLE 17. SITE VISIT STRATIFICATION WEIGHTS – CLIMATE ZONE

| Climate Zone | Population Buildings | Sample Completions Site Visits | Sample Weights Site Visits |
|---|---|---|---|
| Climate Zone 4 | 11,186 | 69 | 162 |
| Climate Zone 5 | 27,206 | 148 | 184 |
| Climate Zone 6 | 8,622 | 41 | 210 |
| NYC | 75,590 | 177 | 427 |
| **Total** | **122,604** | **435** | **N/A** |

Table 18 shows the population, site visit completion, and calculated weight by building vintage.

TABLE 18. SITE VISIT STRATIFICATION WEIGHTS – BUILDING VINTAGE

| Building Vintage | Population Buildings | Sample Completions Site Visits | Sample Weights Site Visits |
|---|---|---|---|
| 1940 to 1978 | 26,197 | 100 | 262 |
| 1979 to 2006 | 12,740 | 44 | 290 |
| 2007 to Present | 8,387 | 33 | 254 |
| Pre-1940 | 63,912 | 143 | 447 |
| **Total** | **111,236** | **320** | **N/A** |

Table 19 shows the population, site visit completion, and calculated weight by building vintage.

TABLE 19. SITE VISIT STRATIFICATION WEIGHTS – DACS

| DAC Census Tract | Population Buildings | Sample Completions Site Visits | Sample Weights Site Visits |
|---|---|---|---|
| Designated as DAC | 58,628 | 168 | 349 |
| Not in a DAC designated Census Tract | 62,063 | 201 | 309 |
| **Total** | **120,691** | **369** | **N/A** |

# B.3 WEB AND PHONE SURVEY

## B.3.1 Summary of Approach

The SMBS online and phone survey collected data from April 4, 2022, through August 15, 2023, and allowed participation by phone or web. The survey and survey programming incorporated input from NYSERDA's evaluation and program staff and were reviewed and approved by NYSERDA prior to the launch.

Questions on building related topics focused on general building description, utility account holder responsibility, and common area appliances. Questions about dwelling units covered in-unit appliances, primary heating and cooling systems, and reliability of and satisfaction with domestic hot water.

The key objectives of the survey were to provide up-to-date, self-reported estimates of equipment types, fuel types and uses, vintages, and efficiencies, as well as information about building characteristics, demographics, occupant energy consumption attitudes and behaviors,

participation in energy efficiency programs, and willingness to pay for different types of efficient equipment. The survey was also used to recruit buildings for site visits.

Cadmus conducted the online surveys. Cadmus reached out to potential respondents through multiple email attempts for those with valid email addresses in their contact data, as well as via postcards with the online survey link that were mailed to potential respondents without a valid email address. Cadmus also worked with third parties (housing nonprofits, housing authorities, community/advocacy, and builder groups) to distribute information about the SMBS study, including the online survey link, to recruit property managers and owners. Cadmus also allowed property manager respondents to refer other property managers to the study. Tenant survey respondents were referred by the property manager/owners. Leede conducted the phone surveys, and made multiple attempts to reach potential respondents on different days of the week and different times of the day.

The study team offered survey respondents the option to receive a $100 Amazon gift card electronically through email or as a physical gift card mailed to them for their participation in the survey. If requested, the survey respondents were provided instead with an optional prepaid Visa card. The study team distributed gift cards on a weekly basis.

### B.3.2 Sampling

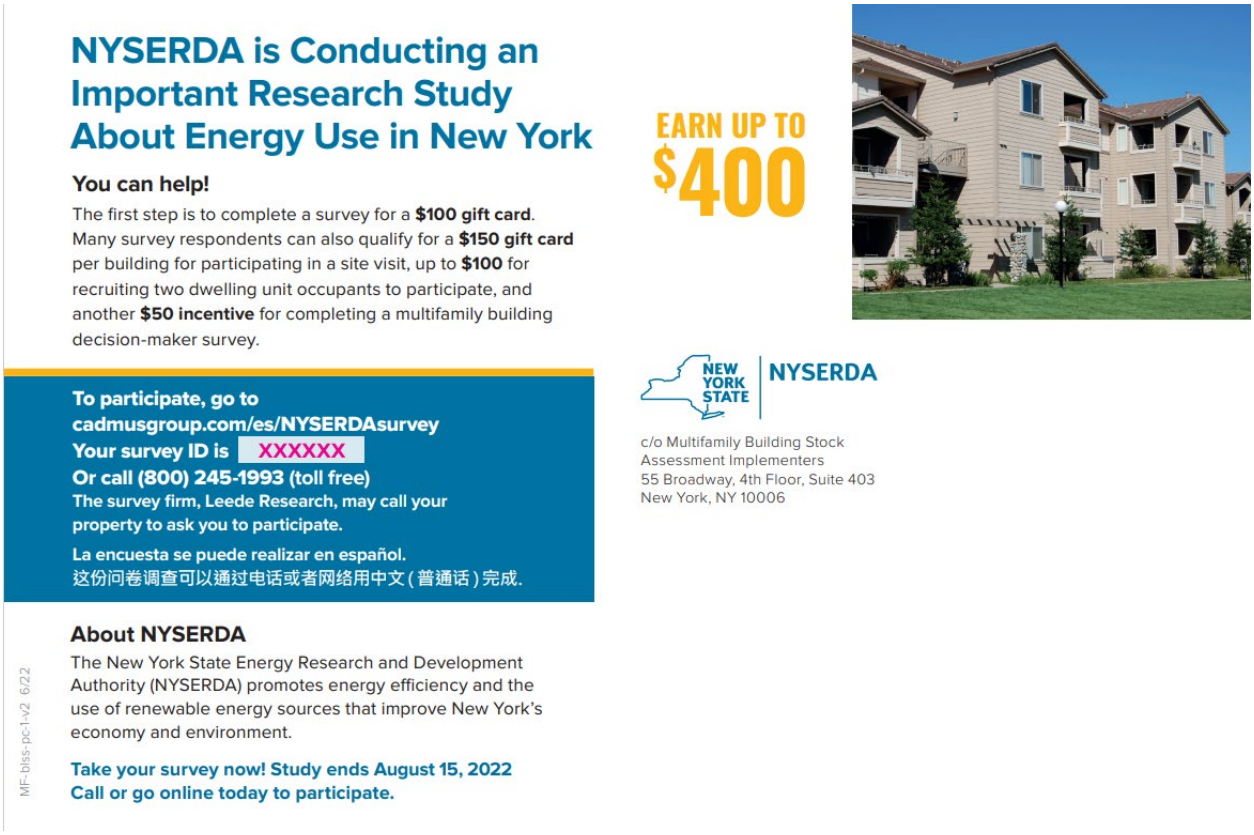
To identify recipients for SMBS recruiting postcards, Cadmus began by drawing a random sample of multifamily households from the population dataset described in (B.1.5). After consultation with NYSERDA, Cadmus purchased contact information as needed from a third-party data source, Reonomy. Building representatives were allowed to engage with the study for up to three properties to balance recruitment needs with the need to prevent skewed data from a single property owner.

### B.3.3 Response Rates

To recruit survey recipients, the study team mailed postcards to randomly selected buildings within each IOU territory in sufficient numbers to potentially reach the site visit goals. Designed under the direction of NYSERDA and Cadmus, the postcards invited recipients to complete the survey online or by phone and provided a toll-free number (see Figure 4 and Figure 5) . The postcards noted that the survey was offered in Spanish and Mandarin, and Leede provided staff to conduct surveys in English or Spanish at a toll-free number. Leede staff also attempted to contact postcard recipients by phone who had not responded.

FIGURE 4. EXAMPLE OF RECRUITING POSTCARD, FRONT

FIGURE 5. EXAMPLE OF RECRUITING POSTCARD, BACK




The study team mailed postcards in successive batches, adjusting the timing, IOU territories, and quantities as necessary, with the goal of meeting site visit targets while also minimizing cost. Overall, the study team mailed 108,262 postcards (in addition to sending email blasts to up to 3,994 recipients) and achieved a response rate of 2%, as shown in Table 20.

As this study progressed and survey completions were falling short of the original targets, it became apparent that the project team would need to adjust its recruitment strategies. While Leede Research took a broad approach in calling all available phone numbers in the sample frames, Cadmus and NYSERDA began working with APPRISE to perform more targeted outreach in strata where survey targets had not been met. KSV also supported via a paid social media campaign, which resulted in over 200 survey clicks that contributed to an additional 139 survey completions[3].

Table 20 shows disposition and response rates by IOU territory, which ranged from 1% for Consolidated Edison to 6% for smaller territories like that of NYSEG & RGE. Despite rigorous calls to postcard recipients who had not responded, an unexpectedly small number of survey respondents—140 of 1,337—opted to complete the survey by phone.

[3] The survey link shared via this campaign was also provided via email and trade groups, so some completions may be attributed to other sources.

## TABLE 20. WEB AND PHONE SURVEY DISPOSITION AND RESPONSE RATE BY IOU TERRITORY

| Disposition | Central Hudson Gas and Electric | Consolidated Edison | NYSEG & RGE | National Grid | Orange and Rockland Utilities | PSEG Long Island | Total |
|---|---|---|---|---|---|---|---|
| Total sampled (mailed) | 1,744 | 44,537 | 4,642 | 7,167 | 1,241 | 3,202 | 62,533 |
| Completed by phone | 10 | 61 | 22 | 35 | 7 | 5 | 140 |
| Completed via web | 73 | 564 | 241 | 204 | 18 | 97 | 1,197 |
| Partially completed | 22 | 536 | 76 | 142 | 12 | 33 | 821 |
| Active sample (received postcard but did not begin survey) | 1,577 | 40,224 | 4,130 | 6,389 | 1,165 | 2,918 | 56,403 |
| Refused to complete | 14 | 1,043 | 77 | 128 | 10 | 58 | 1,330 |
| Invalid phone number (disconnected) | 26 | 1,198 | 67 | 158 | 20 | 31 | 1,500 |
| Wrong number | 22 | 847 | 29 | 108 | 9 | 56 | 1,071 |
| Language barrier | - | 54 | - | - | - | - | 54 |
| Ineligible | 2 | 30 | 2 | 11 | 2 | 7 | 54 |
| **Response rate** | 5% | 1% | 6% | 3% | 2% | 3% | 2% |
| **Cooperation rate** | 6% | 3% | 7% | 5% | 3% | 4% | 3% |

## B.3.4 Data Cleaning

Cadmus performed mostly minimal cleaning of the survey data, largely to preserve participant responses. Data cleaning and QC entailed making the styling, capitalization, and spelling of entered values (such as utility names) consistent and recategorizing Other responses within predefined categories whenever possible.

## B.3.5 Limitations and Suggestions for Future Studies

The 2022 SMBS survey was an overall success, providing important and useful data for 1,472 respondents throughout NYS and creating ample recruits for site visits in most strata. This section highlights the methodologies and choices that worked especially well and then describes challenges and limitations to consider for any future iterations of the project.

Several aspects of the 2022 SMBS survey methodology and process worked well:

- Sampling and recruiting by IOU territory ensured that the sample included buildings throughout NYS and provided a convenient geographic structure for organizing and assigning site visits.
- The electronic Amazon gift cards were well-received by most recipients, and providing the gift cards to recipients was a relatively easy task to manage. Some people preferred physical gift cards, which increased expense and logistical overhead.
- Providing a lengthy enough timeline to allow the sample to be drawn from a fully developed population dataset appears to have been key to the study's success, because it allowed the study team to compile accurate names, phone numbers, and possibly even email addresses. Being able to recruit through mail, phone calls, email, and social media campaigns helped to reduce the cost of contacting potential respondents and helped to achieve the most representative sample practical.

The following items summarize limitations of the methodology and data and provide suggestions for future iterations of the project:

- Survey recruiting succeeded in achieving more-than-adequate survey sample sizes for most strata, but high-rise survey completions were not high enough for either Climate Zone 5 or Climate Zone 6 to support meeting site visit goals in those climate zones.
- The comparatively small number of high-rise buildings in NYS outside of NYC made meeting high-rise quotas especially difficult. If characterizing high-rises remains a high priority, special care should be taken to recruit from a high-rise sample from all available sources, focusing especially in Climate Zone 5 and Climate Zone 6. These sources should include tax assessment data, purchased samples, and possibly even address lists from high-volume builders. Social media may also prove useful. This approach should be combined with a more deliberate recruiting methodology to get the most responses from this typically small population of buildings.
- To allow for a sampling and recruiting approach that reduces financial incentives, NYSERDA may want to consider alternative forms of incentives, such as energy saver kits or home energy reports. The challenge will be to find an alternative to financial incentives that works but does not bias the sample more toward those who most value energy efficiency. Cadmus' experience is that financial incentives are critical to securing building representative and occupant participation in surveys and site visits but result in high costs per survey and site visit. The study team recommends that any alternative

approach be tested with surveys only and well in advance of the anticipated start of site visits.

- In isolated cases, survey response options (such as for baseboard heat) failed to adequately distinguish between the relevant technologies or choices. Should the study be replicated, the next study team should continue to improve the survey instrument.
- Some survey questions appear to require more knowledge about a given topic than many respondents possess. While surveys excel at collecting many data points accurately and economically, this lack of knowledge underscores the value of and need for continuing to include site visits in future updates to the study. The ability to compare data from the two sources—sometimes for the same buildings—allows confirmation that results are solid and helps identify cases in which one data collection method may not be delivering an accurate result.

# B.4 SITE VISITS

## B.4.1 Summary of Approach

The study team conducted all site visits between June 21, 2022, and July 27, 2023, after a two-day training for GDS, SWA, and Ridgeline project field staff. Under the direction of NYSERDA and Cadmus, a total of 434 site visits were completed: GDS staff completed 190 site visits, SWA staff completed 183 site visits, and Ridgeline completed 59 site visits. Cadmus also completed 2 site visits.

Site data was collected with a tablet-based data collection tool that Cadmus developed to standardize data collection and responses. This tool included an automated check that ensured that all required information had been entered before the field technician could complete data submission for a given building.

The 2022 SMBS includes data or findings regarding solar photovoltaic (PV) and electrical vehicle (EV) infrastructure; NYSERDA program data and utility interconnection data can provide a census of solar PV projects installed in NYS, and Department of Motor Vehicles vehicle registration data can provide a precise count of EVs in use statewide.

## B.4.2 Sampling and Recruitment

As study team members responsible for completing site visits, GDS, SWA, and Ridgeline handled recruiting and scheduling of site visit participants from the group of survey respondents who expressed a willingness to participate. Table 21 shows site visit completions by building size, ownership type, and IOU territory.

TABLE 21. SITE VISIT COMPLETIONS BY IOU TERRITORY AND BUILDING SIZE

| Building Size | Ownership Type | IOU Territory | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Central Hudson Gas and Electric | Consolidated Edison | NYSEG & RGE | National Grid | Orange and Rockland Utilities | PSEG Long Island | Statewide |
| 1-3 Floors | Affordable Subsidized | 6 | 16 | 15 | 18 | 2 | 18 | 75 |
| | Affordable Census Block | 7 | 19 | 19 | 16 | 4 | 12 | 77 |
| | Co-ops and Condos | - | 9 | - | - | - | 3 | 12 |
| | Market-Rate Rental | 13 | 12 | 20 | 19 | 6 | 9 | 79 |
| | **Subtotal** | **26** | **56** | **54** | **53** | **12** | **42** | **243** |
| 4-7 Floors | Affordable Subsidized | 1 | 15 | 4 | 5 | - | 8 | 33 |
| | Affordable Census Block | 1 | 18 | 5 | 8 | - | 5 | 37 |
| | Co-ops and Condos | - | 17 | - | - | - | 1 | 18 |
| | Market-Rate Rental | - | 16 | 3 | 10 | - | 3 | 32 |
| | **Subtotal** | **2** | **66** | **12** | **23** | **-** | **17** | **120** |
| 8+ Floors | Affordable Subsidized | 1 | 21 | 1 | 2 | - | 1 | 26 |
| | Affordable Census Block | - | 7 | - | 1 | - | - | 8 |
| | Co-ops and Condos | - | 19 | - | - | - | - | 19 |
| | Market-Rate Rental | - | 15 | 1 | 2 | - | - | 18 |
| | **Subtotal** | **1** | **62** | **2** | **5** | **-** | **1** | **71** |
| **Total** | | **29** | **184** | **68** | **81** | **12** | **60** | **434** |

## B.4.3 Response Rates

The percentage of survey respondents willing to schedule a site visit was relatively high, at 16%, as shown in Table 22. On the other hand, the site visit response rate, which was calculated as a percentage of mailed postcards was below 1% for every IOU territory and was 0.12% overall. Recruiting via postcard proved most difficult in Orange & Rockland Utilities' territory, where no postcards yielded a site visit.

TABLE 22. SITE VISIT RESPONSE RATES BY IOU TERRITORY

| IOU Territory | Postcards | Surveys | Site Visits | Response Rate from Surveys | Response Rate from Postcards |
|---|---|---|---|---|---|
| Central Hudson | 1,744 | 83 | 31 | 19.3% | 0.17% |
| Consolidated Edison | 44,537 | 625 | 181 | 15.4% | 0.04% |
| National Grid | 7,167 | 239 | 83 | 6.7% | 0.21% |
| NYSEG & RGE | 4,642 | 263 | 67 | 4.9% | 0.22% |
| Orange & Rockland Utilties | 1,241 | 25 | 12 | 24.0% | 0.00% |
| PSEG Long Island | 3,202 | 102 | 60 | 25.5% | 0.06% |
| **Total** | **62,533** | **1,337** | **434** | **16.0%** | **0.12%** |

## B.4.4 Safety

The study team prioritized the safety of field staff and participants. Field staff were trained to follow strict carbon monoxide and gas leak protocols. A separate safety protocol developed for the 2022 SMBS provided further guidance about general safety in participants' buildings and dwelling units, including basics such as ladder safety and appropriate conduct in unsafe conditions.

The study also adhered to COVID-19 safety protocols according to Cadmus and NYSERDA COVID-19 Field Work Protocols. These included requiring vaccination or regular testing, interviewing participants to ensure that they had not tested positive for COVID-19 recently, following social distancing requirements, required PPE, and safe travel guidelines.

## B.4.5 Data Quality

The study team ensured a high level of data quality through multilayered quality assurance and QC processes:

- Field technician training
- Data collection tool training
- QC site visits
- Biweekly meetings
- Data collection tool completeness checks
- Data cleaning and QC (conducted by Cadmus)

### *B.4.5.1 Field Technician Training*

Cadmus performed the initial, two-day project training virtually for anyone involved in the project including field staff, field staff managers, and QC personnel. The presenters recorded each session to allow trainees to review the content later and to support training of technicians who could not attend the initial training session. When new staff joined the project after the initial rollout, they were provided with the trainings and encouraged to reach out to Cadmus QC staff and to schedule a one-on-one meeting to discuss any questions.

Regular biweekly meetings with contractor staff addressed new information, questions, and opportunities for data collection improvement.

### *B.4.5.2 Data Collection Tool*

Field staff captured and submitted site visit data using the tablet-based Cadmus data collection tool. The tool provided a standard set of questions and response options for each site visit and adapted dynamically to skip questions that were not applicable based on responses. Field staff had to complete or mark each variable as Not Applicable or Unable to Determine before a site entry could be submitted. Where applicable, the tool provided preconfigured response options to ensure consistent data entry, with the option to enter a custom “other” value if necessary. Most numeric fields were also configured with an acceptable input range, and invalid values were flagged. When free-form text or numeric entry was required, the study team double-checked the figures through the QC process and evaluated responses for correctness and spelling errors. To avoid data loss, the tool was configured to work offline without a network connection and to sync data to a secure cloud server over WiFi or cellular data connection when available.

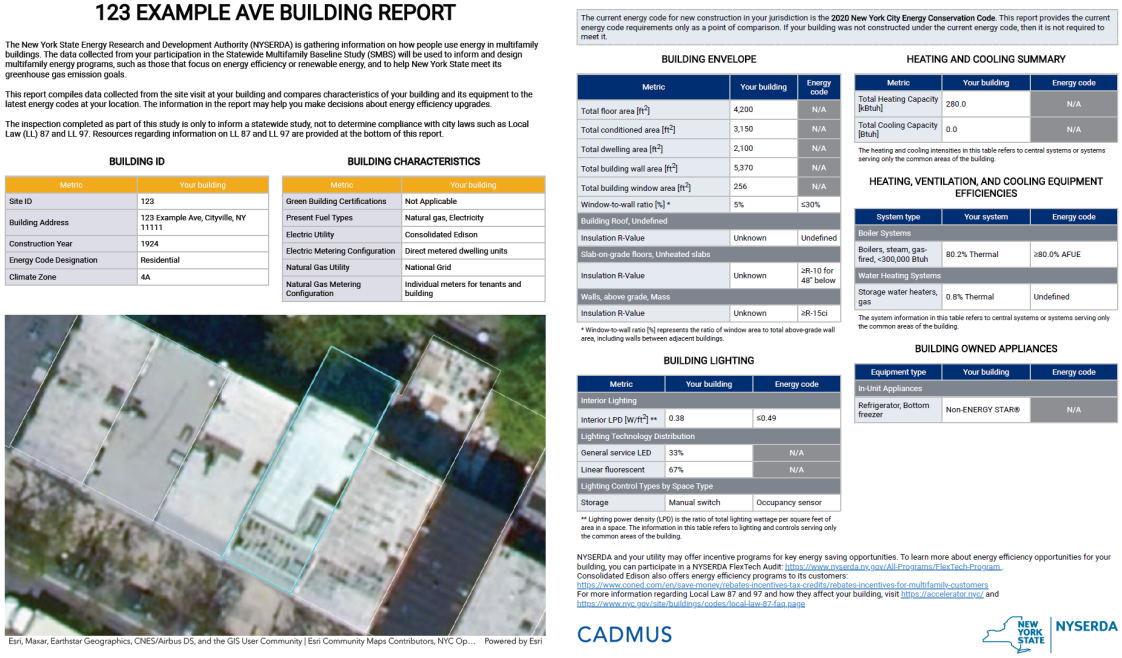
### *B.4.5.3 Quality Control Site Visits*

Cadmus performed follow-up QC site visits for at least one of the site visits performed by each field technician to identify and correct data collection problems. Cadmus staff scheduled, conducted, and evaluated these visits, and provided an additional $100 gift card to each participant. During QC data collection, the Cadmus field technician reviewed a copy of the original site report and noted any differences between that report and their own findings. After each QC site visit, Cadmus sent a summary of any identified data collection errors to the relevant field management staff at GDS, SWA, or Ridgeline, who shared the discrepancies with the field technician. QC site visits occurred during the data collection period to allow Cadmus to correct data collection issues before subsequent site visits. In addition, data corrections for all 72 sites that went through the QC process were incorporated into the database during the data cleaning and QC process.

### *B.4.5.3 Building Reports*

Cadmus developed a standardized building report like the example shown in Figure 6 to share key information identified from the site visits with building representatives. Cadmus developed the report template and metrics in collaboration with NYSERDA to highlight building characteristics that can help owners better understand how their building is operating and to identify relevant energy efficiency programs they may be eligible for. The reports include a summary of the utilities serving the building, the applicable energy code, building dimensions and envelope information including window-to-wall ratio and insulation levels, a summary of the heating and cooling systems including their capacity and efficiency, common area lighting power density, and a summary of appliances and their energy efficiency ratings. Relevant values are compared in the report to the most recent relevant energy code standard to highlight areas of potential opportunity. The report includes an aerial view of the building and links dynamically to the NYSERDA FlexTech Audit program, utility-specific energy efficiency programs, and information about Local Law 87 and 97 if relevant. Reports could be automatically generated using the Cadmus data collection web application, and were shared with all interested participants that provided their email address.

## FIGURE 6. SAMPLE BUILDING REPORT



### 123 EXAMPLE AVE BUILDING REPORT

The New York State Energy Research and Development Authority (NYSERDA) is gathering information on how people use energy in multifamily buildings. The data collected from your participation in the Statewide Multifamily Baseline Study (SMBS) will be used to inform and design multifamily energy programs, such as those that focus on energy efficiency or renewable energy, and to help New York State meet its greenhouse gas emission goals.

This report compiles data collected from the site visit at your building and compares characteristics of your building and its equipment to the latest energy codes at your location. The information in the report may help you make decisions about energy efficiency upgrades.

The inspection completed as part of this study is only to inform a statewide study, not to determine compliance with city laws such as Local Law (LL) 87 and LL 97. Resources regarding information on LL 87 and LL 97 are provided at the bottom of this report.

**BUILDING ID**

| Metric | Your building |
|---|---|
| Site ID | 123 |
| Building Address | 123 Example Ave, Cityville, NY 11111 |
| Construction Year | 1924 |
| Energy Code Designation | Residential |
| Climate Zone | 4A |

**BUILDING CHARACTERISTICS**

| Metric | Your building |
|---|---|
| Green Building Certifications | Not Applicable |
| Present Fuel Types | Natural gas, Electricity |
| Electric Utility | Consolidated Edison |
| Electric Metering Configuration | Direct metered dwelling units |
| Natural Gas Utility | National Grid |
| Natural Gas Metering Configuration | Individual meters for tenants and building |

Esri, Maxar, Earthstar Geographics, CNES/Airbus DS, and the GIS User Community | Esri Community Maps Contributors, NYC Op... Powered by Esri

The current energy code for new construction in your jurisdiction is the **2020 New York City Energy Conservation Code**. This report provides the current energy code requirements only as a point of comparison. If your building was not constructed under the current energy code, then it is not required to meet it.

**BUILDING ENVELOPE**

| Metric | Your building | Energy code |
|---|---|---|
| Total floor area [ft²] | 4,200 | N/A |
| Total conditioned area [ft²] | 3,150 | N/A |
| Total dwelling area [ft²] | 2,100 | N/A |
| Total building wall area [ft²] | 5,370 | N/A |
| Total building window area [ft²] | 256 | N/A |
| Window-to-wall ratio [%] * | 5% | ≤30% |
| Building Roof, Undefined | | |
| Insulation R-Value | Unknown | Undefined |
| Slab-on-grade floors, Unheated slabs | | |
| Insulation R-Value | Unknown | ≥R-10 for 48" below |
| Walls, above grade, Mass | | |
| Insulation R-Value | Unknown | ≥R-15ci |

* Window-to-wall ratio [%] represents the ratio of window area to total above-grade wall area, including walls between adjacent buildings.

**BUILDING LIGHTING**

| Metric | Your building | Energy code |
|---|---|---|
| Interior Lighting | | |
| Interior LPD [W/ft²] ** | 0.38 | ≤0.49 |
| Lighting Technology Distribution | | |
| General service LED | 33% | N/A |
| Linear fluorescent | 67% | N/A |
| Lighting Control Types by Space Type | | |
| Storage | Manual switch | Occupancy sensor |

** Lighting power density (LPD) is the ratio of total lighting wattage per square feet of area in a space. The information in this table refers to lighting and controls serving only the common areas of the building.

**HEATING AND COOLING SUMMARY**

| Metric | Your building | Energy code |
|---|---|---|
| Total Heating Capacity [kBtuh] | 280.0 | N/A |
| Total Cooling Capacity [Btuh] | 0.0 | N/A |

The heating and cooling intensities in this table refers to central systems or systems serving only the common areas of the building.

**HEATING, VENTILATION, AND COOLING EQUIPMENT EFFICIENCIES**

| System type | Your system | Energy code |
|---|---|---|
| Boiler Systems | | |
| Boilers, steam, gas-fired, <300,000 Btuh | 80.2% Thermal | ≥80.0% AFUE |
| Water Heating Systems | | |
| Storage water heaters, gas | 0.8% Thermal | Undefined |

The system information in this table refers to central systems or systems serving only the common areas of the building.

**BUILDING OWNED APPLIANCES**

| Equipment type | Your building | Energy code |
|---|---|---|
| In-Unit Appliances | | |
| Refrigerator, Bottom freezer | Non-ENERGY STAR® | N/A |

NYSERDA and your utility may offer incentive programs for key energy saving opportunities. To learn more about energy efficiency opportunities for your building, you can participate in a NYSERDA FlexTech Audit: https://www.nyserda.ny.gov/All-Programs/FlexTech-Program.
Consolidated Edison also offers energy efficiency programs to its customers:
https://www.coned.com/en/save-money/rebates-incentives-tax-credits/rebates-incentives-for-multifamily-customers
For more information regarding Local Law 87 and 97 and how they affect your building, visit https://accelerator.nyc/ and https://www.nyc.gov/site/buildings/codes/local-law-87-faq.page

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### *B.4.5.4 Biweekly Field Staff Meetings*

Cadmus conducted biweekly meetings with project field staff from GDS, SWA, and Ridgeline during the period of data collection from early April 2022 to mid-August 2023. Field staff were required to attend the meetings if they were not in the field at that time and if they had completed one or more site visits that week or were scheduled to complete at least one site visit the following week. These meetings provided a mechanism for Cadmus to reinforce key concepts and were often informed by issues noted during the QC site visits. The meetings also gave field staff a weekly forum for asking questions and raising any issues or concerns regarding the data collection tool, data collection protocols, or other topics related to the site visits.

### *B.4.5.5 Data Collection Protocols*

Cadmus created data collection protocols for major data collection categories, such as heating and cooling equipment, building envelope details, and appliances. Training with field technicians helped ensure that Cadmus and subcontractors were aligned regarding how data should be collected, which in turn informed communication with field staff and updates to the data collection tool. The data collection protocols will also be a valuable resource for those who use the data and need a better understanding of how specific data points were captured, as well as for project staff working on future iterations of the project.

### *B.4.5.6 Quality Control and Data Cleaning*

Project staff ensured a high level of data quality through a multilayered, two-phase approach to QC. The initial phase consisted of a thorough site-level review performed by Cadmus and its subcontractors that included the following verifications:

- Built-in validation that all required fields had been completed in the data collection tool.
- An automated data QC web portal, available to all field staff, with over 70 predefined data quality checks. Field staff were required to review and resolve all data quality alerts in the QC portal before data for a site was considered complete. Automated tests checked for consistency between related values, ensured that calculated values derived from raw inputs were in a reasonable range, and flagged unusual configurations for expert review by senior team members.
- A brief manual examination of key fields by the Cadmus QC lead for technical inconsistencies and identification of apparent discrepancies for deeper, technical review.
- Resolution of any identified technical discrepancies through discussions between senior technical experts and field staff.

As Cadmus received batches of draft data that had completed the first pass of site-level review, the team performed additional, in-depth data cleaning and QC. This process comprised multiple layers of tasks and included a combination of automated and manual checks, comparing results across sites to identify outliers and patterns in the collected data:

- Cadmus checked records for completion, verified that values fell within expected ranges, and checked for internal consistency. Project staff verified internal consistency through a QC checklist with specific checks for each record type like the following example:
  - If a furnace record was missing a key field—such as heating capacity—the record was flagged for deeper review, which may have included research to look up the value based on the model number or other information.
  - If a furnace record's heating capacity was entered as "12" and the heating capacity units were entered as "Btuh," the record was flagged for deeper review, because 12 Btuh is not within the expected range for furnace heating capacities. The value would have been verified against the recorded nameplate photos, and if necessary additional research would have been done to determine the correct value.
  - If a furnace record's fuel type was entered as "Electricity" and the heating capacity units were entered as "Btuh," the record was flagged for deeper review, because capacity for electric HVAC equipment typically is not reported in Btuh.
- For discrepancies found in the 72 sites where QC site visits were performed, Cadmus updated information collected during the original site visit with data collected during the QC site visit. For the QC site visits, technicians were provided with the original set of information collected on site and were directed to verify that the conditions were accurately reflected in the data. If necessary, the QC technicians recorded updates or new information.
- Cadmus performed site-level checks to detect and correct contradictory information and to identify potential gaps in the site visit data. As an example, if a dwelling unit's primary heating system was identified as a gas furnace but no gas utility was entered for the site, that site was flagged for review.

After each site and record was checked for completion and internal consistency, veteran field staff reviewed records and sites that had been flagged. Some equipment categories, such as mechanical equipment and building envelope, also received a rigorous review by subject matter experts. Updates and corrections to the data were validated by reviewing photos and notes from the original site visit; by reviewing photos, notes, and data collected during the QC site visits; by

confirming information through online databases; and by comparing site data against survey or tax assessment data.

Data cleaning continued into the data analysis phase. A team of subject matter experts reviewed preliminary results as they became available. For cases of unusual or unexpected results, the data quality team conducted a detailed review of the information in question using the resources outlined above.

#### *B.4.5.7 Inferred Values*

Values were not inferred in the study. Due to the various types of building ages, building types, and insulation levels Cadmus used the information that was given by the site assessors during site visits. Insulation levels were available from the following sources:

- Interview with building manager
- Plans for the building
- Inspection if insulation was easily accessible

Insulation values such as type and thickness often cannot be collected during site visits when attic or crawlspaces are inaccessible or walls cannot be probed.

Window U-values were also not inferred. If the window U-value was available, it was used. Otherwise, field staff recorded the size and type of window. Window type was available from the following sources:

- Interview with building manager
- Plans for the building
- Sticker with U-value on any of the windows

### B.4.6 Limitations and Suggestions for Future Studies

The 2022 SMBS achieved 434 site visits within a 16-month period, which included assembling the study team, updating necessary project tools and documentation, and implementing all aspects of the required recruiting infrastructure and processes. Within the data collection period, the data quality steps outlined above ensured that the project delivered high-quality data. This section summarizes aspects of the project methodology and processes that worked well, along with areas for improving the next iteration of the study. This section also addresses any notable data reliability issues.

Many aspects of the 2022 SMBS site visit methodology and process worked well:

- The tablet-based data collection tool proved to be an efficient and reliable data collection solution.
- Distributing site visits among subcontractors allowed enough bandwidth to complete the site visits within the provided amount of time.
- Recruiting for site visits from the pool of survey respondents generally met expectations, with a response rate of about 16%.
- The electronic Amazon gift cards were well-received by most recipients, and providing the cards to recipients was a relatively easy task to manage.

- QC site visits proved invaluable for identifying and correcting data collection problems, whether the problems resulted from misunderstandings or from a lack of alignment regarding the required level of effort. Notable isolated problems found early in the project included incorrectly characterized heating and water heating systems as well as electrical panels and amperage, which was addressed in biweekly meetings. Quick action by Cadmus, GDS, SWA, and Ridgeline helped correct these and other early issues.
- As noted above, biweekly field staff meetings provided essential communication between field staff and management, and developing the data collection protocols ensured that study team members from Cadmus and subcontractors had the same understanding of how data points would be collected.
- Extensive data cleaning and QC from Cadmus provided high-quality, useful data. Combining automated checks with intensive site- and measure-level reviews by subject matter experts allowed discrepancies and other data quality problems to be identified and corrected, often by reviewing field technician notes and photographs.
- The most common feedback from the 2019 NYSERDA RBSA[4] was that participants wanted a report summarizing site visit results, which became a component of the 2022 SMBS. Building representatives appreciated the building reports the study team generated that were complimentary with a site visit.
- A timeline that was long enough to allow the sample to be drawn from a fully developed population dataset was key, because it allowed the study to compile accurate names, phone numbers, and sometimes even email addresses. Being able to recruit through mail, phone calls, email, and social media campaigning helped to reduce the cost of contacting potential respondents and help to achieve the most representative sample practical.

The following items summarize limitations of the methodology and data and include suggestions for future iterations of the project:

- The most notable limitation of project data resulted from the small sample sizes ranging from one to six site visits for high-rises completed in Climate Zones 4B, 5, and 6. With a sample size of six or fewer buildings, results for high-rises in these Climate Zone strata cannot be considered representative.

  If characterizing high-rises remains a high priority, special care should be taken to acquire additional contact information from all available sources of high-rise building representatives, focusing especially in Climate Zones 4B, 5, and 6. These sources should include tax assessment data, purchased samples, and possibly even address lists from high-volume builders. Social media may also continue to be useful. This approach should be combined with a more deliberate recruiting methodology to obtain the maximum number of responses from this typically small population of buildings.
- Extending the length of time available for completing the site visit phase of the project allowed for more flexibility in project planning but also introduced variation in field staff over time, which affected the consistency of the data collection. It may be helpful to align site visit approaches with both NYSERDA and available field staff in the future to ensure all parties are prepared for the decided upon data collection process.

[4] More information can be found at: https://www.nyserda.ny.gov/About/Publications/Evaluation-Reports/Building-Stock-and-Potential-Studies/Residential-Building-Stock-Assessment

- Lower-than-expected response rates delayed the ramp-up in site visits, because fewer survey respondents than expected were available to recruit for site visits. This put further pressure on GDS and Ridgeline to complete a high volume of site visits in a short period of time later in the study. Consultation with NYSERDA allowed Cadmus to adjust the expected number of completed site visits based on what subcontractors could accomplish in the remaining time available, and earlier coordination among NYSERDA and other partners would likely improve future studies.
- Surveys and site visits delivered notably different results for some characteristics. Discrepancies such as different reported percentages of heating equipment resulted partly from differences in methodology: survey questions asked broadly about primary heating equipment, while site visits collected that data based on the primary fuel types used within a dwelling unit. Appendix A provides results for many metrics from both survey and site visit data. Where results differ between survey and site visit data, Cadmus represented both sets of data in the report to identify where occupants or building representatives may have a lack of awareness of their dwelling units or buildings.

  Cadmus recommends that in future studies, the study team continue to align survey and site visit methodology where this can be accomplished without losing the ability to compare key findings with results from the previous study. Cadmus would propose an approach that integrates survey data collection and site visit data collection to try to collect as much as data possible through surveys, and then verifies survey information on site by inquiring directly with the site contact about discrepancies noted between the two sources.

# APPENDIX C. SURVEY INSTRUMENT

This appendix presents the survey script used during the NYSERDA 2022 Statewide Multifamily Building Study (SMBS), for which in-depth surveys were completed with 1,337 building representatives and 135 occupants of multifamily buildings throughout the IOU territories of New York State.

The key objectives of the survey were to provide up-to-date, self-reported estimates of equipment types, fuel types and uses, vintages, and efficiencies, as well as information about building characteristics, demographics, homeowner energy consumption attitudes and behaviors, participation in energy efficiency programs, and willingness to pay for different types of efficient equipment. The surveys were also used to recruit households for site visits.

The SMBS online and phone survey collected data from April 4, 2022, through August 15, 2023. Using input from New York State Energy Research and Development Authority (NYSERDA) evaluation and program staff, Cadmus designed the survey to closely align with stakeholder interests. The survey and survey programming were reviewed and approved by NYSERDA prior to launch. The alphanumeric identifiers in the programming included below is representative of the final questions included, and the variables associated with final survey data. As a result, some items may be slightly out of order.[1]

Questions for the 2022 SMBS focused on two groups: building representatives and occupants. Building representatives were asked questions about the building in general, common areas, and dwelling units. Building occupants were asked only about their unit, including questions about their appliances and electronics and their satisfaction with heating, cooling and hot water.

The project team recruited participants to complete this survey either online or by phone using a multimode approach. The process began with mailing postcards to a random sample of single-family households. These postcards encouraged recipients to complete the survey in English, Spanish, or Mandarin using a link to an online version or by calling a field agent using a toll-free number.

Postcards were sent in batches. Approximately 10 days after each mailing, the project team followed up with telephone calls to non-responders for each record where a telephone number was matched to the sampled address. NYSERDA followed these attempts with an email reminder to a subset of non-responders for whom email addresses were available.

The survey asked respondents whether they would be interested in participating in a site visit, and respondents who said yes made up the sample frame for recruiting site visit participants.

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[1] Alphanumeric variables begin at C for the Building Representative survey, hence section lettering missing A and B.

The SMBS provided an incentive of $200 to participants who completed the survey and an additional $250 per building to building representative participants who completed a site visit. An additional $100 was offered to building representatives for recruiting two dwelling unit occupants.

## NYSERDA MULTIFAMILY BUILDING ASSESSMENT – CODEBOOK – BUILDING REPRESENTATIVES

The survey for building representatives included several modules:

- Introduction
- Screener
- Building and Dwelling unit Information (Section E)
- Building Envelope (Section F)
- HVAC – Unit Heating (Section G)
- HVAC – Unit Cooling (Section H)
- HVAC – Unit Water Heating (Section I)
- HVAC – Building Other Equipment (Section J)
- HVAC and DHW Maintenance (Section K)
- Common Area Lighting (Section L)
- Common Area Appliances (Section M)
- Unit Appliances (Section N)
- Building Fuels (Section O)
- Building Automation & Management (Section P)
- Energy Decision Making (Section Q)
- Survey Satisfaction (Section R)
- Standard Closing (Section S)
- Site Visit Recruitment (Section T)

NOTE:

- A code of (98) means don’t know.
- A code of (99) means prefer not to answer.
- Questions were asked of all respondents unless indicated otherwise.
- Categories were read to respondents.
- Respondents were allowed to leave questions blank to move forward in the survey. If a respondent answered some of the categories, then the empty categories were assumed to be zero.

## *C. Phone Invitation and Screener*

C1. Hello, my name is **[NAME]**, calling on behalf of NYSERDA, the New York State Energy Research and Development Authority. May I speak with the property manager or owner, or someone who knows about your buildings' physical features or is involved in financial decisions about building upgrades? **[WHEN APPROPRIATE RESPONDENT IS ON THE PHONE]** We are conducting a study to gather details about how New York multifamily buildings use energy and how decisions are made about building upgrades.

C2. Are you the correct person to speak to about your building's physical features and equipment?

1. Yes
2. No

C3. Are you the correct person to speak to about how your property makes financial decisions about upgrades to its buildings' equipment or physical structures?

1. Yes
2. No

C4. **[ASK IF C2=1 OR C3=1]** If you qualify for the study and complete the survey, you will receive $50 for your time. We are not selling anything. Do you have 15 to 20 minutes now or should we schedule a time to call back later?

1. (Yes)
2. (No) **[SCHEDULE CALLBACK]**
98. (Don't know) **[SCHEDULE CALLBACK]**
99. (Prefer not to say/refused) **[THANK AND TERMINATE: "Thank you for your time and have a nice day"]**

C5. **[STATE IF C4=1]** Thank you. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Law (FOIL). This call may be monitored or recorded for quality control purposes.

**[IF C2=1 AND C3=1 OR 2, CONTINUE THIS SURVEY]**

**[IF C2=2 AND C3=1, SEND TO MARKET ASSESSMENT SURVEY]**

C6. **[STATE IF C2=2 AND C3=2]** Those are all our questions, but unfortunately we need to speak to someone who can speak to your property's physical characteristics or decision-making processes around building upgrades. Thank you for your time. **[THANK AND TERMINATE]**

**[CALLBACK SCRIPT]**

I will call you back tomorrow at **[STATE TIME]** or would you prefer I reach you on a different day or at a different time? Okay, what is the best time to reach you? **[CONFIRM PHONE NUMBER AND RECORD TIME AND DATE OF CALLBACK]**

**[STUDY VERIFICATION]**

Tracey DeSimone with the New York State Research and Development Authority, 518-862-1090, ext. 3452 can be contacted to confirm the validity of this study.

**[THANK AND TERMINATE SCRIPT]**

Those are all our questions. Thank you for contacting us. Have a nice day/evening.

**[IF NEEDED]** The survey takes about 20 minutes to complete.

**[AS NEEDED]** If you are contacted later and are still unsure about participating in this research, you may refuse at that time.

**[AS NEEDED:]** The New York State Energy Research and Development Authority (NYSERDA), promotes energy efficiency and the use of renewable energy sources. NYSERDA is gathering information on the characteristics of energy consuming or generating equipment and how people use energy in multifamily buildings. NYSERDA will use this information to help design programs for multifamily buildings.

## *D. Online Survey Introduction and Screener*


Welcome! Thank you for your interest in NYSERDA's study about multifamily building energy use and equipment through which you can earn up to **$600 per building**.

This survey will take 15 minutes to complete, and your responses will be saved if you take a break and return to the survey within two weeks of starting the survey. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Law (FOIL).

D1. Are you familiar with your building's physical characteristics and equipment (such as space heating, cooling, and water heating systems)?
   1. Yes
   2. No

D2. Are you involved in the financial decision-making about upgrades to this building's equipment or physical structures? As a reminder, we aren't trying to sell you anything.
   1. Yes
   2. No

D3. **[IF D1=2]** Please provide the contact information for the person who can best answer questions about your building's physical characteristics and equipment (such as space heating, cooling, and water heating systems).
   1. Name [TEXT BOX] [ADD VALIDATION]

2. Phone Number [TEXT BOX] [ADD VALIDATION]
3. Email Address [TEXT BOX] [ADD VALIDATION]

**[IF D1=1 AND D2=1 OR 2, CONTINUE THIS SURVEY]**
**[IF D1=2 AND D2=1]**

While you do not qualify for our survey on your building's characteristics and equipment for $100, we would still like to invite you to participate in our survey about decision-making for your building and its replacement schedules. **[SEND TO MARKET ASSESSMENT SURVEY]**

**[IF D1=2 AND D2=2, TERMINATE]** Those are all our questions, but unfortunately, we need to speak to someone familiar with your property's physical characteristics or decision-making processes around building upgrades. Thank you for your time.

## *E. Building & Unit Information*

These first few questions ask about the building's basic characteristics.
For this study, we are only asking about the specific building shown below:
**[Insert iFrame with unique map and address]**

Econfirm1. **[ASK IF WE HAVE EMAIL ADDRESS, BUILDING ADDRESS, AND LAT and LONG]** Does the image above belong to one of your properties?

1. Yes
2. No

Econfirm2. **[ASK if Econfirm1 = 2]** Does the address above belong to one of your properties?

1. Yes
2. No

Econfirm3. **[ASK IF Econfirm1 = 1]** Does the address shown match the building?

1. Yes
2. No

Econfirm4. **[ASK IF Econfirm3 = 2]** Please provide the correct address for the building.

1. [TEXT BOX]
2. Don't know

Econfirm5: **[ASK IF Econfirm2=NO or Econfirm4=2]** It looks like you don't own or manage the building that we had on record for you. That's okay – please provide the address of a multifamily building you own or manage in New York that has 5 or more units. The study will focus on that building only.

Street Address (Including Building Letter or Number if applicable):

City:

State: **[IF ANY STATE OTHER THAN NY, THANK AND TERMINATE]:** Those are all our questions. Thank you for your interest in this study but unfortunately, we are only including buildings in New York state in our study. Have a nice day.

Zip Code:

Strata1: How many floors are in this building, not including the basement?
**[RECORD NUMBER 1 OR GREATER]**

Strata2: What is the approximate square footage of total living unit space in this building? Don't include common areas or unconditioned porches, garages, or basements in this estimate.**[RECORD NUMBER]**

98. Don't know

Strata 3. What's the most accurate description of **this building's** living units?

1. Market-rate rentals (no subsidies)
2. Naturally occurring affordable rentals (rents are low/affordable without subsidies)
3. Subsidized affordable housing rentals (applies to 25% or more of units)
4. Co-op or condos

Strata 4: Who is the electric utility for your building?

1. ConEdison
2. Central Hudson
3. Orange and Rockland
4. National Grid
5. New York State Electric and Gas Corporation (NYSEG)
6. PSEG Long Island
7. Rochester Gas and Electric (RG&E)

*E1. [Question removed]*

E2. Which of the following best describes the property where this building is located?

1. A stand-alone/single building
2. A building complex with multiple buildings

E3. How many individual living units are there in this building? (Please enter the number of units.)

1. **[RECORD NUMBER 5 OR GREATER] [IF <5, THANK AND TERMINATE:** Those are all our questions. Thank you for your interest in this study but unfortunately, we are only including buildings with five or more units in our study. Have a nice day.

E4. **[IF E2 = MULTIPLE BUILDINGS]** How many multifamily buildings with at least five living units are there in this complex?

1. [RECORD NUMBER 1 OR GREATER]

E5. How many other multifamily properties that contain buildings with 5 or more living units do you own or manage in New York?

1. None
2. One
3. Two

More than two, please enter the number of properties: **[RECORD THE EXACT NUMBER]**)
**[Continue to Section T for Site Visit Recruitment then return to E6 and continue survey]**

E6. How many living units does this building have for the following?
1. Studio apartments [RECORD NUMBER 0 OR GREATER]
2. 1 bedroom apartments [RECORD NUMBER 0 OR GREATER]
3. 2 bedroom apartments [RECORD NUMBER 0 OR GREATER]
4. 3 bedroom apartments [RECORD NUMBER 0 OR GREATER]
5. 4 or more bedroom apartments **[RECORD NUMBER 0 OR GREATER]**

E7. [*Question moved*]

E8. Does this building also have a basement?
1. Yes
2. No

E9. Approximately what year was the building built?
1. **[RECORD NUMBER 1700 OR GREATER]**
98. Don't Know

E10. **[ASK IF E9 = DON'T KNOW]** About when do you believe this building was built?
1. Before 1940
2. 1940 to 1978
3. 1979 to 2006
4. Or after 2006

E11. Does your building contain any commercial space?
1. Yes
2. No

E12. [*Question moved*]

E13. **[ASK IF E5=1]** Which of the following best describes the ownership of this property?
1. Family-owned or an individual
2. Mid-sized portfolio owner
3. Private corporate large portfolio owner
4. Real estate investment trust (REIT)
5. Institutional investor
6. Government-owned
98. Don't Know

These next few questions ask about the building features.

E14. Which of the following amenities does this building have? Please select all that apply. **[MULTIPLE RESPONSE ALLOWED]**

1. Common area laundry (located in this building)
2. Common area laundry (located **elsewhere** on property)
3. Electric vehicle charging stations
4. Parking areas
5. Swimming pools or hot tubs
6. Bike storage facilities
7. Access to carsharing
8. Access to bike sharing or scooter sharing
9. None of the above **[EXCLUSIVE RESPONSE]**

E15. **[ASK IF E14 = 4]** What kind of parking does this building have for tenants and staff? **[MULTIPLE RESPONSE ALLOWED]**

1. Underground parking garage (Enter number of parking spaces) **[RECORD NUMBER]**
2. Above-ground parking garage (Enter number of parking spaces) **[RECORD NUMBER]**
3. Open parking lot (Enter number of parking spaces) **[RECORD NUMBER]**
4. Street parking only **[EXCLUSIVE RESPONSE]**

E16. **[ASK IF E15 = 1, 2, 3]** About what percent of parking spaces are assigned to specific tenants?

1. None
2. 1 – 25%
3. 26 – 50%
4. 51 – 75%
5. 76 – 100%
6. Don’t know

E17. **[ASK IF E14 = 3]** How many electric vehicle charging stations are available to occupants of this building? **[MULTIPLE RESPONSE ALLOWED]**

1. Level 1 charger(s) (120V) **[RECORD NUMBER 1 OR GREATER]**
2. Level 2 charger(s) (208V or 240V) **[RECORD NUMBER 1 OR GREATER]**
3. Level 3 charger(s) (fast charger) **[RECORD NUMBER 1 OR GREATER]**
4. Chargers of unknown type **[RECORD NUMBER 1 OR GREATER]**

E18. **[ASK IF E14 = 3]** Do you charge tenants to use the electric vehicles chargers?

1. No, it’s free
2. No, tenants pay for the charger use on their electric bill
3. Yes, included in rent
4. Yes, monthly charge
5. Yes, flat fee each time charged
6. Yes, charge per kilowatt-hour

7. Don't know

E19. How are electric utilities metered for this building?
1. Master meter only
2. Master meter with living unit submeters
3. Direct-metered living units
4. Other
98. Don't know

E20. How are natural gas utilities metered for this building?
1. Master meter only
2. Master meter with living unit submeters
3. Direct-metered living units
4. Other
5. No gas service
98. Don't know

## *F. Envelope*

These next few questions ask about the building's exterior.

F1. What is the construction type of the exterior walls of the building? (If the building has multiple types of wall, please tell us the type which accounts for most of the building.)
1. Poured concrete
2. Concrete block
3. Brick or stone masonry
4. Wood frame
5. Metal frame
6. Curtain wall
7. Something else – what is it? **[RECORD TEXT]**
98. Don't know

F2. What is the primary type of cladding or façade for this building's exterior walls?
1. Brick
2. Composite
3. Concrete
4. Limestone/sandstone
5. Stucco
6. Vinyl
7. Wood
8. Something else – what is it? **[RECORD TEXT]**
98. Don't know

## *G. HVAC – unit heat*

The next few questions ask about the heating systems for the building's **living units.**

G1. What is the typical **primary** heating system for the building's living units?

1. Baseboard or wall electric resistance heat
2. Central boiler
3. District steam
4. Ducted air source heat pump
5. Ductless mini-split heat pump
6. Ground source heat pump
7. Packaged terminal AC with heat
8. Packaged terminal heat pump
9. Something else – what is it? **[RECORD TEXT]**
98. Don't know

G2. What percent of the living unit primary heating systems fall into each age range?
1. Less than 5 Years – percent: **[RECORD NUMBER 0-100]**
2. 5 to 9 Years – percent: **[RECORD NUMBER 0-100]**
3. 10 to 14 Years – percent: **[RECORD NUMBER 0-100]**
4. 15 to 19 Years – percent: **[RECORD NUMBER 0-100]**
5. 20 or More Years – percent: **[RECORD NUMBER 0-100]**
98. Don't know

G3. Can the residents of this building control the heating temperatures in their living unit?
1. Yes
2. No
98. Don't know

G4. **[ASK IF G3 = YES]** What type of thermostat controls are typically provided for heating in living units?
1. Controls integrated with equipment
2. Manual thermostat with a physical dial (analog)
3. Manual thermostat with buttons and a digital display (digital)
4. Programmable thermostat (does not learn occupant behavior)
5. Smart/Wi-Fi-Enabled Thermostat (learns occupant behavior)
6. Something else – what is it? **[RECORD TEXT]**
98. Don't know

## *H. HVAC – unit cooling*

These next few questions are about the cooling system for the building's **living units.**

H1. What is the typical **primary** cooling system for the building's living units?
1. No air conditioning in living units **[SKIP TO NEXT SECTION]**
2. Ducted air source heat pump
3. Ducted central AC system with compressor
4. Central chiller
5. Ductless mini-split heat pump
6. Ground source heat pump

7. Packaged terminal AC
8. Packaged terminal heat pump
9. Window AC
10. Through-the-wall AC
11. Something else – what is it? **[RECORD TEXT]**

98 Don't know

H2. What percent of the living unit primary cooling systems fall into each age range?

1. Less than 5 Years– percent: **[RECORD NUMBER 0-100]**
2. 5 to 9 Years – percent: **[RECORD NUMBER 0-100]**
3. 10 to 14 Years – percent: **[RECORD NUMBER 0-100]**
4. 15 to 19 Years – percent: **[RECORD NUMBER 0-100]**
5. 20 or More Years – percent: **[RECORD NUMBER 0-100]**

98. Don't know

H3. [ASK IF H1 = WINDOW AC] Who typically owns the window air conditioners?

1. Building
2. Tenant
3. Third party

98. Don't know

H4. [ASK IF H1 = WINDOW AC] Are the window air conditioners removed in the Winter?

1. Yes
2. No

98. Don't know

H5. [ASK IF ANY ITEM IS CHECKED IN H1 OTHER THAN "NO AC" OR "WINDOW AC"] Can the residents of this building control the space cooling in their living unit?

1. Yes
2. No

98. Don't know

H6. **[ASK IF H5 = YES]** What type of thermostat controls are typically provided for <u>cooling</u> in living units?

1. Controls integrated with equipment
2. Manual thermostat with a physical dial (analog)
3. Manual thermostat with buttons and a digital display (digital)
4. Programmable thermostat (does not learn occupant behavior)
5. Smart/Wi-Fi-Enabled Thermostat (learns occupant behavior)
6. Something else – what is it? **[RECORD TEXT]**

98. Don't know

## *I. HVAC – unit water heating*

These next few questions are about the water heating system for the building's **living units**.

I1. What equipment typically provides domestic hot water for the building's living units?
1. Ground source heat pump with tank
2. Heat pump water heater
3. Storage water heater (tank)
4. Central boiler
5. Tankless/on-demand
6. Don't know

I2. What percentage of the equipment that typically provides domestic hot water to living units falls into each age range?
1. Less than 5 Years – percent: **[RECORD NUMBER 0-100]**
2. 5 to 9 Years – percent: **[RECORD NUMBER 0-100]**
3. 10 to 14 Years – percent: **[RECORD NUMBER 0-100]**
4. 15 to 19 Years – percent: **[RECORD NUMBER 0-100]**
5. 20 or More Years – percent: **[RECORD NUMBER 0-100]**
98. Don't know

## *J. HVAC – Building Other Equipment*

The next few questions ask about this other HVAC or energy-consuming, storage or power generation equipment your building might have.

J1. Which of the following equipment or systems does this building have? Select all that apply. **[MULTIPLE RESPONSE ALLOWED]**
1. Combined heat and power (CHP) equipment (Also known as cogeneration systems, CHP systems provide on-site electric power and heating from a single fuel source)
2. Energy storage system (An on-site energy storage system provides a way for energy to be stored for later conversion back to electricity when needed, such as through batteries or thermal storage.)
3. Solar photovoltaic (PV) system
4. Working fireplaces or stoves in the living units
5. None of the above **[EXCLUSIVE RESPONSE]**

## *K. HVAC and DHW Maintenance*

K1. How often are the following systems serviced for your building: **[DROPDOWN WITH MULTIPLE TIMES PER YEAR, ANNUALLY, EVERY OTHER YEAR, EVERY FEW YEARS, RARELY, NEVER, DON'T KNOW, NOT APPLICABLE]**
1. Common area heating systems:
2. Living unit heating systems:
3. Common area cooling systems:
4. Living unit cooling systems:
5. Common area domestic hot water systems:
6. Living unit domestic hot water systems:

K2. How often do you replace the filters for this equipment? **[DROPDOWN WITH MULTIPLE TIMES PER YEAR, ANNUALLY, EVERY OTHER YEAR, EVERY FEW YEARS, RARELY, NEVER, DON'T KNOW, NOT APPLICABLE]**

1. Common area heating systems:
2. Living unit heating systems:
3. Common area cooling systems:
4. Living unit cooling systems:

## *L. Common Area Lighting*

These next few questions ask about the building's common area and exterior lighting.

L1. How is the lighting for this building controlled for each of the following lighting types? **[SELECT ONE RESPONSE PER ROW]**

| | Lights are always on | Lights are manually turned on and off | Lights are controlled to automatically turn on and off | Lights have motion sensors | Not applicable: building does not have this type of lighting |
|---|---|---|---|---|---|
| a. Exterior Lighting | | | | | |
| b. Common Hallway Lighting | | | | | |
| c. Other Common Area Lighting | | | | | |

L2. **[ASK IF L1a ≠ "not applicable"]** For the building's exterior lighting, about what percentage of the lamps are the following technologies?

1. LEDs (percentage:) **[RECORD PERCENT 0 -100]**
2. CFL (percentage:) **[RECORD PERCENT 0 -100]**
3. Linear fluorescent (percentage:) **[RECORD PERCENT 0 -100]**
4. HID (high-intensity discharge) (percentage:) **[RECORD PERCENT 0 -100]**
5. Incandescent or halogen (percentage:) **[RECORD PERCENT 0 -100]**
6. Something else – what is it? **[RECORD TEXT AND RECORD PERCENT 0 -100]**

98. Don't know

L3. **[ASK IF L1b ≠ "not applicable"]** About how many years ago was most of the common hallway lighting in this building installed?

1. Less than 5 Years
2. 5 to 9 Years
3. 10 to 14 Years
4. 15 to 19 Years
5. 20 or More Years

98. Don't know

L4. **[ASK IF L1b ≠ "not applicable"]** Considering only the lighting in common area hallways, about what percentage of lamps use each of the following technologies?

1. LEDs (percentage:) [RECORD PERCENT 0 -100]

2. CFL (percentage:) [RECORD PERCENT 0 -100]
3. Linear fluorescent (percentage:) **[RECORD PERCENT 0 -100]**
4. Incandescent or halogen (percentage:) **[RECORD PERCENT 0 -100]**
5. Something else – what is it? [RECORD TEXT AND RECORD PERCENT 0 -100]
98. Don't know

## *M. Common Area Appliances*

These next few questions ask about the building's common area laundry facilities. Please respond only about laundry facilities available for occupant use.

M1. **[ASK IF E14=1]** Which of the following best describes the building's common laundry area(s)?
1. Common area laundry equipment is owned by the building
2. Common area laundry equipment is leased from a third party
98. Don't know

M2. **[ASK IF E14=1]** About how many washing machines are there in the building's common laundry area(s)?
1. [RECORD NUMBER 1 OR GREATER]
98. Don't know

M3. **[ASK IF E14=1]** What is the main type of washing machine in the common laundry area(s)?
1. Front loading washer
2. Top loading washer
3. Combo washer and dryer
4. Stacked washer/dryer
98. Don't know

M4. **[ASK IF E14=1]** How many clothes dryers are there in the building's common laundry area(s)?
**1. [RECORD NUMBER 1 OR GREATER]**
98. Don't know

M5. **[ASK IF E14=1]** About how old are the majority of the common area washing machines and clothes dryers? **[SELECT ONE FOR WASHERS AND ONE FOR DRYERS]**

| | Clothes Washers | Clothes Dryers |
|---|---|---|
| Less than 2 years | | |
| 2 to 4 years | | |
| 5 to 9 years | | |
| 10 to 14 years | | |
| 15 to 19 years | | |
| 20 or more years | | |
| Don't know | | |

M6. **[ASK IF E14=1 AND M3≠ 3 AND M3≠ 4]** What is the main type of clothes dryers in the common laundry area(s)?

1. Top loading
2. Front loading
3. Combo washer and dryer
4. Stacked washer/dryer

98. Don't know

## *N. Unit Appliances*

These next few questions ask about appliance in **living units**.

N1. What type of clothes washers are included in most of the building's living units?

1. No clothes washers in units **[SKIP TO N5]**
2. Top loading
3. Front loading
4. Stacked washer/dryer
5. Combo washer and dryer

98. Don't know

N2. **[ASK IF N1 = 2, 3, or 98]** What type of clothes dryers are included in most of the building's living units?

1. No clothes dryers in units
2. Standalone
3. Stacked washer/dryer
4. Combo washer and dryer

98. Don't know

N3. **[ASK IF (N2 = 2, 3 OR 4) OR (N1 = 4 OR 5)]** Are most of these clothes dryers vented or ventless?

1. Vented
2. Ventless

98. Don't know

N4. Who owns the clothes washers and dryers in the building's living units?

1. Building
2. Tenant or third-party

98. Don't know

N5. Do any of the building's living units have dishwashers?

1. All units have dishwashers
2. Some units have dishwashers (about what percent?) **[RECORD NUMBER 1-100]**
3. None of the units have dishwashers

98. Don't know

N6. About how old are the following appliances in the living units?

| | **[ASK IF N1≠1] Clothes Washer** | **[ASK IF N1≠1 AND N2≠1] Clothes Dryers** | **Refrigerator** | **[ASK IF N5=1 or 2] Dishwashers** |
|---|---|---|---|---|
| Less than 5 years | | | | |
| 5 to 9 years | | | | |
| 10 to 14 years | | | | |
| 15 to 19 years | | | | |
| 20 or more years | | | | |
| Don't know | | | | |

## *O. Building Fuels*

These next few questions ask about your building's heating fuels.

O1. What type of fuel is used for the following equipment types? **[DROP DOWN LIST: Natural Gas, Fuel Oil, Electricity, Propane, Wood, Wood Pellets, Kerosene, Solar, Something else, Don't know]**

1. Living unit primary heating system
2. Living unit water heating
3. **[IF E14=5]** Common area clothes dryers
4. **[IF N1≠1 AND N2≠1]** Living unit clothes dryers
5. **[IF J1=4]** Living unit fireplaces / heating stoves
6. **[IF G1=2 OR I1=4]** Boilers
7. **[IF H1=4]** Chillers

## *P. Building Automation & Management*

These next few questions ask about energy management systems.

P1. Which of the building's systems are controlled by an energy management system? Please select all that apply. **[MULTIPLE RESPONSE ALLOWED]**

1. There is no energy management system **[EXCLUSIVE RESPONSE]**
2. Space heating controlled
3. Water heating controlled
4. Cooling controlled
5. Interior lighting controlled
6. Exterior lighting controlled
7. Other systems are controlled – which ones? **[RECORD TEXT]**

98. There is an energy management system, but I don't know what it controls **[EXCLUSIVE RESPONSE]**

P2. **[ASK IF P1=1]** Which of the following best describes your current awareness and interest in energy management systems and building automation?
1. I am aware of and interested in energy management systems and building automation for this building **[SKIP TO NEXT SECTION]**
2. I am aware of energy management systems and building automation, but am not interested in them for this building **[SKIP TO NEXT SECTION]**
3. I have little or no awareness of energy management systems and building automation **[SKIP TO NEXT SECTION]**

P3. **[ASK IF P1≠1]** About how old is the building's energy management system?
1. Less than 2 Years
2. 2 to 4 Years
3. 5 to 9 Years
4. 10 to 14 Years
5. 15 or More Years
98. Don't know

P4. **[ASK IF P1≠1]** Is the building energy management system controlled by software running on a computer?
1. Yes
2. No
98. Don't Know

P5. **[ASK IF P1≠1]** Did the building operators for this building receive specialty training on energy management system software?
1. Yes
2. No
98. Don't Know

## *Q. Energy Decision Making*

This last set of questions asks about recent or planned building upgrades.

Q1. Has the building undergone any major renovations or additions in the past five years? A major renovation or addition means construction activities like increasing the size of the building's living space, upgrading the building shell or HVAC system, or reconstruction due to flooding or hurricane.
1. Yes
2. No
98. Don't Know

Q2. **[ASK IF Q1 = YES]** In what year was this renovation or addition completed?
**1. [RECORD NUMBER FROM 2016 to 2021]**
98. Don't know

Q3. How many units in this building or complex have undergone major renovations in the past five years? A major renovation or addition means construction activities like increasing the size of the building's living space, upgrading the building shell or HVAC system, or reconstruction due to flooding or hurricane.

1. **[RECORD NUMBER 0 OR GREATER]**
98. Don't know

Q4. How many units in this building or complex are currently being renovated or planned to be renovated in the next two years?

**1. [RECORD NUMBER 0 OR GREATER]**
98. Don't know

Q5. Does your building have any green building certifications? Which ones? **[SELECT ALL THAT APPLY]**

1. No green certifications **[EXCLUSIVE RESPONSE]**
2. LEED
3. ENERGY STAR
4. Something else – what is it? **[RECORD TEXT]**
98. Don’t know **[EXCLUSIVE RESPONSE]**

Q6. Approximately how many multifamily properties does your organization own or manage in New York State?

1. Only this property
2. 2 to 5
3. 6 to 10
4. 11 to 20
5. More than 20
98. Don't know

Q7. **[ASK IF Q6 ≠ 1]** What's the most accurate description of most of the properties your organization owns or manages?

1. Market-rate rental
2. Co-op or condos
3. Naturally occurring affordable housing (no subsidies)
4. Subsidized affordable housing
5. A mix of the options above
98. Don’t know

Q8. How aware are you of programs offered by NYSERDA or your utility company to make multifamily buildings more energy efficient or to manage energy use?

1. Very aware
2. Somewhat aware
3. Not too aware
4. Not at all aware

Q9. **[ASK IF Q8=1, 2, OR 3]** Which of the following programs have you heard of? Select all that apply. [MULTIPLE RESPONSES ALLOWED] [RANDOMIZE RESPONSES]

1. Multifamily Performance Program for Existing Buildings
2. Building Operations and Maintenance Workforce Development Training Program
3. Real Time Energy Management (RTEM) Program
4. Charge Ready NY
5. Energy Storage
6. NY-Sun
7. RetrofitNY
8. NYS Clean Heat (heat pump program)
9. Low Carbon Capital Planning Support for Multifamily Buildings
10. Clean Heating and Cooling Screenings for Large Buildings
11. Advanced Building Programs
12. Empire Building Challenge
13. None of these

Q10. In the past 5 years, have you participated in any programs offered by NYSERDA or your utility to make any energy saving updates, manage your energy demand, or shift your energy demand to another time

1. Yes
2. No
98. Don't Know

Q11. **[ASK IF Q10= "NO"]** Why hasn't your building participated in any programs offered by NYSERDA or your utility company? (Select all that apply.) **[MULTIPLE RESPONSE, RANDOMIZE ITEMS EXCEPT FOR LAST TWO]**

1. Not aware of any reason to participate
2. Have not needed to upgrade equipment
3. Updating equipment would disrupt occupied living spaces
4. We tend to purchase the least expensive equipment option
5. Occupants pay most energy bills, so we lack incentive to reduce energy costs
6. This is a recently purchased property
7. Do not know who to contact
8. Something else – what is it? **[RECORD TEXT]**
98. Don't Know **[EXCLUSIVE RESPONSE]**

## *R. Survey Satisfaction*

R1. How would you rate the clarity of the questions in this survey?

| Unacceptable 1 | 2 | 3 | 4 | Average 5 | 6 | 7 | 8 | 9 | Outstanding 10 | Don't know |
|---|---|---|---|---|---|---|---|---|---|---|
| ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |

R2. Considering we are providing a $200 incentive, how would you rate the length of this survey?

| Unacceptable 1 | 2 | 3 | 4 | Average 5 | 6 | 7 | 8 | 9 | Outstanding 10 | Don't know |
|---|---|---|---|---|---|---|---|---|---|---|
| ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |

## *S. Standard Closing*

We have wrapped up all our questions about your building and will collect your contact information so that we can send your $200 gift card.

S1. Please verify where we can send your $200 gift card, to be delivered within two weeks. The email will come from noreply@amazon.com – please be sure to check your spam box.

1. Online Amazon gift card – please enter an Email address: **[SPECIFY, POPULATE FROM SAMPLE LIST]**

## *T. Site Visit Recruitment*

Depending on our study's quotas, **we would like to invite you to the site visit phase of our paid research study about energy use in multifamily buildings.** We are looking for multifamily building owners and managers who will allow one or two trained technicians to walk through the common areas of the building to record the types of lighting, appliances, mechanical equipment, and other relevant building characteristics. A facility contact should be present during the site visit to provide access to restricted areas and answer questions about equipment usage, but the contact does not need to shadow the field staff for the duration of the site visit. We will also attempt to schedule visits to one to three living units within the building, by reaching out directly to building occupants.

If you are selected for a site visit, you will receive a **$250 gift card.** We will also ask you to help us recruit one to two living units within the building to participate in the site visit and will provide you with $50 per unit as a thank you.

During the site visit, there will be no attempt to sell you anything at all. The site visit will take about 2.5 hours for a building smaller than 10,000 square feet and 3.5 hours for a building 10,000 square feet or larger. and will take place in the next several weeks. Field staff will also coordinate with living unit participants and spend roughly 1.5 hours collecting data in up to three living units on-site.

T1. Would you be interested in being a part of this study for at least one multifamily building with 5 or more units in New York?

1. Yes
2. No

99. **[PHONE ONLY]**: READ, "Do you have any questions about the study that I can answer?" **[ANSWER QUESTIONS. IF NONE SAY]**, "If you change your mind please contact us at **[INSERT LEEDE'S PHONE NUMBER] [SKIP TO NEXT SECTION]**
3. I have more questions **[GO TO FAQS SCREEN AND THEN ASK AGAIN IF THEY WOULD BE INTERESTED IN PARTICIPATING.]**

T2. Great! As part of the site visit research, we would like to review your building's utility consumption history. Are you willing to allow us to gather your building's utility billing history from your electric and gas utility?
1. Yes **[SAY]:** "During the visit, we will obtain your signature on a utility billing history release form so we can see how energy has been metered at your home. We ask that you have a copy of your electric and gas bills available for the technician. The technician will take down information such as your account numbers." **[SKIP TO T4]**
2. No
98. Don't know

T3. **[*DELETED QUESTION*]**

T4. **[IF T2]** Now I just need to get some contact information so that we can schedule a visit. What is your ….
1. First Name **[RECORD]**
2. Last Name **[RECORD]**
3. Preferred Phone number **[RECORD]**
4. Is this a cell phone?
5. (Yes)
6. (No)
7. Alternate Phone Number **[RECORD]**
8. Is this a cell phone?
9. (Yes)
10. (No)
11. Email Address? **[RECORD or 99 IF PREFER NOT TO SAY]**
12. Building Address **[RECORD]**
13. Unit number **[RECORD]**
14. City **[RECORD]**
15. State **[RECORD]**
16. ZIP Code **[RECORD]**

Those are all the questions we have about the site visit. You should receive a call from the study team to schedule a site visit within the new few weeks.

# NYSERDA MULTIFAMILY BUILDING ASSESSMENT – CODEBOOK – BUILDING OCCUPANTS

The survey for Occupants included several modules:

- Introduction
- Screener
- Unit Mechanical (Section C)
- Unit Lighting and Appliances (Section D)
- Unit Electronics (Section E)
- Tenant Satisfaction and Equipment Failures (Section F)
- Demographics (Section G)

NOTE:

- A code of (98) means don't know.
- Questions were asked of all respondents unless indicated otherwise.
- Categories were read to respondents.
- Respondents were allowed to leave questions blank to move forward in the survey. If a respondent answered some of the categories, then the empty categories were assumed to be zero.

## *A. Phone Invitation*

A1. Hello, I'm **[INSERT NAME]** calling on behalf of **[RESEARCH SPONSOR]**. May I speak with **[CONTACT NAME]**? **[IF THAT PERSON IS NOT AT THIS PHONE NUMBER, ASK FOR THEIR NAME AND PHONE NUMBER AND START AGAIN]**
1. Yes
2. No or not a convenient time **[ASK IF RESPONDENT WOULD LIKE TO ARRANGE A MORE CONVENIENT TIME OR IF YOU CAN LEAVE A MESSAGE FOR A MORE APPROPRIATE PERSON]**

98. (Wrong Number) **[THANK AND TERMINATE]**
99. (Refused) **[THANK AND TERMINATE]**

A2. Did you or someone in your household recently agree to participate in a site visit of your home as part of a New York State Energy Research and Development Authority study?
1. Yes
2. No **[THANK AND TERMINATE]**

98. (Don't Know) **[THANK AND TERMINATE]**

**[TERMINATION SCRIPT FOR A2]:** Those are all our questions, but unfortunately we need to speak to the person who agreed to participate in site visit of their home as part of a study with the New York State Energy Research and Development Authority

A3. Thank you for agreeing to participate in a site visit to your home. For an additional $30 gift card, we invite you to complete a 10-minute survey about your satisfaction with your home's energy features and how you use energy in your home. You will receive the incentive for the survey within two weeks of completing your site visit. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Law (FOIL).

A4. Do you have 10 minutes now to complete the survey, or should we schedule a time to call back later?
100. (Yes)
101. (No) **[SCHEDULE CALLBACK]**
98. (Don't know) **[SCHEDULE CALLBACK]**
99. (Prefer not to say/refused) **[THANK AND TERMINATE:** *"Thank you for your time and have a nice day"***]**

**[CALLBACK SCRIPT]** I will call you back tomorrow at **[STATE TIME]** or would you prefer I reach you on a different day or at a different time? Okay, what is the best time to reach you? **[CONFIRM PHONE NUMBER AND RECORD TIME AND DATE OF CALLBACK]**

**[STUDY VERIFICATION]**

Tracey DeSimone with the New York State Research and Development Authority, 518-862-1090, ext. 3452 can be contacted to confirm the validity of this study.

**[THANK AND TERMINATE SCRIPT]**

Those are all our questions. Have a nice day/evening.

**[IF NEEDED]** The survey takes about 20 minutes to complete.

**[AS NEEDED]** If you are contacted later and are still unsure about participating in this research, you may refuse at that time.

**[AS NEEDED:]** The New York State Energy Research and Development Authority (NYSERDA), promotes energy efficiency and the use of renewable energy sources. NYSERDA is gathering information on the characteristics of energy consuming or generating equipment and how people use energy in multifamily buildings. NYSERDA will use this information to help design programs for multifamily buildings.

## *B. Survey Introduction and Screener*


Welcome! Thank you for taking time out of your busy schedule to tell us about your satisfaction with your home's energy features and how you use energy in your home. This survey will take 10 minutes to complete. The information you provide will be used for research purposes only and will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Law (FOIL).

Be sure to enter your name and contact information at the end of the survey to receive your $30 gift card within two weeks of completing both the survey and the site visit. You may exit the survey at any time and your answers will be saved for up to two weeks.

B1. To start, please confirm the address where the site visit of your apartment or condo took place or is scheduled to take place.
   1. Address:_____
   2. Address 2 (unit number or letter)_____
   3. City:_____
   4. State:_____
   5. Zip:_____

**[SCREEN OUT TERMINATION MESSAGE:]** Those are all our questions. Thank you for your interest in this study but unfortunately, we are only including tenants who live in buildings with five or more units in our study. Have a nice day.

## C. *Unit Mechanical*

This first set of questions asks about your home's heating and cooling systems.

C1. What type of heating system do you primarily use to heat your home? **[RECORD ONE RESPONSE]**

1. Baseboard or wall electric heat
2. Baseboard radiant heat with central boiler
3. Ductless heat pump
4. Furnace with ducts to individual rooms
5. Heat pump with ducts to individual rooms
6. Fireplace
7. Wood pellet stove
8. Heating stove that burns wood or coal
9. Through-the-wall air conditioner or heat pump
10. Portable electric heater
11. Radiators (hot water or steam)
12. Something else – what is it? **[RECORD TEXT]**

98. Don't know

C2. [ASK IF C1≠98] Do you use any other heating systems in your home? Select all that apply. **[RECORD MULTIPLE RESPONSES]**

1. No other heating systems **[EXCLUSIVE RESPONSE]**
2. Baseboard or wall electric heat
3. Baseboard radiant heat with central boiler
4. Ductless heat pump
5. Furnace with ducts to individual rooms
6. Heat pump with ducts to individual rooms
7. Fireplace
8. Heating stove burning wood or coal
9. Through-the-wall air conditioner or heat pump
10. Portable electric heater
11. Radiators (hot water or steam)
12. Wood pellet stove
13. Something else – what is it? **[RECORD TEXT]**

98. Don't know **[EXCLUSIVE RESPONSE]**

C3. [ASK IF C2≠1 OR 98 and selected count is at least 1] [ASK ONCE FOR EACH ITEM SELECTED IN C2 OTHER THAN 1 OR 98] On days when you need to use heating, how often do you use your [INSERT SECONDARY HEATING SYSTEMS]?

1. Always
2. Most of the time
3. About half the time
4. Occasionally or rarely
5. Never

C4. **[ASK IF (C1 ≠ 6 OR 7 OR8) AND (C2 ≠ 7 OR 8 OR 12)]** Do you have a fireplace or heating stove in your home?
1. Fireplace
2. Heating stove
3. Both
4. Neither

C5. **[ASK IF (C4 = 1 OR 2 OR 3) OR (C1 = 6 OR 7 OR 7) OR (C2 = 7 OR 8 OR 12]** About how often do you use the fireplace or heating stove in your home during the winter?
1. Nearly every day
2. Once a week
3. Once a month
4. Rarely
5. Never

C6. What is the primary type of cooling equipment you use in your home? **[RECORD ONE RESPONSE]**
1. No air conditioning
2. Central air conditioner system with ducts to individual rooms
3. Ductless heat pump
4. Heat pump with ducts to individual rooms
5. Through-the-wall air conditioner or heat pump
6. Window air conditioner
7. Something else – what is it? **[RECORD TEXT]**
98. Don't know

C7. **[ASK IF C6≠1]** Do you use any other cooling systems in your home? Select all that apply. **[RECORD MULTIPLE RESPONSES]**
1. No other cooling systems **[EXCLUSIVE RESPONSE]**
2. Central air conditioner system with ducts to individual rooms
3. Ductless heat pump
4. Heat pump with ducts to individual rooms
5. Through-the-wall air conditioner or heat pump
6. Window air conditioner
7. Something else – what is it? **[RECORD TEXT]**
98. Don't know **[EXCLUSIVE RESPONSE]**

C8. **[ASK IF C6≠1 AND C7≠1 OR 98 and selected count is at least 1] [ASK ONCE FOR EACH ITEM SELECTED IN C7 OTHER THAN 1 OR 98]** On days when you need to use cooling, how often do you use your **[INSERT SECONDARY COOLING SYSTEMS]**?
1. Always
2. Most of the time
3. About half the time
4. Occasionally or rarely
5. Never

C9. Do you ever leave windows open during the winter?
1. Yes
2. No

C10. **[ASK IF C6 = 6 OR C7 = 6]** Who owns the window air conditioner(s) in your home? Select all that apply. **[MULTIPLE RESPONSES ALLOWED]**
1. The building owns some or all the window AC units
2. A third-party AC rental company owns some or all the AC units
3. We own some or all the window AC units

C11. Are you able to use a thermostat to change your home's heating temperature?
1. Yes
2. No

C12. **[ASK IF C6≠1]** Are you able to use a thermostat to change your home's cooling temperature?
1. Yes
2. No

C13. **[ASK IF C11=1 OR C12=1]** To what temperature do you usually set your thermostat?
1. **[SHOW IF C11=1]** Typical heating setpoint? **[RECORD NUMBER 50-90]**
2. **[SHOW IF C11=1]** Heating setpoint when away from home or sleeping? **[RECORD NUMBER 50-90]**
3. **[SHOW IF C12=1]** Typical cooling setpoint? **[RECORD NUMBER 50-90]**
4. **[SHOW IF C12=1]** Cooling setpoint when away or sleeping? **[RECORD NUMBER 50-90]**

C14. How often do you use the ventilation fan above your stove in the kitchen?
1. It stays on all the time
2. We use it every time we cook
3. We sometimes use it when we cook
4. We rarely use it when we cook
5. We never use it
6. There is no ventilation fan in the kitchen

C15. How often do you use the ventilation fan(s) in your bathroom(s)?
1. They stay on all the time
2. I use them every time I shower or bathe
3. I sometimes use them when I shower or bathe
4. I rarely use them
5. I never use them
6. There are no ventilation fan(s) in our bathroom(s)

## *D. Unit Lighting and Appliances*

This next set of questions asks about your home's lighting and appliances.

D1. When light bulbs burn out in your home, who replaces them?
1. Building staff
2. Me or someone who lives with me
3. Both / it varies

D2. Approximately how many loads of dishes does your household wash in a typical week in the dishwasher?
1. We do not have a dishwasher
2. None: we have a dishwasher but do not use it
3. None: dishwasher does not work
4. 1 load per week
5. 2 loads per week
6. 3 loads per week
7. 4 loads per week
8. 5 loads per week
9. 6 loads per week
10. 7 loads per week
11. 8 or more loads per week

98. Don't know

D3. What type of clothes washer and dryer is available in the building for your unit?
1. Common laundry area only
2. In-unit laundry only
3. In-unit and common laundry areas
4. None

D4. **[ASK IF D3 ≠ 4]** Approximately how many loads of laundry does your household wash in a typical week?
1. [RECORD NUMBER 0 OR GREATER]

D5. **[ASK IF D3 ≠ 4]** Approximately how many loads of laundry does your household dry in a clothes dryer in a typical week?
1. [RECORD NUMBER 0 OR GREATER]

D6. **[ASK IF D3 ≠ 4]** What water temperature setting do you usually use for the wash cycle of your clothes washer?
1. Cold
2. Warm
3. Hot

98. Don't know

D7. **[ASK IF D3 ≠ 4]** What water temperature setting do you usually use for the rinse cycle of your clothes washer?
1. Cold
2. Warm
3. Hot

98. Don't know

D8. Who owns the following appliances in your unit? **[DROPDOWN FOR THE FOLLOWING ANSWER CHOICES]**: the building, me or someone in my household, we rent this appliance, don't know
    1. Primary refrigerator
    2. **[ASK IF D3 = 2 OR 3]** Clothes washer
    3. **[ASK IF D3 = 2 OR 3]** Clothes dryer

## *E. Unit Electronics*

This next set of questions asks about your home's electronics.

E1. Do you have a WiFi internet connection in your home?
    1. Yes
    2. No
    98. Don't know

E2. How many of the following are in your home? **(If none, please enter zero)**
    1. Televisions **[RECORD NUMBER 0 TO 5]**
    2. Laptop computers **[RECORD NUMBER 0 TO 5]**
    3. Desktop computers **[RECORD NUMBER 0 TO 5]**
    4. Digital assistant or smart speaker (such as Alexa or Siri) that can control your thermostat or other energy-consuming equipment **[RECORD NUMBER 0 TO 5]**
    5. Gaming systems **[RECORD NUMBER 0 TO 5]**
    6. Tablets or iPads **[RECORD NUMBER 0 TO 9]**

E3. **[ASK IF E2.1>0] [WORDING IF E2.1 = 1]** About how many hours each day is the television on in your home? **[WORDING IF E2.1 > 1]** About how many hours each day is each television on in your home?
    1. **[IF E2.1 = 1, JUST ENTRY BOX / WORDING IF E2.1 > 1]** First television: **[RECORD NUMBER 0 TO 24]**
    2. **[ASK IF E2.1>1]** Second television: **[RECORD NUMBER 0 TO 24]**
    3. **[ASK IF E2.1>2]** Third television: **[RECORD NUMBER 0 TO 24]**

E4. **[ASK IF E2.2>0] [WORDING IF E2.2 = 1]** About how many hours each day is the laptop computer typically used in your home? **[WORDING IF E2.2 > 1]** About how many hours each day is each laptop computer typically used in your home?
    1. **[IF E2.2=1, JUST ENTRY BOX / WORDING IF E2.2>1]** First laptop: **[RECORD NUMBER 0 TO 24]**
    2. **[ASK IF E2.2>1]** Second laptop: **[RECORD NUMBER 0 TO 24]**
    3. **[ASK IF E2.2>2]** Third laptop: **[RECORD NUMBER 0 TO 24]**

E5. **[ASK IF E2.3>0] [WORDING IF E2.3 = 1]** About how many hours each day is the desktop computer typically used in your home? **[WORDING IF E2.3 > 1]** About how many hours each day is each desktop computer typically used in your home?

1. **[IF E2.3=1, JUST ENTRY BOX / WORDING IF E2.3>1]** First desktop computer: **[RECORD NUMBER 0 TO 24]**
2. **[ASK IF E2.3>1]** Second desktop computer: **[RECORD NUMBER 0 TO 24]**
3. **[ASK IF E2.3>2]** Third desktop computer: **[RECORD NUMBER 0 TO 24]**

E6. **[ASK IF E2.4>0]** Select all equipment in your home that can be controlled by your digital assistant or smart speaker. **[MULTIPLE RESPONSE]**
1. No equipment in my home is controlled by digital assistant or smart speaker **[EXCLUSIVE RESPONSE]**
2. Thermostat
3. Heating or cooling equipment
4. Security system
5. Lighting
6. Major appliances
7. Water heating equipment

E7. **[ASK IF E1=1]** Select all equipment in your home that can be controlled by WiFi. **[MULTIPLE RESPONSE]**
1. No equipment in my home is controlled by WiFi **[EXCLUSIVE RESPONSE]**
2. Thermostat
3. Heating equipment
4. Cooling equipment
5. Water heating equipment
6. Security system
7. Lighting
8. Clothes dryer
9. Clothes washer
10. Full-sized refrigerator
11. Stand-alone freezer
12. Stand-alone oven

## *F. Tenant Satisfaction and Equipment Failures*

F1. How would you rate your satisfaction with the following in your home? **[DROP-DOWN TABLE]**: Very satisfied, Somewhat satisfied, Not too satisfied, Not at all satisfied, Not applicable
1. Space heating system
2. **[ASK IF C6 ≠ 1]** Cooling system
3. Water heating system
4. Windows' ability to keep out drafts
5. Insulation levels
6. Humidity levels
7. Noise levels
8. Energy bills
9. Dust levels

10. Lack of mold or food smells
11. How well maintenance issues are resolved in your building

F2. Have you experienced any comfort or maintenance issues with the following in your unit or building? Please select all that apply. **[RECORD MULTIPLE RESPONSES]**
1. Space heating equipment
2. [ASK IF C6 ≠ 1] Cooling equipment
3. Water heating equipment
4. Drafty windows
5. Poor building insulation (does not keep in heat or cooled air)
6. Moisture intrusion (around exterior windows/doors, or from roof)
7. None of the above **[EXCLUSIVE RESPONSE]**

F3. **[IF F2=1]** Which of the following heating issues have you experienced? **[RECORD MULTIPLE RESPONSES]**
1. Home is often too cold in winter
2. Home is often too hot in winter
3. Uneven heating from room to room
4. Drafty spots with air leaks
5. Noisy heating system
6. The heating system often breaks
7. Unusable spaces in my home due to lack of heating
8. None of the above **[EXCLUSIVE RESPONSE]**

F4. **[IF F2=1 and F3≠8]** How were these issue(s) resolved (if at all)?
1. Issue was not resolved
2. I called a contractor
3. Building staff called a contractor for me
4. Building maintenance staff fixed the issue
5. Fixed it myself

F5. **[IF F4=1]** Which of the following steps did you take to address this issue? (Select all that apply) [
1. [IF F3=2] I opened window(s)
2. I sealed drafts or covered windows with my own pillows, blankets, etc.
3. I sealed drafts with spray foam and/or insulation
4. I applied window film
5. I turned the oven on
6. I used a space heater(s)
7. I changed the temperature on the thermostat
8. Something else – what did you do? **[RECORD TEXT]**
9. None of the above **[EXCLUSIVE]**

F6. **[IF F2=2]** Which of the following cooling issues have your experienced? **[RECORD MULTIPLE RESPONSES]**
1. My home is often too cold in summer
2. My home is often too hot in summer
3. Cooling is uneven from room to room
4. Noisy cooling system
5. Cooling system often breaks
6. Unusable spaces in my home due to lack of cooling
7. None of the above **[EXCLUSIVE RESPONSE]**

F7. **[IF F2=2 AND F6≠7]** How were these issue(s) resolved (if at all)?
1. Issue was not resolved
2. I called a contractor
3. Building staff called a contractor for me
4. Building maintenance staff fixed the issue
5. Fixed it myself

F8. **[IF F7=1]** Which of the following steps did you take to address this issue? Select all that apply. **[MULTIPLE RESPONSE ALLOWED]**
1. I opened window(s)
2. I sealed drafts or covered windows with my own pillows, blankets, etc.
3. I applied window film
4. I used a window/portable air conditioner
5. I changed the temperature on the thermostat
6. Something else – what did you do? **[RECORD TEXT]**
7. None of the above **[EXCLUSIVE]**

F9. **[IF F2=3]** How often do you experience not having hot water available in your home?
1. Never
2. Once a year or less
3. Once every few months
4. Once every few weeks
5. More than once a week

F10. **[IF F2=3]** How were these issue(s) with your water heating resolved (if at all)?
1. Issue was not resolved
2. I called a contractor
3. Building staff called a contractor for me
4. Building maintenance staff fixed the issue
5. Fixed it myself

F11. **[IF F10=1]** Which of the following steps did you take to address this issue with your water heating? Select all that apply. **[MULTIPLE RESPONSE ALLOWED]**
1. I ran the water until desired temperature
2. I heated water on the stove

3. I changed the temperature on the water heater's thermostat
4. Something else – what did you do? **[RECORD TEXT]**
5. None of the above **[EXCLUSIVE]**

F12. Regardless of whether this is happening in your current home, which of the following do you consider having the greatest impact on satisfaction with your living space? **[RANDOMIZE, SELECT ONE]**

1. Low dust levels
2. Humidity control and fresh air
3. Low noise levels
4. No cold or hot
5. Low energy bills
6. No mold or food smells
7. No overheating
8. No chills

## *G. Demographics*

This last set of questions are for statistical purposes only.

G1. Including yourself, how many people live in your home?

1. One (just me)
2. Two
3. Three
4. Four
5. Five
6. Six
7. Seven
8. Eight
9. More than eight
10. Prefer not to answer

G2. Including yourself, how many people currently living in your home year-round are in the following age groups? Please exclude anyone who is just visiting, children who may be away at college or those deployed in the military. (If none, please enter zero)

1. Less than 5 Years **[RECORD NUMBER 0 OR GREATER]**
2. 6 to 17 Years **[RECORD NUMBER 0 OR GREATER]**
3. 18 to 24 Years **[RECORD NUMBER 0 OR GREATER]**
4. 25 to 34 Years **[RECORD NUMBER 0 OR GREATER]**
5. 35 to 44 Years **[RECORD NUMBER 0 OR GREATER]**
6. 45 to 54 Years **[RECORD NUMBER 0 OR GREATER]**
7. 55 to 64 Years **[RECORD NUMBER 0 OR GREATER]**
8. 65 Years or Older **[RECORD NUMBER 0 OR GREATER]**

G3. Which of the following best describes your household's total income?

1. Less than $25,000

2. $25,000–less than $30,000
3. $30,000–less than $35,000
4. $35,000–less than $50,000
5. $50,000–less than $75,000
6. $75,000–less than $100,000
7. $100,000–less than $150,000
8. $150,000–less than $200,000
9. $200,000 or more
10. Prefer not to answer

G4. What is the highest level of education anyone currently living in your household has completed?
1. Less than high school
2. Some high school
3. High school graduate or equivalent (e.g., GED)
4. Trade or technical school
5. Some college, no degree
6. College degree (e.g. Bachelor's degree)
7. Some graduate school
8. Graduate degree (e.g. Masters or Doctorate degree)
9. Prefer not to answer

G5. Do you own or rent your home?
1. Own/buying
2. Rent
3. Sublet
4. Occupied without payment of rent (e.g. living with someone without making payment)

G6. Does your household receive rent assistance?
1. Yes
2. No
98. Don't know

G7. Does your household receive electric or heating utility bill assistance?
1. Yes
2. No
98. Don't know

G8. Over the past year, how many people in your household primarily worked or attended school from home?
1. **[RECORD NUMBER 0 OR GREATER]**

G9. **[ASK IF G8>0]** Do most of these people plan to go back to school or the office after the COVID-19 pandemic ends?
1. Yes, daily
2. Yes, some days of the week

3. Yes, a few times a month
4. No, rarely or never

G10. Are you aware of any energy efficiency or energy saving programs offered by NYSERDA or your utility company to make your home or appliances more energy efficient?
1. Yes
2. No

G11. **[ASK IF G10≠2]** In the past 5 years, has your household participated in any energy efficiency or energy saving programs offered by NYSERDA or your utility company to make your home or appliances more energy efficient?
1. Yes
2. No
98. Don't know

G12. **[ASK IF G11 = 2]** Why hasn't your household participated in any energy efficiency or energy saving programs offered by NYSERDA or your utility company? Select all that apply. **[RANDOMIZE ITEMS EXCEPT FOR LAST ONE / MULTIPLE RESPONSE]**
1. Not aware of any reason to
2. Do not know who to contact
3. Cannot afford to install new equipment
4. Energy bills are not that high
5. Too busy / don't have time
6. Do not need anything done
7. Recently moved
8. Too difficult to receive permission from building management or homeowner's association
9. Don't own my home
10. Another reason – what was it? **[RECORD TEXT]**

G13. What behaviors do you practice to save energy for space heating and cooling or water heating? **[RANDOMIZE EXCEPT FOR LAST TWO ITEMS, RECORD MULTIPLE RESPONSES]**
1. Ensure all windows are closed when heat is turned on
2. Ensure all windows are closed when air conditioning is turned on
3. Adjust thermostat for temperatures to be lower at night (during cool months)
4. Regularly change filters in heating and cooling units
5. Limit hot water use, such as shorter showers
6. Wash all clothing on "cold" setting
7. Something else – what is it? [RECORD TEXT]
8. I don't practice any energy efficient behaviors **[EXCLUSIVE RESPONSE]**

G14. Who is responsible for the following utility bills for your home? **[DROP DOWN OR GRID FOR "ME OR SOMEONE ELSE IN MY HOME", "THE BUILDING OWNER", AND "DON'T KNOW"]**
1. Heating

2. **[ASK IF C6 ≠ 1]** Cooling
3. Water heating

G15. How many electric vehicles are owned or leased by people who live in your home?
1. None
2. One
3. Two
4. Three or more

G16. **[ASK IF G15= 2, 3 OR 4]** Where do people who live in your home most often charge electric vehicle(s)?
1. At home
2. At work
3. Public charging stations

G17. **[ASK IF G16 =1]** How do you pay to use your building's electric vehicle charger?
1. My building does not provide electric vehicle chargers
2. It's free
3. Payment is included in rent
4. Monthly fee
5. Flat fee each time vehicle is charged
6. Charge per kilowatt-hour is paid to the building owner
7. Charge per kilowatt-hour is paid on my electric bill
8. Don't know

G18. **[SKIP IF G5=1]** Remember that this survey is confidential. On a scale of 0 to 10, where 0 is not at all likely and 10 is extremely likely, how likely are you to renew your lease for another term?

| Not at all Likely 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Extremely Likely 10 | Don't know/Not applicable |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |

G19. **[SKIP IF G5=1]** If your building's management were to invest in improving the energy efficiency of your living space, which would reduce monthly energy bills and improve comfort, how likely would you be to renew your lease for another term?

| Not at all Likely 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Extremely Likely 10 | Don't know/Not applicable |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |

## *H. Standard Closing*

To thank you for completing this survey, we would like to send you a $30 gift card within two weeks of completing your site visit. **You have the option of receiving a mailed VISA gift card or an online Amazon gift card by email.**

H1. Please choose which gift card you would like to receive.

1. $30 Amazon.com gift card (sent via email within two weeks of completing both this survey and the site visit)
2. $30 Visa gift card (sent via mail within two weeks of completing both this survey and the site visit)
3. Neither - I do *not* wish to receive a gift card

H2. **[IF H1≠3]** Please provide your name, address, and email to receive your gift card. This information will only be used to send your gift card.

1. Name:_____
2. Address:_____
3. Address 2:_____
4. City:_____
5. State:_____
6. Zip:_____
7. Email**:** _____
8. Phone: _____

## *I. End of Survey Message*

You can learn more about NYSERDA's resources for residents and homeowners to improve their homes' efficiency and comfort at https://www.nyserda.ny.gov/Residents-and-Homeowners.