



Independent Statistics & Analysis
U.S. Energy Information
Administration

Commercial Buildings Energy Consumption Survey (CBECS)

User's Guide to the 2012 CBECS Public Use Microdata File

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(Appendix Tables B1, B2, and C4
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Overview

EIA makes a public-use microdata file available for each CBECS survey cycle. The 2012 file, which contains over 400 survey variables (not including imputation flags and statistical weights, which bring the variable count over 1,000), is a valuable tool for users conducting detailed analysis of energy use in commercial buildings. This document provides some background on the CBECS design, as well as useful tips and examples that will guide users through the proper statistical use of the CBECS microdata.

CBECS sample design

The CBECS uses a multi-stage, multi-frame area probability design to select a sample of buildings that estimate energy characteristics, consumption, and expenditures for the national stock of commercial buildings. For detailed information on how the sample was selected, see *How Were Buildings Selected for the 2012 CBECS* (<http://www.eia.gov/consumption/commercial/2012-cbebs-building-sampling.cfm>).

To produce population estimates, the sample cases were properly weighted to represent all commercial buildings, including those not in the sample. *Base sampling weights*, which are the reciprocal of the probability of being selected for the CBECS sample, were first calculated for each sampled building. The base weights were then adjusted to account for survey nonresponse. The variable FINALWT in the data file represents the *final sampling weight*, accounting for different probabilities of selection and rates of participation in the survey. FINALWT is the number of buildings in the population that the observation represents. For example, if FINALWT for a building is 1,000, that building represents itself and 999 other non-sampled buildings.

Sampling error

Estimates from a sample survey like CBECS are not exact but are statistical estimates with some associated sampling error—the result of generating estimates based on a sample rather than conducting a census of the entire population. Sampling error provides a measure of the accuracy of a particular estimate for a characteristic based on how common and variable it is in the population, given a particular sample size.

Standard errors are used in conjunction with survey estimates to measure sampling error, construct confidence intervals, or perform hypothesis tests. A relative standard error (RSE) is defined as the standard error (square root of the variance) of a survey estimate, divided by the survey estimate, and multiplied by 100. In other words, the RSE is the standard error relative to the survey estimate on a scale from zero to 100. The larger the RSE, the less precise the survey estimate is and the less likely the estimate, plus or minus an error range, includes the true population value. An RSE is shown for each estimate in the CBECS tables (on a separate tab in the Excel tables or in separate tables following the estimates tables in Appendix A of this documentation).

Jackknife method of estimating standard error

CBECS uses the jackknife method for estimating standard errors. This method uses replicate weights to repeatedly estimate the statistic of interest and calculate the differences between these estimates and the full-sample estimate. See Wolter (1985), Rust (1985), and Shao and Tu (1995) for technical details.

If θ is a population parameter of interest, let $\hat{\theta}$ be the estimate from the full sample for θ . Let $\hat{\theta}_r$ be the estimate from the r-th replicate subsample by using replicate weights and let α_r be the jackknife coefficient for replicate r. The variance of $\hat{\theta}$ is estimated by:

$$\hat{V}(\hat{\theta}) = \sum_{r=1}^R \alpha_r (\hat{\theta}_r - \hat{\theta})^2$$

For the 2012 CBECS, R=197 (the number of replicate subsamples) and $\alpha_r = 1$ for each replicate. The formula for calculating the RSE is:

$$\left(\frac{\sqrt{\hat{V}(\hat{\theta})}}{\hat{\theta}} \right) \times 100$$

CBECS Examples: Using Excel or SAS to calculate estimates and/or RSEs

The following instructions are examples for calculating any CBECS estimate using the final weights (FINALWT) and the associated RSE using the replicate weights (FINALWT1–FINALWT197). We have provided instructions for Excel users and users with access to statistical software. Software packages like SAS/STAT, R, Stata, SUDAAN, and WesVar can process replicate weights to calculate RSEs. Note that while **EXCEL can be used to calculate point estimates, it cannot process replicate weights to calculate RSEs** for CBECS or other complex sample designs with varying probabilities of selection.

EIA recommends calculating standard errors or RSEs in conjunction with estimates to account for sampling error, which signal whether the results from the sample reflect the population value or are just due to chance of drawing this particular sample.

For Excel Users (estimates only, no RSEs)

Excel Example 1: Calculate the number of commercial buildings that are 5,000 square feet or smaller

A simple count of buildings can be estimated using the sum of FINALWT for a specified subset of cases within the CBECS data file. For this example, filter the file for all cases where the square footage category is 1,001 to 5,000 square feet (SQFTC='02'). There are 1,738 such cases. By adding the FINALWT column for these cases, the result is that the estimated number of buildings that are 5,000 square feet or smaller is 2,777,320.64 (or 2,777 thousand as reported in Table B1). This is equal to 50% of all commercial buildings, or $2,777,321 \div 5,557,138$ (the sum of FINALWT for all cases in CBECS).

Excel Example 2: Calculate the total square footage of commercial buildings in the South Census region

To calculate total square footage, create a new column for weighted square footage by multiplying SQFT by FINALWT for each case. Then filter the file for the South (REGION='3'). There are 2,592 such cases. Sum the new weighted square footage column (for the South only) to get 34,262,175,537 (or 34,262 million square feet as reported in Table B1).

Excel Example 3: Calculate the average size (mean square feet per building) of office buildings

To calculate total square footage, create a new column for weighted square footage by multiplying SQFT by FINALWT for each case. Then filter the file for office buildings (PBA='02'). There are 1,356 such cases. Sum the new weighted square footage column (for office buildings only) to get 16,007,229,575. Sum FINALWT for office buildings to get 1,012,373.22 (estimate for the number of office buildings). To calculate mean square feet for office buildings, divide the weighted square footage total by the estimated number of office buildings. The result is 15,811.59 (or 15.8 thousand as reported in Table B1).

Excel Example 4: Calculate the total electricity consumption for office buildings in the Midwest

Begin by filtering the file for all cases where the Census region is Midwest (REGION='02'). There are 1,459 such cases. Next, limit the cases further to only those that are office buildings (PBA='02'). There should be 269 cases left. Total electricity consumption is reported in the variable ELCNS. For each case, created the weighted electricity consumption by multiplying consumption by the weight (ELCNS \times FINALWT). Sum these weighted consumption numbers to find that office buildings in the Midwest consume a combined 51,110,492,663kWh of electricity annually, or 51 billion kWh as reported in Table C15.

Excel Example 5: Calculate energy intensity for the sum of major fuels by building floorspace category

To find the energy intensity for the sum of major fuels for buildings with a floorspace of 10,001 to 25,000 square feet, first filter the file for the appropriate cases (SQFTC='04'). There should be 925 cases in this category. In a new column, calculate the weighted square footage (SQFT \times FINALWT) for each case and sum the column to get 14,108,189,730 (the total square footage for all buildings in this size category combined). In a separate column, calculate the weighted major fuel consumption (MFBTU \times FINALWT) for each case and sum the column to get 876,162,383,081 (the total major fuel consumption for all buildings in this size category). Divide the sum of the weighted major fuel consumption by the sum of the weighted square footage. You should obtain an energy use intensity of 62.1031 thousand Btu per square foot for all major fuels combined for buildings with a floorspace of 10,001 to 25,000 square feet, or 62.1 thousand Btu per square foot as reported in Table C4.

Excel Example 6: Calculate total major fuel consumption used for refrigeration in food service buildings

Start by filtering the file for cases where the primary building activity is food service (PBA='15'). There should be 261 cases in this category. In a new column, calculate the weighted consumption of all major fuels for refrigeration (MFRFBTU \times FINALWT). Sum this new column to find that food service buildings consume 113,495,135,935 thousand Btu annually for refrigeration, or 113 trillion Btu as reported in Table E1.

For SAS Users

SAS Example 1: Calculate the number of commercial buildings that are 5,000 square feet or smaller and the associated RSE (Table B1)

To calculate the sampling error associated with the square footage categories (SQFTC), use PROC SURVEYFREQ to process the replicate weights (FINALWT1-FINALWT197).

```
proc surveyfreq data=cbecls varmethod=jackknife;
    repweights finalwt1-finalwt197 / jkcoefs=1;
    weight finalwt;
    tables sqftc;
run;
```

Based on the output shown below, the weighted estimate of number of buildings in the 1,001 to 5,000 square foot category is 2,777,321. The standard deviation of the frequency is 149,557 and the calculation for the RSE is: $(149,557 \div 2,777,321) \times 100 = 5.38$. This means that the sampling error is about 5% of the estimate.

```
The SURVEYFREQ Procedure

Data Summary

Number of Observations      6720
Sum of Weights            5557138.45

Variance Estimation

Method                  Jackknife
Replicate Weights       CBECS
Number of Replicates     197

Square footage category

          Frequency   Weighted Frequency   Std Dev of Wgt Freq   Percent   Std Err of Percent
SQFTC
-----+
1,001 to 5,000 square feet      1738      2777321        149557    49.9775    1.3105
5,001 to 10,000 square feet     876      1229240        98520    22.1200    0.8873
10,001 to 25,000 square feet    925      883630        61106    15.9008    0.5869
25,001 to 50,000 square feet    651      332035        27043    5.9749    0.3594
50,001 to 100,000 square feet   720      199166        15433    3.5840    0.2584
100,001 to 200,000 square feet  681      90020         6295    1.6199    0.1175
200,001 to 500,000 square feet  696      37733         2572    0.6790    0.0516
500,001 to 1 million square feet 285      5996        628.12135    0.1079    0.0128
Over 1 million square feet     148      1997        287.08586    0.0359    0.0057
-----+
Total                      6720      5557138        298691    100.000
```

SAS Example 2: Calculate the total square footage of commercial buildings in the Northeast Census region and the associated RSE (Table B1)

To calculate the total square feet (SQFT) by Census region (REGION), use SQFT in the var statement and REGION in the *domain* statement within PROC SURVEYMEANS. PROC SURVEYMEANS is used to process the replicate weights (FINALWT1-FINALWT197).

```
proc surveymeans data=cbecs varmethod=jackknife sum cv;
  repweights finalwt1-finalwt197 / jkcoefs=1;
  weight finalwt;
  var sqft;
  domain region;
run;
```

From the output shown below, the total weighted square footage of commercial buildings in the South is 34,262,175,537. The standard error of the total is 2,696,101,576 and the calculation for the RSE is: $(2,696,101,576 \div 34,262,175,537) \times 100 = 7.87$. This means that the sampling error is almost 8% of the estimate.

The SURVEYMEANS Procedure					
Domain Statistics in REGION					
Census region	Variable	Label	Coeff of Variation	Sum	Std Error of Sum
Northeast	SQFT	Square footage	0.073500	15547475530	959043830
Midwest	SQFT	Square footage	0.061639	18916007507	1129744204
South	SQFT	Square footage	0.050672	34262175537	2696101576
West	SQFT	Square footage	0.077539	18350705946	2638410423

SAS Example 3: Calculate the weighted average size (mean square feet per building) of office buildings and the associated RSE (Table B1)

To calculate the average building size (SQFT) by building activity (PBA), use PBA in the *domain* statement and use *mean* as an option in the PROC SURVEYMEANS statement. PROC SURVEYMEANS is used to process the replicate weights (FINALWT1-FINALWT197).

```
proc surveymeans data=cbecs varmethod=jackknife mean stderr cv;
    repweights finalwt1-finalwt197 / jkcoefs=1;
    weight finalwt;
    var sqft;
    domain pba;
run;
```

From the output shown below, the **weighted mean square feet per building** for office buildings is 15,812. The **standard deviation of the mean** is 970.289 and the calculation for the RSE is: $(970.289 \div 15,812) \times 100 = 6.14$. The RSE can also be calculated by multiplying the figure in the coefficient of variation column by 100: $0.0614 \times 100 = 6.14$. This means that the sampling error is about 6% of the estimate.

The SURVEYMEANS Procedure					
Domain Statistics in PBA					
Principal building activity	Variable	Label	Mean	Std Error of Mean	Coeff of Variation
Vacant	SQFT	Square footage	11003	992.142138	0.090168
Office	SQFT	Square footage	15812	970.288884	0.061366
Laboratory	SQFT	Square footage	30407	7185.618067	0.236314
Nonrefrigerated warehouse	SQFT	Square footage	16120	1393.765050	0.086463
Food sales	SQFT	Square footage	7081.444775	926.454328	0.130828
Public order and safety	SQFT	Square footage	17108	2513.094906	0.146895
Outpatient health care	SQFT	Square footage	12098	1268.955431	0.104889
Refrigerated warehouse	SQFT	Square footage	51902	14366	0.276796
Religious worship	SQFT	Square footage	11070	733.975568	0.066302
Public assembly	SQFT	Square footage	15712	1340.007740	0.085286
Education	SQFT	Square footage	31490	2057.313196	0.065331
Food service	SQFT	Square footage	4791.633199	178.601982	0.037274
Inpatient health care	SQFT	Square footage	245580	34198	0.139253
Nursing	SQFT	Square footage	43169	6235.722544	0.144448
Lodging	SQFT	Square footage	34636	3355.188329	0.096870
Strip shopping mall	SQFT	Square footage	31257	2968.990618	0.094985
Enclosed mall	SQFT	Square footage	630050	159082	0.252491
Retail other than mall	SQFT	Square footage	12407	820.751400	0.066153
Service	SQFT	Square footage	7416.015734	454.170578	0.061242
Other	SQFT	Square footage	14126	2591.816013	0.183481

SAS Example 4: Calculate the weighted median hours per week (Table B2)

To calculate a weighted median, use a *weight* statement within PROC MEANS. In this example, weekly operating hours (WKHRS) goes in the *var* statement. It is not possible to calculate RSEs for medians with jackknife replicate weights, so it is not necessary to use PROC SURVEYMEANS.

```
proc means median data=cbecls;
  var wkhhs;
  weight finalwt;
run;
```

The output provides the weighted median weekly operating hours, 50 hours per week.

```
The MEANS Procedure  
Analysis Variable : WKHRS Total hours open per week  
Median  
-----  
50.000000  
-----
```

SAS Example 5: Calculate the total electricity consumption for office buildings in the Midwest and the associated RSE (Table C15)

To calculate the total electricity consumption in kWh (ELCNS) by primary building activity (PBA) and Census region (REGION), use PBA and REGION in a *domain* statement within PROC SURVEYMEANS. In this example, ELCNS goes in the *var* statement. PROC SURVEYMEANS is used to process the replicate weights (FINALWT1-FINALWT197).

```
proc surveymeans data=cbecls varmethod=jackknife sum;
  repweights finalwt1-finalwt197 / jkcoefs=1;
  weight finalwt;
  var elcns;
  domain pba * region;
run;
```

From the output shown below, the total annual electricity consumption in kWh for all office buildings in the Midwest is 51,110,492,663. The standard error of the total is 6,435,202,845. The RSE is calculated as $(6,435,202,845 \div 51,110,492,663) \times 100 = 12.6$.

The SURVEYMEANS Procedure						
Domain Statistics in PBA*REGION						
Principal building activity	Census region	Variable	Label	Sum	Std Error of Sum	
Vacant	Northeast	ELCNS	Annual electricity consumption (kWh)	681838172	306208142	
	Midwest	ELCNS	Annual electricity consumption (kWh)	1776982678	742239238	
	South	ELCNS	Annual electricity consumption (kWh)	2742734087	642758454	
	West	ELCNS	Annual electricity consumption (kWh)	2529122320	1128951559	
	Northeast	ELCNS	Annual electricity consumption (kWh)	63386723545	11728940188	
	Midwest	ELCNS	Annual electricity consumption (kWh)	51110492663	6435202845	
	South	ELCNS	Annual electricity consumption (kWh)	88010356971	9797222317	
	West	ELCNS	Annual electricity consumption (kWh)	50781721798	5054685364	

(Output truncated to save space)

SAS Example 6: Calculate energy intensity for the sum of major fuels by building floorspace category and the associated RSE (Table C4)

The CBECS includes all buildings, including those that do not use any energy, in the calculation of energy intensity for all major fuels¹. The SURVEYMEANS procedure excludes cases with missing variables when calculating ratios. Therefore, it is necessary to first create a new variable (MFTAB, below) where missing data are set to 0:

```
data cbecs;
  set cbecs;
  mftab=mfbtu;
  if mftab=. then mftab=0;
```

Next, use this new variable to compute the overall energy intensity for the sum of major fuels, defined here as total major fuel consumption in thousand Btu (MFTAB) per square foot (SQFT). Use MFTAB and SQFT in a var statement as well as a ratio statement within PROC SURVEYMEANS. Further divide the data into building floorspace categories by using SQFTC in a domain statement. PROC SURVEYMEANS is used to process the replicate weights (FINALWT1-FINALWT197).

```
proc surveymeans data=cbecs
  varmethod=jackknife sum;
  repweights finalwt1-finalwt197 / jkcoefs=1;
  weight finalwt;
  var mftab sqft;
  domain SQFTC;
  ratio mftab/sqft;
run;
```

In the output shown below, the total energy intensity for all major fuels in thousand Btu for buildings 10,001 to 25,000 square feet is 62.103105. The standard error for the intensity is 3.144442. The RSE for the intensity—thousand Btu per square foot—is $(3.144442 \div 62.103105) \times 100 = 5.06$.

The SURVEYMEANS Procedure

Domain Ratio in SQFTC

Square footage category	Numerator	Denominator	Ratio	Std Err
1,001 to 5,000 square feet	mftab	SQFT	89.887523	3.451706
5,001 to 10,000 square feet	mftab	SQFT	72.560637	4.162814
10,001 to 25,000 square feet	mftab	SQFT	62.103105	3.144442
25,001 to 50,000 square feet	mftab	SQFT	69.012869	3.549956
50,001 to 100,000 square feet	mftab	SQFT	76.619863	3.899248
100,001 to 200,000 square feet	mftab	SQFT	83.229079	6.130370
200,001 to 500,000 square feet	mftab	SQFT	95.748596	4.391670
500,001 to 1 million square feet	mftab	SQFT	103.525619	5.364536
Over 1 million square feet	mftab	SQFT	116.137839	17.185040

¹ For energy source-specific intensities, CBECS does not include buildings that don't use the energy source in the calculation, so the extra step of creating a new variable is not necessary in the calculation of electricity, natural gas, fuel oil, or district heat intensities.

SAS Example 7: Calculate building-level energy intensities and find the median for different categories of operating hours (Table C4)

First, create a new variable equal to the building-level energy intensity for each case (BLEUI, below). Here we are looking at the intensity for the sum of all major fuels (MFBTU):

```
data cbecs;
  set cbecs;
  BLEUI=mfbtu/sqft;
  if mfbtu=. then mfbtu=0;
```

Then, use the newly-created variable in the `var` statement of a MEANS procedure to find the median value. It is not possible to calculate RSEs for medians with jackknife replicate weights, so it is not necessary to use the SURVEYMEANS procedure. Use a `class` statement to separate the output by weekly operating hours categories (WKHRSC).

```
proc means median data=cbecs;
  weight finalwt;
  var BLEUI;
  class WKHRSC;
run;
```

The output below shows that the median building-level intensity for the sum of all major fuels for buildings open 40-48 hours is 43.4269286 thousand Btu per square foot. For buildings open 49 to 60 hours, the median is slightly higher, 48.4100000.

```
The MEANS Procedure

Analysis Variable : BLEUI

Weekly
hours
category      N
            Obs      Median
-----
No hours      257      6.1823810
1 to 39       564      28.2946667
40 to 48      1293      43.4269286
49 to 60      1525      48.4100000
61 to 84       1075      73.3390000
85 to 167      656      127.5474000
168           1350      67.4456500
-----
```

SAS Example 8: Calculate total major fuel consumption used for refrigeration in food service buildings (Table E1)

To calculate energy consumed from all major fuel for the refrigeration end use (MFRFBTU) by primary building activity (PBA), use MFRFBTU in the var statement of PROC SURVEYMEANS. Put PBA in a domain statement. PROC SURVEYMEANS is used to process the replicate weights (FINALWT1-FINALWT197).

```
proc surveymeans data=cbecls varmethod=jackknife sum;
  repweights finalwt1-finalwt197 / jkcoefs=1;
  weight finalwt;
  var MFRFBTU;
  domain pba;
run;
```

From the output shown below, the total major fuel consumption used for the refrigeration end use is 113,495,135,935 thousand Btu. The data for end uses come from a model and therefore do not have RSEs.

Principal building activity	Variable	Label	Domain Statistics in PBA		
			Sum	Std Error of Sum	
Vacant	MFRFBTU	Major fuel refrigeration use (thous Btu)	853224486	279432346	
Office	MFRFBTU	Major fuel refrigeration use (thous Btu)	27838329963	3684087416	
Laboratory	MFRFBTU	Major fuel refrigeration use (thous Btu)	11086263365	3437702890	
Nonrefrigerated warehouse	MFRFBTU	Major fuel refrigeration use (thous Btu)	14071477702	3885842070	
Food sales	MFRFBTU	Major fuel refrigeration use (thous Btu)	146796826864	16823447266	
Public order and safety	MFRFBTU	Major fuel refrigeration use (thous Btu)	2910091744	563691832	
Outpatient health care	MFRFBTU	Major fuel refrigeration use (thous Btu)	4449950940	1320674008	
Refrigerated warehouse	MFRFBTU	Major fuel refrigeration use (thous Btu)	32550709840	9740227270	
Religious worship	MFRFBTU	Major fuel refrigeration use (thous Btu)	4039852729	530319757	
Public assembly	MFRFBTU	Major fuel refrigeration use (thous Btu)	24656447914	4349725088	
Education	MFRFBTU	Major fuel refrigeration use (thous Btu)	40405444735	3341618386	
Food service	MFRFBTU	Major fuel refrigeration use (thous Btu)	113495135935	11773848093	

(Output truncated to save space)

Notes to consider when using the microdata file and replicate weights

Publication standards

EIA does not publish CBECS estimates where the RSE is higher than 50 or the count of buildings used for the calculation is less than 20 (indicated by a Q in the data tables). These are also EIA's recommended guidelines for custom analysis using the public use microdata file.

Imputation variables

Most variables were imputed for *Don't know* and *Refused* responses. The *Z variables*, also referred to as *imputation flags*, are included in the public use microdata file. Each variable that was imputed has a corresponding Z variable; the Z variable name is simply the name of the variable that was imputed with the letter Z in front of it (for example, the Z variable for the variable SQFT is ZSQFT). The imputation flags provide information on the source of the data for the corresponding non-Z variable.

The CBECS imputation flags for **characteristics variables** and their meanings are:

- **Reported** (Z variable='0'). Indicates that the variable was reported by the respondent.
- **Imputed** (Z variable='1'). Building characteristics data were imputed using hot-deck imputation methods.
- **Estimated** (Z variable='2'). This code applies to strip center buildings for which the value was estimated using data from establishment interviews within the building
- **Missing** (Z variable='8'). Indicates that the value is still *Don't Know* or *Refused* because the variable was not imputed.
- **Inapplicable** (Z variable='9'). Indicates that the variable was not on the questionnaire path for that particular building. In the CBECS, non-Z variables are displayed as missing when they are inapplicable.

The CBECS imputation flags for **energy consumption** variables and their meanings are:

- **Reported** (Z variable='0'). Indicates that the variable was reported by the respondent or by the energy supplier.
- **Estimated for strip center** (Z variable='1'). This code applies to strip center buildings for which the value was estimated using data from establishment interviews within the building
- **Imputed** (Z variable='2'). Energy consumption data were imputed using engineering-based statistical models.
- **Estimated using price** (Z variable='3'). Indicates that either the consumption or the expenditures was calculated using an average price for the energy source.
- **Inapplicable** (Z variable='9'). Indicates that the energy source was not used.

When there is a variable on the file without a corresponding Z variable, it means that there was no missing data or the variable was not imputed (in such cases, there will be *Don't know* or *Refused* values remaining in the data file). EIA recommends using the imputed data where available to avoid biased estimation.

Confidentiality and masking procedures

The 2012 CBECS was collected under the authority of the Confidential Information Protection and Statistical Efficiency Act (CIPSEA). EIA, project staff and its contractors and agents are personally accountable for protecting the identity of individual respondents. The following steps were taken to avoid disclosure of information that would reveal the identity of a building on the public use microdata file.

- All **building identification information** such as building name, address, city, state, and ZIP code were removed.
- Variables indicating **unique building features** that might lead to building identification were left off the file. Examples include: wind turbines, indoor ice rinks, trading floors, and green building certification.
- **Climate region** (PUBCLIM): CBECS has adopted new climate zone designations—climate regions created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE). To preclude disclosure risk on the public use file, the Hot-dry/Mixed-dry region and the Hot-humid region have been combined, and climate region has been withheld for buildings larger than a million square feet.
- **Square footage** (SQFT): For buildings over one million square feet, the numeric square footage was replaced with the weighted average square footage of all responding buildings over one million square feet. Separate weighted means were calculated for each of the four Census regions. For buildings one million square feet or less, the numeric square footage was rounded to within 5 percent of the upper limit of the buildings' square footage categories. If the rounded value fell below the lower limit of the category, the value was coded at the lower limit—for example, buildings in the range of 5,001 to 12,000 square feet were rounded to the nearest 500 square feet (except that buildings rounding to 5,000 were coded as 5,001.)
- **Number of floors** (NFLOOR): The upper values for number of floors were replaced with two categories: 15 to 25 floors (coded as 994 on the file) and more than 25 floors (coded as 995 on the file).
- **Floor-to-ceiling height** (FLCEILHT): The upper values were replaced with a category for more than 50 feet (coded as 995 on the file).
- **Number of elevators and escalators** (NELVTR, NESLTR): The upper values were replaced with a category for more than 50 elevators (coded as 995 on the file) and more than 20 elevators (coded as 995 on the file).
- **Year of construction** (YRCON): The oldest buildings were replaced with a category for before 1945 (coded as 995). In year of construction category, categories remain for *Before 1920* and *1920 to 1945*, but the exact year of construction is not being provided for any of these years.
- **Data centers:** Data centers are placed into the *Other* building activities.

- **Special measures of occupancy** (RWSEAT, PBSEAT, EDSEAT, FDSEAT, HCBED, NRSBED, LODGRM): Seven special measures of occupancy are included in the 2012 CBECS (seating capacity for religious buildings, public assembly buildings, education buildings, and food service buildings; licensed bed capacity for inpatient health care and skilled nursing buildings; and number of guest rooms for lodging buildings). These numbers were rounded to the following: fewer than 25 units (no rounding performed); 25-49 units (rounded to nearest 5); 50-99 units (rounded to nearest 12); 120-249 units (rounded to nearest 25); 250-499 (rounded to nearest 50); 500-999 units (rounded to nearest 120); 1,000-2,499 units (rounded to nearest 250); 2,500-4,999 (rounded to nearest 500); 5,000 or more units (rounded to nearest 1,000). In addition, for public assembly buildings, those with more than 15,000 seats have been collapsed into one category (coded as 999995); for religious worship buildings, those with more than 2,000 seats have been collapsed into one category (coded as 99995); for lodging buildings, those with more than 1,000 guest rooms have been collapsed into one category (coded as 99995); and for inpatient health care and skilled nursing buildings, buildings with over 250 beds have been collapsed into one category (coded as 9995).
- **Type of government ownership** (GOVTYP, OWNTYPE): For inpatient health care buildings that are government owned, the type of government ownership (Federal, State or local) variable has been withheld.
- **Number of businesses** (NOCC): For buildings where the numeric number of businesses was between 50 and 100, the reported number was rounded to the nearest 5. For buildings where the numeric number of businesses was between 101 and 200, the reported number was rounded to the nearest 10. For buildings with more than 200 businesses, the number of businesses has been collapsed into one category (coded as 995).
- **Number of workers** (NWKER): For buildings where the numeric number of workers was between 2,500 and 4,999, the reported number was rounded to the nearest 250. For buildings where the numeric number of workers was 5,000 or more, the reported numeric number of workers was replaced with the weighted average number of workers of all responding buildings with 5,000 or more workers.
- **Medical equipment** (XRAYN, CTSCAN, MRI, LINACC): For buildings with more than 20 X-ray machines, the number of X-rays has been collapsed into one category (coded as 995). For the number of CT scan machines, number of MRI machines, and the number of linear accelerators, instead of providing the number, an indicator variable has been provided to show the presence or absence of these equipment types within a building.
- **Number of compact refrigerators** (RFGCOMP): This value has been rounded in the same manner as described for *Special measures of occupancy* above. In addition, buildings with more than 1,000 compact refrigerators have been collapsed into one category (coded as 99995).
- **Computers and servers** (PCTERMN, PCTRMC, LAPTPN, LAPTPC, SERVERN, SERVERC): For buildings where the number of computers was 2,500 or more, the reported numeric number of computers was replaced with the weighted average number of computers (calculated separately by regions) of all responding buildings with 2,500 or more computers. In addition, the highest two number of computers categories were combined. For

buildings where the number of laptop computers was 1,000 or more, the reported numeric number of laptops was replaced with the weighted average number of laptops of all responding buildings with 1,000 or more laptops. In addition, the highest three number of laptops categories were combined. For buildings with 500 or more servers, the number of servers has been collapsed into one category (coded as 9995). In addition, the top four number of servers categories were combined.

- **Data center square footage** (DCNTRSFC): Data center square footage within buildings has been collapsed into five categories: 500 square feet or less; 501 to 1,500 square feet; 1,501 to 3,000 square feet; 3,001 to 10,000 square feet; and Over 10,000 square feet.
 - **TV or video displays** (TVVIDEON): For buildings with more than 200 TVs or video displays, the number of TVs or video displays has been collapsed into one category (coded as 995).
 - **Heating degree-days and cooling degree-days** (HDD, CDD): For each building, the annual HDD and CDD were randomly perturbed by using a normal distribution, with the reported degree-days randomly higher or lower than the actual data. For a few buildings in areas with extreme weather, the total amount of perturbation was increased to further disguise the building's location. As a result, each case has degree-day data that could have plausibly come from more than one geographic area.
 - **Energy usage variables** (e.g. MFBTU, ELCNS, NGCNS, FKHTBTU): The total consumption and expenditures for each fuel were randomly perturbed by a small percentage so that the reported annual totals would not exactly match the actual billing records, and the building would not be identifiable by anyone with access to those records. The end use consumption variables were rescaled to add to the new totals.
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Changes since the 2003 CBECS

Since the 2003 CBECS public use file, some variables have been dropped, modified, and added. Those changes are detailed here.

Variables dropped from or modified in the 2012 CBECS

CLIMATE8	Climate zone	CBECS has adopted new climate zone designations, climate regions created by the Building America program, sponsored by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE). A modified version of the new regions, PUBCLIM, is provided in the public use file.
HEB8	Electronic ballasts	Dropped because they are now either obsolete or have become ubiquitous.
MNFRM8	Mainframe computer room	
SREF8	Specular reflectors	
FLAT8	Flat screen monitors	Filter question was dropped assuming most buildings have flat screen monitors. Amount of computers with flat screen monitors was retained. Because of the range of office equipment and ways to turn them off, this single variable was determined to not be providing quality data.
RDOFEQ8	Equipment turned off during off hours	Without knowing how much space was vacant, this question was not very useful. It was replaced with some questions about average percent occupancy.
PORVAC8	Space vacant 3 months in a row	Instead of an overall food preparation area question, the 2012 CBECS asks about specific types of areas.
FDRM8	Commercial food preparation area	
ADJWT	Final full sample building weight	Renamed to FINALWT.
PAIR8	Variance unit	The 2012 CBECS provides replicate weights for variance calculation.
STRATUM8	Variance stratum	
RENEXT8	Exterior replacement	This was split into roof replacement and exterior wall replacement.
OWNER8	Owner	Owner and type of government owner have been combined into OWNTYPE. Variable air volume (VAV) controls are now listed among the types of heating or cooling ventilation equipment.
VAV8	VAV system	Based on review of the <i>other specifies</i> from the 2003 CBECS, most of these reported were not determined to be separate computer areas.
OTPCRM8	Other computer area	The 2012 CBECS collected the square footage for data centers and trading floors.
PCRMP8	Computer area percent	

Variables added to the 2012 CBECS

RFCOOL	Cool roof materials
RFTILT	Roof tilt
BASEMNT	Number of underground floors
FLCEILHT	Floor to ceiling height
ATTIC	Attic
RENRRFF	Roof replacement
RENWLL	Exterior wall replacement
RENELC	Electrical upgrade
RENSAF	Fire, safety, or security upgrade
RENSTR	Structural upgrade
DRYCL	Dry cleaning onsite
CUBE	Open plan office space
CUBEC	Percent open plan
CUBELOC	Location of open plan
COURT	Food court
OWNOPR	Owner responsible for operation and maintenance of energy systems
OWNPPR	Owner has purchasing power for energy-related equipment
NWNPPR	Nonowner with purchasing power for energy-related equipment
NWNOPR	Nonowner responsible for operation and maintenance of energy systems
WHOPPR	Who has purchasing power
OCCUPYP	Percent occupancy
LODOCCP	Lodging room percent occupancy
BLRRAD	Boiler system: Radiators
BLRFNCL	Boiler system: Fan coil units in rooms
BLRINDC	Boiler system: Induction units
BLRWATR	Boiler system: Water loop heat pump
BLRAIR	Boiler system: Central air handler
BLRPKG	Boiler system: Packaged unit
BLRDUCT	Boiler system: Duct reheat
DHRAD	District heat system: Radiators
DHFNCL	District heat system: Fan coil units in rooms
DHINDC	District heat system: Induction units
DHWATR	District heat system: Water loop heat pump
DHAIR	District heat system: Central air handler
DHPKG	District heat system: Packaged unit
DHDUCT	District heat system: Duct reheat
OTSTRP	Other heat component: Heating coil or heat strip
OTDUCT	Other heat component: Duct or electric reheat
OTPIU	Other heat component: Powered induction units
PKGHTTYP	Type of packaged heating
PKGFURN	Packaged heating component: Furnace

PKGHTP	Packaged heating component: Heat pump
PKGCOIL	Packaged heating component: Heating coil
PKGPIU	Packaged heating component: Powered induction unit
PKGDUCT	Packaged heating component: Duct reheat
PHMINI	Heat pump heating system: Ductless mini-split
PHVRF	Heat pump heating system: Variable refrigerant flow
PHDUAL	Heat pump heating type: Dual source
PHBKUP	Heat pump backup
SHRDNT	Individual heater: Infrared radiant
SHBIRD	Individual heater: Baseboard
SHPORT	Individual heater: Portable space heater
SHWALL	Individual heater: Wall heater
SHFURN	Individual heater: Individual furnace
SHUNIT	Individual heater: Unit heater
SHPTAC	Individual heater: Heating element in PTAC
HTCAV	Heating ventilation: Central air handling with CAV
HTVAV	Heating ventilation: Central air handling with VAV
HTVFLR	Heating ventilation: Underfloor air distribution
HTVOAS	Heating ventilation: Dedicated outside air system
HTVDEM	Heating ventilation: Demand controlled ventilation
HTVNON	Heating ventilation: None of these
PKGCLTYP	Type of packaged cooling
CHLAIRCL	Chiller type: Air-cooled
CHLWTRCL	Chiller type: Water cooled
CHLABSRP	Chiller type: Absorption
HTRCHLR	Heater chiller
CHLAIR	Chiller system: Central air handler
CHLFNCL	Chiller system: Fan coil units in rooms
CHLINDC	Chiller system: Induction units
CHLWATR	Chiller system: Water loop heat pump
CHLBEAM	Chiller system: Chilled beam
CHLPKG	Chiller system: Packaged unit
CHLDUCT	Chiller system: Duct reheat
DCWAIR	District CW system: Central air handler
DCWFNCL	District CW system: Fan coil units in rooms
DCWINDC	District CW system: Induction units
DCWWATR	District CW system: Water loop heat pump
DCWBEAM	District CW system: Chilled beam
DCWPKG	District CW system: Packaged unit
DCWDUCT	District CW system: Duct reheat
HPCMINI	Heat pump cooling system: Ductless mini-split
HPCVRF	Heat pump cooling system: Variable refrigerant flow

HPCDUAL	Heat pump cooling type: Dual source
CLVCAV	Cooling ventilation: Central air-handling unit with CAV
CLVVAV	Cooling ventilation: Central air-handling unit with VAV
CLVFRL	Cooling ventilation: Underfloor air distribution
CLVOAS	Cooling ventilation: Dedicated outside air system
CLVDEM	Cooling ventilation: Demand controlled ventilation
CLVNON	Cooling ventilation: None of these types
ECNTYPE	Type of economizer
BOOSTWT	Booster water heaters
LRGTRB	Large turbines
ENGINE	Reciprocating engines
CWOTH	District chilled water for some other use
ELCPLT	Electricity from central plant
AMIMETER	AMI smart metering
ENRGYPLN	Energy management plan
BREAKRM	Employee lounge, breakroom, or pantry
CONFSP	Conference or event space
CONFSPP	Percent conference or event space
XRAYN	Number of X-ray machines
CTSCAN	CT scan machines
MRI	MRI machines
LINACC	Linear accelerators
OUTSURG	Operating rooms for outpatient surgery
STRLZR	Sterilizers or autoclaves
RFGCOMP	Half-size or compact refrigerators
RFGICE	Commercial ice makers
RFGSTO	Large cold storage areas
RFGCOMPNN	Number of compact refrigerators
RFGICN	Number of ice makers
RFGSTP	Percent cold storage
WHRECOV	Waste heat recovery
WHHT2	Waste heat used for secondary heating
WHWT	Waste heat used for water heating
WHOT	Waste heat used for some other use
MLTMON	Multiple monitors
MLTMNC	Multiple monitor category
LAPTPN	Number of laptops
LAPTPC	Number of laptops category
DCNTRSFC	Data center or server farm sqft category
WBOARDS	Interactive whiteboards
TVVIDEO	TV or video displays
TVVIDEON	Number of TV or video displays

RGSTR	Cash registers
LTNR24	Lights off during 24 hours
LED	Light-emitting diode (LED) bulbs
LEDP	Percent lit by LED
SCHED	Light scheduling
DIM	Multi-level lighting or dimming
DAYHARV	Daylight harvesting
TRIM	High-end trimming or light-level tuning
PLGCTRL	Plug load control
DRLGHT	Demand responsive lighting
LTEXPC	Percent of exterior lighted
PKLT	Lighted parking area

References

Rust, K. (1985), "Variance Estimation for Complex Estimators in Sample Surveys," *Journal of Official Statistics*, 1(4), 381–397.

Shao, J. and Tu, D. (1995), *The Jackknife and Bootstrap*, New York: Springer-Verlag.

Wolter, K. M. (1985), *Introduction to Variance Estimation*, New York: Springer-Verlag.

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Appendix

Detailed Tables created with the public use data: B1, B2, B3, C1, C4, C15, C25, and E1

Results tabulated from the public use microdata file will not exactly match the published CBECS Detailed Tables, which use unmasked data. For public data users who wish to verify their tabulations, a few selected tables are available that use the masked, public use data. The tables of estimates start on the next page and are followed by the RSE tables. There is no RSE table for Table E1 because the end use estimates are modeled and therefore do not have RSEs. These tables are also available in Excel format on the CBECS Public Use Microdata File web page (<http://www.eia.gov/consumption/commercial/data/2012/index.cfm?view=microdata>).

December 2016 revisions

Minor revisions have been made to Tables B1, B2, and C4. In Table B1, the calculation of the *mean square feet per worker* column was modified to exclude buildings with zero workers. In Table B2, the calculation of the *median operating hours per week* column was modified to include buildings that were never open. In Table C4, the estimates have not been revised at all; the only changes in Table C4 were to some RSEs in the expenditures columns due to a slight programming change.

Release date: June 2015
 Revised date: December 2016

Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total Workers (thousand)	Mean square feet per building (thousand)	Mean square feet per worker ¹	Mean operating hours per week
All buildings	5,557	87,076	88,187	15.7	936	62
Building floorspace (square feet)						
1,001 to 5,000	2,777	8,042	10,232	2.9	675	56
5,001 to 10,000	1,229	8,902	9,225	7.2	847	62
10,001 to 25,000	884	14,108	14,189	16.0	925	65
25,001 to 50,000	332	11,915	11,327	35.9	1,006	72
50,001 to 100,000	199	13,914	12,345	69.9	1,088	80
100,001 to 200,000	90	12,425	11,310	138.0	1,084	89
200,001 to 500,000	38	10,718	10,356	284.1	1,024	99
Over 500,000	8	7,053	9,202	882.4	760	117
Principal building activity						
Education	389	12,239	10,885	31.5	1,124	53
Food sales	177	1,252	1,172	7.1	1,067	121
Food service	380	1,819	3,431	4.8	530	82
Health care	157	4,133	7,595	26.4	544	60
Inpatient	10	2,352	4,262	245.6	552	168
Outpatient	147	1,780	3,333	12.1	534	53
Lodging	158	5,722	3,066	36.2	1,861	165
Mercantile	602	11,391	9,117	18.9	1,250	64
Retail (other than mall)	438	5,437	4,023	12.4	1,352	62
Enclosed and strip malls	164	5,954	5,093	36.3	1,169	69
Office	1,012	16,007	33,785	15.8	474	55
Public assembly	352	5,531	3,103	15.7	1,710	56
Public order and safety	84	1,434	1,854	17.1	753	113
Religious worship	412	4,559	1,940	11.1	2,296	31
Service	619	4,587	4,031	7.4	1,075	56
Warehouse and storage	796	13,130	6,362	16.5	1,851	67
Other	125	2,015	1,611	16.1	1,201	61
Vacant	296	3,257	236	11.0	3,309	8
Year constructed						
Before 1920	362	3,981	3,310	11.0	1,087	48
1920 to 1945	488	5,985	6,013	12.3	928	52
1946 to 1959	599	7,352	6,569	12.3	1,059	51
1960 to 1969	639	10,361	9,865	16.2	1,009	61
1970 to 1979	684	10,868	12,524	15.9	820	61
1980 to 1989	915	15,262	17,469	16.7	832	65
1990 to 1999	845	13,843	13,420	16.4	951	68
2000 to 2003	375	7,229	7,491	19.3	950	66
2004 to 2007	347	6,484	5,997	18.7	1,058	69
2008 to 2012	303	5,712	5,529	18.9	980	76

Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total Workers (thousand)	Mean square feet per building (thousand)	Mean square feet per worker ¹	Mean operating hours per week
All buildings	5,557	87,076	88,187	15.7	936	62
Census region and division						
Northeast	805	15,547	17,752	19.3	845	64
New England	302	4,305	4,161	14.3	969	60
Middle Atlantic	504	11,242	13,592	22.3	808	67
Midwest	1,237	18,916	17,292	15.3	1,034	61
East North Central	735	12,751	11,951	17.3	1,018	62
West North Central	502	6,165	5,341	12.3	1,070	59
South	2,247	34,262	32,696	15.2	983	61
South Atlantic	1,091	17,957	18,131	16.5	946	65
East South Central	370	4,896	4,293	13.2	1,089	55
West South Central	786	11,409	10,272	14.5	1,002	59
West	1,267	18,351	20,446	14.5	856	61
Mountain	338	4,900	4,586	14.5	988	61
Pacific	929	13,451	15,860	14.5	818	61
Number of floors						
One	3,836	39,851	35,019	10.4	1,043	60
Two	1,158	20,244	19,752	17.5	993	60
Three	374	8,160	7,826	21.8	1,016	69
Four to nine	177	13,514	16,292	76.5	808	84
Ten or more	13	5,307	9,298	421.5	566	108
Elevators and escalators (more than one may apply)						
Any elevators	405	32,039	39,984	79.1	790	81
Number of elevators						
One	272	11,152	11,347	41.1	969	75
Two to five	118	12,845	15,489	109.3	812	90
Six or more	16	8,042	13,148	500.4	608	114
Any escalators	10	3,482	4,812	359.7	718	97
Number of workers (main shift)						
Fewer than 5	2,892	17,756	5,064	6.1	2,607	55
5 to 9	1,085	8,976	7,017	8.3	1,279	63
10 to 19	731	9,625	9,472	13.2	1,016	69
20 to 49	513	14,519	14,881	28.3	976	72
50 to 99	206	13,507	13,424	65.7	1,006	77
100 to 249	93	10,943	13,368	117.1	819	87
250 or more	37	11,750	24,962	316.6	471	98
Weekly operating hours						
Fewer than 40	1,149	8,226	3,291	7.2	1,489	12
40 to 48	1,346	15,815	17,559	11.7	892	42
49 to 60	1,244	20,612	24,855	16.6	821	54
61 to 84	764	15,934	16,679	20.9	949	74
85 to 167	479	9,434	8,087	19.7	1,150	105
Open continuously	575	17,056	17,718	29.6	927	168

Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total Workers (thousand)	Mean square feet per building (thousand)	Mean square feet per worker ¹	Mean operating hours per week
All buildings	5,557	87,076	88,187	15.7	936	62
Party responsible for operation and maintenance of energy systems						
Building owner	4,715	73,656	74,455	15.6	933	61
Business owner or tenant	724	11,346	11,127	15.7	991	66
Property management	54	1,244	1,736	22.9	695	66
Other	64	831	870	12.9	935	58
Provider of direct input on energy-related equipment purchases						
Building owner	4,876	76,240	76,795	15.6	936	61
Business owner or tenant	540	8,304	8,616	15.4	943	68
Property management	35	889	954	25.8	918	74
Other	106	1,643	1,822	15.5	881	56
Number of establishments						
One	4,205	54,992	52,122	13.1	1,020	64
2 to 5	862	17,701	18,902	20.5	928	65
6 to 10	147	4,380	5,897	29.8	722	77
11 to 20	68	3,710	5,258	54.9	695	70
More than 20	27	3,899	6,008	143.8	645	84
Currently unoccupied	248	2,395	0	9.7	N	0
Predominant exterior wall material						
Brick, stone, or stucco	2,312	40,527	41,645	17.5	936	62
Concrete (block or poured)	1,121	20,622	20,223	18.4	993	62
Concrete panels	210	8,701	9,486	41.5	861	72
Siding or shingles	905	5,761	6,013	6.4	888	58
Metal panels	933	8,670	5,805	9.3	1,246	61
Window glass	17	1,344	2,631	78.8	493	77
Other	37	857	844	23.0	1,013	68
No one major type	21	595	Q	27.8	Q	68
Predominant roof material						
Metal surfacing	1,672	15,932	12,024	9.5	1,166	62
Synthetic or rubber	911	25,774	27,560	28.3	910	68
Built-up	836	21,853	24,066	26.1	874	62
Slate or tile shingles	406	4,292	4,262	10.6	978	61
Wooden materials (including shingles)	157	1,140	999	7.3	1,044	63
Asphalt, fiberglass, or other shingles	1,483	15,115	16,289	10.2	876	58
Concrete	51	1,650	2,086	32.3	758	66
Other	24	681	567	28.7	1,195	66
No one major type	18	640	333	35.5	1,920	54

Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total Workers (thousand)	Mean square feet per building (thousand)	Mean square feet per worker ¹	Mean operating hours per week
All buildings	5,557	87,076	88,187	15.7	936	62
Roof characteristics						
Roof tilt						
Flat	1,960	49,601	57,140	25.3	838	68
Shallow pitch	2,148	23,881	19,528	11.1	1,134	60
Steeper pitch	1,449	13,594	11,519	9.4	1,086	55
Cool roof	740	19,570	21,650	26.4	881	66
Renovations in buildings constructed before 2008 (more than one may apply)						
Any type of renovation	2,094	42,144	46,433	20.1	885	63
Addition or annex	444	12,932	12,478	29.1	1,026	68
Reduction in floorspace	71	1,718	2,567	24.1	655	69
Roof replacement	987	20,865	22,854	21.1	894	62
Exterior wall replacement	194	4,212	4,532	21.7	919	66
Interior wall reconfiguration	889	21,318	27,682	24.0	756	63
Window replacement	560	12,124	14,125	21.6	845	65
HVAC equipment upgrade	1,101	26,660	30,172	24.2	868	63
Lighting upgrade	982	25,403	28,286	25.9	887	66
Electrical upgrade	747	16,019	17,758	21.4	884	63
Plumbing system upgrade	644	13,723	16,095	21.3	839	67
Insulation upgrade	382	7,500	8,365	19.6	878	62
Fire, safety, or security upgrade	616	17,126	20,081	27.8	845	68
Structural upgrade	152	3,821	3,759	25.2	1,001	64
Other	39	872	1,015	22.3	859	68
No renovations	3,160	39,220	36,225	12.4	993	59
Buildings constructed 2008 or later	303	5,712	5,529	18.9	980	76
Energy sources (more than one may apply)						
Electricity	5,234	84,850	88,120	16.2	935	63
Natural gas	2,933	58,729	62,345	20.0	927	65
Fuel oil	467	20,130	25,663	43.1	778	76
District heat	48	5,817	8,222	121.8	695	87
District chilled water	54	4,476	5,767	83.0	765	87
Propane	510	7,709	5,909	15.1	1,288	64
Wood	69	500	476	7.2	1,032	65
Coal	Q	Q	Q	Q	Q	Q
Solar	40	1,908	1,713	48.2	1,112	84
Other	61	1,387	1,526	22.7	898	64

Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total Workers (thousand)	Mean square feet per building (thousand)	Mean square feet per worker ¹	Mean operating hours per week
All buildings	5,557	87,076	88,187	15.7	936	62
Space-heating energy sources (more than one may apply)						
Electricity	2,858	49,039	53,892	17.2	900	64
Natural gas	2,612	49,611	51,727	19.0	943	62
Fuel oil	270	4,360	4,160	16.1	1,024	60
District heat	48	5,776	8,149	121.1	696	87
Propane	342	3,066	2,510	9.0	1,189	55
Wood	63	393	212	6.3	1,811	63
Coal	Q	Q	Q	Q	Q	Q
Solar	Q	Q	Q	Q	Q	Q
Other	32	508	463	15.8	1,099	56
Primary space-heating energy source						
Electricity	1,819	26,283	28,973	14.4	893	66
Natural gas	2,322	43,054	44,630	18.5	948	61
Fuel oil	205	2,545	2,000	12.4	1,222	59
District heat	47	5,644	8,041	119.6	689	87
Propane	261	1,948	1,471	7.5	1,274	52
Wood	38	177	101	4.6	1,735	55
Coal	Q	Q	Q	Q	Q	Q
Other	25	341	Q	13.5	959	54
Cooling energy sources (more than one may apply)						
Electricity	4,413	76,080	82,300	17.2	914	64
Natural gas	12	725	1,041	60.9	696	67
District chilled water	54	4,476	5,767	83.0	765	87
Water-heating energy sources (more than one may apply)						
Electricity	2,658	42,777	46,827	16.1	905	61
Natural gas	1,758	39,581	41,898	22.5	933	70
Fuel oil	77	1,918	1,623	24.8	1,179	80
District heat	25	4,424	6,363	174.7	692	101
Propane	142	1,580	1,258	11.2	1,240	75
Cooking energy sources (more than one may apply)						
Electricity	1,010	25,099	27,330	24.8	912	72
Natural gas	740	24,669	25,879	33.3	950	81
Propane	144	2,006	1,971	13.9	1,013	85
Energy end uses (more than one may apply)						
Buildings with space heating	4,722	80,073	85,625	17.0	918	63
Buildings with cooling	4,461	79,271	85,781	17.8	914	64
Buildings with water heating	4,423	78,998	85,454	17.9	914	65
Buildings with cooking	1,589	38,437	41,241	24.2	926	74
Buildings with manufacturing	259	5,059	5,043	19.6	1,000	57
Buildings with electricity generation	410	25,600	30,971	62.4	824	92

Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total Workers (thousand)	Mean square feet per building (thousand)	Mean square feet per worker ¹	Mean operating hours per week
All buildings	5,557	87,076	88,187	15.7	936	62
Percent of floorspace heated						
Not heated	835	7,004	2,562	8.4	1,518	56
1 to 50	697	10,152	6,413	14.6	1,524	54
51 to 99	727	14,673	15,548	20.2	937	67
100	3,298	55,248	63,664	16.8	853	64
Percent of floorspace cooled						
Not cooled	1,096	7,806	2,407	7.1	1,729	51
1 to 50	1,173	18,955	12,646	16.2	1,478	58
51 to 99	897	22,756	25,331	25.4	891	70
100	2,391	37,560	47,804	15.7	776	65
Percent lit when open						
Zero	70	322	58	4.6	Q	113
1 to 50	1,099	12,650	6,713	11.5	1,824	64
51 to 99	1,666	34,858	36,389	20.9	953	64
100	2,222	35,642	44,893	16.0	785	65
Building never open/electricity not used	501	3,605	133	7.2	Q	25
Percent lit during off hours						
Zero	2,489	24,759	23,161	9.9	991	48
1 to 50	2,441	50,840	54,612	20.8	921	69
51 to 100	202	6,798	7,768	33.7	868	125
Building always open with no "off hours"	102	2,453	2,579	24.0	914	168
Electricity not used	323	2,226	67	6.9	Q	39
Heating equipment (more than one may apply)						
Heat pumps	628	11,809	13,309	18.8	878	63
Furnaces	755	8,683	8,562	11.5	1,001	58
Individual space heaters	1,247	20,733	19,388	16.6	1,053	60
District heat	48	5,776	8,149	121.1	696	87
Boilers	544	22,448	25,159	41.3	882	70
Packaged heating units	2,802	49,305	51,091	17.6	951	64
Other	62	1,573	1,202	25.5	1,293	86
Cooling equipment (more than one may apply)						
Residential-type central air conditioners	1,546	14,767	15,104	9.6	963	58
Heat pumps	692	12,520	14,272	18.1	872	63
Individual air conditioners	709	12,364	12,347	17.4	995	66
District chilled water	54	4,476	5,767	83.0	765	87
Central chillers	163	17,009	21,983	104.4	770	84
Packaged air conditioning units	1,909	45,246	46,978	23.7	955	70
Swamp coolers	109	1,923	1,752	17.6	1,082	66
Other	Q	331	474	Q	685	56

Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total Workers (thousand)	Mean square feet per building (thousand)	Mean square feet per worker ¹	Mean operating hours per week
All buildings	5,557	87,076	88,187	15.7	936	62
Main equipment replaced since 1990 (more than one may apply)						
Heating	1,874	27,603	28,658	14.7	949	62
Cooling	1,971	30,713	33,374	15.6	912	63
Water-heating equipment						
Centralized system	3,348	47,525	50,191	14.2	933	65
Distributed system	690	12,743	14,223	18.5	890	60
Combination of centralized and distributed system	385	18,731	21,039	48.7	883	75
Lighting equipment types (more than one may apply)						
Incandescent	1,826	38,345	41,620	21.0	913	63
Standard fluorescent	4,649	80,058	85,654	17.2	922	64
Compact fluorescent	2,302	53,779	59,934	23.4	892	71
High-intensity discharge (HID)	525	23,365	23,790	44.5	974	72
Halogen	905	27,965	30,493	30.9	914	69
LED	473	21,987	25,904	46.5	847	83
Other	10	426	564	43.1	754	82
Refrigeration equipment (more than one may apply)						
Any refrigeration	3,984	73,624	78,944	18.5	926	65
Walk-in units	811	28,262	31,138	34.8	906	93
Cases or cabinets	915	28,676	31,535	31.3	908	86
Large cold storage areas	78	4,125	3,691	52.8	1,117	89
Commercial ice makers	846	32,680	36,521	38.6	893	90
Residential-type or compact units	3,388	62,453	67,690	18.4	915	61
Vending machines	960	43,922	49,689	45.8	882	80
No refrigeration	1,573	13,453	9,244	8.6	1,023	52
Office equipment (more than one may apply)						
Desktop computers	3,977	77,040	84,343	19.4	911	66
With flat screen monitors	3,847	76,138	83,879	19.8	905	66
With multiple monitors	911	30,926	43,405	34.0	712	67
Laptop computers	2,730	63,468	73,342	23.2	864	66
Dedicated servers	1,748	53,335	63,436	30.5	840	69
Laser printers	2,339	54,218	63,501	23.2	852	66
Inkjet printers	2,187	36,264	37,773	16.6	957	65
FAX machines	3,185	66,667	73,798	20.9	901	66
Photocopiers	2,163	59,246	68,515	27.4	863	64

Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total Workers (thousand)	Mean square feet per building (thousand)	Mean square feet per worker ¹	Mean operating hours per week
All buildings	5,557	87,076	88,187	15.7	936	62
Number of desktop computers						
None	1,581	10,036	3,844	6.3	1,489	51
1 to 4	2,039	15,671	11,304	7.7	1,370	65
5 to 9	821	9,425	9,594	11.5	981	63
10 to 19	482	9,393	8,659	19.5	1,084	65
20 to 49	355	13,113	12,782	37.0	1,023	71
50 to 99	143	8,318	9,293	58.0	895	73
100 to 249	92	9,705	12,514	105.4	775	69
250 or more	44	11,414	20,197	256.9	565	86
Number of laptop computers						
None	2,827	23,608	14,845	8.4	1,291	58
1 to 4	1,944	21,193	17,749	10.9	1,189	63
5 to 9	350	8,378	8,868	24.0	943	67
10 to 19	181	8,343	9,267	46.0	900	70
20 to 49	144	9,586	11,646	66.8	823	73
50 to 99	58	5,244	8,235	91.1	637	75
100 to 249	35	5,244	6,614	151.7	793	87
250 or more	20	5,481	10,963	277.7	500	95
Number of dedicated servers						
None	3,809	33,741	24,752	8.9	1,182	58
1 to 4	1,562	34,065	34,314	21.8	991	68
5 to 9	97	6,294	7,841	64.9	803	74
10 to 19	50	5,659	7,569	112.6	747	82
20 to 49	25	3,781	6,712	148.3	563	82
50 or more	13	3,536	6,999	269.3	505	100
Number of photocopiers						
None	3,394	27,830	19,673	8.2	1,190	60
One	1,325	17,086	13,348	12.9	1,271	61
2 to 4	648	20,337	21,540	31.4	944	66
5 to 9	116	8,920	10,503	77.2	849	74
10 or more	75	12,903	23,124	173.1	558	82
Number of TVs or video displays						
None	2,718	24,355	17,802	9.0	1,126	53
One	1,145	10,001	10,015	8.7	984	58
2 to 4	1,035	16,481	17,695	15.9	926	68
5 to 9	314	8,150	10,104	25.9	806	82
10 to 19	154	8,133	10,344	52.9	785	90
20 to 49	106	8,132	8,926	76.8	911	102
50 to 99	48	4,439	4,387	92.2	1,012	129
100 or more	37	7,386	8,911	197.2	829	156

Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total Workers (thousand)	Mean square feet per building (thousand)	Mean square feet per worker ¹	Mean operating hours per week
All buildings	5,557	87,076	88,187	15.7	936	62
Food preparation or serving areas in non-food service buildings (more than one may apply)						
Snack bar or concession stand	153	9,752	10,290	63.7	948	94
Fast food or small restaurant	173	9,670	10,917	55.8	886	92
Cafeteria or large restaurant	130	15,152	17,640	116.5	859	80
Commercial kitchen/food preparation area	282	15,962	15,364	56.5	1,037	86
Small kitchen area	736	13,975	13,628	19.0	1,011	61
Separate computer areas (more than one may apply)						
Data center or server farm	97	10,986	18,059	113.8	608	82
Computer-based training room	244	17,592	22,231	72.1	791	74
Student or public computer center	238	14,253	12,513	59.8	1,139	70
HVAC conservation features (more than one may apply)						
Economizer cycle	601	30,631	35,408	51.0	862	74
Regular HVAC maintenance	3,178	69,221	77,874	21.8	880	68
Building automation system (BAS) ²	781	36,979	42,363	47.4	867	73
Window and interior lighting features (more than one may apply)						
Multipaned windows	3,012	60,294	62,249	20.0	944	63
Tinted window glass	1,875	44,952	50,837	24.0	862	65
Reflective window glass	549	15,810	18,972	28.8	822	66
External overhangs or awnings	1,867	32,065	33,762	17.2	935	66
Skylights or atriums	591	22,203	21,945	37.5	991	65
Light scheduling	918	30,258	34,986	33.0	860	75
Occupancy sensors	813	35,775	40,953	44.0	870	75
Multi-level lighting or dimming	349	14,419	16,133	41.3	890	76
Daylight harvesting	125	6,090	7,722	48.6	787	70
Demand responsive lighting	176	4,762	4,895	27.0	958	65
Building automation system (BAS) for lighting ²	208	12,017	13,292	57.7	902	78

Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total Workers (thousand)	Mean square feet per building (thousand)	Mean square feet per worker ¹	Mean operating hours per week
All buildings	5,557	87,076	88,187	15.7	936	62
Equipment usage reduced when building not in full use (more than one may apply)						
Heating	3,699	63,183	68,464	17.1	908	58
Cooling	3,517	62,590	68,317	17.8	905	59
Lighting	4,757	78,558	83,816	16.5	927	61

¹Buildings with zero workers are excluded from this column.

²In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/>

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Form EIA-871A of the 2012 Commercial Buildings Energy Consumption Survey.

Release date: June 2015
 Revised date: December 2016

Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total workers (thousand)	Median square feet per building (thousand)	Median square feet per worker ¹	Median operating hours per week	Median age of buildings (years)
All buildings	5,557	87,076	88,187	5.0	1,029	50	32
Building floorspace (square feet)							
1,001 to 5,000	2,777	8,042	10,232	2.8	825	45	37
5,001 to 10,000	1,229	8,902	9,225	7.0	1,167	50	31
10,001 to 25,000	884	14,108	14,189	15.0	1,444	55	32
25,001 to 50,000	332	11,915	11,327	35.0	1,450	60	29
50,001 to 100,000	199	13,914	12,345	67.0	1,442	60	26
100,001 to 200,000	90	12,425	11,310	132.0	1,758	70	25
200,001 to 500,000	38	10,718	10,356	260.0	1,741	76	27
Over 500,000	8	7,053	9,202	700.0	1,231	126	29
Principal building activity							
Education	389	12,239	10,885	10.0	1,033	50	30
Food sales	177	1,252	1,172	3.2	1,033	114	30
Food service	380	1,819	3,431	3.6	567	80	33
Health care	157	4,133	7,595	5.0	556	48	31
Inpatient	10	2,352	4,262	102.0	583	168	36
Outpatient	147	1,780	3,333	5.0	556	48	31
Lodging	158	5,722	3,066	14.8	2,531	168	37
Mercantile	602	11,391	9,117	6.6	1,200	60	33
Retail (other than mall)	438	5,437	4,023	5.0	1,450	56	37
Enclosed and strip malls	164	5,954	5,093	13.5	920	70	28
Office	1,012	16,007	33,785	5.0	600	47	33
Public assembly	352	5,531	3,103	5.4	1,800	50	41
Public order and safety	84	1,434	1,854	6.1	750	168	23
Religious worship	412	4,559	1,940	6.0	2,700	20	41
Service	619	4,587	4,031	4.0	1,200	50	35
Warehouse and storage	796	13,130	6,362	5.5	1,500	50	26
Other	125	2,015	1,611	6.0	1,500	50	28
Vacant	296	3,257	236	4.3	4,800	0	50
Year constructed							
Before 1920	362	3,981	3,310	4.8	1,200	42	1017
1920 to 1945	488	5,985	6,013	4.0	1,200	45	1017
1946 to 1959	599	7,352	6,569	4.0	1,100	45	59
1960 to 1969	639	10,361	9,865	6.0	1,067	50	48
1970 to 1979	684	10,868	12,524	5.3	947	50	38
1980 to 1989	915	15,262	17,469	5.8	1,000	50	27
1990 to 1999	845	13,843	13,420	5.0	1,000	53	17
2000 to 2003	375	7,229	7,491	5.5	1,000	55	11
2004 to 2007	347	6,484	5,997	6.0	1,100	50	6
2008 to 2012	303	5,712	5,529	6.8	1,100	60	3

Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total workers (thousand)	Median square feet per building (thousand)	Median square feet per worker ¹	Median operating hours per week	Median age of buildings (years)
All buildings	5,557	87,076	88,187	5.0	1,029	50	32
Census region and division							
Northeast	805	15,547	17,752	6.0	1,050	54	46
New England	302	4,305	4,161	5.6	1,000	50	37
Middle Atlantic	504	11,242	13,592	6.0	1,100	55	48
Midwest	1,237	18,916	17,292	5.0	1,286	50	37
East North Central	735	12,751	11,951	5.0	1,200	50	37
West North Central	502	6,165	5,341	4.8	1,450	48	37
South	2,247	34,262	32,696	5.0	1,000	50	29
South Atlantic	1,091	17,957	18,131	5.3	987	54	28
East South Central	370	4,896	4,293	5.0	1,071	45	33
West South Central	786	11,409	10,272	5.0	1,000	48	29
West	1,267	18,351	20,446	5.3	963	50	32
Mountain	338	4,900	4,586	5.0	978	50	29
Pacific	929	13,451	15,860	5.5	963	50	34
Number of floors							
One	3,836	39,851	35,019	4.5	1,000	50	29
Two	1,158	20,244	19,752	7.0	1,100	50	42
Three	374	8,160	7,826	7.8	1,200	55	1017
Four to nine	177	13,514	16,292	40.0	1,040	60	60
Ten or more	13	5,307	9,298	290.0	653	72	37
Elevators and escalators (more than one may apply)							
Any elevators	405	32,039	39,984	40.0	1,036	60	31
Number of elevators							
One	272	11,152	11,347	25.0	1,200	60	37
Two to five	118	12,845	15,489	80.0	933	67	27
Six or more	16	8,042	13,148	390.0	693	122	30
Any escalators	10	3,482	4,812	100.0	750	100	62
Number of workers (main shift)							
Fewer than 5	2,892	17,756	5,064	3.4	1,667	45	37
5 to 9	1,085	8,976	7,017	5.0	833	50	32
10 to 19	731	9,625	9,472	7.9	625	56	28
20 to 49	513	14,519	14,881	17.0	652	60	28
50 to 99	206	13,507	13,424	48.5	775	60	29
100 to 249	93	10,943	13,368	77.0	533	65	27
250 or more	37	11,750	24,962	200.0	391	69	28
Weekly operating hours							
Fewer than 40	1,149	8,226	3,291	3.6	1,500	8	42
40 to 48	1,346	15,815	17,559	4.8	900	40	34
49 to 60	1,244	20,612	24,855	6.6	1,000	55	31
61 to 84	764	15,934	16,679	7.0	960	72	32
85 to 167	479	9,434	8,087	5.0	967	104	27
Open continuously	575	17,056	17,718	7.0	1,250	168	26

Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total workers (thousand)	Median square feet per building (thousand)	Median square feet per worker ¹	Median operating hours per week	Median age of buildings (years)
All buildings	5,557	87,076	88,187	5.0	1,029	50	32
Party responsible for operation and maintenance of energy systems							
Building owner	4,715	73,656	74,455	5.0	1,071	50	33
Business owner or tenant	724	11,346	11,127	5.6	929	56	32
Property management	54	1,244	1,736	4.8	788	60	26
Other	64	831	870	5.2	1,050	48	26
Provider of direct input on energy-related equipment purchases							
Building owner	4,876	76,240	76,795	5.0	1,077	50	33
Business owner or tenant	540	8,304	8,616	5.5	855	59	33
Property management	35	889	954	4.5	450	60	30
Other	106	1,643	1,822	6.1	967	50	26
Number of establishments							
One	4,205	54,992	52,122	5.0	1,100	50	32
2 to 5	862	17,701	18,902	7.2	933	50	32
6 to 10	147	4,380	5,897	14.0	833	60	29
11 to 20	68	3,710	5,258	30.0	793	66	25
More than 20	27	3,899	6,008	62.0	714	74	27
Currently unoccupied	248	2,395	0	3.2	N	0	52
Predominant exterior wall material							
Brick, stone, or stucco	2,312	40,527	41,645	5.7	1,000	50	40
Concrete (block or poured)	1,121	20,622	20,223	5.9	1,067	50	38
Concrete panels	210	8,701	9,486	12.0	1,050	60	26
Siding or shingles	905	5,761	6,013	3.6	933	48	34
Metal panels	933	8,670	5,805	5.0	1,440	50	21
Window glass	17	1,344	2,631	13.3	509	60	25
Other	37	857	844	4.9	1,250	50	31
No one major type	21	595	Q	11.0	1,083	58	25
Predominant roof material							
Metal surfacing	1,672	15,932	12,024	5.0	1,250	50	23
Synthetic or rubber	911	25,774	27,560	8.0	1,000	55	39
Built-up	836	21,853	24,066	7.2	1,000	50	40
Slate or tile shingles	406	4,292	4,262	4.4	1,000	49	38
Wooden materials (including shingles)	157	1,140	999	3.6	1,200	55	41
Asphalt, fiberglass, or other shingles	1,483	15,115	16,289	4.5	900	48	38
Concrete	51	1,650	2,086	8.8	818	55	33
Other	24	681	567	12.0	1,167	53	37
No one major type	18	640	333	12.0	1,950	49	38

Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total workers (thousand)	Median square feet per building (thousand)	Median square feet per worker ¹	Median operating hours per week	Median age of buildings (years)
All buildings	5,557	87,076	88,187	5.0	1,029	50	32
Roof characteristics							
Roof tilt							
Flat	1,960	49,601	57,140	7.5	978	55	37
Shallow pitch	2,148	23,881	19,528	4.5	1,100	50	31
Steeper pitch	1,449	13,594	11,519	4.9	1,143	45	32
Cool roof	740	19,570	21,650	6.6	1,000	55	29
Renovations in buildings constructed before 2008 (more than one may apply)							
Any type of renovation	2,094	42,144	46,433	5.7	1,000	50	44
Addition or annex	444	12,932	12,478	7.6	1,083	55	41
Reduction in floorspace	71	1,718	2,567	6.0	1,200	60	45
Roof replacement	987	20,865	22,854	5.8	1,033	50	48
Exterior wall replacement	194	4,212	4,532	5.0	1,000	55	52
Interior wall reconfiguration	889	21,318	27,682	6.0	885	50	44
Window replacement	560	12,124	14,125	6.0	1,000	50	53
HVAC equipment upgrade	1,101	26,660	30,172	6.5	1,000	50	46
Lighting upgrade	982	25,403	28,286	6.4	1,017	51	47
Electrical upgrade	747	16,019	17,758	5.2	1,000	50	52
Plumbing system upgrade	644	13,723	16,095	5.4	1,000	50	51
Insulation upgrade	382	7,500	8,365	5.6	1,000	50	50
Fire, safety, or security upgrade	616	17,126	20,081	6.5	1,000	55	48
Structural upgrade	152	3,821	3,759	7.0	908	51	47
Other	39	872	1,015	4.0	1,600	55	55
No renovations	3,160	39,220	36,225	5.0	1,050	50	29
Buildings constructed 2008 or later	303	5,712	5,529	6.8	1,100	60	3
Energy sources (more than one may apply)							
Electricity	5,234	84,850	88,120	5.2	1,025	50	32
Natural gas	2,933	58,729	62,345	6.3	1,000	50	37
Fuel oil	467	20,130	25,663	7.0	1,180	54	42
District heat	48	5,817	8,222	57.0	1,250	72	45
District chilled water	54	4,476	5,767	29.0	1,140	75	33
Propane	510	7,709	5,909	5.1	1,333	50	31
Wood	69	500	476	3.5	1,600	54	42
Coal	Q	Q	Q	Q	Q	Q	Q
Solar	40	1,908	1,713	13.8	1,267	60	30
Other	61	1,387	1,526	7.8	1,267	54	37

Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total workers (thousand)	Median square feet per building (thousand)	Median square feet per worker ¹	Median operating hours per week	Median age of buildings (years)
All buildings	5,557	87,076	88,187	5.0	1,029	50	32
Space-heating energy sources (more than one may apply)							
Electricity	2,858	49,039	53,892	5.3	1,000	50	32
Natural gas	2,612	49,611	51,727	6.3	1,013	50	38
Fuel oil	270	4,360	4,160	4.8	1,350	50	50
District heat	48	5,776	8,149	57.0	1,250	72	45
Propane	342	3,066	2,510	5.0	1,350	45	31
Wood	63	393	212	3.5	1,800	54	40
Coal	Q	Q	Q	Q	Q	Q	Q
Solar	Q	Q	Q	Q	Q	Q	Q
Other	32	508	463	11.0	1,267	50	37
Primary space-heating energy source							
Electricity	1,819	26,283	28,973	5.0	950	50	28
Natural gas	2,322	43,054	44,630	6.0	1,022	50	38
Fuel oil	205	2,545	2,000	4.5	1,333	48	52
District heat	47	5,644	8,041	57.0	1,227	72	45
Propane	261	1,948	1,471	4.8	1,500	45	27
Wood	38	177	101	3.2	1,600	54	40
Coal	Q	Q	Q	Q	Q	Q	Q
Other	25	341	Q	8.1	1,222	50	38
Cooling energy sources (more than one may apply)							
Electricity	4,413	76,080	82,300	5.6	1,000	50	32
Natural gas	12	725	1,041	9.9	1,275	48	52
District chilled water	54	4,476	5,767	29.0	1,140	75	33
Water-heating energy sources (more than one may apply)							
Electricity	2,658	42,777	46,827	5.2	1,000	50	31
Natural gas	1,758	39,581	41,898	7.0	1,000	56	37
Fuel oil	77	1,918	1,623	7.0	1,350	60	52
District heat	25	4,424	6,363	97.0	1,267	80	46
Propane	142	1,580	1,258	5.6	1,200	54	26
Cooking energy sources (more than one may apply)							
Electricity	1,010	25,099	27,330	6.0	1,067	60	33
Natural gas	740	24,669	25,879	8.0	963	70	37
Propane	144	2,006	1,971	4.8	1,100	75	28
Energy end uses (more than one may apply)							
Buildings with space heating	4,722	80,073	85,625	5.4	1,017	50	33
Buildings with cooling	4,461	79,271	85,781	5.7	1,000	50	32
Buildings with water heating	4,423	78,998	85,454	5.8	1,000	50	33
Buildings with cooking	1,589	38,437	41,241	6.2	1,033	60	35
Buildings with manufacturing	259	5,059	5,043	6.7	1,167	50	30
Buildings with electricity generation	410	25,600	30,971	15.0	1,013	66	27

Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total workers (thousand)	Median square feet per building (thousand)	Median square feet per worker ¹	Median operating hours per week	Median age of buildings (years)
All buildings	5,557	87,076	88,187	5.0	1,029	50	32
Percent of floorspace heated							
Not heated	835	7,004	2,562	3.5	1,281	45	30
1 to 50	697	10,152	6,413	6.0	1,400	48	34
51 to 99	727	14,673	15,548	6.5	1,150	55	37
100	3,298	55,248	63,664	5.0	950	50	33
Percent of floorspace cooled							
Not cooled	1,096	7,806	2,407	3.6	1,500	40	33
1 to 50	1,173	18,955	12,646	6.4	1,400	50	35
51 to 99	897	22,756	25,331	7.5	967	55	36
100	2,391	37,560	47,804	5.0	833	50	31
Percent lit when open							
Zero	70	322	58	3.5	Q	105	9
1 to 50	1,099	12,650	6,713	5.0	1,667	48	39
51 to 99	1,666	34,858	36,389	7.0	1,000	50	34
100	2,222	35,642	44,893	5.0	875	54	30
Building never open/electricity not used	501	3,605	133	3.0	Q	0	39
Percent lit during off hours							
Zero	2,489	24,759	23,161	4.8	1,129	45	33
1 to 50	2,441	50,840	54,612	6.5	1,000	58	33
51 to 100	202	6,798	7,768	6.7	933	168	32
Building always open with no "off hours"	102	2,453	2,579	5.2	1,000	168	20
Electricity not used	323	2,226	67	3.0	Q	0	33
Heating equipment (more than one may apply)							
Heat pumps	628	11,809	13,309	5.6	963	50	27
Furnaces	755	8,683	8,562	5.4	1,000	50	33
Individual space heaters	1,247	20,733	19,388	5.3	1,200	50	42
District heat	48	5,776	8,149	57.0	1,250	72	45
Boilers	544	22,448	25,159	14.0	1,200	55	46
Packaged heating units	2,802	49,305	51,091	6.0	1,000	51	32
Other	62	1,573	1,202	8.0	1,250	70	32
Cooling equipment (more than one may apply)							
Residential-type central air conditioners	1,546	14,767	15,104	5.0	1,000	50	35
Heat pumps	692	12,520	14,272	5.5	950	50	27
Individual air conditioners	709	12,364	12,347	5.0	1,200	50	47
District chilled water	54	4,476	5,767	29.0	1,140	75	33
Central chillers	163	17,009	21,983	51.0	1,270	60	32
Packaged air conditioning units	1,909	45,246	46,978	7.6	963	58	31
Swamp coolers	109	1,923	1,752	4.9	1,050	59	37
Other	Q	331	474	10.5	1,225	40	54

Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total workers (thousand)	Median square feet per building (thousand)	Median square feet per worker ¹	Median operating hours per week	Median age of buildings (years)
All buildings	5,557	87,076	88,187	5.0	1,029	50	32
Main equipment replaced since 1990 (more than one may apply)							
Heating	1,874	27,603	28,658	5.2	1,000	50	47
Cooling	1,971	30,713	33,374	5.3	1,000	50	47
Water-heating equipment							
Centralized system	3,348	47,525	50,191	5.2	1,000	50	34
Distributed system	690	12,743	14,223	6.0	1,050	50	32
Combination of centralized and distributed system	385	18,731	21,039	17.0	1,013	61	29
Lighting equipment types (more than one may apply)							
Incandescent	1,826	38,345	41,620	6.0	1,036	50	39
Standard fluorescent	4,649	80,058	85,654	5.5	1,000	50	32
Compact fluorescent	2,302	53,779	59,934	6.7	1,000	57	33
High-intensity discharge (HID)	525	23,365	23,790	14.0	1,250	60	30
Halogen	905	27,965	30,493	8.8	1,143	59	31
LED	473	21,987	25,904	14.8	1,000	70	29
Other	10	426	564	10.0	750	70	34
Refrigeration equipment (more than one may apply)							
Any refrigeration	3,984	73,624	78,944	5.8	1,000	52	33
Walk-in units	811	28,262	31,138	6.6	862	84	31
Cases or cabinets	915	28,676	31,535	6.6	967	76	31
Large cold storage areas	78	4,125	3,691	11.0	1,020	78	25
Commercial ice makers	846	32,680	36,521	9.3	932	78	28
Residential-type or compact units	3,388	62,453	67,690	5.9	1,000	50	34
Vending machines	960	43,922	49,689	17.0	1,000	65	29
No refrigeration	1,573	13,453	9,244	4.0	1,250	44	32
Office equipment (more than one may apply)							
Desktop computers	3,977	77,040	84,343	6.3	986	50	32
With flat screen monitors	3,847	76,138	83,879	6.4	963	50	32
With multiple monitors	911	30,926	43,405	10.0	750	55	29
Laptop computers	2,730	63,468	73,342	7.2	1,000	51	32
Dedicated servers	1,748	53,335	63,436	9.9	833	55	31
Laser printers	2,339	54,218	63,501	7.2	887	50	32
Inkjet printers	2,187	36,264	37,773	5.8	1,013	50	32
FAX machines	3,185	66,667	73,798	6.6	967	50	32
Photocopiers	2,163	59,246	68,515	9.0	900	50	32

Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total workers (thousand)	Median square feet per building (thousand)	Median square feet per worker ¹	Median operating hours per week	Median age of buildings (years)
All buildings	5,557	87,076	88,187	5.0	1,029	50	32
Number of desktop computers							
None	1,581	10,036	3,844	3.3	1,500	40	36
1 to 4	2,039	15,671	11,304	4.5	1,200	50	35
5 to 9	821	9,425	9,594	6.0	825	50	32
10 to 19	482	9,393	8,659	9.9	700	51	27
20 to 49	355	13,113	12,782	19.5	757	55	27
50 to 99	143	8,318	9,293	36.5	677	60	36
100 to 249	92	9,705	12,514	68.0	771	55	30
250 or more	44	11,414	20,197	174.0	720	64	29
Number of laptop computers							
None	2,827	23,608	14,845	4.0	1,200	48	33
1 to 4	1,944	21,193	17,749	5.2	1,040	50	33
5 to 9	350	8,378	8,868	10.0	762	55	30
10 to 19	181	8,343	9,267	25.0	750	56	27
20 to 49	144	9,586	11,646	41.0	642	55	30
50 to 99	58	5,244	8,235	56.0	830	55	31
100 to 249	35	5,244	6,614	100.0	1,200	60	33
250 or more	20	5,481	10,963	190.0	729	70	26
Number of dedicated servers							
None	3,809	33,741	24,752	4.3	1,200	48	33
1 to 4	1,562	34,065	34,314	8.3	867	55	32
5 to 9	97	6,294	7,841	34.0	600	55	27
10 to 19	50	5,659	7,569	68.0	750	60	27
20 to 49	25	3,781	6,712	72.0	500	60	26
50 or more	13	3,536	6,999	156.0	545	72	27
Number of photocopiers							
None	3,394	27,830	19,673	4.0	1,200	50	33
One	1,325	17,086	13,348	6.0	1,025	50	33
2 to 4	648	20,337	21,540	14.5	800	54	28
5 to 9	116	8,920	10,503	44.5	793	60	28
10 or more	75	12,903	23,124	78.0	510	60	30
Number of TVs or video displays							
None	2,718	24,355	17,802	4.0	1,100	45	33
One	1,145	10,001	10,015	4.6	1,000	50	33
2 to 4	1,035	16,481	17,695	7.2	975	57	30
5 to 9	314	8,150	10,104	9.6	900	70	31
10 to 19	154	8,133	10,344	26.5	933	70	32
20 to 49	106	8,132	8,926	40.0	1,275	78	27
50 to 99	48	4,439	4,387	50.0	1,720	168	26
100 or more	37	7,386	8,911	91.0	2,500	168	28

Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total workers (thousand)	Median square feet per building (thousand)	Median square feet per worker ¹	Median operating hours per week	Median age of buildings (years)
All buildings	5,557	87,076	88,187	5.0	1,029	50	32
Food preparation or serving areas in non-food service buildings (more than one may apply)							
Snack bar or concession stand							
	153	9,752	10,290	11.0	1,257	81	32
Fast food or small restaurant							
	173	9,670	10,917	13.0	920	77	25
Cafeteria or large restaurant							
	130	15,152	17,640	67.0	1,250	60	34
Commercial kitchen/food preparation area							
	282	15,962	15,364	20.0	1,412	70	31
Small kitchen area							
	736	13,975	13,628	6.0	1,400	48	40
Separate computer areas (more than one may apply)							
Data center or server farm							
	97	10,986	18,059	40.0	590	56	28
Computer-based training room							
	244	17,592	22,231	30.0	1,000	60	27
Student or public computer center							
	238	14,253	12,513	28.0	1,208	55	31
HVAC conservation features (more than one may apply)							
Economizer cycle							
	601	30,631	35,408	16.5	1,022	60	27
Regular HVAC maintenance							
	3,178	69,221	77,874	6.8	960	55	31
Building automation system (BAS) ²							
	781	36,979	42,363	14.0	1,077	60	24
Window and interior lighting features (more than one may apply)							
Multipaned windows							
	3,012	60,294	62,249	6.3	1,000	50	28
Tinted window glass							
	1,875	44,952	50,837	7.2	960	54	28
Reflective window glass							
	549	15,810	18,972	8.8	967	58	26
External overhangs or awnings							
	1,867	32,065	33,762	5.6	1,000	55	33
Skylights or atriums							
	591	22,203	21,945	11.0	1,176	55	28
Light scheduling							
	918	30,258	34,986	9.5	1,000	61	27
Occupancy sensors							
	813	35,775	40,953	14.3	983	60	26
Multi-level lighting or dimming							
	349	14,419	16,133	13.0	1,000	70	28
Daylight harvesting							
	125	6,090	7,722	14.0	932	60	27
Demand responsive lighting							
	176	4,762	4,895	9.5	1,100	55	32
Building automation system (BAS) for lighting ²							
	208	12,017	13,292	16.3	1,138	70	19

Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)	Total floorspace (million square feet)	Total workers (thousand)	Total square feet per building (thousand)	Median square feet per worker ¹	Median operating hours per week	Median age of buildings (years)
All buildings	5,557	87,076	88,187	5.0	1,029	50	32
Equipment usage reduced when building not in full use (more than one may apply)							
Heating							
	3,699	63,183	68,464	5.5	1,013	50	34
Cooling							
	3,517	62,590	68,317	5.8	1,000	50	33
Lighting							
	4,757	78,558	83,816	5.4	1,013	50	33

¹Buildings with zero workers are excluded from this column.

²In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definition of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/>

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Form EIA-871A of the 2012 Commercial Buildings Energy Consumption Survey.

Release date: June 2015
 Revised date: August 2016

Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)				Total floorspace (million square feet)					
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5,557	805	1,237	2,247	1,267	87,076	15,547	18,916	34,262	18,351
Building floorspace (square feet)										
1,001 to 5,000	2,777	372	645	1,159	601	8,042	1,057	1,858	3,383	1,744
5,001 to 10,000	1,229	171	257	491	310	8,902	1,249	1,872	3,536	2,246
10,001 to 25,000	884	152	183	327	221	14,108	2,407	2,889	5,211	3,600
25,001 to 50,000	332	47	83	127	75	11,915	1,644	3,029	4,526	2,716
50,001 to 100,000	199	36	40	88	34	13,914	2,675	2,730	6,137	2,373
100,001 to 200,000	90	18	18	37	17	12,425	2,545	2,402	5,154	2,324
200,001 to 500,000	38	8	10	13	7	10,718	2,230	2,728	3,676	2,084
Over 500,000	8	2	2	3	1	7,053	1,741	1,408	2,639	1,265
Principal building activity										
Education	389	45	67	159	118	12,239	2,058	3,176	5,157	1,848
Food sales	177	27	34	81	35	1,252	316	174	399	363
Food service	380	62	77	160	80	1,819	292	369	771	387
Health care	157	22	44	54	37	4,133	1,064	850	1,426	793
Inpatient	10	2	2	4	2	2,352	536	484	878	454
Outpatient	147	21	42	50	35	1,780	528	366	548	339
Lodging	158	27	23	69	38	5,722	1,001	1,048	2,281	1,391
Mercantile	602	98	131	251	122	11,391	1,658	2,139	4,753	2,841
Retail (other than mall)	438	75	103	177	83	5,437	834	1,144	2,123	1,337
Enclosed and strip malls	164	23	28	74	39	5,954	824	996	2,630	1,504
Office	1,012	148	230	390	245	16,007	3,753	3,317	5,496	3,441
Public assembly	352	65	100	110	77	5,531	948	1,598	1,975	1,010
Public order and safety	84	14	19	39	Q	1,434	341	333	575	Q
Religious worship	412	51	92	195	74	4,559	897	925	2,012	725
Service	619	108	177	230	103	4,587	778	1,472	1,642	695
Warehouse and storage	796	89	163	325	219	13,130	1,776	2,542	5,279	3,533
Other	125	18	30	34	43	2,015	278	436	834	468
Vacant	296	32	51	150	63	3,257	388	536	1,661	672
Year constructed										
Before 1920	362	112	106	104	40	3,981	1,635	1,040	977	329
1920 to 1945	488	125	140	128	94	5,985	1,937	1,767	1,484	796
1946 to 1959	599	96	110	229	164	7,352	1,574	1,672	2,601	1,506
1960 to 1969	639	100	159	232	148	10,361	2,251	2,662	3,512	1,937
1970 to 1979	684	75	160	274	176	10,868	1,959	2,621	3,702	2,587
1980 to 1989	915	86	172	427	231	15,262	1,741	2,620	6,953	3,947
1990 to 1999	845	90	203	385	168	13,843	2,066	2,791	6,187	2,799
2000 to 2003	375	46	80	159	90	7,229	976	1,508	3,320	1,425
2004 to 2007	347	37	50	163	97	6,484	503	1,237	2,843	1,901
2008 to 2012	303	38	57	147	61	5,712	907	998	2,683	1,124
Number of floors										
One	3,836	360	785	1,737	954	39,851	3,878	7,656	18,545	9,772
Two	1,158	236	296	377	248	20,244	4,105	4,872	6,997	4,270
Three	374	147	121	63	43	8,160	2,420	2,615	2,041	1,084
Four to nine	177	60	33	64	21	13,514	3,419	2,914	4,953	2,229
Ten or more	13	4	2	5	2	5,307	1,727	858	1,726	996

Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)				Total floorspace (million square feet)					
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5,557	805	1,237	2,247	1,267	87,076	15,547	18,916	34,262	18,351
Elevators and escalators (more than one may apply)										
Any elevators	405	90	102	137	77	32,039	7,903	7,547	10,980	5,610
Number of elevators										
One	272	58	74	89	50	11,152	2,577	3,223	3,659	1,694
Two to five	118	27	25	42	24	12,845	3,152	2,790	4,620	2,283
Six or more	16	5	3	6	3	8,042	2,174	1,534	2,701	1,633
Any escalators	10	3	Q	2	2	3,482	752	868	994	868
Number of workers (main shift)										
Fewer than 5	2,892	414	715	1,163	600	17,756	2,692	4,287	7,339	3,438
5 to 9	1,085	154	224	448	259	8,976	1,282	1,912	3,554	2,227
10 to 19	731	106	129	297	200	9,625	1,391	1,881	3,813	2,540
20 to 49	513	68	104	198	143	14,519	1,904	3,372	5,614	3,629
50 to 99	206	31	41	97	36	13,507	2,399	2,761	6,091	2,256
100 to 249	93	21	18	32	22	10,943	2,525	2,323	4,163	1,932
250 or more	37	10	7	11	8	11,750	3,355	2,379	3,687	2,329
Weekly operating hours										
Fewer than 40	1,149	149	290	489	221	8,226	1,174	2,028	3,509	1,514
40 to 48	1,346	168	302	536	339	15,815	2,361	3,032	6,787	3,635
49 to 60	1,244	199	254	501	290	20,612	3,379	4,379	8,525	4,328
61 to 84	764	131	155	270	209	15,934	3,317	3,639	5,294	3,684
85 to 167	479	75	98	204	101	9,434	1,898	2,441	3,147	1,949
Open continuously	575	83	139	247	106	17,056	3,420	3,396	6,999	3,241
Party responsible for operation and maintenance of energy systems										
Building owner	4,715	661	1,118	1,881	1,054	73,656	13,319	16,798	28,751	14,788
Business owner or tenant	724	124	102	308	190	11,346	1,820	1,736	4,563	3,228
Property management	54	Q	Q	24	16	1,244	Q	Q	636	244
Other	64	Q	Q	33	Q	831	Q	Q	313	Q
Provider of direct input on energy-related equipment purchases										
Building owner	4,876	682	1,136	1,947	1,112	76,240	13,584	17,142	29,799	15,715
Business owner or tenant	540	94	77	230	139	8,304	1,395	1,285	3,348	2,276
Property management	35	Q	Q	15	Q	889	Q	Q	353	Q
Other	106	23	15	55	13	1,643	314	347	762	221
Number of establishments										
One	4,205	602	974	1,690	939	54,992	9,544	12,519	21,767	11,161
2 to 5	862	150	192	328	193	17,701	3,261	4,207	6,489	3,744
6 to 10	147	19	21	63	44	4,380	767	782	1,727	1,104
11 to 20	68	8	8	27	25	3,710	844	493	1,555	818
More than 20	27	3	2	8	14	3,899	869	529	1,417	1,084
Currently unoccupied	248	24	41	130	53	2,395	262	386	1,307	440

Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)				Total floorspace (million square feet)					
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5,557	805	1,237	2,247	1,267	87,076	15,547	18,916	34,262	18,351
Predominant exterior wall material										
Brick, stone, or stucco	2,312	317	528	934	534	40,527	7,686	9,056	16,659	7,126
Concrete (block or poured)	1,121	140	217	529	236	20,622	3,556	3,995	8,139	4,932
Concrete panels	210	16	21	68	105	8,701	827	1,707	3,181	2,986
Siding or shingles	905	239	218	238	210	5,761	1,589	1,395	1,388	1,389
Metal panels	933	82	231	458	162	8,670	1,020	2,146	4,245	1,259
Window glass	17	4	Q	2	10	1,344	437	Q	356	328
Other	37	Q	Q	Q	Q	857	Q	Q	Q	Q
No one major type	21	Q	Q	Q	Q	595	Q	Q	Q	Q
Predominant roof material										
Metal surfacing	1,672	148	367	858	298	15,932	1,640	3,286	8,294	2,712
Synthetic or rubber	911	175	292	261	183	25,774	5,860	7,485	7,775	4,654
Built-up	836	90	117	373	256	21,853	3,779	3,979	8,885	5,210
Slate or tile shingles	406	66	47	162	130	4,292	841	391	1,847	1,213
Wooden materials (including shingles)	157	27	Q	58	45	1,140	162	Q	383	469
Asphalt, fiberglass, or other shingles	1,483	282	371	498	332	15,115	2,684	3,268	5,840	3,323
Concrete	51	10	Q	25	11	1,650	299	Q	858	404
Other	24	Q	Q	Q	Q	681	Q	Q	Q	Q
No one major type	18	Q	Q	Q	Q	640	Q	Q	Q	Q
Roof characteristics										
Roof tilt										
Flat	1,960	286	358	764	552	49,601	10,065	10,554	18,101	10,882
Shallow pitch	2,148	213	493	955	487	23,881	2,543	5,026	11,051	5,261
Steeper pitch	1,449	306	386	528	229	13,594	2,940	3,337	5,110	2,207
Cool roof	740	76	132	280	252	19,570	3,348	3,642	7,522	5,058
Renovations in buildings constructed before 2008 (more than one may apply)										
Any type of renovation	2,094	352	521	789	432	42,144	9,261	10,078	15,368	7,437
Addition or annex	444	63	136	176	69	12,932	2,573	4,075	4,575	1,709
Reduction in floorspace	71	11	19	30	12	1,718	577	265	598	277
Roof replacement	987	178	272	359	178	20,865	5,440	5,379	6,947	3,099
Exterior wall replacement	194	31	50	83	31	4,212	927	1,062	1,423	801
Interior wall reconfiguration	889	181	210	295	204	21,318	5,067	5,188	6,839	4,224
Window replacement	560	117	157	184	102	12,124	3,391	3,009	3,741	1,983
HVAC equipment upgrade	1,101	191	291	421	197	26,660	6,465	6,511	9,314	4,370
Lighting upgrade	982	187	232	352	211	25,403	6,003	6,086	8,801	4,514
Electrical upgrade	747	155	180	273	139	16,019	3,976	3,980	5,415	2,648
Plumbing system upgrade	644	124	173	231	116	13,723	3,393	3,419	4,584	2,327
Insulation upgrade	382	75	123	133	52	7,500	1,741	2,187	2,317	1,256
Fire, safety, or security upgrade	616	145	147	210	114	17,126	4,623	3,779	5,814	2,910
Structural upgrade	152	38	43	40	30	3,821	743	878	1,158	1,041
Other	39	Q	Q	Q	Q	872	Q	Q	Q	Q
No renovations	3,160	415	660	1,311	775	39,220	5,379	7,840	16,211	9,789
Buildings constructed 2008 or later	303	38	57	147	61	5,712	907	998	2,683	1,124

Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)				Total floorspace (million square feet)					
	All buildings	North-east	Mid-west	South	All buildings	North-east	Mid-west	South	West	
All buildings	5,557	805	1,237	2,247	1,267	87,076	15,547	18,916	34,262	18,351
Energy sources (more than one may apply)										
Electricity	5,234	770	1,171	2,086	1,207	84,850	15,304	18,556	33,007	17,982
Natural gas	2,933	433	843	950	707	58,729	11,118	15,026	19,883	12,702
Fuel oil	467	217	77	131	43	20,130	6,075	3,915	7,051	3,088
District heat	48	16	7	18	7	5,817	1,954	907	2,136	820
District chilled water	54	7	2	35	9	4,476	782	563	2,440	692
Propane	510	106	133	187	84	7,709	1,746	1,933	2,593	1,437
Other	172	51	50	34	37	3,825	1,089	797	906	1,034
Space-heating energy sources (more than one may apply)										
Electricity	2,858	310	493	1,380	676	49,039	7,264	8,620	22,552	10,603
Natural gas	2,612	392	819	782	618	49,611	9,393	14,042	15,472	10,704
Fuel oil	270	170	39	53	Q	4,360	2,857	667	769	Q
District heat	48	16	7	18	7	5,776	1,954	907	2,114	801
Propane	342	59	105	124	54	3,066	654	1,003	928	482
Other	101	Q	32	Q	Q	1,008	206	301	Q	Q
Primary space-heating energy source										
Electricity	1,819	138	193	1,043	445	26,283	2,191	2,969	15,152	5,971
Natural gas	2,322	361	768	647	547	43,054	8,399	13,096	12,340	9,220
Fuel oil	205	141	Q	32	Q	2,545	1,990	Q	299	Q
District heat	47	15	6	18	7	5,644	1,927	862	2,054	801
Propane	261	46	84	92	38	1,948	377	723	613	235
Other	67	Q	Q	Q	Q	598	Q	Q	Q	Q
Cooling energy sources (more than one may apply)										
Electricity	4,413	583	967	1,861	1,001	76,080	13,320	16,831	29,927	16,002
Natural gas	12	6	Q	Q	Q	725	295	Q	Q	Q
District chilled water	54	7	2	35	9	4,476	782	563	2,440	692
Water-heating energy sources (more than one may apply)										
Electricity	2,658	324	525	1,242	567	42,777	6,549	7,933	19,434	8,860
Natural gas	1,758	291	493	527	447	39,581	7,535	10,623	12,292	9,131
Fuel oil	77	69	Q	Q	Q	1,918	1,397	Q	Q	Q
District heat	25	9	5	7	4	4,424	1,619	768	1,516	520
Propane	142	37	31	42	32	1,580	390	392	534	264
Cooking energy sources (more than one may apply)										
Electricity	1,010	120	260	439	191	25,099	4,656	6,153	9,773	4,518
Natural gas	740	123	163	286	168	24,669	5,362	5,623	8,531	5,153
Propane	144	48	28	53	Q	2,006	779	328	664	235

Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)				Total floorspace (million square feet)					
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5,557	805	1,237	2,247	1,267	87,076	15,547	18,916	34,262	18,351
Energy end uses (more than one may apply)										
Buildings with space heating	4,722	727	1,096	1,842	1,057	80,073	15,065	18,051	30,504	16,452
Buildings with cooling	4,461	592	970	1,891	1,007	79,271	13,962	17,139	31,714	16,455
Buildings with water heating	4,423	671	1,014	1,740	997	78,998	14,650	17,588	30,240	16,520
Buildings with cooking	1,589	249	370	664	306	38,437	8,159	8,708	14,339	7,230
Buildings with manufacturing	259	44	55	83	77	5,059	1,060	1,152	1,705	1,141
Buildings with electricity generation	410	107	84	141	78	25,600	6,231	5,333	9,384	4,653
Percent of floorspace heated										
Not heated	835	79	141	405	210	7,004	483	865	3,758	1,898
1 to 50	697	86	103	297	211	10,152	1,134	1,311	3,988	3,718
51 to 99	727	137	137	267	185	14,673	2,864	2,249	6,229	3,331
100	3,298	503	856	1,278	661	55,248	11,067	14,491	20,286	9,404
Percent of floorspace cooled										
Not cooled	1,096	213	267	355	260	7,806	1,585	1,777	2,548	1,895
1 to 50	1,173	196	281	422	273	18,955	3,577	4,765	6,206	4,407
51 to 99	897	156	177	330	234	22,756	5,085	4,679	8,481	4,510
100	2,391	240	512	1,139	500	37,560	5,300	7,695	17,027	7,538
Percent lit when open										
Zero	70	Q	Q	Q	Q	322	Q	Q	Q	Q
1 to 50	1,099	170	292	379	258	12,650	2,100	2,873	4,766	2,911
51 to 99	1,666	259	382	614	411	34,858	6,311	7,931	13,275	7,341
100	2,222	308	427	1,011	476	35,642	6,657	7,260	14,387	7,338
Building never open/electricity not used	501	60	121	216	103	3,605	437	774	1,711	683
Percent lit during off hours										
Zero	2,489	366	528	945	650	24,759	3,876	5,598	9,119	6,166
1 to 50	2,441	360	592	990	499	50,840	9,346	11,467	20,202	9,826
51 to 100	202	40	25	97	40	6,798	1,758	942	2,543	1,555
Building always open with no "off hours"	102	5	25	54	18	2,453	324	550	1,144	435
Electricity not used	323	36	66	161	61	2,226	243	360	1,255	368
Heating equipment (more than one may apply)										
Heat pumps	628	48	53	392	134	11,809	1,393	1,037	6,894	2,485
Furnaces	755	85	252	282	137	8,683	1,266	2,515	3,366	1,536
Individual space heaters	1,247	239	340	381	287	20,733	4,883	5,713	6,535	3,603
District heat	48	16	7	18	7	5,776	1,954	907	2,114	801
Boilers	544	221	148	98	77	22,448	6,461	6,648	5,798	3,541
Packaged heating units	2,802	347	644	1,127	683	49,305	7,220	10,894	20,129	11,062
Other	62	Q	22	16	14	1,573	Q	370	549	339

Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)					Total floorspace (million square feet)				
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5,557	805	1,237	2,247	1,267	87,076	15,547	18,916	34,262	18,351
Cooling equipment (more than one may apply)										
Residential-type central air conditioners	1,546	178	480	633	255	14,767	1,699	4,349	5,893	2,827
Heat pumps	692	53	65	409	165	12,520	1,490	1,010	7,073	2,948
Individual air conditioners	709	190	147	257	114	12,364	3,846	2,566	4,225	1,727
District chilled water	54	7	2	35	9	4,476	782	563	2,440	692
Central chillers	163	26	37	70	29	17,009	3,486	4,462	6,430	2,632
Packaged air conditioning units	1,909	253	362	786	508	45,246	8,691	9,824	17,237	9,494
Swamp coolers	109	Q	Q	Q	89	1,923	Q	Q	473	1,344
Other	Q	Q	Q	Q	Q	331	Q	Q	Q	Q
Main equipment replaced since 1990 (more than one may apply)										
Heating	1,874	315	448	744	367	27,603	5,360	6,868	10,065	5,310
Cooling	1,971	313	452	836	370	30,713	6,330	7,189	11,666	5,528
Water-heating equipment										
Centralized system	3,348	493	806	1,322	728	47,525	9,151	11,346	17,465	9,563
Distributed system	690	123	133	264	170	12,743	2,389	2,342	4,954	3,058
Combination of centralized and distributed system	385	56	76	154	99	18,731	3,110	3,900	7,822	3,899
Lighting equipment types (more than one may apply)										
Incandescent	1,826	293	460	721	353	38,345	7,600	9,023	14,528	7,196
Standard fluorescent	4,649	684	1,018	1,890	1,057	80,058	14,486	17,510	31,347	16,717
Compact fluorescent	2,302	354	542	840	566	53,779	10,781	11,817	20,033	11,148
High-intensity discharge (HID)	525	76	110	219	121	23,365	4,480	5,380	9,346	4,158
Halogen	905	148	203	377	177	27,965	5,255	6,153	10,935	5,621
LED	473	83	114	164	113	21,987	4,786	5,126	7,502	4,572
Other	10	Q	Q	Q	Q	426	Q	Q	Q	Q
Refrigeration equipment (more than one may apply)										
Any refrigeration	3,984	593	898	1,630	864	73,624	13,625	16,566	28,733	14,699
Walk-in units	811	139	175	332	166	28,262	5,856	6,313	10,732	5,361
Cases or cabinets	915	165	203	357	190	28,676	6,055	6,804	10,364	5,452
Large cold storage areas	78	12	14	33	19	4,125	565	975	1,672	913
Commercial ice makers	846	101	167	412	166	32,680	5,561	6,582	14,497	6,039
Residential-type or compact units	3,388	511	795	1,342	740	62,453	11,489	14,256	24,169	12,538
Vending machines	960	135	194	436	195	43,922	8,459	9,668	17,625	8,170
No refrigeration	1,573	213	340	617	404	13,453	1,922	2,350	5,529	3,651

Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)				Total floorspace (million square feet)					
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5,557	805	1,237	2,247	1,267	87,076	15,547	18,916	34,262	18,351
Office equipment (more than one may apply)										
Desktop computers	3,977	593	876	1,550	957	77,040	14,129	16,857	29,664	16,390
With flat screen monitors	3,847	569	841	1,507	931	76,138	13,969	16,624	29,326	16,219
With multiple monitors	911	120	183	358	250	30,926	5,319	6,400	12,063	7,144
Laptop computers	2,730	412	598	1,074	646	63,468	11,787	13,893	24,902	12,886
Dedicated servers	1,748	254	358	693	442	53,335	10,098	11,263	20,540	11,435
Laser printers	2,339	355	524	857	603	54,218	10,321	12,152	20,440	11,304
Inkjet printers	2,187	311	468	916	493	36,264	6,593	7,679	14,292	7,701
FAX machines	3,185	486	684	1,258	756	66,667	12,738	14,433	25,797	13,699
Photocopiers	2,163	355	474	808	526	59,246	11,668	13,043	22,073	12,461
Number of desktop computers										
None	1,581	212	361	697	310	10,036	1,418	2,059	4,598	1,961
1 to 4	2,039	320	484	780	454	15,671	2,458	3,584	6,273	3,356
5 to 9	821	91	186	334	210	9,425	1,392	2,122	3,529	2,382
10 to 19	482	86	81	188	127	9,393	1,646	1,826	3,532	2,389
20 to 49	355	48	62	140	105	13,113	2,341	2,598	5,344	2,831
50 to 99	143	20	33	58	33	8,318	1,363	1,984	3,266	1,705
100 to 249	92	20	20	31	21	9,705	2,268	2,235	3,421	1,781
250 or more	44	8	10	18	8	11,414	2,662	2,509	4,299	1,945
Number of laptop computers										
None	2,827	394	639	1,173	621	23,608	3,761	5,023	9,360	5,464
1 to 4	1,944	283	451	755	455	21,193	3,373	5,043	8,088	4,689
5 to 9	350	53	62	142	92	8,378	1,417	1,478	3,570	1,912
10 to 19	181	33	29	71	49	8,343	1,498	1,468	3,394	1,983
20 to 49	144	20	28	63	33	9,586	1,471	2,202	3,804	2,110
50 to 99	58	9	15	22	12	5,244	1,165	1,332	1,860	886
100 to 249	35	9	9	13	3	5,244	1,426	1,023	2,111	683
250 or more	20	4	5	9	2	5,481	1,436	1,347	2,075	623
Number of dedicated servers										
None	3,809	551	879	1,554	825	33,741	5,450	7,653	13,722	6,916
1 to 4	1,562	227	325	618	392	34,065	6,164	7,209	13,483	7,209
5 to 9	97	14	20	37	26	6,294	1,084	1,444	2,250	1,516
10 to 19	50	7	6	25	12	5,659	1,120	994	2,339	1,206
20 to 49	25	3	5	9	8	3,781	721	999	1,290	771
50 or more	13	3	2	4	4	3,536	1,009	616	1,177	734
Number of photocopiers										
None	3,394	451	763	1,438	742	27,830	3,879	5,873	12,189	5,889
One	1,325	216	299	485	325	17,086	2,606	3,945	6,130	4,405
2 to 4	648	104	139	246	158	20,337	3,594	4,579	8,078	4,086
5 to 9	116	18	23	47	27	8,920	1,939	2,188	3,221	1,572
10 or more	75	16	13	30	15	12,903	3,529	2,331	4,644	2,399

Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)				Total floorspace (million square feet)					
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5,557	805	1,237	2,247	1,267	87,076	15,547	18,916	34,262	18,351
Number of TVs or video displays										
None	2,718	394	614	1,076	633	24,355	4,060	5,094	9,486	5,714
One	1,145	164	273	471	237	10,001	1,416	2,300	4,279	2,006
2 to 4	1,035	154	212	419	250	16,481	2,944	4,054	6,315	3,167
5 to 9	314	51	72	126	66	8,150	1,824	1,451	3,161	1,714
10 to 19	154	20	31	69	34	8,133	1,765	1,895	3,053	1,420
20 to 49	106	13	19	46	28	8,132	1,460	1,674	3,196	1,802
50 to 99	48	3	10	22	13	4,439	393	932	2,075	1,040
100 or more	37	7	7	17	7	7,386	1,685	1,515	2,698	1,488
Food preparation or serving areas in non-food service buildings (more than one may apply)										
Snack bar or concession stand	153	18	34	66	35	9,752	1,898	2,273	3,708	1,873
Fast food or small restaurant	173	29	31	77	37	9,670	1,760	1,761	3,729	2,421
Cafeteria or large restaurant	130	29	28	55	18	15,152	3,604	3,415	5,908	2,224
Commercial kitchen/ food preparation area	282	45	72	109	56	15,962	3,224	3,938	6,008	2,792
Small kitchen area	736	114	183	306	132	13,975	3,135	3,424	5,040	2,376
Separate computer areas (more than one may apply)										
Data center or server farm	97	14	25	31	27	10,986	2,403	2,439	3,833	2,311
Computer-based training room	244	34	47	112	51	17,592	3,318	3,938	7,057	3,279
Student or public computer center	238	40	46	91	61	14,253	2,710	3,345	5,953	2,245
HVAC conservation features (more than one may apply)										
Economizer cycle	601	107	141	147	206	30,631	6,918	7,879	8,999	6,835
Regular HVAC maintenance	3,178	480	674	1,279	744	69,221	12,994	15,169	26,552	14,506
Building automation system (BAS) ¹	781	117	160	291	212	36,979	6,936	7,982	14,544	7,517
Window and interior lighting features (more than one may apply)										
Multipaned windows	3,012	483	842	1,072	614	60,294	11,448	15,253	22,606	10,987
Tinted window glass	1,875	155	373	820	527	44,952	6,290	9,040	19,010	10,611
Reflective window glass	549	61	114	205	169	15,810	2,296	3,809	5,461	4,244
External overhangs or awnings	1,867	204	393	820	450	32,065	4,293	6,478	13,809	7,485
Skylights or atriums	591	80	94	210	207	22,203	4,083	4,082	8,048	5,990
Light scheduling	918	131	204	359	224	30,258	5,883	6,627	10,720	7,028
Occupancy sensors	813	137	155	256	266	35,775	7,734	7,906	11,881	8,254
Multi-level lighting or dimming	349	53	69	134	93	14,419	2,346	3,162	5,374	3,537
Daylight harvesting	125	19	29	53	24	6,090	1,032	1,486	1,993	1,580
Demand responsive lighting	176	Q	35	63	Q	4,762	648	913	1,699	1,502
Building automation system (BAS) for lighting ¹	208	32	36	83	57	12,017	2,154	2,428	4,458	2,977

Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	Number of buildings (thousand)					Total floorspace (million square feet)				
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5,557	805	1,237	2,247	1,267	87,076	15,547	18,916	34,262	18,351
Equipment usage reduced when building not in full use (more than one may apply)										
Heating	3,699	582	842	1,398	877	63,183	12,285	14,130	23,294	13,475
Cooling	3,517	473	764	1,438	841	62,590	11,460	13,461	24,454	13,215
Lighting	4,757	707	1,055	1,898	1,096	78,558	14,262	17,259	30,530	16,508

¹In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definition of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/>

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Form EIA-871A of the 2012 Commercial Buildings Energy Consumption Survey.

Release date: May 2016
 Revised date: August 2016

Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	All buildings		Total energy consumption (trillion Btu)						
	Number of buildings (thousand)	floorspace (million square feet)	Total	Electricity			Natural gas	Fuel oil	District heat
			Sum of major fuels	Primary	Site				
All buildings	5,557	87,076	6,960	12,931	4,240	2,247	134	340	
Building floorspace (square feet)									
1,001 to 5,000	2,777	8,042	723	1,357	445	256	21		Q
5,001 to 10,000	1,229	8,902	646	1,178	386	248	10		Q
10,001 to 25,000	884	14,108	876	1,655	543	304	20		Q
25,001 to 50,000	332	11,915	822	1,549	508	283	14	17	
50,001 to 100,000	199	13,914	1,066	1,994	654	337	23	51	
100,001 to 200,000	90	12,425	1,034	1,974	647	290	20	77	
200,001 to 500,000	38	10,718	1,026	1,875	615	310	14	88	
Over 500,000	8	7,053	767	1,348	442	219	12	94	
Principal building activity									
Education	389	12,239	842	1,396	458	291	28	64	
Food sales	177	1,252	262	634	208	53	Q	N	
Food service	380	1,819	514	850	279	228	Q	Q	
Health care	157	4,133	718	1,114	365	265	20	68	
Inpatient	10	2,352	549	767	251	219	16	62	
Outpatient	147	1,780	169	348	114	46	Q	Q	
Lodging	158	5,722	564	928	304	220	8	31	
Mercantile	602	11,391	1,007	2,149	704	292	9	Q	
Retail (other than mall)	438	5,437	364	856	281	74	7	Q	
Enclosed and strip malls	164	5,954	644	1,292	424	217	Q	Q	
Office	1,012	16,007	1,240	2,636	864	282	18	75	
Public assembly	352	5,531	480	837	274	135	7	64	
Public order and safety	84	1,434	133	223	73	41	2	Q	
Religious worship	412	4,559	173	248	81	87	5	N	
Service	619	4,587	272	389	128	122	16	Q	
Warehouse and storage	796	13,130	428	866	284	139	5	Q	
Other	125	2,015	285	580	190	81	10	Q	
Vacant	296	3,257	42	80	26	13	Q	Q	
Year constructed									
Before 1920	362	3,981	238	332	109	87	16	25	
1920 to 1945	488	5,985	418	667	219	145	14	40	
1946 to 1959	599	7,352	537	884	290	199	18	29	
1960 to 1969	639	10,361	902	1,531	502	314	20	66	
1970 to 1979	684	10,868	1,011	1,776	582	340	16	73	
1980 to 1989	915	15,262	1,164	2,430	797	335	16	17	
1990 to 1999	845	13,843	1,102	2,217	727	338	14	23	
2000 to 2003	375	7,229	578	1,159	380	158	10	Q	
2004 to 2007	347	6,484	528	1,008	331	172	3	23	
2008 to 2012	303	5,712	483	925	303	159	6	Q	

Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	All buildings		Total energy consumption (trillion Btu)						
	Number of buildings (thousand)	Total floorspace (million square feet)	Electricity				Natural gas	Fuel oil	District heat
			Sum of major fuels	Primary	Site				
All buildings	5,557	87,076	6,960	12,931	4,240	2,247	134	340	
Census region and division									
Northeast	805	15,547	1,458	2,292	751	499	90	118	
New England	302	4,305	367	525	172	111	47	Q	
Middle Atlantic	504	11,242	1,091	1,767	579	388	42	81	
Midwest	1,237	18,916	1,565	2,594	850	642	15	58	
East North Central	735	12,751	1,130	1,814	595	493	10	32	
West North Central	502	6,165	435	780	256	149	5	Q	
South	2,247	34,262	2,565	5,517	1,809	615	23	118	
South Atlantic	1,091	17,957	1,358	2,982	978	305	16	59	
East South Central	370	4,896	369	736	241	103	3	Q	
West South Central	786	11,409	838	1,800	590	206	4	Q	
West	1,267	18,351	1,372	2,529	829	491	7	45	
Mountain	338	4,900	418	698	229	163	Q	23	
Pacific	929	13,451	955	1,831	600	328	5	22	
Number of floors									
One	3,836	39,851	2,831	5,675	1,861	918	42	Q	
Two	1,158	20,244	1,459	2,697	884	510	32	Q	
Three	374	8,160	667	1,137	373	224	23	47	
Four to nine	177	13,514	1,432	2,402	788	443	28	173	
Ten or more	13	5,307	571	1,020	335	151	8	77	
Elevators and escalators (more than one may apply)									
Any elevators	405	32,039	3,181	5,610	1,840	970	56	315	
Number of elevators									
One	272	11,152	882	1,527	501	295	16	71	
Two to five	118	12,845	1,241	2,314	759	353	26	103	
Six or more	16	8,042	1,057	1,769	580	322	15	141	
Any escalators	10	3,482	377	688	226	98	5	48	
Number of workers (main shift)									
Fewer than 5	2,892	17,756	756	1,390	456	264	31	Q	
5 to 9	1,085	8,976	598	1,164	382	202	9	Q	
10 to 19	731	9,625	772	1,376	451	298	11	Q	
20 to 49	513	14,519	1,188	2,287	750	379	17	43	
50 to 99	206	13,507	1,148	2,225	729	360	21	Q	
100 to 249	93	10,943	1,058	1,928	632	337	22	67	
250 or more	37	11,750	1,441	2,562	840	408	22	171	
Weekly operating hours									
Fewer than 40	1,149	8,226	228	364	119	97	10	Q	
40 to 48	1,346	15,815	831	1,608	527	258	27	19	
49 to 60	1,244	20,612	1,258	2,483	814	369	25	49	
61 to 84	764	15,934	1,369	2,590	849	470	20	31	
85 to 167	479	9,434	1,098	2,079	682	349	9	58	
Open continuously	575	17,056	2,176	3,807	1,248	704	44	179	

Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	All buildings		Total energy consumption (trillion Btu)						
	Number of buildings (thousand)	Total floorspace (million square feet)	Electricity				Natural gas	Fuel oil	District heat
			Sum of major fuels	Primary	Site				
All buildings	5,557	87,076	6,960	12,931	4,240	2,247	134	340	
Party responsible for operation and maintenance of energy systems									
Building owner	4,715	73,656	5,805	10,708	3,511	1,850	121	323	
Business owner or tenant	724	11,346	983	1,892	620	343	10	Q	
Property management	54	1,244	96	192	63	26	1	Q	
Other	64	831	76	139	46	27	Q	Q	
Provider of direct input on energy-related equipment purchases									
Building owner	4,876	76,240	5,980	11,043	3,621	1,913	123	324	
Business owner or tenant	540	8,304	767	1,479	485	265	6	Q	
Property management	35	889	61	123	40	17	2	Q	
Other	106	1,643	153	286	94	52	3	Q	
Number of establishments									
One	4,205	54,992	4,482	8,086	2,651	1,525	98	208	
2 to 5	862	17,701	1,401	2,588	849	429	25	98	
6 to 10	147	4,380	363	733	240	107	5	11	
11 to 20	68	3,710	355	712	234	113	1	Q	
More than 20	27	3,899	346	792	260	67	4	15	
Currently unoccupied	248	2,395	13	19	6	6	Q	Q	
Predominant exterior wall material									
Brick, stone, or stucco	2,312	40,527	3,456	6,205	2,035	1,160	59	203	
Concrete (block or poured)	1,121	20,622	1,718	3,357	1,101	534	28	56	
Concrete panels	210	8,701	664	1,253	411	208	7	38	
Siding or shingles	905	5,761	400	743	244	134	21	Q	
Metal panels	933	8,670	427	823	270	125	13	Q	
Window glass	17	1,344	170	326	107	48	2	13	
Other	37	857	80	143	47	Q	Q	Q	
No one major type	21	595	45	81	26	14	Q	Q	
Predominant roof material									
Metal surfacing	1,672	15,932	864	1,757	576	241	23	Q	
Synthetic or rubber	911	25,774	2,440	4,390	1,439	850	40	112	
Built-up	836	21,853	1,862	3,509	1,151	582	31	98	
Slate or tile shingles	406	4,292	371	610	200	114	4	Q	
Wooden materials (including shingles)	157	1,140	93	144	47	41	Q	Q	
Asphalt, fiberglass, or other shingles	1,483	15,115	1,105	2,043	670	368	27	40	
Concrete	51	1,650	133	312	102	24	3	Q	
Other	24	681	58	111	36	18	Q	Q	
No one major type	18	640	35	55	18	10	Q	Q	

Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	All buildings		Total energy consumption (trillion Btu)							
	Number of buildings (thousand)	Total floorspace (million square feet)	Electricity					Natural gas	Fuel oil	District heat
			Sum of major fuels	Primary	Site	Natural gas	Fuel oil			
All buildings	5,557	87,076	6,960	12,931	4,240	2,247	134	340		
Roof characteristics										
Roof tilt										
Flat	1,960	49,601	4,474	8,319	2,727	1,454	68	225		
Shallow pitch	2,148	23,881	1,596	3,101	1,017	481	34	64		
Steeper pitch	1,449	13,594	890	1,511	495	312	32	Q		
Cool roof	740	19,570	1,836	3,380	1,108	602	33	93		
Renovations in buildings constructed before 2008 (more than one may apply)										
Any type of renovation	2,094	42,144	3,760	6,745	2,211	1,229	80	239		
Addition or annex	444	12,932	1,291	2,128	698	467	34	91		
Reduction in floorspace	71	1,718	225	371	122	69	Q	Q		
Roof replacement	987	20,865	1,985	3,428	1,124	680	55	126		
Exterior wall replacement	194	4,212	398	730	239	129	11	18		
Interior wall reconfiguration	889	21,318	2,055	3,709	1,216	644	39	157		
Window replacement	560	12,124	1,089	1,831	600	386	35	68		
HVAC equipment upgrade	1,101	26,660	2,543	4,505	1,477	841	48	177		
Lighting upgrade	982	25,403	2,438	4,261	1,397	809	52	179		
Electrical upgrade	747	16,019	1,607	2,752	902	550	38	116		
Plumbing system upgrade	644	13,723	1,396	2,311	758	514	33	90		
Insulation upgrade	382	7,500	771	1,308	429	268	13	60		
Fire, safety, or security upgrade	616	17,126	1,684	2,936	963	568	39	115		
Structural upgrade	152	3,821	423	716	235	151	9	29		
Other	39	872	69	135	44	14	Q	Q		
No renovations	3,160	39,220	2,717	5,261	1,725	859	47	86		
Buildings constructed 2008 or later	303	5,712	483	925	303	159	6	Q		
Energy sources (more than one may apply)										
Electricity	5,234	84,850	6,960	12,931	4,240	2,247	134	340		
Natural gas	2,933	58,729	5,541	9,397	3,081	2,247	41	173		
Fuel oil	467	20,130	2,231	3,973	1,302	623	134	171		
District heat	48	5,817	807	1,077	353	108	6	340		
District chilled water	54	4,476	664	891	292	133	4	235		
Propane	510	7,709	583	1,148	377	146	43	Q		
Other	172	3,825	301	518	170	108	8	15		
Space-heating energy sources (more than one may apply)										
Electricity	2,858	49,039	3,896	8,053	2,640	1,122	43	90		
Natural gas	2,612	49,611	4,445	7,423	2,434	1,970	24	17		
Fuel oil	270	4,360	360	541	177	78	104	Q		
District heat	48	5,776	803	1,069	350	107	6	339		
Propane	342	3,066	151	358	117	21	13	Q		
Other	101	1,008	48	92	30	12	2	Q		

Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	All buildings		Total energy consumption (trillion Btu)						
	Number of buildings (thousand)	Total floorspace (million square feet)	Electricity				Natural gas	Fuel oil	District heat
			Sum of major fuels	Primary	Site				
All buildings	5,557	87,076	6,960	12,931	4,240	2,247	134	340	
Primary space-heating energy source									
Electricity	1,819	26,283	1,844	4,570	1,498	335	10	Q	
Natural gas	2,322	43,054	3,870	6,358	2,085	1,768	16	Q	
Fuel oil	205	2,545	187	247	81	8	98	Q	
District heat	47	5,644	793	1,053	345	105	5	337	
Propane	261	1,948	63	186	61	Q	Q	N	
Other	67	598	21	48	16	Q	Q	N	
Cooling energy sources (more than one may apply)									
Electricity	4,413	76,080	6,319	12,057	3,953	2,079	110	177	
Natural gas	12	725	98	115	38	58	1	Q	
District chilled water	54	4,476	664	891	292	133	4	235	
Water-heating energy sources (more than one may apply)									
Electricity	2,658	42,777	3,100	6,752	2,214	742	57	87	
Natural gas	1,758	39,581	4,027	6,663	2,185	1,770	24	48	
Fuel oil	77	1,918	174	234	77	37	60	Q	
District heat	25	4,424	652	859	282	87	4	278	
Propane	142	1,580	87	241	79	Q	5	Q	
Cooking energy sources (more than one may apply)									
Electricity	1,010	25,099	2,511	4,719	1,547	810	43	111	
Natural gas	740	24,669	3,014	5,032	1,650	1,237	24	102	
Propane	144	2,006	167	365	120	19	27	Q	
Energy end uses (more than one may apply)									
Buildings with space heating	4,722	80,073	6,779	12,461	4,086	2,222	132	340	
Buildings with cooling	4,461	79,271	6,771	12,646	4,146	2,177	112	336	
Buildings with water heating	4,423	78,998	6,795	12,584	4,126	2,208	125	335	
Buildings with cooking	1,589	38,437	4,078	7,288	2,390	1,442	76	171	
Buildings with manufacturing	259	5,059	360	695	228	123	6	Q	
Buildings with electricity generation	410	25,600	2,802	5,102	1,673	854	68	207	
Percent of floorspace heated									
Not heated	835	7,004	181	470	154	25	2	Q	
1 to 50	697	10,152	467	1,018	334	123	10	Q	
51 to 99	727	14,673	1,298	2,433	798	443	18	39	
100	3,298	55,248	5,014	9,010	2,954	1,656	104	300	
Percent of floorspace cooled									
Not cooled	1,096	7,806	189	285	94	70	22	Q	
1 to 50	1,173	18,955	988	1,591	522	417	34	15	
51 to 99	897	22,756	2,143	3,966	1,300	667	37	137	
100	2,391	37,560	3,641	7,088	2,324	1,092	41	184	

Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	All buildings		Total energy consumption (trillion Btu)						
	Number of buildings (thousand)	Total floorspace (million square feet)	Electricity				Natural gas	Fuel oil	District heat
			Sum of major fuels	Primary	Site				
All buildings	5,557	87,076	6,960	12,931	4,240	2,247	134	340	
Percent lit when open									
Zero	70	322	4	11	3	Q	Q	Q	
1 to 50	1,099	12,650	642	1,184	388	214	16	23	
51 to 99	1,666	34,858	3,047	5,465	1,792	1,032	56	166	
100	2,222	35,642	3,243	6,238	2,045	989	59	150	
Building never open/electricity not used	501	3,605	24	33	11	10	Q	Q	
Percent lit during off hours									
Zero	2,489	24,759	1,293	2,412	791	438	42	23	
1 to 50	2,441	50,840	4,345	8,158	2,675	1,394	72	203	
51 to 100	202	6,798	1,016	1,713	562	341	15	99	
Building always open with no "off hours"	102	2,453	306	648	212	73	Q	15	
Electricity not used	323	2,226	N	N	N	N	N	N	
Heating equipment (more than one may apply)									
Heat pumps	628	11,809	899	1,869	613	247	12	27	
Furnaces	755	8,683	616	1,108	363	244	7	Q	
Individual space heaters	1,247	20,733	1,571	2,826	927	544	38	63	
District heat	48	5,776	803	1,069	350	107	6	339	
Boilers	544	22,448	2,262	3,640	1,194	984	80	Q	
Packaged heating units	2,802	49,305	4,081	8,024	2,631	1,360	46	45	
Other	62	1,573	191	399	131	54	Q	Q	
Cooling equipment (more than one may apply)									
Residential-type central air conditioners	1,546	14,767	1,086	1,941	637	416	15	Q	
Heat pumps	692	12,520	939	1,965	644	257	12	26	
Individual air conditioners	709	12,364	1,013	1,665	546	374	37	56	
District chilled water	54	4,476	664	891	292	133	4	235	
Central chillers	163	17,009	1,852	3,416	1,120	598	41	92	
Packaged air conditioning units	1,909	45,246	3,970	7,558	2,478	1,317	62	112	
Swamp coolers	109	1,923	175	299	98	71	1	Q	
Other	Q	331	45	98	32	10	Q	Q	
Main equipment replaced since 1990 (more than one may apply)									
Heating	1,874	27,603	2,164	4,036	1,323	790	51	Q	
Cooling	1,971	30,713	2,520	4,632	1,519	881	57	63	
Water-heating equipment									
Centralized system	3,348	47,525	4,208	7,578	2,485	1,413	85	226	
Distributed system	690	12,743	832	1,642	538	257	13	23	
Combination of centralized and distributed system	385	18,731	1,754	3,364	1,103	538	27	86	

Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	All buildings		Total energy consumption (trillion Btu)						
	Number of buildings (thousand)	Total floorspace (million square feet)	Electricity				Natural gas	Fuel oil	District heat
			Sum of major fuels	Primary	Site				
All buildings	5,557	87,076	6,960	12,931	4,240	2,247	134	340	
Lighting equipment types (more than one may apply)									
Incandescent	1,826	38,345	3,539	6,366	2,087	1,198	71	183	
Standard fluorescent	4,649	80,058	6,710	12,458	4,085	2,164	127	335	
Compact fluorescent	2,302	53,779	5,093	9,254	3,034	1,671	89	299	
High-intensity discharge (HID)	525	23,365	2,185	3,975	1,303	705	50	128	
Halogen	905	27,965	2,694	4,976	1,632	884	42	136	
LED	473	21,987	2,362	4,315	1,415	762	29	156	
Other	10	426	58	99	32	15	Q	Q	
Refrigeration equipment (more than one may apply)									
Any refrigeration	3,984	73,624	6,468	11,962	3,922	2,104	118	324	
Walk-in units	811	28,262	3,525	6,309	2,069	1,249	53	154	
Cases or cabinets	915	28,676	3,315	6,060	1,987	1,117	48	163	
Large cold storage areas	78	4,125	530	1,018	334	176	6	15	
Commercial ice makers	846	32,680	3,730	6,796	2,228	1,239	51	213	
Residential-type or compact units	3,388	62,453	5,180	9,480	3,108	1,687	106	279	
Vending machines	960	43,922	4,176	7,722	2,532	1,294	71	280	
No refrigeration	1,573	13,453	492	969	318	143	16	15	
Office equipment (more than one may apply)									
Desktop computers	3,977	77,040	6,583	12,250	4,016	2,111	121	336	
With flat screen monitors	3,847	76,138	6,520	12,127	3,976	2,089	119	336	
With multiple monitors	911	30,926	2,941	5,445	1,785	887	49	220	
Laptop computers	2,730	63,468	5,464	10,071	3,302	1,754	100	308	
Dedicated servers	1,748	53,335	4,782	9,040	2,964	1,485	92	242	
Laser printers	2,339	54,218	4,792	8,906	2,920	1,508	86	277	
Inkjet printers	2,187	36,264	2,903	5,448	1,786	955	59	103	
FAX machines	3,185	66,667	5,703	10,710	3,511	1,821	104	267	
Photocopiers	2,163	59,246	5,107	9,449	3,098	1,596	101	312	
Number of desktop computers									
None	1,581	10,036	377	681	223	136	13	Q	
1 to 4	2,039	15,671	1,184	2,134	700	453	27	Q	
5 to 9	821	9,425	738	1,391	456	266	11	Q	
10 to 19	482	9,393	675	1,343	440	212	12	Q	
20 to 49	355	13,113	1,120	2,184	716	346	16	42	
50 to 99	143	8,318	646	1,244	408	204	13	21	
100 to 249	92	9,705	960	1,663	545	274	16	125	
250 or more	44	11,414	1,261	2,291	751	356	26	128	

Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	All buildings		Total energy consumption (trillion Btu)						
	Number of buildings (thousand)	Total floorspace (million square feet)	Electricity				Natural gas	Fuel oil	District heat
			Sum of major fuels	Primary	Site				
All buildings	5,557	87,076	6,960	12,931	4,240		2,247	134	340
Number of laptop computers									
None	2,827	23,608	1,497	2,860	938		493	34	32
1 to 4	1,944	21,193	1,515	2,835	929		539	29	18
5 to 9	350	8,378	698	1,315	431		227	14	Q
10 to 19	181	8,343	719	1,358	445		242	8	24
20 to 49	144	9,586	906	1,603	526		287	16	78
50 to 99	58	5,244	506	889	291		161	14	40
100 to 249	35	5,244	525	938	308		141	12	64
250 or more	20	5,481	595	1,134	372		156	8	59
Number of dedicated servers									
None	3,809	33,741	2,178	3,891	1,276		762	42	98
1 to 4	1,562	34,065	2,717	5,169	1,695		896	59	68
5 to 9	97	6,294	565	1,048	344		191	5	26
10 to 19	50	5,659	593	1,137	373		152	13	55
20 to 49	25	3,781	396	730	239		122	7	28
50 or more	13	3,536	512	956	314		125	9	65
Number of photocopiers									
None	3,394	27,830	1,853	3,483	1,142		650	33	28
One	1,325	17,086	1,201	2,232	732		420	29	Q
2 to 4	648	20,337	1,596	3,043	998		515	30	52
5 to 9	116	8,920	783	1,501	492		238	10	43
10 or more	75	12,903	1,527	2,672	876		423	32	196
Number of TVs or video displays									
None	2,718	24,355	1,213	2,326	763		395	36	20
One	1,145	10,001	697	1,255	412		254	20	Q
2 to 4	1,035	16,481	1,310	2,455	805		464	19	22
5 to 9	314	8,150	777	1,564	513		223	10	Q
10 to 19	154	8,133	809	1,527	500		234	11	64
20 to 49	106	8,132	716	1,450	476		193	14	35
50 to 99	48	4,439	431	804	264		104	10	54
100 or more	37	7,386	1,006	1,550	508		380	16	102
Food preparation or serving areas in non-food service buildings (more than one may apply)									
Snack bar or concession stand	153	9,752	1,112	1,985	651		364	16	81
Fast food or small restaurant	173	9,670	1,206	2,333	765		372	8	61
Cafeteria or large restaurant	130	15,152	1,623	2,715	890		586	42	105
Commercial kitchen/food preparation area	282	15,962	1,797	3,037	996		672	33	96
Small kitchen area	736	13,975	1,187	2,111	692		409	31	55

Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	All buildings		Total energy consumption (trillion Btu)						
	Number of buildings (thousand)	Total floorspace (million square feet)	Electricity				Natural gas	Fuel oil	District heat
			Sum of major fuels	Primary	Site				
All buildings	5,557	87,076	6,960	12,931	4,240	2,247	134	340	
Separate computer areas (more than one may apply)									
Data center or server farm	97	10,986	1,355	2,481	813	386	27	128	
Computer-based training room	244	17,592	1,696	3,119	1,023	515	36	122	
Student or public computer center	238	14,253	1,275	2,114	693	435	24	123	
HVAC conservation features (more than one may apply)									
Economizer cycle	601	30,631	3,140	5,606	1,838	1,014	43	245	
Regular HVAC maintenance	3,178	69,221	6,201	11,533	3,781	1,990	111	318	
Building automation system (BAS) ¹	781	36,979	3,708	6,967	2,284	1,100	58	265	
Window and interior lighting features (more than one may apply)									
Multipaned windows	3,012	60,294	5,248	9,680	3,174	1,751	95	228	
Tinted window glass	1,875	44,952	3,971	7,477	2,451	1,289	48	183	
Reflective window glass	549	15,810	1,652	3,125	1,025	541	21	66	
External overhangs or awnings	1,867	32,065	3,087	5,715	1,874	1,030	41	143	
Skylights or atriums	591	22,203	2,009	3,451	1,132	679	39	159	
Light scheduling	918	30,258	2,930	5,631	1,846	927	37	119	
Occupancy sensors	813	35,775	3,432	6,328	2,075	1,066	59	231	
Multi-level lighting or dimming	349	14,419	1,618	2,833	929	573	16	100	
Daylight harvesting	125	6,090	619	1,133	372	197	7	44	
Demand responsive lighting	176	4,762	410	829	272	127	Q	Q	
Building automation system (BAS) for lighting ¹	208	12,017	1,200	2,486	815	335	10	40	
Equipment usage reduced when building not in full use (more than one may apply)									
Heating	3,699	63,183	5,018	9,286	3,044	1,674	93	207	
Cooling	3,517	62,590	5,005	9,383	3,076	1,643	78	208	
Lighting	4,757	78,558	6,423	11,831	3,879	2,104	123	317	

¹In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from

<http://www.eia.gov/consumption/commercial/data/2012/> • Site electricity is the amount of electricity delivered to commercial buildings. Primary electricity, which is not included in the *Sum of major fuels* category, is site electricity plus the conversion losses in the generation, transmission, and distribution processes. •

Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forma EIA-871A, C, D, E, and F of the 2012 Commercial Buildings Energy Consumption Survey.

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Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	Sum of major fuel consumption						Sum of major fuel expenditures		
	Distribution of building-level intensities (thousand Btu/square foot)						per building (thousand dollars)	per square foot (dollars)	per million Btu (dollars)
	per building (million Btu)	per square foot (thousand Btu)	per worker (million Btu)	25th percentile	Median	75th percentile			
All buildings	1,252	79.9	78.9	18.9	46.0	89.4	26.8	1.7	21.4
Building floorspace (square feet)									
1,001 to 5,000	260	89.9	70.6	17.3	46.5	100.8	5.9	2.0	22.6
5,001 to 10,000	525	72.6	70.0	18.3	40.5	74.1	11.6	1.6	22.0
10,001 to 25,000	992	62.1	61.8	18.7	44.2	80.7	22.5	1.4	22.7
25,001 to 50,000	2,477	69.0	72.6	24.5	48.6	89.3	52.1	1.5	21.1
50,001 to 100,000	5,353	76.6	86.4	33.7	58.1	94.3	113.0	1.6	21.1
100,001 to 200,000	11,487	83.2	91.4	38.9	65.8	101.9	243.2	1.8	21.2
200,001 to 500,000	27,198	95.7	99.1	47.6	76.6	114.5	553.3	2.0	20.3
Over 500,000	95,902	108.7	83.3	43.4	70.1	129.3	1,994.8	2.3	20.8
Principal building activity									
Education	2,165	68.8	77.3	31.2	50.9	81.5	43.2	1.4	20.0
Food sales	1,484	209.5	223.6	127.5	219.0	314.1	35.0	4.9	23.6
Food service	1,355	282.8	150.0	95.8	243.6	448.1	26.2	5.5	19.3
Health care	4,579	173.6	94.5	43.0	62.3	90.4	83.3	3.2	18.2
Inpatient	57,296	233.3	128.8	161.1	205.5	273.7	977.6	4.0	17.1
Outpatient	1,147	94.8	50.6	33.8	61.1	83.0	25.1	2.1	21.9
Lodging	3,573	98.6	184.0	48.8	70.1	118.7	69.7	1.9	19.5
Mercantile	1,673	88.4	110.5	32.9	62.9	108.6	37.7	2.0	22.6
Retail (other than mall)	830	66.9	90.4	25.9	51.5	86.9	20.5	1.7	24.7
Enclosed and strip malls	3,925	108.1	126.4	58.6	103.0	176.5	83.7	2.3	21.3
Office	1,225	77.5	36.7	32.8	52.6	81.3	30.4	1.9	24.8
Public assembly	1,362	86.7	154.6	21.9	49.2	82.9	29.0	1.9	21.3
Public order and safety	1,584	92.6	71.6	33.3	63.5	104.9	33.1	1.9	20.9
Religious worship	421	38.0	89.3	12.6	24.6	50.2	8.1	0.7	19.3
Service	439	59.2	67.4	18.3	41.9	82.5	9.1	1.2	20.7
Warehouse and storage	539	32.6	67.4	2.5	13.7	35.9	12.2	0.7	22.6
Other	2,288	141.7	177.1	16.4	44.1	130.0	47.8	3.0	20.9
Vacant	140	12.8	176.2	0.0	0.0	6.2	3.3	0.3	23.5
Year constructed									
Before 1920	658	59.8	71.9	16.2	39.5	82.6	14.3	1.3	21.8
1920 to 1945	856	69.8	69.5	16.8	46.4	82.9	19.8	1.6	23.2
1946 to 1959	896	73.0	81.7	19.6	43.4	84.7	18.4	1.5	20.5
1960 to 1969	1,411	87.0	91.4	28.3	54.0	107.5	28.8	1.8	20.4
1970 to 1979	1,478	93.0	80.7	19.2	53.5	103.0	30.1	1.9	20.4
1980 to 1989	1,272	76.3	66.6	17.2	44.3	82.0	28.6	1.7	22.5
1990 to 1999	1,304	79.6	82.1	16.8	45.1	86.5	28.1	1.7	21.6
2000 to 2003	1,541	80.0	77.2	22.9	48.1	99.7	33.6	1.7	21.8
2004 to 2007	1,522	81.4	88.0	18.7	47.8	82.2	32.6	1.8	21.4
2008 to 2012	1,596	84.6	87.4	16.5	35.9	80.4	34.1	1.8	21.3

Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	Sum of major fuel consumption						Sum of major fuel expenditures		
				Distribution of building-level intensities (thousand Btu/square foot)					
	per building (million Btu)	per square foot (thousand Btu)	per worker (million Btu)	25th per- centile	Median	75th per- centile	per building (thousand dollars)	per square foot (dollars)	per million Btu (dollars)
All buildings	1,252	79.9	78.9	18.9	46.0	89.4	26.8	1.7	21.4
Census region and division									
Northeast	1,810	93.8	82.1	24.7	54.6	103.9	43.3	2.2	23.9
New England	1,218	85.3	88.3	18.4	43.4	91.7	30.8	2.2	25.3
Middle Atlantic	2,165	97.0	80.3	31.0	61.9	120.5	50.8	2.3	23.5
Midwest	1,264	82.7	90.5	23.5	50.6	93.9	22.1	1.5	17.5
East North Central	1,537	88.6	94.5	31.5	61.6	108.7	26.8	1.5	17.4
West North Central	866	70.5	81.4	12.1	34.7	70.0	15.3	1.2	17.6
South	1,142	74.9	78.4	17.0	43.7	84.6	24.4	1.6	21.4
South Atlantic	1,244	75.6	74.9	18.3	43.6	95.3	28.7	1.7	23.0
East South Central	998	75.3	85.9	21.2	50.5	82.0	20.2	1.5	20.3
West South Central	1,067	73.5	81.6	12.8	38.3	80.5	20.4	1.4	19.1
West	1,083	74.8	67.1	17.3	41.7	79.3	25.2	1.7	23.3
Mountain	1,234	85.2	91.1	20.7	56.6	91.7	22.8	1.6	18.5
Pacific	1,028	71.0	60.2	16.5	36.6	74.6	26.1	1.8	25.4
Number of floors									
One	738	71.0	80.8	16.4	42.1	88.7	16.3	1.6	22.1
Two	1,261	72.1	73.9	23.5	49.8	84.7	26.8	1.5	21.3
Three	1,784	81.8	85.2	32.2	56.5	95.4	37.5	1.7	21.0
Four to nine	8,101	105.9	87.9	42.2	66.8	103.0	160.0	2.1	19.8
Ten or more	45,362	107.6	61.4	57.3	83.8	116.5	1,047.4	2.5	23.1
Elevators and escalators (more than one may apply)									
Any elevators	7,849	99.3	79.6	44.3	69.5	106.3	162.8	2.1	20.8
Number of elevators									
One	3,248	79.1	77.8	40.5	65.9	99.6	65.7	1.6	20.2
Two to five	10,558	96.6	80.1	51.4	75.8	115.5	221.7	2.0	21.0
Six or more	65,796	131.5	80.4	67.1	96.9	167.2	1,375.2	2.8	20.9
Any escalators	38,907	108.2	78.3	66.8	67.3	116.1	838.0	2.3	21.5
Number of workers (main shift)									
Fewer than 5	261	42.6	149.2	8.4	32.1	71.2	5.8	1.0	22.3
5 to 9	551	66.6	85.2	26.5	48.9	93.2	12.6	1.5	22.8
10 to 19	1,056	80.2	81.5	35.7	63.2	118.0	22.4	1.7	21.2
20 to 49	2,316	81.8	79.8	37.7	63.1	115.0	49.6	1.8	21.4
50 to 99	5,584	85.0	85.5	47.2	69.7	112.0	116.5	1.8	20.9
100 to 249	11,327	96.7	79.1	57.8	88.0	127.8	233.0	2.0	20.6
250 or more	38,819	122.6	57.7	61.5	86.9	152.9	835.7	2.6	21.5

Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	Sum of major fuel consumption						Sum of major fuel expenditures		
				Distribution of building-level intensities (thousand Btu/square foot)					
	per building (million Btu)	per square foot (thousand Btu)	per worker (million Btu)	25th percentile	Median	75th percentile	per building (thousand dollars)	per square foot (dollars)	per million Btu (dollars)
All buildings	1,252	79.9	78.9	18.9	46.0	89.4	26.8	1.7	21.4
Weekly operating hours									
Fewer than 40	199	27.8	69.4	2.4	16.7	42.9	4.2	0.6	21.0
40 to 48	617	52.6	47.3	22.5	42.8	69.3	14.2	1.2	23.1
49 to 60	1,011	61.0	50.6	25.1	47.6	82.4	23.2	1.4	23.0
61 to 84	1,792	85.9	82.1	36.0	72.0	144.9	39.3	1.9	22.0
85 to 167	2,293	116.3	135.7	58.8	125.0	265.4	47.8	2.4	20.8
Open continuously	3,782	127.6	122.8	18.6	63.5	139.1	75.1	2.5	19.9
Party responsible for operation and maintenance of energy systems									
Building owner	1,231	78.8	78.0	18.1	44.4	84.2	26.1	1.7	21.2
Business owner or tenant	1,359	86.7	88.4	26.5	59.3	124.9	30.3	1.9	22.3
Property management	1,772	77.4	55.4	16.0	41.7	90.0	41.1	1.8	23.2
Other	1,174	91.0	86.9	33.3	69.5	108.3	26.7	2.1	22.7
Provider of direct input on energy-related equipment purchases									
Building owner	1,226	78.4	77.9	18.2	44.4	84.6	26.1	1.7	21.3
Business owner or tenant	1,420	92.3	89.0	26.5	62.7	133.3	31.3	2.0	22.1
Property management	1,753	68.1	63.4	36.0	63.5	114.5	43.4	1.7	24.8
Other	1,436	92.9	83.8	33.3	67.4	105.0	31.5	2.0	22.0
Number of establishments									
One	1,066	81.5	86.0	21.0	48.8	92.9	22.2	1.7	20.8
2 to 5	1,624	79.1	74.1	26.8	49.3	90.5	35.4	1.7	21.8
6 to 10	2,474	82.9	61.6	24.5	49.0	90.0	56.0	1.9	22.7
11 to 20	5,252	95.7	67.5	34.2	69.5	103.0	119.5	2.2	22.8
More than 20	12,775	88.8	57.7	0.0	49.9	85.1	312.7	2.2	24.5
Currently unoccupied	52	5.4		0.0	0.0	1.2	1.1	0.1	20.8
Predominant exterior wall material									
Brick, stone, or stucco	1,495	85.3	83.0	24.6	55.3	103.1	31.2	1.8	20.9
Concrete (block or poured)	1,532	83.3	85.0	23.5	50.8	101.7	33.7	1.8	22.0
Concrete panels	3,162	76.3	70.0	15.8	36.7	82.9	66.6	1.6	21.1
Siding or shingles	442	69.5	66.6	16.7	43.2	78.7	10.4	1.6	23.5
Metal panels	458	49.3	73.6	5.8	25.5	58.7	9.9	1.1	21.6
Window glass	9,987	126.7	64.7	54.2	148.2	674.6	213.2	2.7	21.4
Other	2,135	92.8	94.2	17.7	45.4	95.3	48.9	2.1	22.9
No one major type	2,100	75.7	Q	25.0	66.4	95.2	44.9	1.6	21.4

Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	Sum of major fuel consumption						Sum of major fuel expenditures		
				Distribution of building-level intensities (thousand Btu/square foot)					
	per building (million Btu)	per square foot (thousand Btu)	per worker (million Btu)	25th percentile	Median	75th percentile	per building (thousand dollars)	per square foot (dollars)	per million Btu (dollars)
All buildings	1,252	79.9	78.9	18.9	46.0	89.4	26.8	1.7	21.4
Predominant roof material									
Metal surfacing	517	54.2	71.9	8.8	31.5	67.6	11.6	1.2	22.4
Synthetic or rubber	2,680	94.7	88.5	30.3	64.7	118.5	54.9	1.9	20.5
Built-up	2,227	85.2	77.4	25.3	51.0	97.6	47.8	1.8	21.5
Slate or tile shingles	913	86.4	87.0	22.5	51.4	114.0	20.0	1.9	21.9
Wooden materials (including shingles)	591	81.3	92.7	16.9	53.6	126.9	12.0	1.7	20.3
Asphalt, fiberglass, or other shingles	745	73.1	67.8	22.1	47.1	90.0	16.4	1.6	22.1
Concrete	2,599	80.3	63.5	29.4	58.8	114.3	64.2	2.0	24.7
Other	2,449	85.3	102.4	20.9	45.7	88.2	53.3	1.9	21.8
No one major type	1,961	55.3	106.1	14.9	42.5	69.5	43.6	1.2	22.2
Roof characteristics									
Roof tilt									
Flat	2,282	90.2	78.3	25.7	57.3	115.5	48.3	1.9	21.1
Shallow pitch	743	66.8	81.7	14.6	38.2	79.9	16.4	1.5	22.1
Steeper pitch	615	65.5	77.3	19.5	43.5	77.1	13.2	1.4	21.5
Cool roof	2,480	93.8	84.8	25.3	57.8	114.0	52.1	2.0	21.0
Renovations in buildings constructed before 2008 (more than one may apply)									
Any type of renovation	1,795	89.2	81.0	27.8	55.9	100.4	37.8	1.9	21.1
Addition or annex	2,905	99.8	103.4	30.5	56.8	100.5	55.9	1.9	19.3
Reduction in floorspace	3,159	131.1	87.7	18.1	71.0	144.9	66.0	2.7	20.9
Roof replacement	2,012	95.1	86.9	29.1	54.6	95.8	41.3	2.0	20.6
Exterior wall replacement	2,050	94.6	87.9	21.6	49.8	92.9	41.9	1.9	20.4
Interior wall reconfiguration	2,311	96.4	74.2	29.9	56.5	98.4	48.7	2.0	21.1
Window replacement	1,945	89.9	77.1	28.3	56.1	98.9	40.4	1.9	20.8
HVAC equipment upgrade	2,311	95.4	84.3	30.9	56.7	103.2	48.4	2.0	21.0
Lighting upgrade	2,482	96.0	86.2	32.2	58.9	112.4	50.9	2.0	20.5
Electrical upgrade	2,151	100.3	90.5	28.4	54.7	106.7	44.3	2.1	20.6
Plumbing system upgrade	2,168	101.7	86.7	30.7	58.1	112.4	44.4	2.1	20.5
Insulation upgrade	2,017	102.7	92.1	27.7	56.1	98.7	40.0	2.0	19.8
Fire, safety, or security upgrade	2,736	98.4	83.9	31.6	58.7	110.2	56.9	2.1	20.8
Structural upgrade	2,795	110.8	112.6	31.3	52.6	93.4	54.6	2.2	19.5
Other	1,772	79.4	68.3	35.8	62.7	136.6	43.4	2.0	24.5
No renovations	860	69.3	75.0	15.0	39.3	80.7	18.9	1.5	21.9
Buildings constructed 2008 or later	1,596	84.6	87.4	16.5	35.9	80.4	34.1	1.8	21.3

Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	Sum of major fuel consumption						Sum of major fuel expenditures		
	Distribution of building-level intensities (thousand Btu/square foot)						per building (thousand Btu)	per square foot (thousand dollars)	per million Btu (dollars)
	per building (million Btu)	per square foot (thousand Btu)	per worker (million Btu)	25th percentile	Median	75th percentile			
All buildings	1,252	79.9	78.9	18.9	46.0	89.4	26.8	1.7	21.4
Energy sources (more than one may apply)									
Electricity	1,330	82.0	79.0	23.1	50.1	94.1	28.5	1.8	21.4
Natural gas	1,889	94.4	88.9	37.5	65.8	121.8	37.4	1.9	19.8
Fuel oil	4,780	110.8	86.9	36.0	68.9	123.6	101.5	2.4	21.2
District heat	16,897	138.7	98.1	73.5	113.1	162.1	362.4	3.0	21.5
District chilled water	12,314	148.4	115.2	48.3	71.9	137.5	235.3	2.8	19.1
Propane	1,143	75.6	98.6	11.7	28.3	61.1	25.9	1.7	22.7
Other	1,749	78.7	79.5	20.5	38.0	72.6	37.5	1.7	21.4
Space-heating energy sources (more than one may apply)									
Electricity	1,363	79.4	72.3	25.2	50.1	94.0	30.2	1.8	22.2
Natural gas	1,702	89.6	85.9	36.6	64.0	112.6	32.9	1.7	19.3
Fuel oil	1,334	82.6	86.6	30.5	54.6	97.3	31.4	1.9	23.5
District heat	16,837	139.0	98.5	73.5	113.1	162.1	361.0	3.0	21.4
Propane	443	49.4	60.3	8.8	19.8	40.0	10.6	1.2	23.8
Other	481	48.0	64.7	16.2	31.8	52.7	11.5	1.2	23.9
Primary space-heating energy source									
Electricity	1,014	70.2	63.7	21.8	44.6	83.0	24.7	1.7	24.4
Natural gas	1,667	89.9	86.7	37.0	63.8	112.6	32.0	1.7	19.2
Fuel oil	912	73.6	93.7	33.6	59.1	115.5	24.5	2.0	26.9
District heat	16,812	140.5	98.7	73.6	113.9	164.1	361.0	3.0	21.5
Propane	241	32.3	42.8	8.0	16.0	32.7	6.4	0.9	26.5
Other	310	34.8	40.7	8.0	22.2	44.5	8.7	1.0	28.1
Cooling energy sources (more than one may apply)									
Electricity	1,432	83.1	76.8	28.2	55.1	101.2	30.9	1.8	21.6
Natural gas	8,195	134.6	93.7	51.0	66.4	73.0	136.8	2.3	16.7
District chilled water	12,314	148.4	115.2	48.3	71.9	137.5	235.3	2.8	19.1
Water-heating energy sources (more than one may apply)									
Electricity	1,166	72.5	66.2	24.3	47.8	87.2	27.3	1.7	23.4
Natural gas	2,291	101.7	96.1	43.2	73.3	148.0	44.1	2.0	19.2
Fuel oil	2,249	90.8	107.4	42.2	65.3	106.7	56.1	2.3	24.9
District heat	25,735	147.3	102.4	79.7	114.1	166.8	542.6	3.1	21.1
Propane	612	54.8	68.9	13.2	30.9	65.8	18.0	1.6	29.5
Cooking energy sources (more than one may apply)									
Electricity	2,485	100.1	91.9	31.1	64.7	147.4	51.8	2.1	20.8
Natural gas	4,073	122.2	116.5	58.0	122.0	274.9	78.4	2.4	19.3
Propane	1,158	83.1	84.6	19.7	49.2	106.7	31.3	2.3	27.0

Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	Sum of major fuel consumption						Sum of major fuel expenditures		
	Distribution of building-level intensities (thousand Btu/square foot)						per building (thousand Btu)	per square foot (thousand dollars)	per million Btu (dollars)
	per building (million Btu)	per square foot (thousand Btu)	per worker (million Btu)	25th percentile	Median	75th percentile			
All buildings	1,252	79.9	78.9	18.9	46.0	89.4	26.8	1.7	21.4
Energy end uses (more than one may apply)									
Buildings with space heating	1,436	84.7	79.2	26.9	53.7	98.9	30.4	1.8	21.2
Buildings with cooling	1,518	85.4	78.9	28.3	55.3	101.3	32.4	1.8	21.4
Buildings with water heating	1,536	86.0	79.5	28.5	56.4	103.5	32.7	1.8	21.3
Buildings with cooking	2,567	106.1	98.9	35.8	75.8	172.4	52.5	2.2	20.5
Buildings with manufacturing	1,392	71.2	71.4	18.1	42.2	79.5	30.5	1.6	21.9
Buildings with electricity generation	6,831	109.5	90.5	45.8	74.7	137.6	141.1	2.3	20.7
Percent of floorspace heated									
Not heated	217	25.8	70.7	0.0	2.4	18.3	6.5	0.8	30.2
1 to 50	670	46.0	72.8	13.1	27.2	53.8	16.6	1.1	24.7
51 to 99	1,787	88.5	83.5	26.1	53.4	98.7	39.1	1.9	21.9
100	1,520	90.8	78.8	32.9	59.8	106.7	31.4	1.9	20.7
Percent of floorspace cooled									
Not cooled	173	24.3	78.7	0.0	6.7	31.6	3.9	0.6	22.7
1 to 50	842	52.1	78.1	19.6	37.3	75.1	17.4	1.1	20.7
51 to 99	2,388	94.2	84.6	34.2	61.8	116.4	51.9	2.1	21.7
100	1,523	96.9	76.2	33.3	61.3	114.4	32.5	2.1	21.4
Percent lit when open									
Zero	63	13.6	74.8	2.0	8.2	12.8	1.9	0.4	31.0
1 to 50	584	50.7	95.6	16.9	35.3	68.2	12.6	1.1	21.6
51 to 99	1,829	87.4	83.7	30.5	56.8	103.1	38.2	1.8	20.9
100	1,460	91.0	72.2	28.3	57.8	114.1	31.9	2.0	21.8
Building never open/electricity not used	48	6.6	Q	0.0	0.0	2.5	1.0	0.1	20.2
Percent lit during off hours									
Zero	520	52.2	55.8	16.3	34.4	69.3	12.2	1.2	23.5
1 to 50	1,780	85.5	79.6	34.0	61.5	114.4	37.7	1.8	21.2
51 to 100	5,036	149.5	130.8	52.4	101.9	209.5	98.7	2.9	19.6
Building always open with no "off hours"	2,995	124.8	118.7	12.9	108.8	245.4	65.7	2.7	21.9
Electricity not used	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heating equipment (more than one may apply)									
Heat pumps	1,431	76.1	67.5	25.5	44.4	77.4	32.4	1.7	22.7
Furnaces	815	70.9	71.9	30.7	53.5	91.8	16.7	1.5	20.5
Individual space heaters	1,259	75.8	81.0	23.2	45.4	82.2	26.5	1.6	21.0
District heat	16,837	139.0	98.5	73.5	113.1	162.1	361.0	3.0	21.4
Boilers	4,157	100.8	89.9	44.2	66.5	122.6	79.7	1.9	19.2
Packaged heating units	1,457	82.8	79.9	29.3	57.5	107.3	31.0	1.8	21.3
Other	3,099	121.7	159.1	28.4	71.2	165.3	63.5	2.5	20.5

Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	Sum of major fuel consumption						Sum of major fuel expenditures		
	Distribution of building-level intensities (thousand Btu/square foot)								
	per building (million Btu)	per square foot (thousand Btu)	per worker (million Btu)	25th percentile	Median	75th percentile	per building (thousand dollars)	per square foot (dollars)	per million Btu (dollars)
All buildings	1,252	79.9	78.9	18.9	46.0	89.4	26.8	1.7	21.4
Cooling equipment (more than one may apply)									
Residential-type central air conditioners	703	73.6	71.9	26.9	52.7	94.9	15.0	1.6	21.3
Heat pumps	1,357	75.0	65.8	25.5	44.6	83.3	30.8	1.7	22.7
Individual air conditioners	1,429	81.9	82.0	23.3	48.9	87.8	30.4	1.7	21.3
District chilled water	12,314	148.4	115.2	48.3	71.9	137.5	235.3	2.8	19.1
Central chillers	11,370	108.9	84.2	55.2	80.3	133.8	233.6	2.2	20.6
Packaged air conditioning units	2,079	87.7	84.5	34.5	63.9	121.3	44.4	1.9	21.4
Swamp coolers	1,604	91.3	100.2	30.1	64.5	147.4	33.1	1.9	20.6
Other	Q	135.8	94.9	17.0	55.3	100.2	Q	3.0	22.3
Main equipment replaced since 1990 (more than one may apply)									
Heating	1,155	78.4	75.5	28.7	55.4	100.0	24.3	1.7	21.1
Cooling	1,278	82.0	75.5	30.6	57.7	101.0	27.5	1.8	21.5
Water-heating equipment									
Centralized system	1,257	88.5	83.8	29.2	57.6	105.0	26.3	1.9	20.9
Distributed system	1,206	65.3	58.5	23.1	45.3	81.3	28.0	1.5	23.3
Combination of centralized and distributed system	4,560	93.7	83.4	38.1	66.1	122.2	96.5	2.0	21.2
Lighting equipment types (more than one may apply)									
Incandescent	1,938	92.3	85.0	28.7	57.3	103.7	39.9	1.9	20.6
Standard fluorescent	1,443	83.8	78.3	26.4	53.1	99.6	30.8	1.8	21.3
Compact fluorescent	2,212	94.7	85.0	31.1	59.8	114.0	46.3	2.0	20.9
High-intensity discharge (HID)	4,161	93.5	91.9	32.1	61.5	110.0	86.4	1.9	20.8
Halogen	2,978	96.3	88.4	33.6	61.8	110.9	62.3	2.0	20.9
LED	4,990	107.4	91.2	41.3	71.6	143.2	104.7	2.3	21.0
Other	5,908	137.0	103.4	84.1	160.7	163.3	130.2	3.0	22.0
Refrigeration equipment (more than one may apply)									
Any refrigeration	1,624	87.9	81.9	28.8	56.6	105.6	34.4	1.9	21.2
Walk-in units	4,344	124.7	113.2	73.3	160.7	311.2	87.9	2.5	20.2
Cases or cabinets	3,621	115.6	105.1	56.5	112.3	243.1	75.2	2.4	20.8
Large cold storage areas	6,777	128.4	143.5	73.8	153.4	244.8	137.4	2.6	20.3
Commercial ice makers	4,410	114.1	102.1	57.1	112.4	245.9	89.6	2.3	20.3
Residential-type or compact units	1,529	82.9	76.5	27.0	51.4	88.2	32.3	1.8	21.1
Vending machines	4,352	95.1	84.0	40.3	67.5	118.0	90.7	2.0	20.8
No refrigeration	313	36.6	53.2	1.2	17.9	51.4	7.6	0.9	24.4

Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	Sum of major fuel consumption						Sum of major fuel expenditures		
				Distribution of building-level intensities (thousand Btu/square foot)					
	per building (million Btu)	per square foot (thousand Btu)	per worker (million Btu)	25th percentile	Median	75th percentile	per building (thousand dollars)	per square foot (dollars)	per million Btu (dollars)
All buildings	1,252	79.9	78.9	18.9	46.0	89.4	26.8	1.7	21.4
Office equipment (more than one may apply)									
Desktop computers	1,656	85.5	78.1	29.2	56.2	101.6	35.4	1.8	21.4
With flat screen monitors	1,695	85.6	77.7	29.7	56.4	102.0	36.2	1.8	21.4
With multiple monitors	3,229	95.1	67.8	34.5	59.1	105.0	68.6	2.0	21.3
Laptop computers	2,001	86.1	74.5	29.8	55.0	94.7	42.5	1.8	21.2
Dedicated servers	2,736	89.7	75.4	34.4	60.4	103.9	58.6	1.9	21.4
Laser printers	2,048	88.4	75.5	32.7	58.0	103.0	43.6	1.9	21.3
Inkjet printers	1,327	80.1	76.9	27.5	53.5	95.8	28.9	1.7	21.8
FAX machines	1,791	85.5	77.3	29.9	56.8	100.4	38.4	1.8	21.4
Photocopiers	2,361	86.2	74.5	31.5	55.0	88.2	50.4	1.8	21.3
Number of desktop computers									
None	238	37.5	98.0	1.2	16.4	52.5	5.3	0.8	22.3
1 to 4	581	75.5	104.7	25.1	51.3	111.9	12.4	1.6	21.4
5 to 9	898	78.3	76.9	29.5	53.6	92.1	19.1	1.7	21.2
10 to 19	1,401	71.9	78.0	34.8	58.6	84.1	32.2	1.7	23.0
20 to 49	3,157	85.4	87.6	39.1	64.0	115.3	67.0	1.8	21.2
50 to 99	4,505	77.6	69.5	39.5	64.4	94.5	97.7	1.7	21.7
100 to 249	10,420	98.9	76.7	49.3	70.5	106.3	214.4	2.0	20.6
250 or more	28,384	110.5	62.4	51.0	73.6	120.7	599.9	2.3	21.1
Number of laptop computers									
None	529	63.4	100.8	8.4	34.0	83.0	11.7	1.4	22.1
1 to 4	779	71.5	85.4	26.9	51.2	91.4	16.7	1.5	21.5
5 to 9	1,995	83.3	78.7	35.4	56.0	86.5	42.6	1.8	21.4
10 to 19	3,966	86.2	77.6	40.6	63.1	105.7	85.3	1.9	21.5
20 to 49	6,312	94.6	77.8	42.1	64.6	104.9	129.9	2.0	20.6
50 to 99	8,792	96.5	61.4	50.8	70.3	101.2	185.9	2.0	21.1
100 to 249	15,180	100.1	79.3	45.9	61.5	90.1	306.7	2.0	20.2
250 or more	30,155	108.6	54.3	55.3	76.9	126.8	666.0	2.4	22.1
Number of dedicated servers									
None	572	64.5	88.0	13.4	36.8	80.7	12.2	1.4	21.4
1 to 4	1,739	79.7	79.2	33.9	59.4	100.9	37.5	1.7	21.6
5 to 9	5,824	89.8	72.1	40.0	62.7	110.9	120.7	1.9	20.7
10 to 19	11,788	104.7	78.3	47.0	75.9	118.5	260.4	2.3	22.1
20 to 49	15,539	104.8	59.0	50.9	88.0	173.7	316.4	2.1	20.4
50 or more	38,993	144.8	73.1	62.6	103.7	208.5	835.6	3.1	21.4

Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	Sum of major fuel consumption						Sum of major fuel expenditures		
	Distribution of building-level intensities (thousand Btu/square foot)								
	per building (million Btu)	per square foot (thousand Btu)	per worker (million Btu)	25th percentile	Median	75th percentile	per building (thousand dollars)	per square foot (dollars)	per million Btu (dollars)
All buildings	1,252	79.9	78.9	18.9	46.0	89.4	26.8	1.7	21.4
Number of photocopiers									
None	546	66.6	94.2	11.6	37.1	90.2	11.8	1.4	21.6
One	907	70.3	90.0	27.4	49.6	81.4	19.3	1.5	21.3
2 to 4	2,464	78.5	74.1	36.2	60.5	97.3	52.8	1.7	21.4
5 to 9	6,774	87.8	74.6	44.3	62.9	97.6	143.2	1.9	21.1
10 or more	20,483	118.3	66.0	60.4	79.7	113.9	436.9	2.5	21.3
Number of TVs or video displays									
None	446	49.8	68.2	7.9	29.4	66.7	10.2	1.1	22.8
One	609	69.7	69.6	27.2	54.0	100.5	12.8	1.5	21.1
2 to 4	1,266	79.5	74.0	33.3	57.8	108.8	27.6	1.7	21.8
5 to 9	2,472	95.4	76.9	44.3	74.8	170.3	54.2	2.1	21.9
10 to 19	5,260	99.5	78.2	48.2	79.4	139.1	110.5	2.1	21.0
20 to 49	6,769	88.1	80.3	52.3	72.6	128.7	151.3	2.0	22.4
50 to 99	8,948	97.1	98.2	56.8	86.5	145.0	185.9	2.0	20.8
100 or more	26,870	136.2	112.9	62.4	93.1	143.3	508.3	2.6	18.9
Food preparation or serving areas in non-food service buildings (more than one may apply)									
Snack bar or concession stand	7,261	114.0	108.0	50.6	87.2	220.8	148.0	2.3	20.4
Fast food or small restaurant	6,957	124.7	110.5	86.5	139.1	224.5	146.7	2.6	21.1
Cafeteria or large restaurant	12,484	107.1	92.0	46.6	71.2	110.0	246.8	2.1	19.8
Commercial kitchen/ food preparation area	6,366	112.6	117.0	36.0	69.6	130.8	124.3	2.2	19.5
Small kitchen area	1,613	84.9	87.1	22.1	45.6	85.6	33.5	1.8	20.8
Separate computer areas (more than one may apply)									
Data center or server farm	14,041	123.3	75.0	51.0	86.9	130.0	294.4	2.6	21.0
Computer-based training room	6,954	96.4	76.3	42.1	67.9	111.9	143.8	2.0	20.7
Student or public computer center	5,346	89.5	101.9	39.5	59.8	86.8	103.4	1.7	19.3
HVAC conservation features (more than one may apply)									
Economizer cycle	5,224	102.5	88.7	38.7	66.7	123.6	108.0	2.1	20.7
Regular HVAC maintenance	1,951	89.6	79.6	33.0	60.3	110.2	41.4	1.9	21.2
Building automation system (BAS) ¹	4,749	100.3	87.5	37.4	65.7	112.0	100.3	2.1	21.1

Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	Sum of major fuel consumption						Sum of major fuel expenditures		
	Distribution of building-level intensities (thousand Btu/square foot)						per building (thousand Btu)	per square foot (thousand dollars)	per million Btu (dollars)
	per building (million Btu)	per square foot (thousand Btu)	per worker (million Btu)	25th percentile	Median	75th percentile			
All buildings	1,252	79.9	78.9	18.9	46.0	89.4	26.8	1.7	21.4
Window and interior lighting features (more than one may apply)									
Multipaned windows	1,742	87.0	84.3	27.4	54.6	99.6	36.2	1.8	20.8
Tinted window glass	2,117	88.3	78.1	27.3	55.9	105.7	44.5	1.9	21.0
Reflective window glass	3,012	104.5	87.1	30.0	58.2	115.3	62.6	2.2	20.8
External overhangs or awnings	1,653	96.3	91.4	30.0	60.5	120.2	34.5	2.0	20.9
Skylights or atriums	3,397	90.5	91.5	24.5	49.5	84.2	69.4	1.9	20.4
Light scheduling	3,193	96.8	83.7	35.5	63.5	122.6	69.0	2.1	21.6
Occupancy sensors	4,222	95.9	83.8	38.1	68.9	117.7	89.4	2.0	21.2
Multi-level lighting or dimming	4,636	112.2	100.3	43.4	81.5	160.7	94.3	2.3	20.4
Daylight harvesting	4,943	101.7	80.2	24.4	63.1	121.8	104.1	2.1	21.1
Demand responsive lighting	2,324	86.0	83.7	30.6	55.4	107.5	54.7	2.0	23.5
Building automation system (BAS) for lighting ¹	5,759	99.9	90.3	46.5	78.6	127.8	127.4	2.2	22.1
Equipment usage reduced when building not in full use (more than one may apply)									
Heating	1,357	79.4	73.3	26.8	51.9	92.1	29.3	1.7	21.6
Cooling	1,423	80.0	73.3	27.4	52.9	94.3	30.9	1.7	21.7
Lighting	1,350	81.8	76.6	25.5	51.4	95.1	28.9	1.8	21.4

¹In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from

<http://www.eia.gov/consumption/commercial/data/2012/> • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Form EIA-871A, C, D, E, and F of the 2012 Commercial Buildings Energy Consumption Survey.

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Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total electricity consumption (billion kWh)				Total floorspace of buildings using electricity (million square feet)				Electricity energy intensity (kwh/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	220	249	530	243	15,304	18,556	33,007	17,982	14.4	13.4	16.1	13.5
Building floorspace (square feet)												
1,001 to 5,000	15	25	66	25	996	1,714	3,165	1,617	15.0	14.6	20.8	15.3
5,001 to 10,000	14	22	48	30	1,184	1,816	3,296	2,195	11.6	11.8	14.4	13.8
10,001 to 25,000	24	31	68	36	2,329	2,851	4,968	3,422	10.5	10.8	13.6	10.6
25,001 to 50,000	18	33	69	29	1,628	2,998	4,328	2,716	11.2	11.1	15.8	10.6
50,001 to 100,000	37	40	88	28	2,675	2,689	5,877	2,361	13.8	14.7	14.9	11.7
100,001 to 200,000	44	34	73	38	2,522	2,402	5,123	2,324	17.6	14.2	14.3	16.4
200,001 to 500,000	37	40	70	33	2,230	2,678	3,654	2,084	16.8	14.8	19.1	16.0
Over 500,000	30	25	50	24	1,741	1,408	2,597	1,265	17.3	18.1	19.3	18.8
Principal building activity												
Education	18	33	65	18	2,058	3,176	5,157	1,848	8.7	10.3	12.6	9.9
Food sales	14	9	22	16	316	174	399	363	44.9	50.2	56.4	42.8
Food service	12	16	38	16	292	369	771	387	39.6	43.0	49.7	41.1
Health care	23	22	43	19	1,064	850	1,426	793	22.0	25.5	29.8	24.5
Inpatient	14	14	31	15	536	484	878	454	26.3	29.6	34.9	32.1
Outpatient	9	7	12	5	528	366	548	339	17.6	20.2	21.7	14.3
Lodging	14	16	38	21	1,001	1,048	2,281	1,391	14.1	15.5	16.8	14.8
Mercantile	27	37	93	49	1,649	2,139	4,753	2,841	16.3	17.4	19.6	17.4
Retail (other than mall)	11	16	35	21	825	1,144	2,123	1,337	12.7	14.1	16.3	15.8
Enclosed and strip malls	16	21	58	28	824	996	2,630	1,504	19.8	21.2	22.2	18.9
Office	63	51	88	51	3,753	3,317	5,496	3,441	16.9	15.4	16.0	14.8
Public assembly	13	21	33	13	948	1,598	1,975	1,010	14.1	13.1	16.6	13.2
Public order and safety	5	3	11	Q	341	333	575	Q	15.4	10.3	18.4	Q
Religious worship	4	4	12	3	897	925	2,012	725	4.5	4.5	6.1	4.7
Service	5	11	15	6	768	1,448	1,557	695	7.0	7.3	9.8	8.9
Warehouse and storage	8	16	43	16	1,714	2,407	5,085	3,414	4.9	6.6	8.4	4.8
Other	12	9	26	9	278	434	834	439	42.4	20.1	31.5	20.2
Vacant	Q	2	3	3	Q	337	686	451	Q	5.3	4.0	5.6
Year constructed												
Before 1920	12	6	11	3	1,581	966	944	308	7.8	6.4	11.5	8.1
1920 to 1945	21	16	18	10	1,908	1,722	1,417	779	11.0	9.2	12.5	12.2
1946 to 1959	17	20	31	17	1,574	1,661	2,462	1,482	10.9	12.2	12.6	11.2
1960 to 1969	29	31	58	29	2,240	2,642	3,411	1,904	13.0	11.9	16.9	15.3
1970 to 1979	37	44	59	30	1,906	2,567	3,565	2,540	19.6	17.1	16.7	11.8
1980 to 1989	27	37	123	46	1,711	2,563	6,732	3,816	15.6	14.5	18.3	12.1
1990 to 1999	40	36	95	42	2,036	2,713	5,694	2,716	19.5	13.3	16.7	15.6
2000 to 2003	17	24	52	19	970	1,508	3,303	1,425	17.2	15.9	15.7	13.2
2004 to 2007	8	18	41	30	478	1,237	2,829	1,901	16.3	14.4	14.5	16.0
2008 to 2012	12	17	42	Q	902	978	2,651	1,112	13.5	17.1	16.0	15.9
Number of floors												
One	58	99	269	119	3,706	7,457	17,507	9,426	15.5	13.3	15.4	12.6
Two	52	56	100	51	4,074	4,794	6,828	4,270	12.7	11.8	14.6	11.9
Three	30	31	35	13	2,408	2,598	2,041	1,075	12.6	11.9	17.0	12.3
Four to nine	50	46	95	40	3,389	2,850	4,942	2,216	14.6	16.1	19.2	18.2
Ten or more	31	17	31	19	1,727	858	1,690	996	17.9	19.4	18.4	19.4

Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total electricity consumption (billion kWh)				Total floorspace of buildings using electricity (million square feet)				Electricity energy intensity (kwh/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	220	249	530	243	15,304	18,556	33,007	17,982	14.4	13.4	16.1	13.5
Elevators and escalators (more than one may apply)												
Any elevators	128	115	202	94	7,883	7,479	10,900	5,597	16.3	15.3	18.5	16.9
Number of elevators												
One	34	39	55	19	2,557	3,204	3,659	1,694	13.1	12.2	15.0	11.2
Two to five	52	43	89	39	3,152	2,740	4,576	2,271	16.4	15.6	19.4	17.3
Six or more	43	33	58	36	2,174	1,534	2,665	1,633	19.9	21.4	21.7	22.0
Any escalators	15	15	21	16	752	868	980	868	19.3	17.3	21.4	18.1
Number of workers (main shift)												
Fewer than 5	16	30	62	25	2,449	3,927	6,088	3,070	6.7	7.8	10.1	8.2
5 to 9	13	23	51	25	1,282	1,912	3,551	2,227	10.5	11.9	14.3	11.1
10 to 19	14	26	63	30	1,391	1,881	3,813	2,540	9.8	13.6	16.6	11.8
20 to 49	32	45	94	49	1,904	3,372	5,614	3,629	16.7	13.2	16.8	13.5
50 to 99	34	42	106	31	2,399	2,761	6,091	2,256	14.3	15.4	17.4	13.8
100 to 249	40	37	74	34	2,525	2,323	4,163	1,932	15.8	16.0	17.7	17.8
250 or more	71	46	81	49	3,355	2,379	3,687	2,329	21.1	19.4	21.8	20.9
Weekly operating hours												
Fewer than 40	4	11	13	7	976	1,774	2,509	1,293	4.4	6.1	5.2	5.3
40 to 48	21	26	71	36	2,342	3,012	6,735	3,635	9.0	8.6	10.6	10.0
49 to 60	42	50	103	44	3,365	4,364	8,512	4,266	12.4	11.4	12.1	10.4
61 to 84	45	53	98	52	3,317	3,639	5,267	3,644	13.7	14.6	18.7	14.3
85 to 167	36	47	80	37	1,898	2,424	3,142	1,939	18.8	19.4	25.5	19.0
Open continuously	72	63	165	66	3,406	3,344	6,843	3,204	21.2	18.8	24.0	20.7
Party responsible for operation and maintenance of energy systems												
Building owner	180	219	435	195	13,081	16,449	27,658	14,427	13.8	13.3	15.7	13.5
Business owner or tenant	34	26	78	44	1,815	1,724	4,406	3,226	18.8	14.9	17.8	13.6
Property management	Q	Q	11	Q	Q	Q	636	Q	Q	Q	17.3	Q
Other	Q	Q	6	Q	Q	Q	307	Q	Q	Q	18.6	Q
Provider of direct input on energy-related equipment purchases												
Building owner	183	222	449	207	13,341	16,782	28,642	15,349	13.7	13.2	15.7	13.5
Business owner or tenant	28	20	61	32	1,395	1,285	3,256	2,274	20.3	15.8	18.9	14.2
Property management	Q	Q	4	Q	Q	Q	353	Q	Q	Q	12.1	Q
Other	6	4	15	2	314	347	756	221	18.2	12.7	20.0	10.0
Number of establishments												
One	131	156	339	151	9,460	12,377	21,576	11,069	13.9	12.6	15.7	13.6
2 to 5	47	62	95	45	3,261	4,207	6,489	3,744	14.3	14.7	14.7	12.1
6 to 10	12	12	31	16	767	758	1,639	1,104	15.0	16.1	18.9	14.3
11 to 20	14	9	32	13	844	493	1,555	789	16.6	18.4	20.8	16.5
More than 20	17	10	32	18	869	529	1,417	1,058	19.5	18.3	22.6	16.5
Currently unoccupied	Q	Q	1	Q	Q	Q	332	218	Q	Q	1.7	3.5

Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total electricity consumption (billion kWh)				Total floorspace of buildings using electricity (million square feet)				Electricity energy intensity (kwh/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	220	249	530	243	15,304	18,556	33,007	17,982	14.4	13.4	16.1	13.5
Predominant exterior wall material												
Brick, stone, or stucco	104	123	275	94	7,600	8,929	16,196	6,948	13.7	13.7	17.0	13.5
Concrete (block or poured)	57	54	140	72	3,522	3,921	7,960	4,897	16.1	13.8	17.6	14.6
Concrete panels	16	29	39	36	827	1,680	3,017	2,931	19.4	17.2	13.1	12.3
Siding or shingles	17	18	18	19	1,532	1,351	1,364	1,328	11.0	13.5	12.9	14.1
Metal panels	10	15	43	11	954	2,057	3,820	1,221	10.4	7.5	11.2	8.8
Window glass	12	Q	8	7	437	Q	356	328	27.1	Q	23.9	20.5
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
No one major type	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Predominant roof material												
Metal surfacing	16	28	95	29	1,555	3,151	7,802	2,530	10.2	9.0	12.2	11.6
Synthetic or rubber	90	110	148	75	5,841	7,396	7,697	4,638	15.4	14.8	19.2	16.1
Built-up	64	56	148	69	3,708	3,904	8,569	5,142	17.2	14.4	17.3	13.5
Slate or tile shingles	8	4	29	18	826	391	1,806	1,186	9.1	10.8	15.9	15.3
Wooden materials (including shingles)	2	Q	6	5	149	Q	376	469	12.9	Q	15.4	9.7
Asphalt, fiberglass, or other shingles	34	44	82	37	2,645	3,222	5,577	3,247	12.7	13.6	14.7	11.4
Concrete	5	Q	16	6	299	Q	800	404	18.2	Q	20.3	15.8
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
No one major type	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Roof characteristics												
Roof tilt												
Flat	164	159	320	157	9,998	10,428	17,584	10,711	16.4	15.2	18.2	14.6
Shallow pitch	29	58	147	64	2,422	4,897	10,654	5,074	12.0	11.8	13.8	12.6
Steeper pitch	28	32	63	22	2,884	3,231	4,769	2,198	9.5	10.0	13.2	10.2
Cool roof	55	60	131	79	3,345	3,642	7,435	4,897	16.5	16.5	17.6	16.1
Renovations in buildings constructed before 2008 (more than one may apply)												
Any type of renovation	142	142	257	107	9,258	10,037	15,118	7,426	15.3	14.2	17.0	14.4
Addition or annex	38	61	78	28	2,573	4,075	4,522	1,709	14.7	15.0	17.2	16.3
Reduction in floorspace	Q	5	13	4	577	246	598	277	23.1	21.4	22.3	13.4
Roof replacement	83	80	125	42	5,437	5,356	6,823	3,099	15.2	14.9	18.4	13.5
Exterior wall replacement	11	17	30	12	927	1,061	1,415	801	11.6	16.3	21.4	14.9
Interior wall reconfiguration	80	78	133	66	5,067	5,168	6,778	4,213	15.7	15.1	19.6	15.6
Window replacement	41	37	71	27	3,391	3,007	3,730	1,983	12.2	12.2	19.0	13.7
HVAC equipment upgrade	107	93	164	69	6,465	6,510	9,183	4,370	16.5	14.3	17.9	15.7
Lighting upgrade	91	89	159	70	6,003	6,084	8,720	4,508	15.2	14.6	18.2	15.5
Electrical upgrade	62	58	101	44	3,976	3,978	5,344	2,648	15.5	14.5	18.9	16.6
Plumbing system upgrade	53	50	80	39	3,393	3,417	4,564	2,327	15.5	14.8	17.5	16.8
Insulation upgrade	26	31	46	23	1,741	2,185	2,264	1,256	14.9	14.4	20.1	18.2
Fire, safety, or security upgrade	71	63	105	43	4,623	3,777	5,788	2,904	15.3	16.6	18.2	14.9
Structural upgrade	9	14	27	19	743	876	1,158	1,041	12.0	16.3	23.3	17.8
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
No renovations	66	90	230	118	5,144	7,542	15,239	9,445	12.9	12.0	15.1	12.5
Buildings constructed 2008 or later	12	17	42	Q	902	978	2,651	1,112	13.5	17.1	16.0	15.9

Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total electricity consumption (billion kWh)				Total floorspace of buildings using electricity (million square feet)				Electricity energy intensity (kwh/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	220	249	530	243	15,304	18,556	33,007	17,982	14.4	13.4	16.1	13.5
Energy sources (more than one may apply)												
Electricity	220	249	530	243	15,304	18,556	33,007	17,982	14.4	13.4	16.1	13.5
Natural gas	172	204	335	191	11,118	15,026	19,883	12,702	15.5	13.6	16.9	15.1
Fuel oil	95	73	153	60	6,075	3,915	7,051	3,088	15.7	18.8	21.7	19.6
District heat	37	15	35	16	1,954	907	2,136	820	18.9	16.3	16.6	19.9
District chilled water	22	10	39	14	782	563	2,440	692	27.9	18.3	16.1	20.4
Propane	24	26	42	19	1,742	1,917	2,593	1,437	13.6	13.5	16.2	13.1
Other	12	8	16	14	1,079	782	906	1,034	10.7	9.9	17.9	13.8
Space-heating energy sources												
Electricity	114	130	383	146	7,264	8,620	22,552	10,603	15.8	15.0	17.0	13.8
Electricity main	40	49	269	81	2,191	2,969	15,152	5,971	18.5	16.4	17.8	13.5
Electricity secondary	74	81	114	65	5,072	5,651	7,400	4,632	14.6	14.3	15.4	14.1
Other excluding electricity	103	118	116	87	7,792	9,416	7,952	5,849	13.2	12.5	14.6	14.8
Buildings without heating	Q	2	31	10	248	521	2,503	1,530	Q	3.2	12.3	6.4
Primary space-heating energy source												
Electricity	40	49	269	81	2,191	2,969	15,152	5,971	18.5	16.4	17.8	13.5
Natural gas	120	173	186	133	8,399	13,096	12,340	9,220	14.2	13.2	15.1	14.4
Fuel oil	17	Q	3	Q	1,990	Q	299	Q	8.4	Q	9.0	Q
District heat	37	14	35	16	1,927	862	2,054	801	19.0	16.4	16.8	20.0
Propane	3	7	7	2	377	723	613	235	7.6	9.1	11.1	6.8
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	8.1
Cooling energy sources												
Electricity	197	239	499	224	13,320	16,831	29,927	16,002	14.8	14.2	16.7	14.0
Other excluding electricity	Q	5	26	Q	642	308	1,787	454	26.5	15.0	14.3	20.8
Buildings without cooling	7	6	6	9	1,342	1,417	1,293	1,527	4.9	4.0	4.6	6.1
Water-heating energy sources												
Electricity	97	111	320	121	6,549	7,933	19,434	8,860	14.8	14.0	16.5	13.7
Other excluding electricity	121	134	192	114	8,101	9,655	10,806	7,660	15.0	13.9	17.7	14.8
Buildings without water heating	2	4	18	8	654	968	2,767	1,463	3.7	4.6	6.5	5.8
Cooking energy sources												
Electricity	80	99	189	86	4,656	6,153	9,773	4,518	17.1	16.0	19.3	19.1
Other excluding electricity	59	38	97	53	3,504	2,556	4,566	2,712	16.9	14.9	21.2	19.4
Buildings without cooking	81	112	244	104	7,145	9,848	18,668	10,752	11.4	11.4	13.1	9.7
Energy end uses (more than one may apply)												
Buildings with space heating	217	248	499	233	15,056	18,036	30,504	16,452	14.4	13.7	16.4	14.2
Buildings with cooling	214	244	524	234	13,962	17,139	31,714	16,455	15.3	14.2	16.5	14.2
Buildings with water heating	218	245	512	235	14,650	17,588	30,240	16,520	14.9	13.9	16.9	14.2
Buildings with cooking	139	137	286	139	8,159	8,708	14,339	7,230	17.0	15.7	19.9	19.2
Buildings with manufacturing	15	11	29	11	1,060	1,152	1,705	1,141	14.1	9.8	17.1	10.0
Buildings with electricity generation	112	88	202	88	6,231	5,333	9,384	4,653	18.0	16.6	21.6	18.9

Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total electricity consumption (billion kWh)				Total floorspace of buildings using electricity (million square feet)				Electricity energy intensity (kwh/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	220	249	530	243	15,304	18,556	33,007	17,982	14.4	13.4	16.1	13.5
Percent of floorspace heated												
Not heated	Q	2	31	10	248	521	2,503	1,530	Q	3.2	12.3	6.4
1 to 50	9	11	43	35	1,134	1,296	3,988	3,718	8.0	8.7	10.7	9.4
51 to 99	43	30	110	51	2,859	2,249	6,229	3,331	14.9	13.4	17.7	15.3
100	166	206	347	147	11,062	14,491	20,286	9,404	15.0	14.2	17.1	15.7
Percent of floorspace cooled												
Not cooled	7	6	6	9	1,342	1,417	1,293	1,527	4.9	4.0	4.6	6.1
1 to 50	26	45	47	35	3,577	4,765	6,206	4,407	7.3	9.4	7.6	7.9
51 to 99	89	71	152	68	5,085	4,679	8,481	4,510	17.6	15.3	17.9	15.1
100	98	127	325	131	5,300	7,695	17,027	7,538	18.5	16.6	19.1	17.4
Percent lit when open												
Zero	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
1 to 50	14	30	50	20	2,100	2,873	4,766	2,911	6.5	10.5	10.5	6.9
51 to 99	90	114	217	104	6,311	7,931	13,275	7,341	14.3	14.4	16.3	14.2
100	116	104	262	118	6,657	7,260	14,387	7,338	17.4	14.3	18.2	16.0
Building never open/electricity not used	Q	1	1	1	Q	414	456	315	Q	3.2	1.5	3.0
Percent lit during off hours												
Zero	37	46	89	60	3,876	5,598	9,119	6,166	9.4	8.3	9.8	9.7
1 to 50	130	170	347	138	9,346	11,467	20,202	9,826	13.9	14.8	17.2	14.0
51 to 100	45	19	65	36	1,758	942	2,543	1,555	25.4	20.1	25.4	23.4
Building always open with no "off hours"	9	14	30	9	324	550	1,144	435	28.7	26.2	25.8	20.7
Electricity not used	N	N	N	N	N	N	N	N	N	N	N	N
Heating equipment (more than one may apply)												
Heat pumps	21	16	109	33	1,393	1,037	6,894	2,485	15.2	15.8	15.8	13.3
Furnaces	15	29	45	18	1,266	2,515	3,366	1,536	11.6	11.6	13.3	11.5
Individual space heaters	71	71	86	44	4,883	5,697	6,535	3,603	14.6	12.4	13.1	12.2
District heat	37	15	35	16	1,954	907	2,114	801	18.9	16.3	16.5	20.0
Boilers	87	96	107	60	6,457	6,648	5,798	3,541	13.5	14.4	18.4	16.8
Packaged heating units	110	156	344	161	7,220	10,894	20,129	11,062	15.2	14.3	17.1	14.5
Other	Q	7	15	8	Q	370	549	339	Q	19.2	27.4	22.7
Cooling equipment (more than one may apply)												
Residential-type central air conditioners	23	45	81	38	1,699	4,349	5,893	2,827	13.7	10.3	13.7	13.4
Heat pumps	22	17	112	38	1,490	1,010	7,073	2,948	14.4	16.6	15.9	13.0
Individual air conditioners	47	37	56	20	3,846	2,566	4,225	1,727	12.1	14.5	13.3	11.5
District chilled water	22	10	39	14	782	563	2,440	692	27.9	18.3	16.1	20.4
Central chillers	63	78	137	49	3,486	4,462	6,430	2,632	18.2	17.6	21.3	18.7
Packaged air conditioning units	133	148	306	140	8,691	9,824	17,237	9,494	15.3	15.0	17.7	14.8
Swamp coolers	Q	Q	8	18	Q	Q	473	1,344	Q	Q	17.1	13.3
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total electricity consumption (billion kWh)				Total floorspace of buildings using electricity (million square feet)				Electricity energy intensity (kwh/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	220	249	530	243	15,304	18,556	33,007	17,982	14.4	13.4	16.1	13.5
Main equipment replaced since 1990 (more than one may apply)												
Heating	69	93	162	64	5,360	6,868	10,065	5,310	12.9	13.6	16.1	12.0
Cooling	87	97	191	70	6,330	7,189	11,666	5,528	13.7	13.5	16.3	12.7
Water-heating equipment												
Centralized system	136	158	302	132	9,151	11,346	17,465	9,563	14.9	13.9	17.3	13.8
Distributed system	30	26	68	33	2,389	2,342	4,954	3,058	12.4	11.3	13.8	10.9
Combination of centralized and distributed system	52	61	142	69	3,110	3,900	7,822	3,899	16.6	15.5	18.2	17.7
Lighting equipment types (more than one may apply)												
Incandescent	118	137	248	109	7,600	9,023	14,528	7,196	15.5	15.2	17.1	15.1
Standard fluorescent	214	242	509	232	14,486	17,510	31,347	16,717	14.8	13.8	16.2	13.9
Compact fluorescent	174	179	365	171	10,781	11,817	20,033	11,148	16.2	15.2	18.2	15.3
High-intensity discharge (HID)	76	86	158	61	4,480	5,380	9,346	4,158	17.0	16.1	16.9	14.8
Halogen	78	101	205	93	5,255	6,153	10,935	5,621	14.9	16.5	18.8	16.6
LED	90	89	159	77	4,786	5,126	7,502	4,572	18.8	17.3	21.2	16.8
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Refrigeration equipment (more than one may apply)												
Any refrigeration	207	233	491	219	13,625	16,566	28,733	14,699	15.2	14.1	17.1	14.9
Walk-in units	124	118	250	115	5,856	6,313	10,732	5,361	21.2	18.7	23.3	21.5
Cases or cabinets	120	122	222	118	6,055	6,804	10,364	5,452	19.9	17.9	21.4	21.7
Large cold storage areas	13	18	44	23	565	975	1,672	913	23.6	18.4	26.3	24.8
Commercial ice makers	115	126	290	122	5,561	6,582	14,497	6,039	20.8	19.2	20.0	20.1
Residential-type or compact units	169	193	377	172	11,489	14,256	24,169	12,538	14.7	13.5	15.6	13.7
Vending machines	144	149	315	134	8,459	9,668	17,625	8,170	17.1	15.4	17.9	16.4
No refrigeration	14	16	39	24	1,679	1,991	4,274	3,283	8.1	8.3	9.1	7.3
Office equipment (more than one may apply)												
Desktop computers	210	238	500	230	14,129	16,857	29,664	16,390	14.8	14.1	16.9	14.0
With flat screen monitors	208	236	493	228	13,969	16,624	29,326	16,219	14.9	14.2	16.8	14.1
With multiple monitors	94	104	214	111	5,319	6,400	12,063	7,144	17.6	16.2	17.8	15.6
Laptop computers	179	196	412	181	11,787	13,893	24,902	12,886	15.2	14.1	16.5	14.0
Dedicated servers	162	173	359	175	10,098	11,263	20,540	11,435	16.0	15.3	17.5	15.3
Laser printers	162	174	357	162	10,321	12,152	20,440	11,304	15.7	14.3	17.5	14.4
Inkjet printers	88	104	226	106	6,593	7,679	14,292	7,701	13.4	13.5	15.8	13.7
FAX machines	189	206	443	191	12,738	14,433	25,797	13,699	14.8	14.3	17.2	14.0
Photocopiers	178	185	371	175	11,668	13,043	22,073	12,461	15.2	14.1	16.8	14.0
Number of desktop computers												
None	11	11	30	13	1,175	1,700	3,343	1,592	9.0	6.7	9.0	8.5
1 to 4	26	41	98	41	2,458	3,584	6,273	3,356	10.4	11.3	15.7	12.1
5 to 9	20	28	60	26	1,392	2,122	3,529	2,382	14.1	13.1	16.9	11.1
10 to 19	23	24	51	31	1,646	1,826	3,532	2,389	13.7	13.0	14.6	13.1
20 to 49	31	41	97	40	2,341	2,598	5,344	2,831	13.4	15.8	18.2	14.3
50 to 99	20	28	48	23	1,363	1,984	3,266	1,705	14.9	14.4	14.7	13.4
100 to 249	39	31	60	30	2,268	2,235	3,421	1,781	17.3	13.8	17.4	16.9
250 or more	51	45	86	38	2,662	2,509	4,299	1,945	19.1	18.0	20.1	19.4

Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total electricity consumption (billion kWh)				Total floorspace of buildings using electricity (million square feet)				Electricity energy intensity (kwh/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	220	249	530	243	15,304	18,556	33,007	17,982	14.4	13.4	16.1	13.5
Number of laptop computers												
None	41	53	119	62	3,518	4,663	8,105	5,096	11.7	11.3	14.6	12.2
1 to 4	38	60	121	53	3,373	5,043	8,088	4,689	11.2	11.9	15.0	11.4
5 to 9	26	23	56	22	1,417	1,478	3,570	1,912	18.0	15.8	15.6	11.4
10 to 19	22	20	56	32	1,498	1,468	3,394	1,983	14.4	13.9	16.6	16.2
20 to 49	22	32	61	38	1,471	2,202	3,804	2,110	15.0	14.7	16.2	18.1
50 to 99	17	21	34	14	1,165	1,332	1,860	886	14.5	15.5	18.2	15.9
100 to 249	24	16	39	11	1,426	1,023	2,111	683	17.2	15.4	18.5	15.8
250 or more	31	24	44	11	1,436	1,347	2,075	623	21.5	17.7	21.0	17.1
Number of dedicated servers												
None	58	76	171	68	5,207	7,293	12,468	6,547	11.2	10.5	13.8	10.3
1 to 4	82	102	217	96	6,164	7,209	13,483	7,209	13.4	14.1	16.1	13.3
5 to 9	18	23	37	22	1,084	1,444	2,250	1,516	16.7	16.0	16.7	14.6
10 to 19	25	16	44	24	1,120	994	2,339	1,206	22.7	16.6	18.6	19.8
20 to 49	11	17	29	13	721	999	1,290	771	15.7	16.7	22.6	16.9
50 or more	25	15	32	20	1,009	616	1,177	734	24.6	24.2	27.0	27.8
Number of photocopiers												
None	43	65	159	68	3,636	5,513	10,935	5,521	11.7	11.7	14.6	12.4
One	31	47	88	48	2,606	3,945	6,130	4,405	12.0	12.0	14.3	10.9
2 to 4	43	61	132	56	3,594	4,579	8,078	4,086	12.1	13.3	16.3	13.7
5 to 9	35	30	56	23	1,939	2,188	3,221	1,572	18.0	13.9	17.3	14.8
10 or more	68	46	96	47	3,529	2,331	4,644	2,399	19.3	19.6	20.6	19.8
Number of TVs or video displays												
None	40	46	89	49	3,817	4,735	8,232	5,346	10.4	9.7	10.8	9.1
One	17	26	55	23	1,416	2,300	4,279	2,006	12.0	11.1	12.9	11.4
2 to 4	36	52	111	38	2,944	4,054	6,315	3,167	12.1	12.8	17.5	11.9
5 to 9	33	21	63	33	1,824	1,451	3,161	1,714	17.9	14.7	20.0	19.4
10 to 19	34	35	57	22	1,765	1,895	3,053	1,420	19.0	18.4	18.5	15.3
20 to 49	24	25	60	31	1,460	1,674	3,196	1,802	16.3	14.7	18.6	17.4
50 to 99	7	15	38	17	393	932	2,075	1,040	17.8	16.3	18.5	16.2
100 or more	31	30	58	30	1,685	1,515	2,698	1,488	18.4	19.7	21.4	20.4
Food preparation or serving areas in non-food service buildings (more than one may apply)												
Snack bar or concession stand	36	37	78	40	1,898	2,273	3,708	1,873	19.0	16.4	20.9	21.3
Fast food or small restaurant	37	39	97	51	1,760	1,761	3,729	2,421	20.8	22.0	26.1	21.3
Cafeteria or large restaurant	62	52	103	44	3,604	3,415	5,908	2,224	17.3	15.2	17.5	19.6
Commercial kitchen/food preparation area	58	60	117	57	3,224	3,938	6,008	2,792	17.9	15.3	19.5	20.3
Small kitchen area	41	42	83	37	3,135	3,424	5,040	2,376	12.9	12.3	16.4	15.7
Separate computer areas (more than one may apply)												
Data center or server farm	54	49	82	54	2,403	2,439	3,833	2,311	22.3	20.0	21.5	23.3
Computer-based training room	51	65	128	56	3,318	3,938	7,057	3,279	15.3	16.5	18.1	17.2
Student or public computer center	32	41	94	37	2,710	3,345	5,953	2,245	11.7	12.2	15.8	16.4

Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total electricity consumption (billion kWh)				Total floorspace of buildings using electricity (million square feet)				Electricity energy intensity (kwh/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	220	249	530	243	15,304	18,556	33,007	17,982	14.4	13.4	16.1	13.5
HVAC conservation features (more than one may apply)												
Economizer cycle	125	128	173	112	6,918	7,879	8,999	6,835	18.1	16.3	19.2	16.4
Regular HVAC maintenance	203	223	470	212	12,994	15,169	26,552	14,506	15.6	14.7	17.7	14.6
Building automation system (BAS) ¹	126	133	279	132	6,936	7,982	14,544	7,517	18.2	16.7	19.2	17.5
Window and interior lighting features (more than one may apply)												
Multipaned windows	170	213	387	161	11,380	15,114	22,287	10,881	15.0	14.1	17.3	14.8
Tinted window glass	109	140	320	150	6,286	8,973	18,561	10,507	17.3	15.6	17.2	14.3
Reflective window glass	44	65	122	70	2,296	3,767	5,431	4,244	19.0	17.2	22.4	16.5
External overhangs or awnings	81	102	250	117	4,293	6,460	13,714	7,472	18.8	15.8	18.2	15.6
Skylights or atriums	64	57	136	74	4,060	4,081	8,028	5,850	15.7	14.1	17.0	12.7
Light scheduling	107	107	207	121	5,883	6,627	10,720	7,028	18.1	16.1	19.3	17.2
Occupancy sensors	124	124	236	124	7,734	7,906	11,881	8,254	16.0	15.7	19.9	15.0
Multi-level lighting or dimming	44	55	109	64	2,346	3,162	5,374	3,537	18.8	17.4	20.3	18.1
Daylight harvesting	18	27	36	28	1,032	1,486	1,993	1,580	17.5	18.5	17.8	17.6
Demand responsive lighting	10	15	34	21	648	913	1,699	1,502	14.8	16.6	20.1	13.9
Building automation system (BAS) for lighting ¹	47	45	91	57	2,154	2,428	4,458	2,977	21.7	18.4	20.3	19.2
Equipment usage reduced when building not in full use (more than one may apply)												
Heating	173	185	354	181	12,280	14,114	23,294	13,475	14.1	13.1	15.2	13.4
Cooling	167	180	375	180	11,460	13,461	24,454	13,215	14.6	13.4	15.3	13.6
Lighting	200	230	482	225	14,262	17,259	30,530	16,508	14.1	13.3	15.8	13.6
Annual consumption (kilowatthours)												
10,000 or less	1	1	1	1	572	864	987	662	1.2	1.4	1.3	1.3
10,001 to 50,000	7	11	18	13	1,809	2,536	3,530	2,609	4.0	4.5	5.1	5.1
50,001 to 100,000	8	13	26	14	938	1,675	3,098	1,896	8.3	7.8	8.5	7.6
100,001 to 500,000	40	53	126	65	3,364	4,241	8,515	5,214	11.8	12.4	14.8	12.5
500,001 to 1,000,000	23	36	79	27	1,791	2,197	4,256	1,838	12.8	16.6	18.5	14.6
1,000,001 to 5,000,000	69	85	158	68	4,105	4,865	8,037	3,707	16.7	17.4	19.6	18.4
Over 5,000,000	73	50	122	54	2,725	2,178	4,584	2,056	26.8	22.8	26.7	26.4

¹In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/> • Site electricity is the amount of electricity delivered to commercial buildings. Primary electricity, which is not included in the *Total of major fuels* category, is site electricity plus the conversion losses in the generation, transmission, and distribution processes. • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and E of the 2012 Commercial Buildings Energy Consumption Survey.

Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	487	626	600	479	11,118	15,026	19,883	12,702	43.8	41.7	30.2	37.7
Building floorspace (square feet)												
1,001 to 5,000	40	65	91	54	478	1,126	1,266	888	82.9	57.5	71.7	61.2
5,001 to 10,000	32	71	83	55	630	1,378	1,536	1,274	51.2	51.4	54.2	43.4
10,001 to 25,000	59	81	82	74	1,608	2,185	2,632	2,398	36.5	37.1	31.2	31.0
25,001 to 50,000	46	100	74	57	1,134	2,628	2,638	1,747	40.8	37.9	27.9	32.6
50,001 to 100,000	85	99	97	48	2,118	2,182	4,003	1,631	40.2	45.5	24.1	29.4
100,001 to 200,000	101	69	56	57	2,158	1,870	3,481	1,917	46.7	36.9	16.0	29.9
200,001 to 500,000	75	92	56	79	1,716	2,393	2,374	1,807	43.8	38.3	23.6	43.9
Over 500,000	49	50	61	Q	1,276	1,264	1,953	1,041	38.4	39.4	31.3	Q
Principal building activity												
Education	77	106	61	40	1,647	2,738	3,711	1,426	46.6	38.7	16.6	27.9
Food sales	Q	Q	10	Q	Q	Q	169	Q	Q	Q	59.2	Q
Food service	25	49	103	45	196	300	577	321	130.3	162.5	178.0	140.0
Health care	62	62	78	57	895	717	994	669	68.9	86.3	78.1	85.4
Inpatient	46	48	73	46	429	422	814	431	107.9	113.1	89.9	107.5
Outpatient	15	14	4	11	465	295	180	238	32.9	48.0	24.7	45.3
Lodging	34	41	65	74	778	827	1,961	1,242	44.3	49.9	33.4	59.3
Mercantile	52	80	77	76	1,296	1,860	2,983	2,417	40.4	42.8	25.9	31.2
Retail (other than mall)	13	30	14	16	507	870	935	1,060	25.2	33.9	15.1	15.2
Enclosed and strip malls	40	50	63	59	790	990	2,048	1,357	50.1	50.7	30.7	43.8
Office	92	84	47	52	2,742	2,517	2,713	2,351	33.7	33.5	17.2	22.1
Public assembly	28	53	27	23	659	1,329	1,035	839	42.9	40.0	26.5	27.0
Public order and safety	Q	Q	10	Q	Q	Q	418	Q	Q	Q	23.5	Q
Religious worship	19	27	24	15	730	704	1,081	501	25.8	38.6	22.2	29.2
Service	19	46	42	12	285	1,223	934	348	64.9	37.9	44.4	35.2
Warehouse and storage	31	37	28	39	1,149	1,831	2,547	1,529	27.1	20.1	11.2	25.5
Other	Q	Q	24	Q	Q	Q	591	314	Q	Q	41.2	73.5
Vacant	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Year constructed												
Before 1920	34	27	20	4	991	744	375	210	33.9	36.9	53.6	19.0
1920 to 1945	49	53	20	19	1,256	1,279	774	500	38.8	41.6	25.8	38.6
1946 to 1959	56	61	40	37	1,017	1,457	1,787	1,107	55.0	41.9	22.4	33.7
1960 to 1969	65	92	79	71	1,752	2,212	2,120	1,465	37.3	41.5	37.1	48.3
1970 to 1979	87	94	89	62	1,559	2,119	2,318	2,005	55.5	44.2	38.5	31.0
1980 to 1989	43	99	113	72	1,143	2,144	4,056	2,567	37.3	46.3	27.9	27.9
1990 to 1999	75	80	95	80	1,572	2,245	3,276	2,075	47.8	35.4	29.1	38.6
2000 to 2003	36	42	43	32	837	1,181	1,815	903	43.4	35.9	23.6	35.6
2004 to 2007	20	36	53	Q	335	978	1,719	1,025	58.7	36.9	30.6	57.7
2008 to 2012	23	42	48	Q	656	667	1,642	846	34.6	62.6	29.2	50.8
Number of floors												
One	120	262	299	214	2,583	6,033	9,751	6,170	46.6	43.5	30.7	34.7
Two	141	141	111	105	3,152	4,047	4,328	3,169	44.7	34.9	25.6	33.2
Three	56	92	46	25	1,609	2,120	1,582	792	34.7	43.5	28.8	31.4
Four to nine	132	102	110	89	2,670	2,132	3,243	1,726	49.4	47.6	34.0	51.4
Ten or more	38	29	34	Q	1,104	693	980	846	34.2	42.0	34.6	Q

Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	487	626	600	479	11,118	15,026	19,883	12,702	43.8	41.7	30.2	37.7
Number of workers (main shift)												
Fewer than 5	49	87	72	49	1,238	2,532	2,514	1,573	39.9	34.3	28.8	31.1
5 to 9	34	54	64	44	859	1,476	1,783	1,238	39.8	36.9	35.8	35.8
10 to 19	37	89	101	64	1,063	1,622	2,254	1,860	34.6	54.6	44.7	34.6
20 to 49	59	117	107	87	1,437	2,898	3,567	2,714	41.0	40.2	30.0	32.0
50 to 99	92	105	100	54	1,796	2,411	4,364	1,785	51.0	43.4	23.0	30.3
100 to 249	100	83	67	79	2,192	2,137	3,000	1,552	45.6	38.9	22.2	51.1
250 or more	116	92	89	101	2,532	1,948	2,399	1,981	45.7	47.2	37.0	51.2
Weekly operating hours												
Fewer than 40	14	36	25	19	485	1,211	1,241	770	29.9	29.7	20.3	24.5
40 to 48	44	83	63	62	1,454	2,532	3,762	2,202	30.3	32.7	16.9	28.0
49 to 60	72	121	95	72	2,504	3,587	4,880	3,092	28.8	33.7	19.5	23.4
61 to 84	114	144	115	85	2,607	3,153	3,199	2,599	43.9	45.7	35.8	32.8
85 to 167	96	87	101	55	1,564	1,812	2,058	1,341	61.4	48.3	49.2	41.2
Open continuously	146	155	200	186	2,505	2,732	4,742	2,698	58.1	56.8	42.2	68.9
Party responsible for operation and maintenance of energy systems												
Building owner	397	549	472	387	9,400	13,059	16,346	10,271	42.2	42.1	28.9	37.7
Business owner or tenant	74	66	111	83	1,422	1,593	3,030	2,236	52.2	41.2	36.7	37.3
Property management	Q	Q	10	Q	Q	Q	326	Q	Q	Q	30.6	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Provider of direct input on energy-related equipment purchases												
Building owner	405	563	486	412	9,550	13,425	16,965	10,979	42.4	41.9	28.7	37.5
Business owner or tenant	59	49	90	61	1,085	1,169	2,333	1,489	54.0	41.8	38.4	41.0
Property management	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	22	Q	Q	330	456	Q	Q	30.1	47.7	Q
Number of establishments												
One	329	416	417	327	6,846	9,793	12,825	7,680	48.0	42.5	32.5	42.5
2 to 5	93	142	104	79	2,213	3,466	4,171	2,580	42.0	41.1	24.9	30.8
6 to 10	21	27	26	30	566	693	955	832	37.0	39.1	27.7	36.0
11 to 20	27	23	36	24	729	436	964	639	36.6	53.7	37.3	37.2
More than 20	17	16	16	16	704	514	869	835	24.0	30.4	18.8	19.7
Currently unoccupied	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Predominant exterior wall material												
Brick, stone, or stucco	258	343	328	202	6,069	7,501	10,465	5,017	42.4	45.8	31.4	40.3
Concrete (block or poured)	117	134	153	117	2,708	3,363	4,804	3,581	43.3	39.8	31.8	32.7
Concrete panels	35	62	41	Q	679	1,362	1,913	1,990	51.5	45.7	21.3	32.6
Siding or shingles	24	36	29	42	629	920	455	884	38.1	39.7	63.7	47.1
Metal panels	Q	38	41	21	443	1,319	1,869	749	Q	29.1	21.9	28.7
Window glass	Q	Q	Q	14	Q	Q	Q	256	Q	Q	Q	56.1
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
No one major type	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	487	626	600	479	11,118	15,026	19,883	12,702	43.8	41.7	30.2	37.7
Predominant roof material												
Metal surfacing	22	62	101	50	758	2,115	3,454	1,516	28.5	29.3	29.3	32.9
Synthetic or rubber	213	257	180	179	4,639	6,031	5,539	3,573	45.9	42.5	32.5	50.2
Built-up	137	150	164	116	2,938	3,424	5,896	3,758	46.6	44.0	27.8	30.9
Slate or tile shingles	30	13	29	40	627	330	1,047	795	47.2	39.4	Q	50.4
Wooden materials (including shingles)	Q	Q	16	11	Q	Q	195	246	Q	Q	80.8	44.8
Asphalt, fiberglass, or other shingles	64	130	95	69	1,714	2,676	3,239	2,281	37.4	48.6	29.5	30.3
Concrete	8	Q	Q	5	213	Q	Q	256	36.8	Q	Q	20.6
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
No one major type	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Roof characteristics												
Roof tilt												
Flat	356	387	371	304	7,941	8,818	11,457	7,628	44.9	43.9	32.3	39.9
Shallow pitch	74	133	139	123	1,457	3,864	5,616	3,564	51.0	34.3	24.7	34.7
Steeper pitch	56	106	90	52	1,721	2,344	2,810	1,510	32.5	45.4	32.2	34.1
Cool roof	127	143	155	162	2,407	3,172	5,097	3,651	52.6	45.2	30.4	44.4
Renovations in buildings constructed before 2008 (more than one may apply)												
Any type of renovation	308	340	304	247	6,979	8,292	9,916	5,737	44.1	41.0	30.6	43.1
Addition or annex	97	141	126	91	1,942	3,340	3,267	1,472	50.1	42.3	38.7	61.7
Reduction in floorspace	Q	11	18	Q	Q	225	425	Q	Q	47.7	42.7	Q
Roof replacement	191	196	160	117	4,086	4,483	5,010	2,549	46.8	43.7	32.0	45.8
Exterior wall replacement	23	34	37	33	738	870	1,043	718	31.1	38.5	35.1	45.9
Interior wall reconfiguration	156	176	147	150	4,024	4,271	4,362	3,398	38.8	41.1	33.6	44.0
Window replacement	93	101	97	85	2,382	2,534	2,533	1,733	39.1	39.8	38.5	49.3
HVAC equipment upgrade	216	217	207	181	5,025	5,452	6,224	3,669	42.9	39.8	33.3	49.2
Lighting upgrade	197	223	190	179	4,643	5,076	5,826	3,716	42.4	43.9	32.6	48.3
Electrical upgrade	139	142	123	133	3,153	3,138	3,687	2,269	44.0	45.2	33.5	58.6
Plumbing system upgrade	130	121	126	125	2,694	2,789	3,022	1,954	48.4	43.2	41.6	63.9
Insulation upgrade	61	67	67	Q	1,371	1,781	1,576	1,068	44.4	37.6	42.7	62.4
Fire, safety, or security upgrade	151	142	146	116	3,547	3,109	4,066	2,441	42.5	45.7	35.8	47.5
Structural upgrade	16	27	40	Q	483	724	713	832	33.2	37.7	56.3	76.6
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
No renovations	156	245	248	189	3,484	6,067	8,325	6,120	44.8	40.3	29.8	30.9
Buildings constructed 2008 or later	23	42	48	Q	656	667	1,642	846	34.6	62.6	29.2	50.8
Energy sources (more than one may apply)												
Electricity	487	626	600	479	11,118	15,026	19,883	12,702	43.8	41.7	30.2	37.7
Natural gas	487	626	600	479	11,118	15,026	19,883	12,702	43.8	41.7	30.2	37.7
Fuel oil	154	151	156	148	3,541	3,057	4,454	2,567	43.4	49.3	35.0	57.5
District heat	Q	5	16	Q	1,056	374	846	482	Q	13.8	Q	99.3
District chilled water	Q	5	26	Q	Q	315	1,059	426	88.1	16.1	24.5	126.4
Propane	17	40	36	Q	533	969	997	892	32.4	41.0	36.3	Q
Other	40	19	13	33	806	630	471	730	49.6	30.4	28.6	45.5

Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	487	626	600	479	11,118	15,026	19,883	12,702	43.8	41.7	30.2	37.7
Space-heating energy sources												
Natural gas	440	613	483	387	9,393	14,042	15,472	10,704	46.8	43.7	31.2	36.1
Natural gas main	417	584	396	329	8,399	13,096	12,340	9,220	49.6	44.6	32.1	35.7
Natural gas secondary	23	29	87	58	995	946	3,132	1,484	23.1	31.1	27.8	38.8
Other excluding natural gas	Q	13	106	81	1,718	961	4,079	1,789	26.5	13.2	26.0	45.2
Buildings without heating	Q	Q	11	Q	Q	Q	332	Q	Q	Q	33.4	Q
Primary space-heating energy source												
Electricity	28	35	176	89	1,239	1,369	6,309	2,698	22.3	25.9	27.8	32.8
Natural gas	417	584	396	329	8,399	13,096	12,340	9,220	49.6	44.6	32.1	35.7
Fuel oil	5	N	Q	Q	372	N	Q	Q	14.6	N	Q	Q
District heat	Q	4	16	Q	1,029	356	833	465	Q	12.1	Q	102.7
Propane	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Cooling energy sources												
Natural gas	27	Q	Q	Q	295	Q	Q	Q	92.5	Q	Q	Q
Other excluding natural gas	442	588	589	447	10,355	14,234	19,552	12,037	42.6	41.3	30.2	37.1
Buildings without cooling	18	19	5	27	468	572	212	574	38.1	32.9	23.0	46.4
Water-heating energy sources												
Natural gas	409	511	456	351	7,535	10,623	12,292	9,131	54.3	48.1	37.1	38.4
Other excluding natural gas	74	108	129	116	3,409	4,094	6,819	3,119	21.8	26.5	19.0	37.0
Buildings without water heating	Q	6	14	13	Q	309	771	452	Q	21.0	18.6	29.2
Cooking energy sources												
Natural gas	281	295	357	274	5,362	5,623	8,531	5,153	52.4	52.4	41.9	53.1
Other excluding natural gas	32	77	50	40	1,132	1,924	2,076	1,159	28.6	40.2	24.3	34.3
Buildings without cooking	173	254	192	166	4,623	7,479	9,276	6,390	37.5	33.9	20.7	25.9
Energy end uses (more than one may apply)												
Buildings with space heating	485	626	589	468	11,111	15,003	19,551	12,492	43.7	41.7	30.1	37.4
Buildings with cooling	469	607	595	453	10,650	14,454	19,671	12,128	44.0	42.0	30.2	37.3
Buildings with water heating	483	620	585	466	10,944	14,717	19,112	12,250	44.2	42.1	30.6	38.0
Buildings with cooking	313	372	408	314	6,495	7,547	10,607	6,312	48.2	49.3	38.5	49.7
Buildings with manufacturing	40	29	33	18	748	988	1,268	715	53.1	29.2	26.3	25.6
Buildings with electricity generation	240	203	196	194	4,902	4,738	6,626	3,989	49.0	42.8	29.6	48.7
Percent of floorspace heated												
Not heated	Q	Q	11	Q	Q	Q	332	Q	Q	Q	33.4	Q
1 to 50	17	14	35	54	608	896	1,911	2,322	28.0	15.2	18.3	23.3
51 to 99	102	86	153	91	2,130	1,963	4,348	2,778	48.1	43.7	35.2	32.7
100	366	526	401	323	8,374	12,144	13,293	7,392	43.7	43.3	30.1	43.6
Percent of floorspace cooled												
Not cooled	18	19	5	27	468	572	212	574	38.1	32.9	23.0	46.4
1 to 50	109	149	70	78	2,724	4,239	3,500	2,639	40.1	35.2	20.1	29.7
51 to 99	179	174	171	126	3,742	4,070	5,687	3,673	47.8	42.9	30.1	34.4
100	181	284	353	248	4,184	6,146	10,484	5,816	43.2	46.2	33.7	42.7

Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	487	626	600	479	11,118	15,026	19,883	12,702	43.8	41.7	30.2	37.7
Heating equipment (more than one may apply)												
Heat pumps	44	26	103	69	1,089	740	4,052	1,663	40.1	35.4	25.4	41.2
Furnaces	36	84	73	46	1,110	2,099	2,482	1,384	32.0	40.0	29.3	33.3
Individual space heaters	134	175	123	98	3,537	4,811	4,655	2,837	38.0	36.4	26.4	34.6
District heat	Q	5	16	Q	1,056	374	833	465	Q	13.8	Q	102.7
Boilers	283	306	198	173	5,201	6,166	5,324	3,334	54.5	49.6	37.2	51.7
Packaged heating units	241	391	400	295	6,111	9,394	13,571	8,574	39.4	41.6	29.5	34.4
Other	Q	Q	10	12	Q	Q	415	244	Q	Q	24.2	48.3
Cooling equipment (more than one may apply)												
Residential-type central air conditioners	64	147	108	88	1,318	3,846	3,254	2,090	48.4	38.1	33.1	42.1
Heat pumps	44	28	116	62	1,192	695	4,285	1,849	37.2	40.6	27.0	33.6
Individual air conditioners	145	91	85	44	2,837	2,200	2,869	1,192	51.2	41.2	29.5	37.3
District chilled water	Q	5	26	Q	Q	315	1,059	426	88.1	16.1	24.5	126.4
Central chillers	128	185	169	102	2,771	3,771	4,914	2,301	46.1	49.1	34.4	44.2
Packaged air conditioning units	272	378	370	265	6,819	8,624	12,116	7,484	39.9	43.9	30.5	35.4
Swamp coolers	Q	Q	Q	52	Q	Q	Q	1,109	Q	Q	Q	46.5
Other	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Main equipment replaced since 1990 (more than one may apply)												
Heating	175	231	233	132	4,065	5,826	7,000	4,215	43.0	39.6	33.3	31.4
Cooling	194	266	257	143	4,831	6,279	7,798	4,204	40.1	42.4	32.9	33.9
Water-heating equipment												
Centralized system	314	426	369	269	6,774	9,517	10,748	6,916	46.3	44.8	34.3	38.9
Distributed system	61	67	53	69	1,678	2,061	2,590	1,930	36.3	32.7	20.6	35.8
Combination of centralized and distributed system	109	126	163	128	2,492	3,140	5,774	3,404	43.6	40.2	28.2	37.5
Food preparation or serving areas in non-food service buildings (more than one may apply)												
Snack bar or concession stand	77	90	94	94	1,482	1,967	2,690	1,660	52.0	46.0	34.8	56.8
Fast food or small restaurant	69	79	112	103	1,535	1,541	2,909	2,251	44.8	51.3	38.4	45.8
Cafeteria or large restaurant	148	143	158	123	3,011	3,084	4,894	1,982	49.1	46.4	32.2	62.1
Commercial kitchen/food preparation area	163	178	169	146	2,739	3,649	5,040	2,533	59.6	48.8	33.5	57.5
Small kitchen area	95	124	93	87	2,458	3,064	3,305	1,994	38.7	40.5	28.1	43.5
HVAC conservation features (more than one may apply)												
Economizer cycle	262	289	197	241	5,693	6,799	6,334	5,778	46.0	42.6	31.2	41.7
Regular HVAC maintenance	441	561	514	426	9,897	12,918	16,817	11,062	44.6	43.4	30.5	38.5
Building automation system (BAS) ¹	245	285	275	268	5,519	6,557	9,634	6,065	44.5	43.4	28.5	44.2

Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	Total natural gas consumption (billion cubic feet)				Total floorspace of buildings using natural gas (million square feet)				Natural gas energy intensity (cubic feet/square foot)			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	487	626	600	479	11,118	15,026	19,883	12,702	43.8	41.7	30.2	37.7
Window and interior lighting features (more than one may apply)												
Multipaned windows	379	536	445	347	8,492	12,540	14,533	8,151	44.7	42.8	30.6	42.6
Tinted window glass	252	331	374	301	5,206	7,510	12,059	7,800	48.3	44.0	31.0	38.5
Reflective window glass	95	147	123	163	1,810	3,373	3,543	3,264	52.6	43.4	34.7	49.9
External overhangs or awnings	190	260	292	262	3,431	5,562	8,351	5,753	55.5	46.8	34.9	45.6
Skylights or atriums	163	143	163	194	3,322	3,611	5,227	4,524	49.1	39.6	31.2	42.9
Light scheduling	212	251	214	227	4,825	5,748	6,858	5,653	44.0	43.6	31.2	40.2
Occupancy sensors	272	287	229	253	6,046	6,642	7,950	6,275	44.9	43.1	28.9	40.3
Multi-level lighting or dimming	98	133	149	179	1,967	2,591	3,879	3,140	49.7	51.4	38.5	57.0
Daylight harvesting	53	47	36	57	894	1,274	1,367	1,383	59.0	37.2	26.2	40.9
Demand responsive lighting	25	31	36	32	469	879	1,100	1,255	52.5	35.3	32.9	25.7
Building automation system (BAS) for lighting ¹	90	86	71	80	1,816	2,111	2,969	2,484	49.5	40.9	23.8	32.2
Equipment usage reduced when building not in full use (more than one may apply)												
Heating	384	498	421	330	9,227	11,988	15,367	10,274	41.6	41.5	27.4	32.1
Cooling	378	474	430	321	8,903	11,411	15,639	9,864	42.4	41.5	27.5	32.5
Lighting	457	594	553	450	10,460	14,155	18,528	11,899	43.7	41.9	29.8	37.8
Annual consumption (hundred cubic feet)												
1,000 or less	5	16	17	12	683	1,253	3,068	1,930	7.7	12.8	5.4	6.4
1,001 to 5,000	48	83	84	61	2,103	3,232	4,935	3,050	22.9	25.8	17.0	19.9
5,001 to 10,000	44	61	80	46	1,514	1,757	3,358	1,420	28.9	34.9	23.9	32.7
10,001 to 25,000	65	127	145	113	1,845	3,147	3,691	2,446	35.1	40.3	39.3	46.2
25,001 to 50,000	72	96	79	56	1,675	1,910	2,092	1,505	43.1	50.0	37.9	37.5
50,001 to 100,000	86	83	69	50	1,496	1,639	1,351	925	57.4	50.7	51.4	54.3
Over 100,000	167	160	125	140	1,802	2,088	1,389	1,427	92.5	76.7	90.1	98.1

¹In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/>

• Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A and C of the 2012 Commercial Buildings Energy Consumption Survey.

Table E1. Major fuel consumption (Btu) by end use, 2012 - PUBLIC USE VERSION

	Total major fuel consumption (trillion Btu)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computers	Other
All buildings	6,960	1,755	656	668	506	723	516	670	172	405	857
Building floorspace (square feet)											
1,001 to 5,000	723	155	50	45	57	59	105	131	21	33	56
5,001 to 10,000	646	157	45	48	42	58	82	93	17	33	62
10,001 to 25,000	876	243	67	79	56	92	60	92	28	50	103
25,001 to 50,000	822	223	79	84	60	97	33	68	21	46	108
50,001 to 100,000	1,066	288	103	108	83	110	42	103	27	60	141
100,001 to 200,000	1,034	243	95	116	77	119	54	92	21	73	144
200,001 to 500,000	1,026	267	125	106	74	109	59	68	19	62	136
Over 500,000	767	178	92	82	57	80	81	23	19	48	106
Principal building activity											
Education	842	299	91	68	67	78	15	40	21	78	84
Food sales	262	32	6	12	3	16	29	147	2	2	14
Food service	514	46	30	31	43	19	199	113	7	4	21
Health care	718	210	79	83	82	61	52	19	17	34	82
Inpatient	549	164	67	46	78	40	47	14	12	21	59
Outpatient	169	46	12	37	4	21	4	4	5	13	23
Lodging	564	67	39	49	136	40	69	33	43	6	83
Mercantile	1,007	182	91	121	66	140	72	191	18	23	103
Retail (other than mall)	364	76	40	46	5	72	8	53	7	11	46
Enclosed and strip malls	644	106	52	75	61	68	64	139	11	12	57
Office	1,240	305	118	214	35	147	Q	28	37	167	153
Public assembly	480	188	86	24	7	35	14	25	7	16	72
Public order and safety	133	36	16	5	21	15	4	3	3	8	22
Religious worship	173	74	15	13	Q	9	11	4	4	3	26
Service	272	118	21	14	22	37	1	5	4	8	39
Warehouse and storage	428	116	35	13	11	85	Q	47	6	16	73
Other	285	69	26	16	2	37	Q	15	2	40	77
Vacant	42	13	2	4	Q	5	Q	1	0	1	8
Year constructed											
Before 1920	238	102	10	19	9	20	19	15	4	10	27
1920 to 1945	418	143	33	35	34	38	23	33	9	23	45
1946 to 1959	537	177	44	48	40	50	35	40	12	25	63
1960 to 1969	902	280	74	73	71	90	44	70	23	56	118
1970 to 1979	1,011	251	87	100	97	98	89	90	25	58	113
1980 to 1989	1,164	219	142	129	78	132	84	115	31	77	150
1990 to 1999	1,102	227	113	108	70	121	101	129	27	65	135
2000 to 2003	578	139	57	61	30	67	33	57	14	40	78
2004 to 2007	528	104	50	47	41	57	Q	66	15	25	62
2008 to 2012	483	114	46	49	35	50	33	54	12	26	64

Table E1. Major fuel consumption (Btu) by end use, 2012 - PUBLIC USE VERSION

	Total major fuel consumption (trillion Btu)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computers	Other
All buildings	6,960	1,755	656	668	506	723	516	670	172	405	857
Census region and division											
Northeast	1,458	503	89	134	100	134	91	120	27	81	176
New England	367	159	15	27	15	29	17	34	7	16	46
Middle Atlantic	1,091	344	73	107	85	105	73	87	20	65	130
Midwest	1,565	573	98	141	94	155	82	127	33	79	176
East North Central	1,130	431	67	100	67	109	58	91	22	55	126
West North Central	435	143	30	41	27	46	24	37	11	24	50
South	2,565	404	375	259	183	295	201	278	72	152	332
South Atlantic	1,358	203	199	140	92	154	104	154	42	89	174
East South Central	369	73	39	37	35	40	30	42	11	18	42
West South Central	838	128	138	82	56	101	67	82	19	45	116
West	1,372	275	94	134	130	139	143	144	40	93	173
Mountain	418	108	30	39	35	38	Q	35	13	22	44
Pacific	955	167	63	95	95	101	91	109	27	71	129
Number of floors											
One	2,831	621	260	243	170	324	249	433	61	127	317
Two	1,459	382	125	139	102	154	104	132	36	101	180
Three	667	223	59	64	47	63	28	38	18	43	83
Four to nine	1,432	411	145	154	136	127	76	50	38	94	199
Ten or more	571	118	66	68	52	55	Q	16	19	41	77
Elevators and escalators (more than one may apply)											
Any elevators	3,181	851	328	349	261	304	200	136	83	237	428
Number of elevators											
One	882	265	72	95	74	88	46	52	24	58	108
Two to five	1,241	327	124	140	86	122	52	51	32	120	185
Six or more	1,057	259	132	115	101	94	102	33	28	59	135
Any escalators	377	74	45	43	25	42	Q	17	12	17	52
Number of workers (main shift)											
Fewer than 5	756	228	55	45	52	78	41	93	22	24	91
5 to 9	598	142	51	50	40	61	60	79	17	24	72
10 to 19	772	184	57	60	65	71	102	99	22	32	79
20 to 49	1,188	284	106	113	81	126	90	144	30	73	140
50 to 99	1,148	290	118	118	82	128	50	118	27	74	143
100 to 249	1,058	286	101	110	63	116	51	86	21	68	156
250 or more	1,441	342	168	172	123	143	123	50	34	109	177
Weekly operating hours											
Fewer than 40	228	95	20	8	10	17	11	15	6	12	25
40 to 48	831	256	87	74	36	99	19	40	27	82	107
49 to 60	1,258	371	127	138	48	150	33	64	33	121	168
61 to 84	1,369	330	128	148	88	143	123	173	25	65	143
85 to 167	1,098	252	89	92	59	106	130	212	13	27	112
Open continuously	2,176	450	204	209	265	209	200	167	67	97	302

Table E1. Major fuel consumption (Btu) by end use, 2012 - PUBLIC USE VERSION

	Total major fuel consumption (trillion Btu)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computers	Other
All buildings	6,960	1,755	656	668	506	723	516	670	172	405	857
Party responsible for operation and maintenance of energy systems											
Building owner	5,805	1,516	557	561	414	606	402	476	149	357	738
Business owner or tenant	983	204	80	90	76	101	99	176	18	39	98
Property management	96	17	10	12	11	9	8	8	3	7	12
Other	76	19	8	5	6	7	8	10	2	2	9
Provider of direct input on energy-related equipment purchases											
Building owner	5,980	1,555	570	577	430	625	414	505	153	365	756
Business owner or tenant	767	156	65	70	58	78	81	133	14	32	78
Property management	61	12	6	8	5	7	4	5	2	3	8
Other	153	31	14	14	14	14	17	26	3	5	15
Number of establishments											
One	4,482	1,153	407	387	356	455	368	405	120	248	556
2 to 5	1,401	382	130	143	90	146	81	147	29	71	181
6 to 10	363	84	34	45	21	37	22	47	8	28	38
11 to 20	355	78	36	46	22	38	26	45	7	19	37
More than 20	346	51	48	47	17	48	19	26	7	39	44
Currently unoccupied	13	6	0	0	Q	0	Q	Q	Q	Q	Q
Predominant exterior wall material											
Brick, stone, or stucco	3,456	917	319	335	284	330	262	292	92	207	408
Concrete (block or poured)	1,718	365	178	164	126	186	129	232	39	81	214
Concrete panels	664	157	57	69	42	77	Q	47	18	50	91
Siding or shingles	400	106	28	35	26	39	40	46	11	19	45
Metal panels	427	137	43	32	13	64	9	31	7	22	61
Window glass	170	46	17	22	Q	17	5	7	3	21	23
Other	80	13	11	7	3	7	Q	Q	1	3	9
No one major type	45	15	3	5	2	5	Q	4	1	2	6
Predominant roof material											
Metal surfacing	864	208	92	65	39	115	56	98	21	45	112
Synthetic or rubber	2,440	666	210	245	164	243	181	228	55	143	301
Built-up	1,862	436	194	199	145	198	131	163	42	119	232
Slate or tile shingles	371	101	26	30	36	30	38	33	12	19	42
Wooden materials (including shingles)	93	26	6	6	9	7	12	12	2	3	8
Asphalt, fiberglass, or other shingles	1,105	276	100	99	97	107	86	113	35	56	130
Concrete	133	16	20	16	10	16	4	11	4	16	20
Other	58	11	6	5	4	5	7	9	1	2	8
No one major type	35	13	3	3	Q	4	Q	Q	1	2	5
Roof characteristics											
Roof tilt											
Flat	4,474	1,102	446	464	348	472	314	382	102	276	560
Shallow pitch	1,596	382	138	136	85	177	131	212	41	87	193
Steeper pitch	890	271	71	69	74	75	72	75	29	42	104
Cool roof	1,836	433	180	183	139	186	142	179	40	113	236

Table E1. Major fuel consumption (Btu) by end use, 2012 - PUBLIC USE VERSION

	Total major fuel consumption (trillion Btu)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computers	Other
All buildings	6,960	1,755	656	668	506	723	516	670	172	405	857
Renovations in buildings constructed before 2008 (more than one may apply)											
Any type of renovation	3,760	992	352	368	277	367	291	320	89	229	468
Addition or annex	1,291	364	131	112	109	118	123	84	32	59	158
Reduction in floorspace	225	49	20	23	Q	22	Q	19	4	9	23
Roof replacement	1,985	554	183	194	153	189	147	145	44	118	255
Exterior wall replacement	398	89	41	38	28	37	45	35	8	28	49
Interior wall reconfiguration	2,055	539	201	219	140	199	155	143	48	155	254
Window replacement	1,089	303	98	100	88	97	96	64	30	73	137
HVAC equipment upgrade	2,543	650	252	252	197	245	210	198	59	157	322
Lighting upgrade	2,438	661	221	235	183	226	194	208	56	147	304
Electrical upgrade	1,607	421	150	149	122	144	149	121	37	100	212
Plumbing system upgrade	1,396	364	120	129	119	116	143	99	35	86	182
Insulation upgrade	771	196	68	66	52	63	90	69	19	52	96
Fire, safety, or security upgrade	1,684	444	167	164	140	150	126	118	38	113	221
Structural upgrade	423	83	42	35	30	35	68	30	11	29	59
Other	69	19	9	9	3	8	1	3	2	6	9
No renovations	2,717	650	258	251	195	307	193	295	71	150	324
Buildings constructed 2008 or later	483	114	46	49	35	50	33	54	12	26	64
Energy sources (more than one may apply)											
Electricity	6,960	1,755	656	668	506	723	516	670	172	405	857
Natural gas	5,541	1,518	472	498	476	514	483	523	127	283	640
Fuel oil	2,231	587	243	226	161	222	151	116	51	157	313
District heat	807	256	39	83	81	68	89	23	19	40	108
District chilled water	664	206	18	68	68	58	78	18	16	40	94
Propane	583	122	49	48	35	64	Q	78	17	23	93
Other	301	85	27	31	15	30	15	26	5	16	51
Space-heating energy sources (more than one may apply)											
Electricity	3,896	778	430	408	270	432	287	435	106	246	497
Natural gas	4,445	1,395	361	393	336	414	312	419	95	226	487
Fuel oil	360	146	29	28	18	34	12	19	7	17	48
District heat	803	256	38	83	81	67	88	22	19	40	107
Propane	151	27	12	14	5	19	10	26	5	7	26
Other	48	13	2	5	2	7	Q	5	1	2	7
Primary space-heating energy source											
Electricity	1,844	106	257	216	138	237	166	236	64	148	271
Natural gas	3,870	1,296	309	339	268	360	242	361	78	197	414
Fuel oil	187	92	10	12	4	17	5	9	4	8	27
District heat	793	253	37	82	80	67	88	22	18	39	105
Propane	63	4	5	6	0	9	Q	17	2	3	11
Other	21	5	1	2	Q	4	Q	2	Q	1	4

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	Total major fuel consumption (trillion Btu)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computers	Other
All buildings	6,960	1,755	656	668	506	723	516	670	172	405	857
Cooling energy sources (more than one may apply)											
Electricity	6,319	1,532	649	619	449	659	451	636	157	372	783
Natural gas	98	37	15	9	9	7	3	2	2	4	11
District chilled water	664	206	18	68	68	58	78	18	16	40	94
Water-heating energy sources (more than one may apply)											
Electricity	3,100	649	347	339	95	380	207	378	74	221	405
Natural gas	4,027	1,092	341	348	431	350	347	407	93	184	429
Fuel oil	174	75	12	12	6	14	8	10	4	7	25
District heat	652	188	33	67	74	56	80	17	16	32	89
Propane	87	6	10	8	0	9	6	24	3	3	15
Cooking energy sources (more than one may apply)											
Electricity	2,511	574	253	231	200	219	280	312	56	121	263
Natural gas	3,014	635	274	258	296	232	466	398	65	100	290
Propane	167	34	16	14	8	14	10	33	5	Q	22
Energy end uses (more than one may apply)											
Buildings with space heating	6,779	1,755	619	657	491	693	505	646	168	397	831
Buildings with cooling	6,771	1,677	656	665	493	699	511	650	169	401	838
Buildings with water heating	6,795	1,706	641	658	506	695	516	664	168	396	832
Buildings with cooking	4,078	897	390	364	357	340	516	528	94	171	420
Buildings with manufacturing	360	89	34	28	14	49	14	32	5	15	79
Buildings with electricity generation	2,802	687	292	287	206	274	183	211	65	195	401
Percent of floorspace heated											
Not heated	181	N	36	11	15	31	11	23	4	8	25
1 to 50	467	70	38	37	25	63	40	63	11	39	78
51 to 99	1,298	304	129	129	91	131	114	158	29	60	152
100	5,014	1,380	453	491	376	499	351	426	127	298	602
Percent of floorspace cooled											
Not cooled	189	78	N	3	13	24	5	20	3	4	18
1 to 50	988	362	42	65	57	122	49	82	19	40	147
51 to 99	2,143	553	192	214	153	206	156	231	48	138	247
100	3,641	762	421	385	283	370	305	336	102	224	444
Percent lit when open											
Zero	4	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
1 to 50	642	181	54	62	46	50	34	49	23	27	105
51 to 99	3,047	827	274	295	230	284	204	307	71	175	375
100	3,243	733	326	311	229	387	278	314	77	203	374
Building never open/electricity not used	24	13	1	0	Q	Q	Q	Q	Q	Q	Q

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	Total major fuel consumption (trillion Btu)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computers	Other
All buildings	6,960	1,755	656	668	506	723	516	670	172	405	857
Percent lit during off hours											
Zero	1,293	393	117	116	59	126	71	102	32	94	161
1 to 50	4,345	1,104	427	432	312	463	294	418	106	251	531
51 to 100	1,016	208	80	88	108	98	133	105	23	47	123
Building always open with no "off hours"	306	49	31	32	28	36	18	44	11	13	41
Electricity not used	N	N	N	N	N	N	N	N	N	N	N
Heating equipment (more than one may apply)											
Heat pumps	899	143	117	86	84	97	70	87	34	62	117
Furnaces	616	179	48	53	37	58	55	68	18	32	67
Individual space heaters	1,571	470	129	148	114	166	80	132	42	84	201
District heat	803	256	38	83	81	67	88	22	19	40	107
Boilers	2,262	740	217	210	198	197	106	123	52	137	279
Packaged heating units	4,081	925	411	419	260	431	345	492	91	222	478
Other	191	33	9	18	12	15	21	62	2	3	16
Cooling equipment (more than one may apply)											
Residential-type central air conditioners	1,086	281	93	75	81	108	98	144	29	48	128
Heat pumps	939	154	115	93	85	104	66	96	34	66	123
Individual air conditioners	1,013	298	97	81	106	89	64	70	34	47	125
District chilled water	664	206	18	68	68	58	78	18	16	40	94
Central chillers	1,852	480	234	210	143	179	85	80	43	147	249
Packaged air conditioning units	3,970	956	403	415	265	404	320	451	85	202	463
Swamp coolers	175	45	14	14	16	16	21	23	3	6	17
Other	45	9	4	5	2	5	Q	1	0	Q	7
Main equipment replaced since 1990 (more than one may apply)											
Heating	2,164	550	199	202	170	215	160	222	58	135	249
Cooling	2,520	650	252	235	204	243	182	232	68	158	292
Water-heating equipment											
Centralized system	4,208	1,108	377	391	334	415	346	387	111	231	499
Distributed system	832	192	82	83	43	105	46	75	19	55	130
Combination of centralized and distributed system	1,754	405	182	184	129	175	124	201	38	111	203
Lighting equipment types (more than one may apply)											
Incandescent	3,539	877	353	336	287	340	321	344	86	184	403
Standard fluorescent	6,710	1,696	632	650	490	693	491	649	166	394	830
Compact fluorescent	5,093	1,264	496	507	407	493	426	451	129	305	610
High-intensity discharge (HID)	2,185	557	227	215	159	229	172	190	49	112	272
Halogen	2,694	636	275	271	206	266	240	272	64	138	323
LED	2,362	561	242	248	173	220	206	251	52	117	291
Other	58	16	9	5	4	4	4	6	1	2	6

Table E1. Major fuel consumption (Btu) by end use, 2012 - PUBLIC USE VERSION

	Total major fuel consumption (trillion Btu)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computers	Other
All buildings	6,960	1,755	656	668	506	723	516	670	172	405	857
Refrigeration equipment (more than one may apply)											
Any refrigeration	6,468	1,599	610	623	485	646	516	670	159	365	788
Walk-in units	3,525	733	329	309	307	283	451	547	73	131	361
Cases or cabinets	3,315	697	291	307	273	282	399	523	70	126	346
Large cold storage areas	530	102	40	37	32	42	61	145	7	13	53
Commercial ice makers	3,730	788	370	357	334	326	416	457	91	172	418
Residential-type or compact units	5,180	1,382	499	513	387	537	332	413	131	324	657
Vending machines	4,176	1,033	418	429	336	439	273	379	102	243	524
No refrigeration	492	156	45	45	21	77	Q	N	13	40	69
Office equipment (more than one may apply)											
Desktop computers	6,583	1,656	629	647	482	687	472	620	163	399	828
With flat screen monitors	6,520	1,643	624	641	477	678	465	614	162	398	817
With multiple monitors	2,941	744	296	321	195	298	215	212	69	233	358
Laptop computers	5,464	1,410	545	556	403	570	354	427	136	362	700
Dedicated servers	4,782	1,168	476	496	339	498	328	424	115	341	596
Laser printers	4,792	1,238	451	488	346	495	315	428	126	315	590
Inkjet printers	2,903	707	298	273	199	305	228	280	66	161	384
FAX machines	5,703	1,424	554	574	404	612	399	541	140	345	710
Photocopiers	5,107	1,341	509	528	357	540	305	387	132	344	665
Number of desktop computers											
None	377	99	27	22	24	36	44	50	9	Q	29
1 to 4	1,184	270	82	82	104	106	162	189	30	22	135
5 to 9	738	192	60	62	43	77	55	106	20	27	95
10 to 19	675	173	58	69	41	79	31	79	17	41	87
20 to 49	1,120	269	118	118	86	130	52	117	29	55	146
50 to 99	646	166	69	73	44	77	36	45	16	41	80
100 to 249	960	248	82	99	75	101	Q	48	25	81	132
250 or more	1,261	339	160	144	89	116	67	35	27	132	152
Number of laptop computers											
None	1,497	345	111	112	103	154	162	243	36	43	157
1 to 4	1,515	393	137	125	101	165	120	181	40	60	192
5 to 9	698	157	65	73	59	81	58	70	16	32	85
10 to 19	719	169	82	79	66	75	42	63	16	38	88
20 to 49	906	244	73	96	68	91	70	56	26	74	111
50 to 99	506	149	55	53	31	51	14	22	11	37	83
100 to 249	525	152	51	58	38	50	21	17	12	61	66
250 or more	595	147	83	72	40	57	29	18	15	60	74
Number of dedicated servers											
None	2,178	587	180	172	167	225	188	245	57	64	261
1 to 4	2,717	656	246	266	205	295	191	309	68	136	345
5 to 9	565	138	54	60	40	59	47	55	12	35	67
10 to 19	593	139	66	74	29	63	Q	34	16	51	77
20 to 49	396	113	51	45	26	39	16	13	9	36	48
50 or more	512	122	59	52	39	42	32	14	10	83	60

Table E1. Major fuel consumption (Btu) by end use, 2012 - PUBLIC USE VERSION

	Total major fuel consumption (trillion Btu)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computers	Other
All buildings	6,960	1,755	656	668	506	723	516	670	172	405	857
Number of photocopiers											
None	1,853	414	147	141	150	184	212	282	40	62	191
One	1,201	325	103	102	87	127	81	142	31	49	154
2 to 4	1,596	428	156	167	102	178	68	137	45	105	210
5 to 9	783	187	76	84	50	92	56	58	17	66	97
10 or more	1,527	401	174	174	117	143	101	49	39	124	204
Number of TVs or video displays											
None	1,213	348	89	97	53	145	72	139	14	73	152
One	697	207	54	59	40	74	51	84	13	32	83
2 to 4	1,310	352	123	125	64	146	85	136	27	67	186
5 to 9	777	178	79	80	45	78	64	91	17	58	87
10 to 19	809	185	81	91	57	84	76	76	16	54	89
20 to 49	716	153	81	86	50	80	43	73	21	46	84
50 to 99	431	105	39	43	44	43	18	29	19	38	52
100 or more	1,006	227	109	87	156	73	107	41	46	37	123
Food preparation or serving areas in non-food service buildings (more than one may apply)											
Snack bar or concession stand	1,112	266	124	99	79	93	121	131	25	51	123
Fast food or small restaurant	1,206	217	120	122	92	113	141	201	29	43	127
Cafeteria or large restaurant	1,623	400	185	156	163	138	166	105	41	87	181
Commercial kitchen/ food preparation area	1,797	421	184	157	196	142	190	200	47	64	196
Small kitchen area	1,187	314	129	106	90	103	104	108	33	54	145
Separate computer areas (more than one may apply)											
Data center or server farm	1,355	345	171	141	89	124	93	46	31	151	163
Computer-based training room	1,696	425	196	177	118	174	123	123	39	123	197
Student or public computer center	1,275	374	130	114	121	111	90	79	36	79	141
HVAC conservation features (more than one may apply)											
Economizer cycle	3,140	823	295	342	221	312	236	237	66	200	406
Regular HVAC maintenance	6,201	1,538	603	620	455	640	463	575	151	377	769
Building automation system (BAS) ¹	3,708	895	388	403	262	379	243	311	81	253	488

Table E1. Major fuel consumption (Btu) by end use, 2012 - PUBLIC USE VERSION

	Total major fuel consumption (trillion Btu)										
	Total	Space heating	Cooling	Ventilation	Water heating	Lighting	Cooking	Refrigeration	Office equipment	Computers	Other
All buildings	6,960	1,755	656	668	506	723	516	670	172	405	857
Window and interior lighting features (more than one may apply)											
Multipaned windows	5,248	1,345	476	516	382	524	404	515	131	307	634
Tinted window glass	3,971	936	411	408	290	416	305	364	95	240	501
Reflective window glass	1,652	368	174	174	121	163	147	154	41	118	191
External overhangs or awnings	3,087	702	283	296	232	295	317	380	74	158	345
Skylights or atriums	2,009	533	187	205	146	197	177	142	45	105	268
Light scheduling	2,930	668	299	318	194	284	235	327	67	183	351
Occupancy sensors	3,432	879	343	362	225	330	224	310	77	224	452
Multi-level lighting or dimming	1,618	360	156	161	141	132	186	182	39	72	188
Daylight harvesting	619	160	61	68	31	61	44	64	12	29	89
Demand responsive lighting	410	77	42	45	32	45	33	65	9	16	44
Building automation system (BAS) for lighting ¹	1,200	246	131	144	65	130	80	165	21	71	147
Equipment usage reduced when building not in full use (more than one may apply)											
Heating	5,018	1,323	484	502	327	509	364	480	118	296	603
Cooling	5,005	1,267	516	507	336	510	367	475	119	297	602
Lighting	6,423	1,657	606	620	460	664	478	595	156	376	791

¹In earlier CBECS publications, BAS was referred to as *Energy Management and Control System (EMCS)*.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

N = No cases in reporting sample.

Notes: • Because of rounding, data may not sum to totals. • See the *Guide to the 2012 CBECS Detailed Tables* or *CBECS Terminology* for definitions of terms used in these tables and/or comparison of differences with prior CBECS tables. Both references can be accessed from <http://www.eia.gov/consumption/commercial/data/2012/> • Site electricity is the amount of electricity delivered to commercial buildings. Primary electricity, which is not included in the *Total of major fuels* category, is site electricity plus the conversion losses in the generation, transmission, and distribution processes. • Statistics for the *Energy end uses* category represent total consumption in buildings that have the end use, not consumption specifically for that particular end use. • HVAC = Heating, ventilation, and air conditioning.

Source: U.S. Energy Information Administration, Office of Energy Consumption and Efficiency Statistics, Forms EIA-871A, C, D, E, and F of the 2012 Commercial Buildings Energy Consumption Survey.

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RSEs for Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs for mean square feet per building	RSEs for mean feet per worker	RSEs for mean operating hours per week
All buildings	5.4	4.6	5.1	3.2	2.5	1.9
Building floorspace (square feet)						
1,001 to 5,000	5.4	5.2	5.6	1.1	2.9	2.8
5,001 to 10,000	8.0	8.2	10.4	0.8	3.5	3.0
10,001 to 25,000	6.9	6.9	11.2	1.0	8.5	3.0
25,001 to 50,000	8.1	8.0	9.8	1.1	6.3	3.0
50,001 to 100,000	7.8	7.7	8.4	1.2	4.3	3.0
100,001 to 200,000	7.0	7.2	11.5	1.4	8.5	3.5
200,001 to 500,000	6.8	6.5	7.3	1.4	4.6	3.0
Over 500,000	9.2	9.2	10.7	2.9	6.3	2.7
Principal building activity						
Education	7.6	5.8	11.5	6.5	9.8	2.9
Food sales	11.4	12.8	13.5	13.1	7.9	3.0
Food service	6.6	7.6	9.1	3.7	5.6	3.0
Health care	10.8	7.3	8.1	10.0	3.5	4.2
Inpatient	16.9	8.2	8.6	13.9	2.9	0.0
Outpatient	11.3	11.2	12.3	10.5	6.9	4.3
Lodging	9.8	8.2	13.6	8.3	10.4	0.8
Mercantile	6.0	8.4	7.7	7.1	3.1	2.1
Retail (other than mall)	6.9	8.3	8.5	6.6	5.6	2.6
Enclosed and strip malls	11.1	11.9	11.9	8.9	3.7	3.3
Office	6.7	6.1	6.6	6.1	2.7	1.9
Public assembly	9.1	9.5	10.7	8.5	6.9	4.9
Public order and safety	17.5	13.7	20.2	14.7	13.2	11.1
Religious worship	7.3	8.8	9.0	6.6	7.5	7.4
Service	7.4	8.9	9.9	6.1	5.3	3.3
Warehouse and storage	12.8	11.7	17.4	8.5	8.3	5.5
Other	14.5	15.5	16.9	15.9	11.2	12.8
Vacant	11.5	13.3	20.1	9.0	15.3	24.7
Year constructed						
Before 1920	10.5	11.2	11.0	9.0	9.7	6.2
1920 to 1945	6.7	7.6	9.6	6.9	7.1	5.2
1946 to 1959	7.7	8.1	9.1	5.8	5.1	3.4
1960 to 1969	7.9	6.6	8.0	5.8	6.6	3.8
1970 to 1979	7.5	7.0	9.1	5.5	6.9	3.5
1980 to 1989	8.3	6.5	7.7	5.1	4.0	3.3
1990 to 1999	6.2	5.1	9.4	5.3	9.5	3.5
2000 to 2003	9.3	7.8	8.4	9.4	6.5	5.0
2004 to 2007	13.3	15.5	15.8	7.9	5.9	5.5
2008 to 2012	15.4	17.3	17.4	10.7	6.4	4.5

RSEs for Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs for mean square feet per building	RSEs for mean square feet per worker	RSEs for mean operating hours per week
All buildings	5.4	4.6	5.1	3.2	2.5	1.9
Census region and division						
Northeast	9.0	6.2	7.5	7.4	5.7	3.7
New England	22.7	14.2	8.8	15.3	12.0	6.2
Middle Atlantic	7.0	6.7	9.1	6.7	6.2	4.2
Midwest	9.3	6.0	7.7	6.2	5.0	3.8
East North Central	12.1	6.9	10.1	9.3	6.8	5.7
West North Central	14.2	11.6	10.9	5.8	5.5	4.6
South	7.7	7.9	8.5	5.1	4.1	3.1
South Atlantic	9.5	12.3	13.9	7.1	5.8	2.9
East South Central	9.3	12.2	6.0	15.4	7.9	6.5
West South Central	17.4	13.1	11.9	7.4	6.7	7.4
West	16.0	14.4	14.6	7.8	6.6	4.4
Mountain	12.4	14.0	11.5	13.3	5.0	10.6
Pacific	21.4	18.8	18.4	9.5	8.6	4.7
Number of floors						
One	6.3	7.3	8.8	4.0	4.0	2.6
Two	5.6	5.6	7.1	4.0	4.6	2.6
Three	8.3	6.3	8.8	7.3	5.9	4.4
Four to nine	9.4	7.4	7.9	6.5	4.4	3.9
Ten or more	11.1	9.6	11.4	5.3	5.8	4.6
Elevators and escalators (more than one may apply)						
Any elevators	5.7	4.4	5.5	3.9	3.3	2.1
Number of elevators						
One	6.4	5.8	10.2	5.2	7.3	3.0
Two to five	8.4	7.0	7.8	4.7	5.3	3.2
Six or more	8.7	8.1	9.2	4.8	4.1	3.4
Any escalators	25.6	13.1	13.9	21.3	7.9	6.3
Number of workers (main shift)						
Fewer than 5	5.8	6.6	5.8	4.0	4.6	3.4
5 to 9	7.2	6.9	7.1	3.0	3.0	2.5
10 to 19	8.8	8.7	8.6	3.1	3.1	2.9
20 to 49	7.5	6.2	7.3	4.4	4.2	2.0
50 to 99	8.0	6.5	8.3	3.7	4.0	2.6
100 to 249	9.5	8.5	9.5	5.3	5.6	4.5
250 or more	7.6	6.6	7.8	5.4	5.0	4.2
Weekly operating hours						
Fewer than 40	7.2	8.4	8.5	4.6	7.2	4.3
40 to 48	7.5	7.4	9.2	4.6	6.0	0.2
49 to 60	6.7	6.4	6.8	3.9	4.0	0.3
61 to 84	6.8	5.8	5.3	5.8	4.4	0.4
85 to 167	7.9	8.6	8.3	7.3	5.3	0.8
Open continuously	8.1	5.5	8.2	6.3	5.5	0.0

RSEs for Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs for mean square feet per building	RSEs for feet per worker	RSEs for mean operating hours per week
All buildings	5.4	4.6	5.1	3.2	2.5	1.9
Party responsible for operation and maintenance of energy systems						
Building owner	5.3	4.2	4.8	3.1	2.8	2.0
Business owner or tenant	9.2	11.0	11.4	6.8	3.9	3.3
Property management	16.8	14.2	19.6	16.1	13.4	6.9
Other	16.9	15.6	20.7	16.0	14.3	10.6
Provider of direct input on energy- related equipment purchases						
Building owner	5.2	4.3	4.8	3.2	2.8	2.0
Business owner or tenant	10.1	10.7	11.0	7.5	4.4	3.6
Property management	22.3	19.0	24.8	22.9	20.5	9.0
Other	13.6	14.6	15.0	11.0	8.8	7.5
Number of establishments						
One	5.5	5.0	5.8	3.1	3.4	1.9
2 to 5	7.1	6.0	6.9	5.0	3.7	2.9
6 to 10	13.9	10.9	10.7	7.8	5.5	7.1
11 to 20	14.1	13.4	13.0	12.0	6.4	4.8
More than 20	26.0	8.8	10.4	26.2	6.4	6.1
Currently unoccupied	12.8	17.3	0.0	11.7	0.0	0.0
Predominant exterior wall material						
Brick, stone, or stucco	5.1	4.8	5.1	3.3	3.1	2.3
Concrete (block or poured)	6.9	6.3	8.4	5.1	4.8	2.4
Concrete panels	25.2	11.9	10.8	14.7	6.1	7.4
Siding or shingles	9.0	10.4	11.1	5.9	7.4	4.4
Metal panels	10.8	9.0	9.6	5.8	6.1	4.7
Window glass	18.8	13.2	15.1	17.0	7.9	25.4
Other	23.7	25.9	18.4	23.7	18.5	18.0
No one major type	23.0	21.3	57.7	22.6	132.5	17.8
Predominant roof material						
Metal surfacing	7.8	7.1	7.7	5.0	4.4	3.1
Synthetic or rubber	6.0	5.9	6.8	4.3	3.4	2.5
Built-up	8.7	5.4	6.2	5.8	3.8	3.1
Slate or tile shingles	8.8	13.6	12.6	11.3	8.8	5.0
Wooden materials (including shingles)	13.7	16.5	17.0	9.7	11.3	6.0
Asphalt, fiberglass, or other shingles	6.3	5.9	9.3	4.7	7.6	2.9
Concrete	18.2	13.6	14.8	16.4	13.2	7.6
Other	25.5	25.4	23.4	25.9	13.6	15.6
No one major type	29.8	26.9	32.0	25.4	27.3	10.0

RSEs for Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs for mean square feet per building	RSEs for mean square feet per worker	RSEs for mean operating hours per week
All buildings	5.4	4.6	5.1	3.2	2.5	1.9
Roof characteristics						
Roof tilt						
Flat	7.2	5.0	5.6	4.2	3.2	2.1
Shallow pitch	6.7	6.8	6.9	4.7	3.3	3.3
Steeper pitch	6.7	6.2	7.3	3.9	5.7	2.5
Cool roof	7.4	6.3	8.3	5.3	4.4	3.5
Renovations in buildings constructed before 2008 (more than one may apply)						
Any type of renovation	4.7	3.8	4.6	3.5	3.0	2.0
Addition or annex	7.8	5.0	5.9	5.9	4.8	4.0
Reduction in floorspace	17.0	18.5	35.8	18.5	26.8	12.7
Roof replacement	5.5	4.4	6.3	4.7	4.5	3.3
Exterior wall replacement	9.0	7.8	8.3	8.0	5.4	5.4
Interior wall reconfiguration	6.1	4.5	5.3	4.7	3.2	2.8
Window replacement	5.9	5.1	6.0	5.2	5.1	4.1
HVAC equipment upgrade	4.9	3.7	5.4	4.2	3.8	2.3
Lighting upgrade	5.2	4.5	5.0	4.6	3.4	2.5
Electrical upgrade	6.0	5.4	6.3	5.5	4.1	3.0
Plumbing system upgrade	5.8	5.7	6.5	5.4	4.4	3.4
Insulation upgrade	8.0	6.7	7.0	6.6	5.0	4.0
Fire, safety, or security upgrade	6.3	4.9	5.5	5.5	3.8	3.1
Structural upgrade	10.0	8.9	11.3	9.7	7.2	6.7
Other	28.7	23.9	27.5	27.2	16.1	14.5
No renovations	6.2	5.8	6.7	3.8	3.9	2.9
Buildings constructed 2008 or later	15.4	17.3	17.4	10.7	6.4	4.5
Energy sources (more than one may apply)						
Electricity	5.3	4.7	5.1	3.1	2.5	1.6
Natural gas	5.3	4.8	5.3	3.2	3.0	1.9
Fuel oil	11.5	5.4	6.2	9.8	3.9	6.1
District heat	18.2	12.9	15.2	13.0	9.7	7.4
District chilled water	17.3	16.2	20.0	15.3	13.9	6.7
Propane	10.9	8.6	9.3	7.7	5.8	5.4
Wood	26.0	22.4	34.5	16.1	29.5	9.5
Coal	51.4	48.7	42.5	56.4	19.6	47.6
Solar	19.5	15.0	13.3	16.7	13.0	9.3
Other	19.4	16.5	20.2	13.2	12.0	8.4

RSEs for Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs for mean square feet per building	RSEs for feet per worker	RSEs for mean operating hours per week
All buildings	5.4	4.6	5.1	3.2	2.5	1.9
Space-heating energy sources (more than one may apply)						
Electricity						
Electricity	5.8	5.1	6.1	3.7	3.3	1.4
Natural gas	5.7	5.3	5.7	3.4	3.2	2.0
Fuel oil	17.2	13.7	11.2	9.0	8.3	7.6
District heat	18.3	12.9	15.3	13.0	9.8	7.4
Propane	11.4	11.6	13.4	6.4	7.3	6.8
Wood	28.7	25.8	29.7	16.5	9.8	9.2
Coal	62.9	74.8	69.5	76.8	18.8	55.0
Solar	50.7	50.7	50.7	0.0	0.0	0.0
Other	35.0	36.0	46.1	15.5	22.8	4.5
Primary space-heating energy source						
Electricity						
Electricity	7.6	6.6	8.3	4.2	5.3	2.1
Natural gas	5.7	5.1	5.5	3.6	2.9	2.2
Fuel oil	19.9	20.8	14.4	9.3	10.9	9.4
District heat	18.3	13.1	15.5	13.3	9.8	7.4
Propane	11.7	12.1	14.6	7.5	9.8	6.9
Wood	39.7	43.3	48.1	10.2	10.6	7.0
Coal	76.0	84.9	73.9	125.6	32.9	67.7
Other	40.5	45.1	55.2	20.6	27.6	5.8
Cooling energy sources (more than one may apply)						
Electricity						
Electricity	5.5	4.7	5.1	3.0	2.5	1.5
Natural gas	30.6	21.5	26.2	31.8	14.8	20.8
District chilled water	17.3	16.2	20.0	15.3	13.9	6.7
Water-heating energy sources (more than one may apply)						
Electricity						
Electricity	5.7	5.3	5.8	4.1	2.8	1.7
Natural gas	5.7	5.2	6.0	3.3	3.7	2.1
Fuel oil	25.4	15.8	12.5	18.0	7.0	9.3
District heat	21.5	15.6	18.4	13.1	11.6	6.4
Propane	12.3	11.6	12.2	11.8	9.5	6.9
Cooking energy sources (more than one may apply)						
Electricity						
Electricity	5.2	4.5	5.2	4.5	2.9	2.7
Natural gas	5.7	4.7	6.5	4.2	3.7	3.1
Propane	19.0	11.9	16.4	13.5	11.9	7.5

RSEs for Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs for mean square feet per building	RSEs for mean square feet per worker	RSEs for mean operating hours per week
All buildings	5.4	4.6	5.1	3.2	2.5	1.9
Energy end uses (more than one may apply)						
Buildings with space heating	5.0	4.5	5.0	3.1	2.6	1.5
Buildings with cooling	5.4	4.7	5.2	3.1	2.6	1.5
Buildings with water heating	5.1	4.6	5.1	3.0	2.5	1.4
Buildings with cooking	4.8	3.9	5.0	3.7	2.8	2.4
Buildings with manufacturing	13.8	11.3	13.6	9.7	7.6	3.2
Buildings with electricity generation	6.9	4.8	5.5	6.4	3.8	4.2
Percent of floorspace heated						
Not heated	9.4	9.9	15.4	7.4	9.6	8.7
1 to 50	12.0	11.3	14.4	6.5	5.9	3.7
51 to 99	6.9	5.5	7.2	5.3	4.6	2.7
100	4.5	4.4	5.2	3.4	3.2	1.6
Percent of floorspace cooled						
Not cooled	8.8	9.2	11.0	6.2	11.1	7.2
1 to 50	10.5	8.8	11.2	5.4	4.2	2.3
51 to 99	6.4	5.0	5.8	4.6	3.3	2.7
100	4.6	5.2	5.9	3.7	3.8	1.7
Percent lit when open						
Zero	23.0	23.1	32.7	13.4	25.3	9.6
1 to 50	7.5	7.8	10.8	5.1	6.2	3.6
51 to 99	6.3	5.0	5.6	4.4	2.7	2.0
100	5.0	4.8	5.7	3.3	3.5	1.8
Building never open/electricity not used	10.0	10.5	40.6	8.3	51.6	23.2
Percent lit during off hours						
Zero	6.6	6.9	8.2	3.4	4.8	2.5
1 to 50	5.0	4.6	5.0	3.3	2.8	1.4
51 to 100	10.0	8.3	13.5	10.4	9.5	3.8
Building always open with no "off hours"	16.8	11.2	16.0	14.2	13.9	0.0
Electricity not used	12.7	14.4	41.2	11.6	41.0	22.1
Heating equipment (more than one may apply)						
Heat pumps	9.3	6.9	8.4	6.4	5.5	2.9
Furnaces	7.2	7.9	7.8	4.4	4.9	3.4
Individual space heaters	6.4	5.2	5.8	4.5	3.5	2.7
District heat	18.3	12.9	15.3	13.0	9.8	7.4
Boilers	6.5	4.2	5.8	5.4	3.8	3.2
Packaged heating units	5.4	5.5	6.2	3.3	3.2	1.8
Other	18.3	14.5	15.8	16.3	5.5	10.0

RSEs for Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs for mean square feet per building	RSEs for mean square feet per worker	RSEs for mean operating hours per week
All buildings	5.4	4.6	5.1	3.2	2.5	1.9
Cooling equipment						
(more than one may apply)						
Residential-type central air conditioners	7.0	7.4	7.7	4.1	3.7	2.4
Heat pumps	8.8	6.9	8.3	5.6	5.1	2.3
Individual air conditioners	7.3	5.4	7.1	5.6	4.7	3.5
District chilled water	17.3	16.2	20.0	15.3	13.9	6.7
Central chillers	7.1	4.5	6.1	5.8	3.8	3.8
Packaged air conditioning units	6.3	5.0	5.6	3.6	3.3	2.0
Swamp coolers	16.6	15.0	13.5	15.9	7.4	6.6
Other	51.6	27.3	30.5	72.1	24.1	35.6
Main equipment replaced since 1990 (more than one may apply)						
Heating	4.8	4.3	5.2	3.0	3.6	2.0
Cooling	4.9	4.1	4.8	3.1	2.9	1.9
Water-heating equipment						
Centralized system	5.0	4.8	5.5	3.0	2.8	1.6
Distributed system	8.0	7.4	7.9	5.5	4.3	2.6
Combination of centralized and distributed system	7.4	5.3	6.8	4.9	5.7	3.0
Lighting equipment types (more than one may apply)						
Incandescent	4.6	4.2	5.0	4.2	3.1	2.0
Standard fluorescent	5.4	4.6	5.1	3.1	2.6	1.5
Compact fluorescent	5.6	4.3	4.8	3.7	2.6	1.9
High-intensity discharge (HID)	7.4	5.1	6.1	5.5	4.2	3.0
Halogen	5.5	5.0	5.6	4.5	3.2	2.2
LED	7.4	5.2	5.9	5.2	3.6	3.6
Other	31.8	19.6	19.3	29.5	12.6	7.0
Refrigeration equipment (more than one may apply)						
Any refrigeration	5.1	4.2	4.6	3.3	2.2	1.4
Walk-in units	4.8	4.2	5.4	4.1	3.3	1.7
Cases or cabinets	4.7	4.8	5.6	4.5	3.1	1.8
Large cold storage areas	10.9	10.3	10.7	12.6	7.2	5.4
Commercial ice makers	5.5	4.4	5.5	4.4	3.1	2.4
Residential-type or compact units	5.6	4.6	4.8	3.8	2.4	1.5
Vending machines	5.7	4.6	5.0	3.7	2.7	2.2
No refrigeration	7.2	8.8	15.1	5.3	13.3	5.5

RSEs for Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs for mean square feet per building	RSEs for mean square feet per worker	RSEs for mean operating hours per week
All buildings	5.4	4.6	5.1	3.2	2.5	1.9
Office equipment (more than one may apply)						
Desktop computers	5.6	4.7	5.2	3.1	2.6	1.4
With flat screen monitors	5.8	4.7	5.2	3.2	2.6	1.4
With multiple monitors	7.4	5.3	5.8	4.9	2.8	2.2
Laptop computers	5.9	4.6	5.1	3.7	2.8	1.5
Dedicated servers	6.8	4.9	5.1	4.3	2.5	1.7
Laser printers	5.7	4.8	5.4	3.6	3.1	1.5
Inkjet printers	6.7	5.6	6.9	3.4	3.1	1.9
FAX machines	5.8	4.6	5.0	3.3	2.3	1.3
Photocopiers	6.4	4.6	5.1	3.9	2.9	1.5
Number of desktop computers						
None	7.4	8.1	10.1	5.1	8.9	5.5
1 to 4	5.2	5.7	6.5	3.6	4.9	2.2
5 to 9	8.5	8.5	14.0	4.0	12.9	2.4
10 to 19	8.8	8.6	9.1	4.3	3.7	2.2
20 to 49	8.4	7.4	9.5	5.1	4.4	2.9
50 to 99	8.8	8.0	9.8	5.4	5.5	4.5
100 to 249	8.0	7.0	10.2	5.4	6.9	3.7
250 or more	7.4	6.5	7.1	4.7	3.7	3.5
Number of laptop computers						
None	5.8	5.9	7.2	3.9	3.2	3.2
1 to 4	6.2	6.0	6.8	2.8	3.6	1.9
5 to 9	8.9	8.7	12.6	7.3	8.5	3.0
10 to 19	8.8	8.7	10.0	5.7	4.9	3.7
20 to 49	8.9	7.5	8.9	6.0	6.0	3.7
50 to 99	10.5	8.4	13.8	7.9	13.4	7.0
100 to 249	10.8	8.7	8.4	8.3	6.7	8.7
250 or more	12.6	9.0	9.8	8.5	4.5	5.7
Number of dedicated servers						
None	5.6	5.6	7.8	3.1	5.4	2.6
1 to 4	7.0	5.9	6.8	4.2	3.2	1.7
5 to 9	9.8	8.5	9.0	7.4	5.3	5.7
10 to 19	14.1	9.3	9.0	12.4	7.3	8.4
20 to 49	15.5	8.9	10.8	14.3	6.7	7.2
50 or more	15.0	12.3	11.4	11.7	6.7	7.3
Number of photocopiers						
None	5.6	5.8	6.7	3.6	3.3	2.7
One	7.2	7.8	8.3	4.0	4.1	2.1
2 to 4	7.0	5.6	8.1	4.3	5.3	2.3
5 to 9	8.3	6.8	10.5	6.7	6.3	4.5
10 or more	9.5	6.6	6.6	8.4	3.8	4.9

RSEs for Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs for mean square feet per building	RSEs for mean square feet per worker	RSEs for mean operating hours per week
All buildings	5.4	4.6	5.1	3.2	2.5	1.9
Number of TVs or video displays						
None	6.1	6.7	9.6	3.7	6.7	3.6
One	6.5	6.5	7.5	4.8	5.5	2.5
2 to 4	6.5	6.0	6.8	4.4	3.8	2.5
5 to 9	7.9	7.6	8.8	5.7	5.0	3.6
10 to 19	10.0	8.2	12.1	7.3	8.3	5.0
20 to 49	9.8	7.8	9.1	7.0	5.4	5.1
50 to 99	13.7	13.9	14.2	9.1	7.9	4.3
100 or more	11.3	8.0	10.0	8.7	6.8	1.8
Food preparation or serving areas in non-food service buildings (more than one may apply)						
Snack bar or concession stand	8.9	6.6	8.3	8.7	5.5	4.6
Fast food or small restaurant	8.1	7.1	6.6	7.2	4.7	3.5
Cafeteria or large restaurant	6.6	5.2	7.7	4.9	5.1	3.2
Commercial kitchen/ food preparation area	7.1	5.4	8.2	5.3	5.2	3.8
Small kitchen area	6.4	5.4	6.2	5.3	4.4	4.7
Separate computer areas (more than one may apply)						
Data center or server farm	9.6	6.5	6.4	8.4	4.1	6.5
Computer-based training room	6.8	5.7	5.8	5.3	3.8	3.3
Student or public computer center	7.2	5.9	7.0	5.9	4.1	2.9
HVAC conservation features (more than one may apply)						
Economizer cycle	6.2	5.0	6.1	4.2	3.3	2.3
Regular HVAC maintenance	5.3	4.7	5.1	3.1	2.6	1.4
Building automation system (BAS) ²	7.3	4.9	5.3	5.2	2.8	2.6
Window and interior lighting features (more than one may apply)						
Multipaned windows	5.1	4.7	4.8	3.2	2.4	1.7
Tinted window glass	7.8	6.1	6.2	4.2	3.2	1.9
Reflective window glass	8.3	6.5	6.3	6.5	3.3	3.0
External overhangs or awnings	5.3	5.2	6.0	3.7	3.3	2.0
Skylights or atriums	10.1	6.2	7.2	6.6	4.8	3.0
Light scheduling	6.2	5.4	6.4	5.1	4.3	3.1
Occupancy sensors	8.5	5.0	5.2	5.4	3.2	2.5
Multi-level lighting or dimming	5.9	5.7	6.7	5.5	3.5	3.4
Daylight harvesting	11.3	8.2	10.6	12.1	7.8	6.4
Demand responsive lighting	19.9	16.1	15.5	11.9	7.0	6.2
Building automation system (BAS) for lighting ¹	9.9	7.5	7.6	7.9	4.8	3.8

RSEs for Table B1. Summary table: total and means of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs for mean square feet per building	RSEs for mean feet per worker	RSEs for mean hours per week
All buildings	5.4	4.6	5.1	3.2	2.5	1.9
Equipment usage reduced when building not in full use (more than one may apply)						
Heating	5.4	4.8	5.2	3.4	2.6	1.7
Cooling	5.7	4.9	5.4	3.6	2.5	1.7
Lighting	5.4	4.7	5.1	3.1	2.6	1.4

Release date: June 2015
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RSEs for Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians
All buildings	5.4	4.6	5.1	P	P	P	P
Building floorspace (square feet)							
1,001 to 5,000	5.4	5.2	5.6	P	P	P	P
5,001 to 10,000	8.0	8.2	10.4	P	P	P	P
10,001 to 25,000	6.9	6.9	11.2	P	P	P	P
25,001 to 50,000	8.1	8.0	9.8	P	P	P	P
50,001 to 100,000	7.8	7.7	8.4	P	P	P	P
100,001 to 200,000	7.0	7.2	11.5	P	P	P	P
200,001 to 500,000	6.8	6.5	7.3	P	P	P	P
Over 500,000	9.2	9.2	10.7	P	P	P	P
Principal building activity							
Education	7.6	5.8	11.5	P	P	P	P
Food sales	11.4	12.8	13.5	P	P	P	P
Food service	6.6	7.6	9.1	P	P	P	P
Health care	10.8	7.3	8.1	P	P	P	P
Inpatient	16.9	8.2	8.6	P	P	P	P
Outpatient	11.3	11.2	12.3	P	P	P	P
Lodging	9.8	8.2	13.6	P	P	P	P
Mercantile	6.0	8.4	7.7	P	P	P	P
Retail (other than mall)	6.9	8.3	8.5	P	P	P	P
Enclosed and strip malls	11.1	11.9	11.9	P	P	P	P
Office	6.7	6.1	6.6	P	P	P	P
Public assembly	9.1	9.5	10.7	P	P	P	P
Public order and safety	17.5	13.7	20.2	P	P	P	P
Religious worship	7.3	8.8	9.0	P	P	P	P
Service	7.4	8.9	9.9	P	P	P	P
Warehouse and storage	12.8	11.7	17.4	P	P	P	P
Other	14.5	15.5	16.9	P	P	P	P
Vacant	11.5	13.3	20.1	P	P	P	P
Year constructed							
Before 1920	10.5	11.2	11.0	P	P	P	P
1920 to 1945	6.7	7.6	9.6	P	P	P	P
1946 to 1959	7.7	8.1	9.1	P	P	P	P
1960 to 1969	7.9	6.6	8.0	P	P	P	P
1970 to 1979	7.5	7.0	9.1	P	P	P	P
1980 to 1989	8.3	6.5	7.7	P	P	P	P
1990 to 1999	6.2	5.1	9.4	P	P	P	P
2000 to 2003	9.3	7.8	8.4	P	P	P	P
2004 to 2007	13.3	15.5	15.8	P	P	P	P
2008 to 2012	15.4	17.3	17.4	P	P	P	P

RSEs for Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians
All buildings	5.4	4.6	5.1	P	P	P
Census region and division						
Northeast	9.0	6.2	7.5	P	P	P
New England	22.7	14.2	8.8	P	P	P
Middle Atlantic	7.0	6.7	9.1	P	P	P
Midwest	9.3	6.0	7.7	P	P	P
East North Central	12.1	6.9	10.1	P	P	P
West North Central	14.2	11.6	10.9	P	P	P
South	7.7	7.9	8.5	P	P	P
South Atlantic	9.5	12.3	13.9	P	P	P
East South Central	9.3	12.2	6.0	P	P	P
West South Central	17.4	13.1	11.9	P	P	P
West	16.0	14.4	14.6	P	P	P
Mountain	12.4	14.0	11.5	P	P	P
Pacific	21.4	18.8	18.4	P	P	P
Number of floors						
One	6.3	7.3	8.8	P	P	P
Two	5.6	5.6	7.1	P	P	P
Three	8.3	6.3	8.8	P	P	P
Four to nine	9.4	7.4	7.9	P	P	P
Ten or more	11.1	9.6	11.4	P	P	P
Elevators and escalators (more than one may apply)						
Any elevators	5.7	4.4	5.5	P	P	P
Number of elevators						
One	6.4	5.8	10.2	P	P	P
Two to five	8.4	7.0	7.8	P	P	P
Six or more	8.7	8.1	9.2	P	P	P
Any escalators	25.6	13.1	13.9	P	P	P
Number of workers (main shift)						
Fewer than 5	5.8	6.6	5.8	P	P	P
5 to 9	7.2	6.9	7.1	P	P	P
10 to 19	8.8	8.7	8.6	P	P	P
20 to 49	7.5	6.2	7.3	P	P	P
50 to 99	8.0	6.5	8.3	P	P	P
100 to 249	9.5	8.5	9.5	P	P	P
250 or more	7.6	6.6	7.8	P	P	P
Weekly operating hours						
Fewer than 40	7.2	8.4	8.5	P	P	P
40 to 48	7.5	7.4	9.2	P	P	P
49 to 60	6.7	6.4	6.8	P	P	P
61 to 84	6.8	5.8	5.3	P	P	P
85 to 167	7.9	8.6	8.3	P	P	P
Open continuously	8.1	5.5	8.2	P	P	P

RSEs for Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians
All buildings	5.4	4.6	5.1	P	P	P
Party responsible for operation and maintenance of energy systems						
Building owner	5.3	4.2	4.8	P	P	P
Business owner or tenant	9.2	11.0	11.4	P	P	P
Property management	16.8	14.2	19.6	P	P	P
Other	16.9	15.6	20.7	P	P	P
Provider of direct input on energy- related equipment purchases						
Building owner	5.2	4.3	4.8	P	P	P
Business owner or tenant	10.1	10.7	11.0	P	P	P
Property management	22.3	19.0	24.8	P	P	P
Other	13.6	14.6	15.0	P	P	P
Number of establishments						
One	5.5	5.0	5.8	P	P	P
2 to 5	7.1	6.0	6.9	P	P	P
6 to 10	13.9	10.9	10.7	P	P	P
11 to 20	14.1	13.4	13.0	P	P	P
More than 20	26.0	8.8	10.4	P	P	P
Currently unoccupied	12.8	17.3	0.0	P	P	P
Predominant exterior wall material						
Brick, stone, or stucco	5.1	4.8	5.1	P	P	P
Concrete (block or poured)	6.9	6.3	8.4	P	P	P
Concrete panels	25.2	11.9	10.8	P	P	P
Siding or shingles	9.0	10.4	11.1	P	P	P
Metal panels	10.8	9.0	9.6	P	P	P
Window glass	18.8	13.2	15.1	P	P	P
Other	23.7	25.9	18.4	P	P	P
No one major type	23.0	21.3	57.7	P	P	P
Predominant roof material						
Metal surfacing	7.8	7.1	7.7	P	P	P
Synthetic or rubber	6.0	5.9	6.8	P	P	P
Built-up	8.7	5.4	6.2	P	P	P
Slate or tile shingles	8.8	13.6	12.6	P	P	P
Wooden materials (including shingles)	13.7	16.5	17.0	P	P	P
Asphalt, fiberglass, or other shingles	6.3	5.9	9.3	P	P	P
Concrete	18.2	13.6	14.8	P	P	P
Other	25.5	25.4	23.4	P	P	P
No one major type	29.8	26.9	32.0	P	P	P

RSEs for Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians
All buildings	5.4	4.6	5.1	P	P	P
Roof characteristics						
Roof tilt						
Flat	7.2	5.0	5.6	P	P	P
Shallow pitch	6.7	6.8	6.9	P	P	P
Steeper pitch	6.7	6.2	7.3	P	P	P
Cool roof	7.4	6.3	8.3	P	P	P
Renovations in buildings constructed before 2008 (more than one may apply)						
Any type of renovation	4.7	3.8	4.6	P	P	P
Addition or annex	7.8	5.0	5.9	P	P	P
Reduction in floorspace	17.0	18.5	35.8	P	P	P
Roof replacement	5.5	4.4	6.3	P	P	P
Exterior wall replacement	9.0	7.8	8.3	P	P	P
Interior wall reconfiguration	6.1	4.5	5.3	P	P	P
Window replacement	5.9	5.1	6.0	P	P	P
HVAC equipment upgrade	4.9	3.7	5.4	P	P	P
Lighting upgrade	5.2	4.5	5.0	P	P	P
Electrical upgrade	6.0	5.4	6.3	P	P	P
Plumbing system upgrade	5.8	5.7	6.5	P	P	P
Insulation upgrade	8.0	6.7	7.0	P	P	P
Fire, safety, or security upgrade	6.3	4.9	5.5	P	P	P
Structural upgrade	10.0	8.9	11.3	P	P	P
Other	28.7	23.9	27.5	P	P	P
No renovations	6.2	5.8	6.7	P	P	P
Buildings constructed 2008 or later	15.4	17.3	17.4	P	P	P
Energy sources (more than one may apply)						
Electricity	5.3	4.7	5.1	P	P	P
Natural gas	5.3	4.8	5.3	P	P	P
Fuel oil	11.5	5.4	6.2	P	P	P
District heat	18.2	12.9	15.2	P	P	P
District chilled water	17.3	16.2	20.0	P	P	P
Propane	10.9	8.6	9.3	P	P	P
Wood	26.0	22.4	34.5	P	P	P
Coal	51.4	48.7	42.5	P	P	P
Solar	19.5	15.0	13.3	P	P	P
Other	19.4	16.5	20.2	P	P	P

RSEs for Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians
All buildings	5.4	4.6	5.1	P	P	P
Space-heating energy sources (more than one may apply)						
Electricity						
Electricity	5.8	5.1	6.1	P	P	P
Natural gas	5.7	5.3	5.7	P	P	P
Fuel oil	17.2	13.7	11.2	P	P	P
District heat	18.3	12.9	15.3	P	P	P
Propane	11.4	11.6	13.4	P	P	P
Wood	28.7	25.8	29.7	P	P	P
Coal	62.9	74.8	69.5	P	P	P
Solar	50.7	50.7	50.7	P	P	P
Other	35.0	36.0	46.1	P	P	P
Primary space-heating energy source						
Electricity						
Electricity	7.6	6.6	8.3	P	P	P
Natural gas	5.7	5.1	5.5	P	P	P
Fuel oil	19.9	20.8	14.4	P	P	P
District heat	18.3	13.1	15.5	P	P	P
Propane	11.7	12.1	14.6	P	P	P
Wood	39.7	43.3	48.1	P	P	P
Coal	76.0	84.9	73.9	P	P	P
Other	40.5	45.1	55.2	P	P	P
Cooling energy sources (more than one may apply)						
Electricity						
Electricity	5.5	4.7	5.1	P	P	P
Natural gas	30.6	21.5	26.2	P	P	P
District chilled water	17.3	16.2	20.0	P	P	P
Water-heating energy sources (more than one may apply)						
Electricity						
Electricity	5.7	5.3	5.8	P	P	P
Natural gas	5.7	5.2	6.0	P	P	P
Fuel oil	25.4	15.8	12.5	P	P	P
District heat	21.5	15.6	18.4	P	P	P
Propane	12.3	11.6	12.2	P	P	P
Cooking energy sources (more than one may apply)						
Electricity						
Electricity	5.2	4.5	5.2	P	P	P
Natural gas	5.7	4.7	6.5	P	P	P
Propane	19.0	11.9	16.4	P	P	P
Energy end uses (more than one may apply)						
Buildings with space heating						
Buildings with space heating	5.0	4.5	5.0	P	P	P
Buildings with cooling						
Buildings with cooling	5.4	4.7	5.2	P	P	P
Buildings with water heating						
Buildings with water heating	5.1	4.6	5.1	P	P	P
Buildings with cooking						
Buildings with cooking	4.8	3.9	5.0	P	P	P
Buildings with manufacturing						
Buildings with manufacturing	13.8	11.3	13.6	P	P	P
Buildings with electricity generation						
Buildings with electricity generation	6.9	4.8	5.5	P	P	P

RSEs for Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians
All buildings	5.4	4.6	5.1	P	P	P
Percent of floorspace heated						
Not heated	9.4	9.9	15.4	P	P	P
1 to 50	12.0	11.3	14.4	P	P	P
51 to 99	6.9	5.5	7.2	P	P	P
100	4.5	4.4	5.2	P	P	P
Percent of floorspace cooled						
Not cooled	8.8	9.2	11.0	P	P	P
1 to 50	10.5	8.8	11.2	P	P	P
51 to 99	6.4	5.0	5.8	P	P	P
100	4.6	5.2	5.9	P	P	P
Percent lit when open						
Zero	23.0	23.1	32.7	P	P	P
1 to 50	7.5	7.8	10.8	P	P	P
51 to 99	6.3	5.0	5.6	P	P	P
100	5.0	4.8	5.7	P	P	P
Building never open/electricity not used	10.0	10.5	40.6	P	P	P
Percent lit during off hours						
Zero	6.6	6.9	8.2	P	P	P
1 to 50	5.0	4.6	5.0	P	P	P
51 to 100	10.0	8.3	13.5	P	P	P
Building always open with no "off hours"	16.8	11.2	16.0	P	P	P
Electricity not used	12.7	14.4	41.2	P	P	P
Heating equipment (more than one may apply)						
Heat pumps	9.3	6.9	8.4	P	P	P
Furnaces	7.2	7.9	7.8	P	P	P
Individual space heaters	6.4	5.2	5.8	P	P	P
District heat	18.3	12.9	15.3	P	P	P
Boilers	6.5	4.2	5.8	P	P	P
Packaged heating units	5.4	5.5	6.2	P	P	P
Other	18.3	14.5	15.8	P	P	P
Cooling equipment (more than one may apply)						
Residential-type central air conditioners	7.0	7.4	7.7	P	P	P
Heat pumps	8.8	6.9	8.3	P	P	P
Individual air conditioners	7.3	5.4	7.1	P	P	P
District chilled water	17.3	16.2	20.0	P	P	P
Central chillers	7.1	4.5	6.1	P	P	P
Packaged air conditioning units	6.3	5.0	5.6	P	P	P
Swamp coolers	16.6	15.0	13.5	P	P	P
Other	51.6	27.3	30.5	P	P	P

RSEs for Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians
All buildings	5.4	4.6	5.1	P	P	P
Main equipment replaced since 1990 (more than one may apply)						
Heating	4.8	4.3	5.2	P	P	P
Cooling	4.9	4.1	4.8	P	P	P
Water-heating equipment						
Centralized system	5.0	4.8	5.5	P	P	P
Distributed system	8.0	7.4	7.9	P	P	P
Combination of centralized and distributed system	7.4	5.3	6.8	P	P	P
Lighting equipment types (more than one may apply)						
Incandescent	4.6	4.2	5.0	P	P	P
Standard fluorescent	5.4	4.6	5.1	P	P	P
Compact fluorescent	5.6	4.3	4.8	P	P	P
High-intensity discharge (HID)	7.4	5.1	6.1	P	P	P
Halogen	5.5	5.0	5.6	P	P	P
LED	7.4	5.2	5.9	P	P	P
Other	31.8	19.6	19.3	P	P	P
Refrigeration equipment (more than one may apply)						
Any refrigeration	5.1	4.2	4.6	P	P	P
Walk-in units	4.8	4.2	5.4	P	P	P
Cases or cabinets	4.7	4.8	5.6	P	P	P
Large cold storage areas	10.9	10.3	10.7	P	P	P
Commercial ice makers	5.5	4.4	5.5	P	P	P
Residential-type or compact units	5.6	4.6	4.8	P	P	P
Vending machines	5.7	4.6	5.0	P	P	P
No refrigeration	7.2	8.8	15.1	P	P	P
Office equipment (more than one may apply)						
Desktop computers	5.6	4.7	5.2	P	P	P
With flat screen monitors	5.8	4.7	5.2	P	P	P
With multiple monitors	7.4	5.3	5.8	P	P	P
Laptop computers	5.9	4.6	5.1	P	P	P
Dedicated servers	6.8	4.9	5.1	P	P	P
Laser printers	5.7	4.8	5.4	P	P	P
Inkjet printers	6.7	5.6	6.9	P	P	P
FAX machines	5.8	4.6	5.0	P	P	P
Photocopiers	6.4	4.6	5.1	P	P	P

RSEs for Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians
All buildings	5.4	4.6	5.1	P	P	P	P
Number of desktop computers							
None	7.4	8.1	10.1	P	P	P	P
1 to 4	5.2	5.7	6.5	P	P	P	P
5 to 9	8.5	8.5	14.0	P	P	P	P
10 to 19	8.8	8.6	9.1	P	P	P	P
20 to 49	8.4	7.4	9.5	P	P	P	P
50 to 99	8.8	8.0	9.8	P	P	P	P
100 to 249	8.0	7.0	10.2	P	P	P	P
250 or more	7.4	6.5	7.1	P	P	P	P
Number of laptop computers							
None	5.8	5.9	7.2	P	P	P	P
1 to 4	6.2	6.0	6.8	P	P	P	P
5 to 9	8.9	8.7	12.6	P	P	P	P
10 to 19	8.8	8.7	10.0	P	P	P	P
20 to 49	8.9	7.5	8.9	P	P	P	P
50 to 99	10.5	8.4	13.8	P	P	P	P
100 to 249	10.8	8.7	8.4	P	P	P	P
250 or more	12.6	9.0	9.8	P	P	P	P
Number of dedicated servers							
None	5.6	5.6	7.8	P	P	P	P
1 to 4	7.0	5.9	6.8	P	P	P	P
5 to 9	9.8	8.5	9.0	P	P	P	P
10 to 19	14.1	9.3	9.0	P	P	P	P
20 to 49	15.5	8.9	10.8	P	P	P	P
50 or more	15.0	12.3	11.4	P	P	P	P
Number of photocopiers							
None	5.6	5.8	6.7	P	P	P	P
One	7.2	7.8	8.3	P	P	P	P
2 to 4	7.0	5.6	8.1	P	P	P	P
5 to 9	8.3	6.8	10.5	P	P	P	P
10 or more	9.5	6.6	6.6	P	P	P	P
Number of TVs or video displays							
None	6.1	6.7	9.6	P	P	P	P
One	6.5	6.5	7.5	P	P	P	P
2 to 4	6.5	6.0	6.8	P	P	P	P
5 to 9	7.9	7.6	8.8	P	P	P	P
10 to 19	10.0	8.2	12.1	P	P	P	P
20 to 49	9.8	7.8	9.1	P	P	P	P
50 to 99	13.7	13.9	14.2	P	P	P	P
100 or more	11.3	8.0	10.0	P	P	P	P

RSEs for Table B2. Summary table: total and medians of floorspace, number of workers, and hours of operation, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings	RSEs for total floorspace	RSEs for total workers	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians	RSEs not available for medians
All buildings	5.4	4.6	5.1	P	P	P	P
Food preparation or serving areas in non-food service buildings (more than one may apply)							
Snack bar or concession stand							
Snack bar or concession stand	8.9	6.6	8.3	P	P	P	P
Fast food or small restaurant	8.1	7.1	6.6	P	P	P	P
Cafeteria or large restaurant	6.6	5.2	7.7	P	P	P	P
Commercial kitchen/ food preparation area	7.1	5.4	8.2	P	P	P	P
Small kitchen area	6.4	5.4	6.2	P	P	P	P
Separate computer areas (more than one may apply)							
Data center or server farm	9.6	6.5	6.4	P	P	P	P
Computer-based training room	6.8	5.7	5.8	P	P	P	P
Student or public computer center	7.2	5.9	7.0	P	P	P	P
HVAC conservation features (more than one may apply)							
Economizer cycle	6.2	5.0	6.1	P	P	P	P
Regular HVAC maintenance	5.3	4.7	5.1	P	P	P	P
Building automation system (BAS) ²	7.3	4.9	5.3	P	P	P	P
Window and interior lighting features (more than one may apply)							
Multipaned windows	5.1	4.7	4.8	P	P	P	P
Tinted window glass	7.8	6.1	6.2	P	P	P	P
Reflective window glass	8.3	6.5	6.3	P	P	P	P
External overhangs or awnings	5.3	5.2	6.0	P	P	P	P
Skylights or atriums	10.1	6.2	7.2	P	P	P	P
Light scheduling	6.2	5.4	6.4	P	P	P	P
Occupancy sensors	8.5	5.0	5.2	P	P	P	P
Multi-level lighting or dimming	5.9	5.7	6.7	P	P	P	P
Daylight harvesting	11.3	8.2	10.6	P	P	P	P
Demand responsive lighting	19.9	16.1	15.5	P	P	P	P
Building automation system (BAS) for lighting ¹	9.9	7.5	7.6	P	P	P	P
Equipment usage reduced when building not in full use (more than one may apply)							
Heating	5.4	4.8	5.2	P	P	P	P
Cooling	5.7	4.9	5.4	P	P	P	P
Lighting	5.4	4.7	5.1	P	P	P	P

Release date: June 2015
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RSEs for Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings					RSEs for total floorspace				
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5.4	9.0	9.3	7.7	16.0	4.6	6.2	6.0	7.9	14.4
Building floorspace (square feet)										
1,001 to 5,000	5.4	13.9	11.0	8.2	12.7	5.2	13.0	11.6	7.9	11.8
5,001 to 10,000	8.0	7.5	12.0	9.5	25.7	8.2	7.9	11.4	9.8	26.4
10,001 to 25,000	6.9	9.5	11.9	11.1	19.0	6.9	9.5	11.4	10.8	19.0
25,001 to 50,000	8.1	14.0	9.4	15.3	21.0	8.0	14.9	9.6	15.6	18.8
50,001 to 100,000	7.8	12.2	13.1	13.8	16.2	7.7	13.1	13.2	13.7	15.6
100,001 to 200,000	7.0	15.8	13.2	11.4	16.9	7.2	17.1	11.6	11.7	18.0
200,001 to 500,000	6.8	13.4	13.4	11.7	18.2	6.5	12.8	12.4	11.4	17.2
Over 500,000	9.2	11.6	15.5	20.3	15.5	9.2	9.4	19.5	19.0	18.7
Principal building activity										
Education	7.6	15.3	9.1	10.3	19.9	5.8	10.5	7.6	11.2	18.4
Food sales	11.4	23.3	28.5	16.0	28.8	12.8	24.1	31.5	14.6	32.0
Food service	6.6	15.4	15.5	10.9	11.3	7.6	16.5	17.8	11.6	17.4
Health care	10.8	24.1	23.2	17.4	23.7	7.3	15.8	11.4	11.6	21.7
Inpatient	16.9	27.0	34.3	30.5	33.4	8.2	16.4	11.0	11.1	27.6
Outpatient	11.3	26.9	23.6	18.4	24.0	11.2	23.2	21.7	22.3	18.1
Lodging	9.8	23.7	23.9	14.7	21.9	8.2	14.2	18.0	15.1	17.8
Mercantile	6.0	12.9	14.7	8.2	16.5	8.4	14.2	12.3	16.1	16.6
Retail (other than mall)	6.9	15.0	15.8	10.0	18.2	8.3	16.9	14.0	14.4	19.2
Enclosed and strip malls	11.1	21.6	26.2	16.7	26.0	11.9	17.6	17.6	23.0	20.0
Office	6.7	12.6	8.6	10.6	19.1	6.1	10.4	12.9	11.7	12.7
Public assembly	9.1	25.5	16.9	14.2	18.4	9.5	15.1	18.5	17.9	18.2
Public order and safety	17.5	35.9	36.3	23.0	66.4	13.7	30.6	22.5	21.8	45.2
Religious worship	7.3	24.4	16.1	9.8	17.6	8.8	23.7	14.8	14.2	18.8
Service	7.4	14.8	12.3	11.6	25.4	8.9	21.1	13.4	14.5	31.3
Warehouse and storage	12.8	11.2	15.3	18.7	34.6	11.7	16.4	13.8	17.2	30.9
Other	14.5	37.6	23.3	24.8	29.7	15.5	28.6	29.4	29.1	27.3
Vacant	11.5	24.0	20.3	20.0	15.6	13.3	21.2	20.6	23.8	16.5
Year constructed										
Before 1920	10.5	23.1	19.8	15.6	25.2	11.2	21.6	13.8	23.3	25.9
1920 to 1945	6.7	14.6	9.3	11.9	20.5	7.6	11.2	14.4	17.1	20.3
1946 to 1959	7.7	11.4	12.4	16.8	10.6	8.1	14.3	12.5	18.2	11.8
1960 to 1969	7.9	13.2	16.6	10.9	22.0	6.6	13.6	11.7	12.0	16.9
1970 to 1979	7.5	17.9	12.5	10.2	20.6	7.0	14.0	9.0	9.4	22.2
1980 to 1989	8.3	16.6	12.8	8.8	26.2	6.5	10.5	12.8	7.8	18.6
1990 to 1999	6.2	13.9	14.8	9.2	13.2	5.1	11.3	13.0	7.8	11.7
2000 to 2003	9.3	28.5	21.7	9.1	26.3	7.8	17.6	14.9	12.9	16.2
2004 to 2007	13.3	24.4	21.0	19.4	32.2	15.5	18.4	20.1	21.5	39.1
2008 to 2012	15.4	36.2	25.3	26.4	26.3	17.3	21.5	22.5	32.2	33.9
Number of floors										
One	6.3	12.0	10.2	9.2	16.7	7.3	11.3	9.8	10.4	19.6
Two	5.6	10.1	10.6	8.1	16.2	5.6	13.0	7.5	10.2	14.0
Three	8.3	12.8	17.6	12.9	23.0	6.3	10.4	11.3	13.7	16.6
Four to nine	9.4	13.6	13.1	20.3	22.8	7.4	10.7	9.2	16.4	18.6
Ten or more	11.1	18.2	26.0	21.2	23.1	9.6	10.9	19.1	21.9	23.8

RSEs for Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings					RSEs for total floorspace				
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5.4	9.0	9.3	7.7	16.0	4.6	6.2	6.0	7.9	14.4
Elevators and escalators (more than one may apply)										
Any elevators	5.7	9.4	10.9	10.1	16.1	4.4	8.2	7.1	9.4	11.3
Number of elevators										
One	6.4	12.1	12.8	11.0	16.8	5.8	13.7	10.2	11.4	11.3
Two to five	8.4	15.9	14.2	14.0	24.0	7.0	14.2	11.5	13.0	17.4
Six or more	8.7	17.5	11.2	15.8	21.2	8.1	10.6	15.0	17.6	18.1
Any escalators	25.6	41.8	70.3	14.7	25.5	13.1	21.6	34.2	18.7	26.9
Number of workers (main shift)										
Fewer than 5	5.8	12.5	12.8	9.5	12.6	6.6	16.1	11.5	11.2	14.9
5 to 9	7.2	16.0	12.1	8.6	21.9	6.9	13.2	12.3	7.4	21.4
10 to 19	8.8	9.4	14.8	11.1	25.3	8.7	11.2	14.2	11.9	24.2
20 to 49	7.5	13.5	9.4	11.1	19.9	6.2	12.8	7.3	9.6	17.0
50 to 99	8.0	9.9	12.3	14.7	16.7	6.5	10.1	10.5	11.2	18.0
100 to 249	9.5	12.7	13.9	19.5	23.3	8.5	11.5	11.8	18.9	15.7
250 or more	7.6	18.1	18.0	12.3	12.9	6.6	9.8	13.2	14.9	13.8
Weekly operating hours										
Fewer than 40	7.2	17.8	15.6	11.8	13.7	8.4	15.3	11.1	16.4	16.8
40 to 48	7.5	14.7	10.2	10.1	22.1	7.4	16.1	8.6	11.9	18.9
49 to 60	6.7	8.8	9.6	9.6	20.8	6.4	7.7	10.8	10.5	18.7
61 to 84	6.8	11.5	15.2	9.8	16.4	5.8	9.8	12.0	9.2	15.4
85 to 167	7.9	16.0	11.5	13.1	21.5	8.6	18.7	12.9	13.1	26.4
Open continuously	8.1	20.4	18.1	11.3	21.3	5.5	11.5	10.2	9.4	14.6
Party responsible for operation and maintenance of energy systems										
Building owner	5.3	10.4	9.3	8.0	14.9	4.2	6.9	6.0	7.4	12.6
Business owner or tenant	9.2	14.0	18.9	11.8	25.9	11.0	11.1	13.1	19.0	25.8
Property management	16.8	40.5	47.1	23.7	34.7	14.2	31.8	37.3	20.6	34.0
Other	16.9	20.3	38.2	29.3	30.2	15.6	25.0	35.4	28.3	25.9
Provider of direct input on energy-related equipment purchases										
Building owner	5.2	10.1	9.2	7.9	14.5	4.3	6.6	6.2	7.4	12.9
Business owner or tenant	10.1	18.6	19.9	11.2	30.3	10.7	11.6	14.2	17.7	26.5
Property management	22.3	44.5	46.6	34.1	56.5	19.0	45.1	41.7	24.3	49.1
Other	13.6	20.0	33.5	21.4	36.2	14.6	20.1	34.7	24.0	34.4
Number of establishments										
One	5.5	11.4	9.5	8.1	15.9	5.0	9.1	7.3	8.2	16.0
2 to 5	7.1	12.9	13.6	10.5	20.2	6.0	8.0	10.4	11.3	14.8
6 to 10	13.9	24.7	24.8	20.3	32.7	10.9	16.7	21.1	19.6	24.5
11 to 20	14.1	23.4	28.8	23.8	25.1	13.4	21.9	20.6	27.1	20.0
More than 20	26.0	23.3	37.3	21.0	46.7	8.8	16.4	23.7	16.5	14.9
Currently unoccupied	12.8	29.1	24.5	21.3	18.9	17.3	22.2	27.2	29.4	21.2

RSEs for Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings					RSEs for total floorspace				
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5.4	9.0	9.3	7.7	16.0	4.6	6.2	6.0	7.9	14.4
Predominant exterior wall material										
Brick, stone, or stucco	5.1	8.2	8.9	8.1	14.0	4.8	8.2	5.6	9.2	13.5
Concrete (block or poured)	6.9	10.8	12.4	7.1	25.4	6.3	11.7	9.7	9.8	17.3
Concrete panels	25.2	27.2	19.1	18.7	48.2	11.9	20.2	15.0	15.9	28.3
Siding or shingles	9.0	22.0	15.9	8.8	21.9	10.4	21.6	22.9	10.9	24.2
Metal panels	10.8	21.3	17.3	19.4	11.0	9.0	15.1	14.9	16.0	15.0
Window glass	18.8	42.0	75.2	41.8	24.4	13.2	24.5	29.7	24.7	28.2
Other	23.7	95.4	40.9	30.3	55.5	25.9	68.0	36.9	41.6	41.6
No one major type	23.0	50.8	38.3	38.4	54.0	21.3	32.8	43.8	39.0	51.2
Predominant roof material										
Metal surfacing	7.8	24.7	13.2	12.4	16.6	7.1	17.3	11.6	10.9	18.0
Synthetic or rubber	6.0	8.2	9.2	13.4	16.3	5.9	8.7	8.6	14.3	14.9
Built-up	8.7	13.7	11.0	10.0	23.4	5.4	10.9	9.2	7.8	15.0
Slate or tile shingles	8.8	17.2	20.1	16.0	14.6	13.6	19.9	21.8	28.3	15.0
Wooden materials (including shingles)	13.7	18.7	26.5	20.4	34.6	16.5	37.0	34.4	20.1	32.8
Asphalt, fiberglass, or other shingles	6.3	11.2	15.0	5.6	19.1	5.9	9.1	12.7	8.2	17.3
Concrete	18.2	48.4	62.8	24.2	36.5	13.6	26.1	44.3	21.4	24.0
Other	25.5	49.9	47.7	38.8	59.9	25.4	41.5	40.7	33.2	65.1
No one major type	29.8	58.2	42.7	50.9	76.6	26.9	58.0	36.6	39.1	64.5
Roof characteristics										
Roof tilt										
Flat	7.2	7.3	8.8	7.7	22.3	5.0	6.5	7.0	7.6	16.8
Shallow pitch	6.7	12.9	12.5	10.6	15.8	6.8	14.0	9.1	11.4	15.8
Steeper pitch	6.7	18.8	13.8	9.4	11.0	6.2	14.5	14.6	9.6	10.4
Cool roof	7.4	16.3	11.4	11.1	16.1	6.3	14.2	11.3	10.4	14.8
Renovations in buildings constructed before 2008 (more than one may apply)										
Any type of renovation	4.7	8.5	7.7	7.9	13.3	3.8	7.3	6.5	7.3	10.4
Addition or annex	7.8	15.6	11.1	14.8	21.8	5.0	7.7	8.7	9.6	17.4
Reduction in floorspace	17.0	41.6	39.4	21.2	48.5	18.5	47.9	24.2	18.4	32.4
Roof replacement	5.5	8.6	10.5	9.5	14.4	4.4	9.2	7.8	7.9	11.9
Exterior wall replacement	9.0	13.8	16.4	15.0	25.9	7.8	15.3	16.9	13.8	16.0
Interior wall reconfiguration	6.1	10.7	8.1	10.7	18.1	4.5	7.5	7.5	9.0	12.3
Window replacement	5.9	11.5	8.8	10.6	18.4	5.1	7.4	11.2	7.7	18.0
HVAC equipment upgrade	4.9	8.0	8.2	9.8	10.3	3.7	7.0	6.7	7.3	9.6
Lighting upgrade	5.2	8.2	9.4	10.0	12.4	4.5	6.7	7.7	9.7	10.8
Electrical upgrade	6.0	11.2	8.8	10.3	18.8	5.4	11.4	9.6	9.6	14.9
Plumbing system upgrade	5.8	14.4	8.0	10.0	16.2	5.7	13.0	9.4	10.6	13.3
Insulation upgrade	8.0	20.7	11.6	14.9	17.8	6.7	12.0	12.6	13.1	18.0
Fire, safety, or security upgrade	6.3	12.0	12.0	11.4	15.3	4.9	8.8	10.2	9.6	11.3
Structural upgrade	10.0	18.9	18.8	21.8	20.0	8.9	18.0	16.8	17.4	19.1
Other	28.7	40.2	67.0	73.7	57.3	23.9	38.2	51.0	49.6	48.4
No renovations	6.2	9.2	12.8	7.3	18.7	5.8	8.2	9.0	7.1	18.2
Buildings constructed 2008 or later	15.4	36.2	25.3	26.4	26.3	17.3	21.5	22.5	32.2	33.9

RSEs for Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings					RSEs for total floorspace				
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5.4	9.0	9.3	7.7	16.0	4.6	6.2	6.0	7.9	14.4
Energy sources (more than one may apply)										
Electricity	5.3	8.6	9.0	7.4	16.1	4.7	6.2	5.9	8.0	14.5
Natural gas	5.3	7.1	7.7	10.6	13.7	4.8	7.8	6.0	10.3	12.3
Fuel oil	11.5	22.1	18.9	14.0	18.8	5.4	9.7	9.6	10.1	13.6
District heat	18.2	40.6	29.0	28.4	33.4	12.9	19.2	20.6	27.8	25.2
District chilled water	17.3	47.3	28.5	23.3	33.9	16.2	38.8	25.6	25.5	27.0
Propane	10.9	31.9	20.8	13.0	28.6	8.6	17.0	19.0	12.6	23.5
Other	14.3	34.4	19.9	15.1	35.5	10.7	22.7	17.3	16.1	25.1
Space-heating energy sources (more than one may apply)										
Electricity	5.8	9.2	10.1	6.9	18.3	5.1	8.7	6.7	8.4	13.2
Natural gas	5.7	7.6	7.7	12.8	13.9	5.3	7.8	6.1	12.6	12.8
Fuel oil	17.2	26.0	23.5	20.1	51.0	13.7	19.3	27.3	18.4	32.7
District heat	18.3	40.6	29.0	28.4	33.6	12.9	19.2	20.6	28.0	25.9
Propane	11.4	29.1	19.9	16.7	34.2	11.6	27.6	23.1	17.2	25.3
Other	22.1	53.8	25.0	23.6	55.1	22.9	39.8	30.8	31.7	67.2
Primary space-heating energy source										
Electricity	7.6	14.3	16.7	7.9	23.5	6.6	11.2	12.4	8.3	18.0
Natural gas	5.7	7.8	8.4	13.4	13.0	5.1	7.4	6.0	12.9	12.5
Fuel oil	19.9	28.1	21.6	25.3	48.3	20.8	26.1	24.8	27.7	60.4
District heat	18.3	40.7	28.7	28.3	33.6	13.1	19.4	20.5	28.6	25.9
Propane	11.7	24.5	21.9	17.2	37.9	12.1	23.9	24.4	17.9	30.8
Other	29.6	59.8	28.8	45.5	83.3	32.8	44.1	46.5	59.8	78.9
Cooling energy sources (more than one may apply)										
Electricity	5.5	6.7	9.7	6.6	18.2	4.7	5.7	6.1	7.7	15.2
Natural gas	30.6	42.6	64.0	49.0	74.1	21.5	25.8	53.4	55.7	32.1
District chilled water	17.3	47.3	28.5	23.3	33.9	16.2	38.8	25.6	25.5	27.0
Water-heating energy sources (more than one may apply)										
Electricity	5.7	10.7	10.6	6.2	19.7	5.3	8.2	7.2	8.4	15.2
Natural gas	5.7	7.2	7.3	12.8	13.9	5.2	8.6	7.2	11.5	13.3
Fuel oil	25.4	28.1	78.8	50.1	84.0	15.8	18.3	64.7	35.2	56.0
District heat	21.5	43.5	39.8	38.8	41.2	15.6	20.8	24.7	36.2	35.0
Propane	12.3	25.8	23.5	15.4	34.5	11.6	18.9	27.2	21.0	23.9
Cooking energy sources (more than one may apply)										
Electricity	5.2	11.3	12.1	7.1	13.5	4.5	8.3	7.1	7.9	13.6
Natural gas	5.7	13.6	11.2	8.4	14.0	4.7	12.3	5.2	7.9	12.9
Propane	19.0	44.9	39.5	20.3	50.7	11.9	23.2	26.5	15.1	35.3

RSEs for Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings					RSEs for total floorspace				
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5.4	9.0	9.3	7.7	16.0	4.6	6.2	6.0	7.9	14.4
Energy end uses (more than one may apply)										
Buildings with space heating	5.0	9.4	8.5	7.1	15.3	4.5	6.3	5.8	8.3	13.3
Buildings with cooling	5.4	6.8	9.6	6.5	18.1	4.7	6.3	6.2	7.9	15.0
Buildings with water heating	5.1	7.9	8.3	6.8	16.4	4.6	6.4	5.9	8.1	13.9
Buildings with cooking	4.8	12.2	11.5	6.1	12.8	3.9	8.5	5.7	6.8	11.8
Buildings with manufacturing	13.8	23.5	18.0	19.2	37.1	11.3	15.2	17.4	22.0	30.3
Buildings with electricity generation	6.9	11.5	15.3	11.0	19.3	4.8	6.6	8.4	9.7	13.2
Percent of floorspace heated										
Not heated	9.4	16.6	19.0	13.9	22.0	9.9	16.9	17.3	11.4	26.0
1 to 50	12.0	18.9	14.1	11.5	34.9	11.3	25.8	20.2	12.8	25.0
51 to 99	6.9	11.2	11.8	9.5	20.1	5.5	10.0	11.1	8.2	14.7
100	4.5	11.2	8.9	7.2	10.8	4.4	6.8	6.4	9.4	11.3
Percent of floorspace cooled										
Not cooled	8.8	21.2	11.4	18.8	17.2	9.2	26.0	13.7	16.9	16.6
1 to 50	10.5	8.8	10.4	12.7	38.5	8.8	8.7	9.6	14.5	28.8
51 to 99	6.4	10.6	16.2	8.5	15.9	5.0	8.3	13.4	8.4	11.2
100	4.6	12.9	10.2	6.5	12.2	5.2	11.6	6.8	8.7	13.4
Percent lit when open										
Zero	23.0	68.7	44.4	34.5	51.2	23.1	79.7	44.7	35.1	46.0
1 to 50	7.5	13.4	13.1	9.4	23.4	7.8	16.1	12.1	10.2	23.8
51 to 99	6.3	10.6	11.1	8.2	19.0	5.0	7.4	7.8	9.5	13.5
100	5.0	9.6	7.6	7.8	13.0	4.8	7.1	7.1	7.7	14.8
Building never open/electricity not used	10.0	24.8	19.1	17.2	21.8	10.5	20.8	16.5	19.0	19.4
Percent lit during off hours										
Zero	6.6	13.8	8.1	10.3	17.6	6.9	11.7	8.4	11.5	18.6
1 to 50	5.0	7.2	10.4	6.9	15.5	4.6	7.3	6.3	7.9	14.4
51 to 100	10.0	19.1	29.2	15.4	21.3	8.3	19.5	13.6	13.3	17.3
Building always open with no "off hours"	16.8	47.6	46.5	20.1	32.6	11.2	30.2	25.6	16.0	26.7
Electricity not used	12.7	30.6	25.0	18.6	37.7	14.4	26.4	24.7	22.6	28.5
Heating equipment (more than one may apply)										
Heat pumps	9.3	17.1	25.1	12.1	22.7	6.9	10.7	15.0	10.3	13.4
Furnaces	7.2	14.5	14.3	12.1	13.9	7.9	11.8	14.7	14.9	15.9
Individual space heaters	6.4	13.9	10.6	11.8	15.8	5.2	10.4	10.3	9.5	12.9
District heat	18.3	40.6	29.0	28.4	33.6	12.9	19.2	20.6	28.0	25.9
Boilers	6.5	12.7	7.7	13.4	15.9	4.2	6.7	5.2	10.7	13.1
Packaged heating units	5.4	8.3	8.1	7.6	16.4	5.5	8.1	6.7	9.3	15.3
Other	18.3	34.9	37.9	24.8	40.2	14.5	32.6	31.7	26.6	24.6

RSEs for Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings					RSEs for total floorspace				
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5.4	9.0	9.3	7.7	16.0	4.6	6.2	6.0	7.9	14.4
Cooling equipment (more than one may apply)										
Residential-type central air conditioners	7.0	11.9	14.1	9.0	23.8	7.4	12.3	12.0	11.4	23.4
Heat pumps	8.8	17.1	19.8	11.5	21.7	6.9	14.5	12.8	10.4	12.9
Individual air conditioners	7.3	10.6	18.3	9.5	25.8	5.4	8.8	12.5	8.2	18.8
District chilled water	17.3	47.3	28.5	23.3	33.9	16.2	38.8	25.6	25.5	27.0
Central chillers	7.1	10.6	11.8	13.7	13.1	4.5	9.9	8.1	7.9	11.6
Packaged air conditioning units	6.3	8.8	10.2	9.1	16.9	5.0	6.1	7.7	8.6	15.2
Swamp coolers	16.6	102.5	77.1	54.9	17.1	15.0	73.0	39.2	32.5	17.8
Other	51.6	61.3	69.3	70.0	48.1	27.3	59.7	52.9	29.3	44.8
Main equipment replaced since 1990 (more than one may apply)										
Heating	4.8	7.4	6.9	6.9	16.9	4.3	6.3	6.1	7.4	14.2
Cooling	4.9	8.2	8.7	5.8	18.3	4.1	7.1	7.6	6.0	14.4
Water-heating equipment										
Centralized system	5.0	9.4	9.3	6.6	15.5	4.8	7.9	7.3	8.6	14.1
Distributed system	8.0	10.0	8.5	10.5	26.0	7.4	8.8	7.9	11.5	22.4
Combination of centralized and distributed system	7.4	11.8	14.2	12.8	16.0	5.3	8.6	8.9	9.4	12.4
Lighting equipment types (more than one may apply)										
Incandescent	4.6	9.2	9.9	6.0	13.9	4.2	7.9	6.5	7.4	12.0
Standard fluorescent	5.4	7.6	8.8	7.5	17.1	4.6	5.9	5.8	8.0	14.3
Compact fluorescent	5.6	9.8	9.7	8.2	15.6	4.3	6.7	6.6	8.1	11.7
High-intensity discharge (HID)	7.4	13.1	10.0	9.5	23.7	5.1	9.9	9.8	8.2	14.1
Halogen	5.5	11.7	11.0	9.1	11.5	5.0	8.0	7.3	9.8	12.2
LED	7.4	16.6	8.5	14.2	18.0	5.2	9.7	7.4	9.8	14.1
Other	31.8	104.7	60.6	33.4	63.8	19.6	47.0	53.1	27.3	41.8
Refrigeration equipment (more than one may apply)										
Any refrigeration	5.1	8.6	8.2	6.7	16.8	4.2	6.3	5.8	7.5	12.6
Walk-in units	4.8	9.9	11.6	7.1	11.3	4.2	9.9	5.3	7.6	11.2
Cases or cabinets	4.7	9.6	10.4	7.3	11.3	4.8	9.4	5.6	9.7	12.1
Large cold storage areas	10.9	25.8	31.3	17.6	16.7	10.3	14.6	19.9	19.2	19.2
Commercial ice makers	5.5	11.1	11.1	8.4	12.8	4.4	10.5	7.5	7.4	11.1
Residential-type or compact units	5.6	9.9	8.7	7.5	18.4	4.6	6.5	5.9	8.5	13.6
Vending machines	5.7	9.0	9.4	8.8	16.2	4.6	8.1	6.3	8.5	13.6
No refrigeration	7.2	14.0	14.3	12.1	15.5	8.8	14.5	16.8	12.5	22.3

RSEs for Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings					RSEs for total floorspace				
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5.4	9.0	9.3	7.7	16.0	4.6	6.2	6.0	7.9	14.4
Office equipment (more than one may apply)										
Desktop computers	5.6	7.4	8.2	7.0	18.6	4.7	6.1	5.9	8.0	14.8
With flat screen monitors	5.8	7.6	8.2	7.1	19.2	4.7	6.2	5.8	8.0	15.0
With multiple monitors	7.4	10.4	9.7	10.1	21.0	5.3	9.1	8.2	9.5	13.4
Laptop computers	5.9	8.5	8.6	7.4	19.3	4.6	5.9	6.3	8.6	13.2
Dedicated servers	6.8	7.4	8.2	9.3	21.2	4.9	5.8	6.1	8.6	14.8
Laser printers	5.7	8.0	8.6	8.0	16.8	4.8	7.4	6.3	8.8	14.1
Inkjet printers	6.7	9.2	10.2	7.3	23.7	5.6	8.4	9.1	8.3	17.6
FAX machines	5.8	7.3	8.2	7.0	19.7	4.6	6.0	6.4	7.9	14.7
Photocopiers	6.4	9.2	8.2	7.9	21.4	4.6	7.0	6.3	8.2	14.3
Number of desktop computers										
None	7.4	18.5	13.9	12.7	13.9	8.1	20.4	11.3	13.6	18.4
1 to 4	5.2	9.6	9.7	7.1	15.4	5.7	10.8	10.5	8.7	16.0
5 to 9	8.5	13.0	12.9	9.5	27.1	8.5	14.5	15.1	11.8	23.9
10 to 19	8.8	13.0	12.4	13.7	23.8	8.6	14.1	11.5	12.8	24.3
20 to 49	8.4	13.0	12.7	13.3	19.9	7.4	11.0	10.4	13.9	17.4
50 to 99	8.8	14.6	20.7	13.6	20.2	8.0	11.8	15.5	13.1	22.1
100 to 249	8.0	18.6	15.7	15.1	14.5	7.0	15.6	11.4	14.4	11.8
250 or more	7.4	10.2	15.2	15.0	11.8	6.5	9.0	9.7	14.9	11.8
Number of laptop computers										
None	5.8	11.0	11.3	9.2	14.4	5.9	10.3	7.5	8.1	18.9
1 to 4	6.2	9.2	10.0	7.8	20.1	6.0	8.2	9.4	9.4	18.5
5 to 9	8.9	23.2	13.0	10.1	24.8	8.7	21.4	11.7	13.4	21.4
10 to 19	8.8	17.1	15.3	14.3	20.4	8.7	12.9	13.1	15.7	20.4
20 to 49	8.9	17.5	16.0	14.9	20.7	7.5	16.7	11.2	14.5	15.5
50 to 99	10.5	17.3	22.8	17.6	23.5	8.4	17.9	16.6	15.2	16.2
100 to 249	10.8	14.7	25.4	20.7	17.3	8.7	11.6	17.1	18.2	14.1
250 or more	12.6	26.1	23.5	21.9	28.5	9.0	14.3	16.4	18.0	20.3
Number of dedicated servers										
None	5.6	11.7	10.9	8.6	14.3	5.6	10.9	9.7	9.3	15.3
1 to 4	7.0	8.0	8.7	9.0	22.5	5.9	8.5	6.3	9.8	18.4
5 to 9	9.8	20.9	18.4	20.1	12.2	8.5	11.3	14.2	16.6	20.2
10 to 19	14.1	17.8	26.1	22.7	31.2	9.3	14.3	21.7	16.9	18.4
20 to 49	15.5	21.2	30.9	28.0	30.5	8.9	19.8	18.7	16.1	14.1
50 or more	15.0	23.7	25.9	30.5	33.1	12.3	19.3	13.3	28.5	25.3
Number of photocopiers										
None	5.6	11.2	10.9	8.9	13.9	5.8	10.0	8.6	9.0	16.5
One	7.2	10.0	10.2	8.5	23.9	7.8	13.0	13.3	11.0	22.2
2 to 4	7.0	12.9	9.9	9.9	20.8	5.6	10.2	8.0	9.9	14.6
5 to 9	8.3	12.2	14.0	15.2	17.8	6.8	18.5	10.6	12.2	13.1
10 or more	9.5	14.3	19.5	19.3	14.4	6.6	8.6	13.4	14.4	13.8

RSEs for Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings					RSEs for total floorspace				
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5.4	9.0	9.3	7.7	16.0	4.6	6.2	6.0	7.9	14.4
Number of TVs or video displays										
None	6.1	13.8	10.2	9.2	16.6	6.7	12.2	9.3	10.1	19.3
One	6.5	11.0	13.0	8.8	20.3	6.5	11.0	13.5	9.9	17.5
2 to 4	6.5	12.2	10.7	8.9	19.0	6.0	11.3	10.4	9.6	17.0
5 to 9	7.9	14.8	17.1	11.6	22.2	7.6	14.0	13.3	12.3	21.6
10 to 19	10.0	17.4	11.3	18.6	19.6	8.2	22.8	11.5	14.7	13.4
20 to 49	9.8	26.8	21.0	15.9	18.4	7.8	16.0	12.9	15.1	14.7
50 to 99	13.7	24.3	20.1	17.8	38.2	13.9	14.2	17.3	24.2	32.0
100 or more	11.3	18.9	22.4	20.7	21.3	8.0	17.6	13.9	14.3	19.7
Food preparation or serving areas in non-food service buildings (more than one may apply)										
Snack bar or concession stand	8.9	18.1	18.2	15.9	14.5	6.6	12.9	11.2	11.5	17.5
Fast food or small restaurant	8.1	16.5	19.1	12.7	18.4	7.1	12.9	10.4	13.5	16.0
Cafeteria or large restaurant	6.6	13.2	10.6	11.6	18.0	5.2	12.8	7.5	8.7	15.3
Commercial kitchen/ food preparation area	7.1	15.4	13.3	11.5	18.5	5.4	11.7	6.6	8.8	18.4
Small kitchen area	6.4	14.9	15.1	8.7	16.5	5.4	9.7	9.6	9.1	17.1
Separate computer areas (more than one may apply)										
Data center or server farm	9.6	19.2	15.0	21.3	17.2	6.5	10.3	9.7	14.9	12.7
Computer-based training room	6.8	15.5	12.6	9.2	20.5	5.7	8.1	8.3	10.5	17.7
Student or public computer center	7.2	16.0	12.5	11.4	18.3	5.9	9.4	9.0	11.4	16.7
HVAC conservation features (more than one may apply)										
Economizer cycle	6.2	11.5	11.0	12.7	12.7	5.0	8.5	8.0	11.6	12.2
Regular HVAC maintenance	5.3	8.4	8.9	7.2	16.5	4.7	5.9	6.1	8.4	14.3
Building automation system (BAS) ¹	7.3	11.7	9.4	9.6	21.5	4.9	8.0	7.0	9.3	12.8
Window and interior lighting features (more than one may apply)										
Multipaned windows	5.1	12.9	8.8	8.3	13.3	4.7	7.3	6.7	8.9	13.9
Tinted window glass	7.8	9.6	9.5	7.5	24.3	6.1	9.8	6.5	9.1	18.1
Reflective window glass	8.3	15.8	10.8	11.5	21.3	6.5	12.9	8.6	11.2	17.0
External overhangs or awnings	5.3	7.4	11.8	6.4	15.1	5.2	11.0	8.1	8.0	14.1
Skylights or atriums	10.1	13.5	12.3	10.3	25.8	6.2	8.7	9.3	10.6	16.0
Light scheduling	6.2	10.0	13.0	8.7	17.1	5.4	7.8	7.8	10.6	14.3
Occupancy sensors	8.5	10.6	10.7	14.8	20.3	5.0	7.6	6.1	10.3	13.7
Multi-level lighting or dimming	5.9	14.6	12.7	10.0	11.4	5.7	11.7	11.4	10.2	12.4
Daylight harvesting	11.3	28.3	20.9	20.5	15.7	8.2	16.2	13.8	13.8	20.6
Demand responsive lighting	19.9	57.5	29.6	15.7	50.6	16.1	25.7	20.4	25.3	38.8
Building automation system (BAS) for lighting ¹	9.9	20.5	18.2	13.8	25.6	7.5	13.3	11.0	14.4	17.2

RSEs for Table B3. Census region, number of buildings and floorspace, 2012 - PUBLIC USE DATA VERSION

	RSEs for number of buildings					RSEs for total floorspace				
	All buildings	North-east	Mid-west	South	West	All buildings	North-east	Mid-west	South	West
All buildings	5.4	9.0	9.3	7.7	16.0	4.6	6.2	6.0	7.9	14.4
Equipment usage reduced when building not in full use (more than one may apply)										
Heating	5.4	7.9	8.9	6.9	17.3	4.8	6.1	5.5	8.8	14.6
Cooling	5.7	7.2	9.8	6.7	18.9	4.9	7.0	5.7	8.3	15.7
Lighting	5.4	9.4	8.1	7.6	16.5	4.7	6.6	5.9	8.5	13.8

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RSEs for Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	RSEs for all buildings		RSEs for total energy consumption						
			Electricity						
	Number of buildings	Total floorspace	Sum of major fuels	Primary	Site	Natural gas	Fuel oil	District heat	
All buildings	5.4	4.6	4.4	4.5	4.5	5.3	11.1	16.1	
Building floorspace (square feet)									
1,001 to 5,000	5.4	5.2	5.0	5.3	5.3	6.6	23.8	84.2	
5,001 to 10,000	8.0	8.2	7.4	8.1	8.1	9.2	27.7	58.0	
10,001 to 25,000	6.9	6.9	6.9	6.9	6.9	8.7	25.5	38.9	
25,001 to 50,000	8.1	8.0	7.1	7.8	7.8	8.9	22.2	40.6	
50,001 to 100,000	7.8	7.7	8.6	8.7	8.7	10.3	20.0	45.5	
100,001 to 200,000	7.0	7.2	11.6	9.7	9.7	14.7	18.1	38.2	
200,001 to 500,000	6.8	6.5	8.5	8.9	8.9	11.1	19.2	24.7	
Over 500,000	9.2	9.2	11.3	9.7	9.7	17.8	16.3	19.2	
Principal building activity									
Education	7.6	5.8	7.0	7.1	7.1	8.9	26.2	32.2	
Food sales	11.4	12.8	11.7	11.3	11.3	17.0	56.0	0.0	
Food service	6.6	7.6	8.8	10.0	10.0	9.5	60.3	85.4	
Health care	10.8	7.3	8.2	9.0	9.0	9.5	23.9	15.7	
Inpatient	16.9	8.2	9.1	9.7	9.7	10.5	23.9	16.6	
Outpatient	11.3	11.2	13.9	15.2	15.2	16.9	52.9	30.7	
Lodging	9.8	8.2	12.6	9.7	9.7	16.3	30.1	36.8	
Mercantile	6.0	8.4	9.7	10.1	10.1	11.1	24.5	62.7	
Retail (other than mall)	6.9	8.3	9.2	10.1	10.1	14.2	29.5	75.5	
Enclosed and strip malls	11.1	11.9	12.6	13.3	13.3	12.9	57.5	111.9	
Office	6.7	6.1	8.6	6.8	6.8	12.7	20.3	36.5	
Public assembly	9.1	9.5	10.6	9.9	9.9	12.3	31.8	29.2	
Public order and safety	17.5	13.7	16.7	17.4	17.4	18.0	22.8	52.6	
Religious worship	7.3	8.8	10.5	10.1	10.1	14.3	31.8	0.0	
Service	7.4	8.9	8.3	8.9	8.9	11.0	20.0	78.3	
Warehouse and storage	12.8	11.7	12.1	13.4	13.4	15.1	33.6	112.0	
Other	14.5	15.5	18.7	19.4	19.4	27.2	44.6	49.5	
Vacant	11.5	13.3	16.7	19.8	19.8	23.5	60.1	50.6	
Year constructed									
Before 1920	10.5	11.2	11.5	11.8	11.8	13.5	30.9	35.2	
1920 to 1945	6.7	7.6	8.7	9.3	9.3	8.5	24.2	46.7	
1946 to 1959	7.7	8.1	8.5	8.3	8.3	11.3	18.4	30.6	
1960 to 1969	7.9	6.6	7.8	8.2	8.2	9.0	23.8	30.3	
1970 to 1979	7.5	7.0	9.0	7.2	7.2	10.2	25.9	31.8	
1980 to 1989	8.3	6.5	7.2	8.0	8.0	9.3	21.2	18.3	
1990 to 1999	6.2	5.1	5.2	5.4	5.4	7.9	19.0	21.9	
2000 to 2003	9.3	7.8	9.3	8.5	8.5	10.6	42.3	59.0	
2004 to 2007	13.3	15.5	16.6	15.2	15.2	22.0	32.4	47.8	
2008 to 2012	15.4	17.3	20.6	22.6	22.6	20.3	34.2	41.6	

RSEs for Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	RSEs for all buildings		RSEs for total energy consumption						
			Electricity						
	Number of buildings	Total floorspace	Sum of major fuels		Primary	Site	Natural gas	Fuel oil	District heat
All buildings	5.4	4.6	4.4	4.5	4.5	5.3	11.1	16.1	
Census region and division									
Northeast	9.0	6.2	9.0	8.3	8.3	11.6	15.4	32.4	
New England	22.7	14.2	12.6	8.3	8.3	20.8	18.9	79.4	
Middle Atlantic	7.0	6.7	10.9	10.2	10.2	13.5	24.9	29.2	
Midwest	9.3	6.0	7.5	7.0	7.0	8.4	25.7	25.3	
East North Central	12.1	6.9	9.1	8.6	8.6	10.4	36.7	21.7	
West North Central	14.2	11.6	13.2	12.7	12.7	11.5	28.0	50.8	
South	7.7	7.9	8.3	8.0	8.0	11.1	16.8	28.4	
South Atlantic	9.5	12.3	14.0	13.8	13.8	19.1	21.5	38.4	
East South Central	9.3	12.2	8.1	5.4	5.4	18.4	42.5	57.5	
West South Central	17.4	13.1	11.6	9.5	9.5	15.4	27.0	56.8	
West	16.0	14.4	11.4	11.8	11.8	12.6	19.3	33.2	
Mountain	12.4	14.0	18.4	11.6	11.6	26.2	51.7	48.9	
Pacific	21.4	18.8	14.1	15.6	15.6	13.3	17.2	44.9	
Number of floors									
One	6.3	7.3	6.7	7.0	7.0	7.6	19.8	36.0	
Two	5.6	5.6	7.8	7.3	7.3	8.8	15.5	64.9	
Three	8.3	6.3	8.8	8.8	8.8	12.4	21.5	41.0	
Four to nine	9.4	7.4	7.3	7.3	7.3	8.9	23.1	20.4	
Ten or more	11.1	9.6	13.6	10.6	10.6	23.6	20.1	18.9	
Elevators and escalators (more than one may apply)									
Any elevators	5.7	4.4	5.8	5.3	5.3	7.3	9.7	16.6	
Number of elevators									
One	6.4	5.8	11.1	9.4	9.4	11.5	19.0	40.3	
Two to five	8.4	7.0	8.5	8.2	8.2	11.0	16.3	26.1	
Six or more	8.7	8.1	9.5	8.1	8.1	13.6	14.3	16.9	
Any escalators	25.6	13.1	18.9	14.1	14.1	35.1	28.1	25.1	
Number of workers (main shift)									
Fewer than 5	5.8	6.6	5.9	6.2	6.2	7.3	25.2	51.0	
5 to 9	7.2	6.9	6.7	6.8	6.8	9.7	29.8	45.1	
10 to 19	8.8	8.7	8.4	7.8	7.8	11.3	26.1	39.5	
20 to 49	7.5	6.2	6.5	7.4	7.4	7.5	26.8	30.0	
50 to 99	8.0	6.5	8.1	8.4	8.4	9.7	16.4	50.0	
100 to 249	9.5	8.5	9.5	9.3	9.3	10.7	25.0	41.0	
250 or more	7.6	6.6	9.0	7.1	7.1	13.4	12.5	17.7	
Weekly operating hours									
Fewer than 40	7.2	8.4	7.8	7.9	7.9	10.8	43.0	64.4	
40 to 48	7.5	7.4	7.8	8.0	8.0	10.3	20.9	44.4	
49 to 60	6.7	6.4	5.8	6.3	6.3	6.2	18.8	39.6	
61 to 84	6.8	5.8	5.9	6.2	6.2	7.7	22.1	23.8	
85 to 167	7.9	8.6	8.6	8.2	8.2	11.3	25.3	42.5	
Open continuously	8.1	5.5	7.1	6.3	6.3	9.3	16.1	17.5	

RSEs for Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	RSEs for all buildings		RSEs for total energy consumption						
			Electricity						
	Number of buildings	Total floorspace	Sum of major fuels		Primary	Site	Natural gas	Fuel oil	District heat
All buildings	5.4	4.6	4.4	4.5	4.5	5.3	11.1	16.1	
Party responsible for operation and maintenance of energy systems									
Building owner	5.3	4.2	4.0	4.0	4.0	5.0	12.5	16.5	
Business owner or tenant	9.2	11.0	11.4	11.6	11.6	12.4	29.5	53.2	
Property management	16.8	14.2	16.8	17.0	17.0	26.4	30.6	48.9	
Other	16.9	15.6	18.7	19.6	19.6	22.3	39.9	60.4	
Provider of direct input on energy-related equipment purchases									
Building owner	5.2	4.3	4.1	4.0	4.0	5.0	12.0	16.5	
Business owner or tenant	10.1	10.7	10.9	10.9	10.9	12.6	33.5	53.5	
Property management	22.3	19.0	22.0	21.8	21.8	31.0	39.3	69.9	
Other	13.6	14.6	19.4	19.8	19.8	23.0	34.6	64.6	
Number of establishments									
One	5.5	5.0	5.0	4.8	4.8	5.7	13.4	20.6	
2 to 5	7.1	6.0	5.8	6.1	6.1	7.9	18.9	22.6	
6 to 10	13.9	10.9	9.9	10.0	10.0	12.7	45.9	30.9	
11 to 20	14.1	13.4	15.0	16.3	16.3	16.1	24.8	32.3	
More than 20	26.0	8.8	10.7	11.5	11.5	16.5	40.1	26.1	
Currently unoccupied	12.8	17.3	20.7	26.0	26.0	27.1	42.0	88.1	
Predominant exterior wall material									
Brick, stone, or stucco	5.1	4.8	5.0	5.3	5.3	5.2	14.1	21.7	
Concrete (block or poured)	6.9	6.3	6.9	6.3	6.3	9.0	17.1	33.6	
Concrete panels	25.2	11.9	12.8	10.1	10.1	20.4	22.0	32.6	
Siding or shingles	9.0	10.4	13.7	12.9	12.9	17.9	25.6	92.3	
Metal panels	10.8	9.0	10.6	12.5	12.5	16.9	27.4	50.9	
Window glass	18.8	13.2	18.7	16.8	16.8	36.1	41.8	31.3	
Other	23.7	25.9	30.5	23.7	23.7	55.8	65.7	80.3	
No one major type	23.0	21.3	18.8	16.5	16.5	28.2	57.1	48.8	
Predominant roof material									
Metal surfacing	7.8	7.1	7.8	8.4	8.4	9.7	25.7	39.4	
Synthetic or rubber	6.0	5.9	6.6	6.5	6.5	8.2	18.6	17.7	
Built-up	8.7	5.4	5.9	5.2	5.2	7.9	16.2	22.2	
Slate or tile shingles	8.8	13.6	15.1	14.0	14.0	10.2	36.9	54.8	
Wooden materials (including shingles)	13.7	16.5	15.6	13.5	13.5	22.3	47.6	111.7	
Asphalt, fiberglass, or other shingles	6.3	5.9	6.6	6.2	6.2	9.7	19.7	38.4	
Concrete	18.2	13.6	13.7	13.8	13.8	22.3	45.9	39.2	
Other	25.5	25.4	28.4	28.9	28.9	33.8	56.4	82.2	
No one major type	29.8	26.9	27.5	27.9	27.9	30.9	74.1	54.7	

RSEs for Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	RSEs for all buildings		RSEs for total energy consumption						
			Electricity						
	Number of buildings	Total floorspace	Sum of major fuels		Primary	Site	Natural gas	Fuel oil	District heat
All buildings	5.4	4.6	4.4	4.5	4.5	4.5	5.3	11.1	16.1
Roof characteristics									
Roof tilt									
Flat	7.2	5.0	4.5	4.5	4.5	5.5	13.3	14.7	
Shallow pitch	6.7	6.8	7.7	7.6	7.6	9.7	20.5	35.8	
Steeper pitch	6.7	6.2	7.3	6.5	6.5	9.1	24.2	50.2	
Cool roof	7.4	6.3	7.6	7.4	7.4	9.4	15.5	25.9	
Renovations in buildings constructed before 2008 (more than one may apply)									
Any type of renovation	4.7	3.8	4.9	4.2	4.2	6.7	13.2	18.0	
Addition or annex	7.8	5.0	6.8	5.8	5.8	9.1	18.3	19.7	
Reduction in floorspace	17.0	18.5	35.9	27.3	27.3	41.1	50.7	72.2	
Roof replacement	5.5	4.4	6.9	6.2	6.2	8.7	17.3	21.3	
Exterior wall replacement	9.0	7.8	10.6	11.4	11.4	14.5	31.9	23.4	
Interior wall reconfiguration	6.1	4.5	5.8	5.2	5.2	8.0	14.3	17.8	
Window replacement	5.9	5.1	7.8	6.8	6.8	10.7	19.6	21.0	
HVAC equipment upgrade	4.9	3.7	5.8	4.9	4.9	7.8	15.0	17.5	
Lighting upgrade	5.2	4.5	5.4	4.7	4.7	7.3	14.5	20.2	
Electrical upgrade	6.0	5.4	6.8	6.1	6.1	9.6	17.6	19.0	
Plumbing system upgrade	5.8	5.7	7.4	6.8	6.8	10.0	18.9	20.3	
Insulation upgrade	8.0	6.7	10.7	9.5	9.5	14.7	20.0	23.1	
Fire, safety, or security upgrade	6.3	4.9	5.4	5.5	5.5	6.9	16.9	15.8	
Structural upgrade	10.0	8.9	17.0	14.3	14.3	23.7	32.8	37.2	
Other	28.7	23.9	22.7	23.1	23.1	27.9	68.8	65.1	
No renovations	6.2	5.8	5.2	5.6	5.6	6.3	18.1	26.6	
Buildings constructed 2008 or later	15.4	17.3	20.6	22.6	22.6	20.3	34.2	41.6	
Energy sources (more than one may apply)									
Electricity	5.3	4.7	4.4	4.5	4.5	5.3	11.1	16.1	
Natural gas	5.3	4.8	4.9	5.0	5.0	5.3	16.8	19.8	
Fuel oil	11.5	5.4	6.0	5.7	5.7	8.6	11.1	16.1	
District heat	18.2	12.9	16.2	14.4	14.4	40.9	22.1	16.1	
District chilled water	17.3	16.2	19.0	17.1	17.1	35.5	24.1	18.9	
Propane	10.9	8.6	13.2	10.8	10.8	24.2	16.0	52.7	
Other	14.3	10.7	14.1	11.9	11.9	22.5	26.4	30.2	
Space-heating energy sources (more than one may apply)									
Electricity	5.8	5.1	4.9	5.3	5.3	5.4	11.8	16.4	
Natural gas	5.7	5.3	5.2	5.5	5.5	5.2	17.6	22.5	
Fuel oil	17.2	13.7	10.3	12.5	12.5	13.0	13.8	61.7	
District heat	18.3	12.9	16.3	14.5	14.5	40.9	22.8	16.1	
Propane	11.4	11.6	15.3	15.3	15.3	25.0	40.0	112.3	
Other	22.1	22.9	24.1	25.7	25.7	28.1	45.7	73.3	

RSEs for Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	RSEs for all buildings		RSEs for total energy consumption						
			Electricity						
	Number of buildings	Total floorspace	Sum of major fuels		Primary	Site	Natural gas	Fuel oil	District heat
All buildings	5.4	4.6	4.4	4.5	4.5	4.5	5.3	11.1	16.1
Primary space-heating energy source									
Electricity	7.6	6.6	6.1	6.4	6.4	7.4	16.9	80.7	
Natural gas	5.7	5.1	5.1	5.4	5.4	5.3	8.8	51.8	
Fuel oil	19.9	20.8	15.1	18.5	18.5	29.5	15.0	112.3	
District heat	18.3	13.1	16.4	14.6	14.6	41.7	20.8	16.2	
Propane	11.7	12.1	17.8	18.0	18.0	47.7	70.6	0.0	
Other	29.6	32.8	37.4	38.4	38.4	52.3	52.4	0.0	
Cooling energy sources (more than one may apply)									
Electricity	5.5	4.7	4.4	4.6	4.6	5.1	10.6	15.9	
Natural gas	30.6	21.5	21.0	19.6	19.6	22.5	30.1	100.0	
District chilled water	17.3	16.2	19.0	17.1	17.1	35.5	24.1	18.9	
Water-heating energy sources (more than one may apply)									
Electricity	5.7	5.3	5.1	5.5	5.5	6.2	13.1	19.1	
Natural gas	5.7	5.2	5.6	5.8	5.8	5.6	10.3	43.8	
Fuel oil	25.4	15.8	12.5	14.3	14.3	22.4	15.7	59.1	
District heat	21.5	15.6	19.4	17.7	17.7	48.6	24.2	17.9	
Propane	12.3	11.6	14.2	14.7	14.7	49.9	38.0	112.3	
Cooking energy sources (more than one may apply)									
Electricity	5.2	4.5	5.1	5.4	5.4	6.0	15.5	15.9	
Natural gas	5.7	4.7	6.4	6.1	6.1	6.9	16.9	24.5	
Propane	19.0	11.9	14.9	17.1	17.1	36.2	15.1	89.5	
Energy end uses (more than one may apply)									
Buildings with space heating	5.0	4.5	4.5	4.5	4.5	5.4	11.2	16.1	
Buildings with cooling	5.4	4.7	4.6	4.6	4.6	5.5	10.5	16.2	
Buildings with water heating	5.1	4.6	4.5	4.5	4.5	5.3	10.9	16.6	
Buildings with cooking	4.8	3.9	5.3	5.2	5.2	6.2	11.4	17.9	
Buildings with manufacturing	13.8	11.3	12.8	15.3	15.3	14.7	28.6	49.7	
Buildings with electricity generation	6.9	4.8	5.6	5.4	5.4	7.8	10.2	15.9	
Percent of floorspace heated									
Not heated	9.4	9.9	13.6	14.1	14.1	30.3	43.2	100.0	
1 to 50	12.0	11.3	9.9	10.4	10.4	12.5	26.8	60.9	
51 to 99	6.9	5.5	6.9	7.4	7.4	9.3	15.1	19.8	
100	4.5	4.4	4.8	4.6	4.6	5.6	12.5	17.8	
Percent of floorspace cooled									
Not cooled	8.8	9.2	10.8	11.8	11.8	12.0	35.7	62.1	
1 to 50	10.5	8.8	6.4	7.6	7.6	7.5	18.4	23.7	
51 to 99	6.4	5.0	6.2	6.1	6.1	9.0	12.6	18.4	
100	4.6	5.2	5.6	5.1	5.1	6.9	16.9	23.1	

RSEs for Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	RSEs for all buildings		RSEs for total energy consumption						
			Electricity						
	Number of buildings	Total floorspace	Sum of major fuels		Primary	Site	Natural gas	Fuel oil	District heat
All buildings	5.4	4.6	4.4	4.5	4.5	5.3	11.1	16.1	
Percent lit when open									
Zero	23.0	23.1	37.8	33.1	33.1	99.6	112.1	91.2	
1 to 50	7.5	7.8	7.0	7.4	7.4	8.4	25.4	44.5	
51 to 99	6.3	5.0	6.0	6.2	6.2	6.9	14.4	21.7	
100	5.0	4.8	5.2	5.0	5.0	6.6	13.3	21.6	
Building never open/electricity not used	10.0	10.5	20.4	24.6	24.6	25.4	99.7	88.1	
Percent lit during off hours									
Zero	6.6	6.9	5.7	6.3	6.3	6.3	24.1	38.9	
1 to 50	5.0	4.6	4.8	5.0	5.0	5.8	13.6	20.0	
51 to 100	10.0	8.3	11.8	9.7	9.7	14.3	25.4	30.3	
Building always open with no "off hours"	16.8	11.2	11.3	12.2	12.2	14.1	60.8	49.6	
Electricity not used	12.7	14.4	0.0	0.0	0.0	0.0	0.0	0.0	
Heating equipment (more than one may apply)									
Heat pumps	9.3	6.9	6.8	7.6	7.6	8.2	19.3	23.7	
Furnaces	7.2	7.9	8.4	7.8	7.8	10.9	39.2	43.6	
Individual space heaters	6.4	5.2	5.2	5.6	5.6	6.0	19.4	20.1	
District heat	18.3	12.9	16.3	14.5	14.5	40.9	22.8	16.1	
Boilers	6.5	4.2	4.7	4.8	4.8	5.5	12.9	41.2	
Packaged heating units	5.4	5.5	5.5	5.8	5.8	6.1	16.8	19.7	
Other	18.3	14.5	16.0	16.7	16.7	18.8	70.9	62.2	
Cooling equipment (more than one may apply)									
Residential-type central air conditioners	7.0	7.4	6.3	6.4	6.4	8.4	22.8	71.0	
Heat pumps	8.8	6.9	6.6	7.3	7.3	8.8	17.2	24.6	
Individual air conditioners	7.3	5.4	5.6	5.9	5.9	6.3	21.2	26.1	
District chilled water	17.3	16.2	19.0	17.1	17.1	35.5	24.1	18.9	
Central chillers	7.1	4.5	5.2	5.3	5.3	6.9	13.7	17.9	
Packaged air conditioning units	6.3	5.0	5.2	5.4	5.4	6.3	12.0	18.7	
Swamp coolers	16.6	15.0	15.7	16.2	16.2	20.1	34.0	45.6	
Other	51.6	27.3	27.4	33.2	33.2	33.3	45.8	57.2	
Main equipment replaced since 1990 (more than one may apply)									
Heating	4.8	4.3	4.5	4.9	4.9	5.4	13.6	100.2	
Cooling	4.9	4.1	4.5	4.5	4.5	6.0	15.6	29.3	
Water-heating equipment									
Centralized system	5.0	4.8	5.2	4.9	4.9	6.1	13.6	22.0	
Distributed system	8.0	7.4	7.1	7.4	7.4	10.0	26.3	35.6	
Combination of centralized and distributed system	7.4	5.3	6.0	6.6	6.6	7.6	9.3	15.2	

RSEs for Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	RSEs for all buildings		RSEs for total energy consumption							
	Number of buildings	Total floorspace	Sum of major fuels					Natural gas	Fuel oil	District heat
			Primary	Site						
All buildings	5.4	4.6	4.4	4.5	4.5		5.3	11.1	16.1	
Lighting equipment types (more than one may apply)										
Incandescent	4.6	4.2	5.1	5.1	5.1		6.0	13.4	16.7	
Standard fluorescent	5.4	4.6	4.5	4.4	4.4		5.5	9.9	16.3	
Compact fluorescent	5.6	4.3	4.9	4.9	4.9		5.7	11.4	15.5	
High-intensity discharge (HID)	7.4	5.1	6.5	6.1	6.1		8.3	14.0	17.7	
Halogen	5.5	5.0	6.5	6.7	6.7		7.8	12.3	14.6	
LED	7.4	5.2	6.2	6.2	6.2		7.7	15.5	14.8	
Other	31.8	19.6	21.9	19.9	19.9		27.0	35.7	56.4	
Refrigeration equipment (more than one may apply)										
Any refrigeration	5.1	4.2	4.4	4.4	4.4		5.3	10.2	15.7	
Walk-in units	4.8	4.2	5.6	5.2	5.2		6.9	12.5	18.4	
Cases or cabinets	4.7	4.8	6.0	5.9	5.9		7.3	13.8	17.7	
Large cold storage areas	10.9	10.3	10.1	10.5	10.5		13.4	29.1	28.7	
Commercial ice makers	5.5	4.4	5.6	5.5	5.5		6.5	13.1	17.3	
Residential-type or compact units	5.6	4.6	4.6	4.7	4.7		5.3	9.5	16.6	
Vending machines	5.7	4.6	5.4	5.4	5.4		6.7	12.4	15.8	
No refrigeration	7.2	8.8	10.3	11.5	11.5		12.5	34.7	47.2	
Office equipment (more than one may apply)										
Desktop computers	5.6	4.7	4.5	4.6	4.6		5.4	10.5	16.2	
With flat screen monitors	5.8	4.7	4.5	4.6	4.6		5.4	10.5	16.3	
With multiple monitors	7.4	5.3	5.8	5.2	5.2		7.7	9.8	17.4	
Laptop computers	5.9	4.6	4.8	4.8	4.8		5.9	11.1	15.3	
Dedicated servers	6.8	4.9	5.0	5.0	5.0		6.0	9.1	17.2	
Laser printers	5.7	4.8	5.2	5.1	5.1		6.2	9.5	18.6	
Inkjet printers	6.7	5.6	5.0	5.5	5.5		6.0	15.7	16.4	
FAX machines	5.8	4.6	4.6	4.8	4.8		5.6	10.5	14.8	
Photocopiers	6.4	4.6	5.0	5.1	5.1		6.0	10.5	16.5	
Number of desktop computers										
None	7.4	8.1	9.7	11.4	11.4		11.1	34.7	52.5	
1 to 4	5.2	5.7	4.9	4.9	4.9		6.3	18.6	52.7	
5 to 9	8.5	8.5	8.8	8.8	8.8		10.8	24.7	42.8	
10 to 19	8.8	8.6	8.1	8.4	8.4		10.5	24.3	52.3	
20 to 49	8.4	7.4	8.1	9.5	9.5		8.3	17.9	45.8	
50 to 99	8.8	8.0	9.2	9.2	9.2		12.6	29.1	39.8	
100 to 249	8.0	7.0	12.0	9.5	9.5		16.3	28.4	26.0	
250 or more	7.4	6.5	6.5	6.3	6.3		9.0	10.8	19.9	

RSEs for Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	RSEs for all buildings		RSEs for total energy consumption						
			Electricity						
	Number of buildings	Total floorspace	Sum of major fuels		Primary	Site	Natural gas	Fuel oil	District heat
All buildings	5.4	4.6	4.4	4.5	4.5	5.3	11.1	16.1	
Number of laptop computers									
None	5.8	5.9	5.4	5.9	5.9	6.7	20.5	49.5	
1 to 4	6.2	6.0	5.6	6.1	6.1	6.6	20.6	43.3	
5 to 9	8.9	8.7	12.8	10.2	10.2	14.3	24.8	78.6	
10 to 19	8.8	8.7	11.8	11.8	11.8	13.8	28.3	33.4	
20 to 49	8.9	7.5	10.0	8.3	8.3	15.5	16.0	30.4	
50 to 99	10.5	8.4	9.8	9.8	9.8	12.6	27.4	21.5	
100 to 249	10.8	8.7	9.8	8.9	8.9	14.5	29.2	31.6	
250 or more	12.6	9.0	8.0	8.9	8.9	11.1	20.2	14.6	
Number of dedicated servers									
None	5.6	5.6	5.5	5.3	5.3	7.3	20.9	29.9	
1 to 4	7.0	5.9	6.5	6.6	6.6	6.8	14.2	35.3	
5 to 9	9.8	8.5	9.2	8.4	8.4	12.4	22.3	32.8	
10 to 19	14.1	9.3	13.7	10.1	10.1	25.0	20.6	37.8	
20 to 49	15.5	8.9	8.5	8.8	8.8	11.8	23.4	28.2	
50 or more	15.0	12.3	12.4	12.7	12.7	16.0	29.5	32.3	
Number of photocopiers									
None	5.6	5.8	4.9	5.1	5.1	6.3	20.4	27.8	
One	7.2	7.8	7.4	8.0	8.0	8.4	16.6	53.1	
2 to 4	7.0	5.6	7.1	7.5	7.5	8.3	17.4	39.0	
5 to 9	8.3	6.8	12.3	10.7	10.7	13.7	18.3	48.4	
10 or more	9.5	6.6	7.9	6.9	6.9	11.7	19.2	17.7	
Number of TVs or video displays									
None	6.1	6.7	4.7	5.1	5.1	6.6	20.8	24.8	
One	6.5	6.5	7.3	7.1	7.1	9.0	23.4	51.7	
2 to 4	6.5	6.0	7.2	7.5	7.5	9.2	28.0	30.9	
5 to 9	7.9	7.6	8.6	9.5	9.5	9.5	31.8	50.0	
10 to 19	10.0	8.2	12.9	10.5	10.5	16.1	25.1	37.7	
20 to 49	9.8	7.8	8.8	9.4	9.4	10.2	27.0	26.8	
50 to 99	13.7	13.9	14.8	14.2	14.2	14.9	28.7	44.8	
100 or more	11.3	8.0	8.9	8.0	8.0	11.2	15.0	17.4	
Food preparation or serving areas									
in non-food service buildings (more than one may apply)									
Snack bar or concession stand	8.9	6.6	8.8	7.9	7.9	12.2	14.8	19.8	
Fast food or small restaurant	8.1	7.1	8.0	7.1	7.1	11.8	23.9	21.7	
Cafeteria or large restaurant	6.6	5.2	8.1	6.7	6.7	9.9	14.8	23.5	
Commercial kitchen/ food preparation area	7.1	5.4	7.4	6.7	6.7	8.5	13.5	25.1	
Small kitchen area	6.4	5.4	7.0	6.3	6.3	9.4	18.4	20.2	

RSEs for Table C1. Total energy consumption by major fuel, 2012 - PUBLIC USE DATA VERSION

	RSEs for all buildings		RSEs for total energy consumption						
			Electricity						
	Number of buildings	Total floorspace	Sum of major fuels	Primary	Site	Natural gas	Fuel oil	District heat	
All buildings	5.4	4.6	4.4	4.5	4.5	5.3	11.1	16.1	
Separate computer areas (more than one may apply)									
Data center or server farm	9.6	6.5	8.0	7.1	7.1	11.5	16.6	23.5	
Computer-based training room	6.8	5.7	6.3	6.2	6.2	8.4	17.1	20.9	
Student or public computer center	7.2	5.9	8.6	7.7	7.7	11.0	21.0	24.6	
HVAC conservation features (more than one may apply)									
Economizer cycle	6.2	5.0	6.2	5.8	5.8	7.6	14.7	16.3	
Regular HVAC maintenance	5.3	4.7	4.7	4.8	4.8	5.6	10.6	14.8	
Building automation system (BAS) ¹	7.3	4.9	5.6	5.7	5.7	7.0	11.5	15.7	
Window and interior lighting features (more than one may apply)									
Multipaned windows	5.1	4.7	5.1	5.2	5.2	6.1	11.5	15.5	
Tinted window glass	7.8	6.1	5.8	5.8	5.8	6.6	13.3	18.2	
Reflective window glass	8.3	6.5	8.4	8.2	8.2	10.9	16.6	21.5	
External overhangs or awnings	5.3	5.2	6.0	5.6	5.6	7.5	14.3	24.2	
Skylights or atriums	10.1	6.2	7.7	6.7	6.7	9.4	15.5	23.7	
Light scheduling	6.2	5.4	6.2	6.3	6.3	7.7	13.6	15.9	
Occupancy sensors	8.5	5.0	5.2	5.0	5.0	7.0	10.6	17.6	
Multi-level lighting or dimming	5.9	5.7	7.9	7.7	7.7	9.8	22.8	18.9	
Daylight harvesting	11.3	8.2	8.8	9.0	9.0	12.4	35.8	23.0	
Demand responsive lighting	19.9	16.1	15.2	16.6	16.6	14.4	51.2	32.7	
Building automation system (BAS) for lighting ¹	9.9	7.5	8.3	8.6	8.6	10.5	19.2	18.5	
Equipment usage reduced when building not in full use (more than one may apply)									
Heating	5.4	4.8	4.6	4.9	4.9	5.3	11.6	16.2	
Cooling	5.7	4.9	4.9	5.1	5.1	5.6	12.6	19.0	
Lighting	5.4	4.7	4.7	4.8	4.8	5.5	11.0	16.6	

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RSEs for Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	RSEs for sum of major fuel consumption				RSEs for sum of major fuel expenditures				
	RSEs not available for percentiles								
	per building	per square foot	per worker	25th percentile	Median	75th percentile	per building	per square foot	per million Btu
All buildings	4.7	2.6	2.9	P	P	P	4.6	2.3	1.6
Building floorspace (square feet)									
1,001 to 5,000	4.0	3.8	3.7	P	P	P	4.1	3.9	1.8
5,001 to 10,000	5.8	5.7	6.9	P	P	P	5.1	5.0	3.9
10,001 to 25,000	5.1	5.1	9.2	P	P	P	4.9	4.9	2.4
25,001 to 50,000	5.2	5.1	6.7	P	P	P	4.7	4.6	3.0
50,001 to 100,000	5.4	5.1	4.9	P	P	P	5.1	4.7	2.5
100,001 to 200,000	7.9	7.4	6.5	P	P	P	6.5	6.0	3.0
200,001 to 500,000	4.6	4.6	5.8	P	P	P	4.9	5.0	2.8
Over 500,000	8.9	7.5	9.3	P	P	P	7.0	5.9	3.8
Principal building activity									
Education	8.6	4.1	11.4	P	P	P	7.9	3.5	2.3
Food sales	11.7	6.4	7.7	P	P	P	11.4	5.0	4.7
Food service	5.8	5.6	5.6	P	P	P	6.2	5.9	3.5
Health care	11.9	3.6	4.0	P	P	P	11.7	3.8	1.7
Inpatient	14.8	2.9	3.0	P	P	P	14.5	3.5	2.0
Outpatient	14.8	6.8	9.5	P	P	P	13.2	6.2	4.2
Lodging	13.3	9.2	12.3	P	P	P	11.7	7.3	4.4
Mercantile	9.0	3.5	4.0	P	P	P	10.0	4.1	2.7
Retail (other than mall)	8.7	4.4	6.2	P	P	P	9.3	4.7	3.9
Enclosed and strip malls	9.2	3.8	4.0	P	P	P	10.8	4.7	3.2
Office	9.8	5.8	5.4	P	P	P	8.5	4.4	2.7
Public assembly	10.9	5.5	7.4	P	P	P	10.7	6.4	4.0
Public order and safety	20.2	8.1	11.8	P	P	P	22.2	11.4	7.1
Religious worship	8.6	6.2	8.3	P	P	P	8.1	4.8	4.2
Service	8.5	7.2	8.4	P	P	P	8.2	5.5	4.2
Warehouse and storage	12.7	9.0	13.4	P	P	P	10.6	5.9	5.3
Other	20.3	14.7	15.8	P	P	P	19.5	14.9	6.3
Vacant	18.7	17.6	20.7	P	P	P	19.3	18.1	6.8
Year constructed									
Before 1920	12.2	8.3	7.9	P	P	P	12.8	8.8	4.4
1920 to 1945	8.0	5.6	6.9	P	P	P	8.3	6.7	3.8
1946 to 1959	7.9	5.5	6.1	P	P	P	8.3	6.4	3.1
1960 to 1969	7.8	4.7	6.9	P	P	P	7.3	4.5	2.8
1970 to 1979	10.4	7.4	5.2	P	P	P	9.5	6.3	2.2
1980 to 1989	7.7	5.2	6.0	P	P	P	7.1	4.2	2.9
1990 to 1999	7.2	3.8	10.0	P	P	P	6.8	3.6	2.1
2000 to 2003	10.6	5.3	7.7	P	P	P	9.7	4.7	2.4
2004 to 2007	14.6	12.0	11.8	P	P	P	12.1	7.6	6.0
2008 to 2012	15.4	7.8	9.1	P	P	P	17.5	9.1	4.5

RSEs for Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	RSEs for sum of major fuel consumption					RSEs for sum of major fuel expenditures			
	RSEs not available for percentiles								
	per building	per square foot	per worker	25th percentile	Median	75th percentile	per building	per square foot	per million Btu
All buildings	4.7	2.6	2.9	P	P	P	4.6	2.3	1.6
Census region and division									
Northeast	11.9	6.2	4.8	P	P	P	10.5	5.0	3.6
New England	28.0	13.6	10.1	P	P	P	26.6	13.3	3.3
Middle Atlantic	10.7	6.8	5.6	P	P	P	8.2	4.9	4.6
Midwest	7.7	3.7	4.9	P	P	P	8.3	3.8	2.0
East North Central	10.3	4.4	6.3	P	P	P	11.8	5.0	2.5
West North Central	10.5	6.0	7.4	P	P	P	8.7	4.3	3.5
South	6.6	3.7	2.7	P	P	P	7.4	4.1	2.3
South Atlantic	9.6	4.2	4.1	P	P	P	9.7	4.2	1.9
East South Central	11.1	8.4	7.7	P	P	P	7.5	10.3	4.4
West South Central	11.3	8.3	3.0	P	P	P	13.7	8.7	4.9
West	12.9	7.2	10.3	P	P	P	11.5	5.2	4.6
Mountain	21.2	10.7	11.4	P	P	P	17.9	7.5	5.1
Pacific	15.2	8.3	12.5	P	P	P	14.2	6.5	4.4
Number of floors									
One	5.7	3.9	5.0	P	P	P	6.0	3.6	2.4
Two	7.4	5.4	4.7	P	P	P	6.6	4.2	2.4
Three	9.9	5.4	5.3	P	P	P	8.9	5.2	3.2
Four to nine	8.4	4.1	6.0	P	P	P	8.2	3.9	2.1
Ten or more	11.6	8.8	11.3	P	P	P	8.6	6.1	5.1
Elevators and escalators (more than one may apply)									
Any elevators	5.2	3.1	3.8	P	P	P	5.0	2.6	1.6
Number of elevators									
One	9.5	7.5	5.1	P	P	P	8.3	6.2	2.3
Two to five	6.4	4.0	6.8	P	P	P	5.6	3.5	2.1
Six or more	6.6	5.3	6.8	P	P	P	5.6	4.7	3.2
Any escalators	26.1	13.1	16.1	P	P	P	23.4	9.0	6.3
Number of workers (main shift)									
Fewer than 5	4.4	4.5	4.6	P	P	P	4.2	4.3	2.1
5 to 9	5.2	4.8	5.1	P	P	P	5.2	4.5	2.9
10 to 19	6.4	6.3	6.2	P	P	P	5.1	4.9	3.4
20 to 49	5.9	4.5	6.1	P	P	P	5.2	3.8	2.6
50 to 99	4.7	4.3	4.7	P	P	P	4.4	4.2	2.1
100 to 249	6.8	4.3	7.3	P	P	P	5.2	3.7	2.7
250 or more	6.5	5.3	6.6	P	P	P	5.9	3.9	3.2

RSEs for Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	RSEs for sum of major fuel consumption					RSEs for sum of major fuel expenditures			
	RSEs not available for percentiles								
	per building	per square foot	per worker	25th percentile	Median	75th percentile	per building	per square foot	per million Btu
All buildings	4.7	2.6	2.9	P	P	P	4.6	2.3	1.6
Weekly operating hours									
Fewer than 40	6.9	6.8	7.1	P	P	P	7.5	7.4	3.9
40 to 48	6.5	5.1	5.5	P	P	P	5.4	4.1	3.2
49 to 60	6.4	4.0	4.7	P	P	P	6.0	3.6	2.0
61 to 84	6.4	3.2	4.9	P	P	P	6.6	3.2	2.3
85 to 167	7.2	6.1	4.9	P	P	P	6.8	5.5	2.1
Open continuously	7.9	3.9	4.8	P	P	P	7.7	3.5	2.1
Party responsible for operation and maintenance of energy systems									
Building owner	4.6	2.7	3.0	P	P	P	4.4	2.3	1.5
Business owner or tenant	9.7	6.6	7.0	P	P	P	9.9	6.4	2.4
Property management	17.8	11.3	14.7	P	P	P	20.3	12.1	9.8
Other	19.0	13.3	18.3	P	P	P	18.3	11.6	5.3
Provider of direct input on energy-related equipment purchases									
Building owner	4.6	2.7	3.1	P	P	P	4.4	2.3	1.6
Business owner or tenant	10.9	7.3	7.4	P	P	P	10.7	7.1	2.3
Property management	23.9	9.9	19.0	P	P	P	27.1	14.2	14.7
Other	15.8	10.8	14.2	P	P	P	15.1	9.8	3.8
Number of establishments									
One	5.1	3.4	3.9	P	P	P	4.8	2.9	1.8
2 to 5	6.4	4.1	5.1	P	P	P	6.3	3.8	2.3
6 to 10	10.9	5.9	7.3	P	P	P	10.0	4.9	2.7
11 to 20	13.8	5.3	8.6	P	P	P	14.8	6.2	4.4
More than 20	27.3	6.7	8.5	P	P	P	27.2	5.7	4.4
Currently unoccupied	23.8	24.9	0.0	P	P	P	25.3	26.0	10.0
Predominant exterior wall material									
Brick, stone, or stucco	4.3	2.7	2.9	P	P	P	4.4	3.1	1.7
Concrete (block or poured)	7.9	5.2	4.7	P	P	P	7.1	3.7	2.6
Concrete panels	20.8	10.1	11.1	P	P	P	17.8	6.7	4.8
Siding or shingles	11.5	8.2	9.2	P	P	P	10.5	7.5	3.3
Metal panels	10.1	6.8	9.7	P	P	P	9.6	6.4	3.6
Window glass	26.1	15.1	18.1	P	P	P	23.1	11.0	5.7
Other	34.4	23.9	23.0	P	P	P	32.8	22.8	8.7
No one major type	24.8	12.1	132.3	P	P	P	24.8	12.9	5.9

RSEs for Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	RSEs for sum of major fuel consumption					RSEs for sum of major fuel expenditures			
	RSEs not available for percentiles								
	per building	per square foot	per worker	25th percentile	Median	75th percentile	per building	per square foot	per million Btu
All buildings	4.7	2.6	2.9	P	P	P	4.6	2.3	1.6
Predominant roof material									
Metal surfacing	8.3	5.2	5.6	P	P	P	8.1	4.7	2.9
Synthetic or rubber	6.1	3.5	4.2	P	P	P	5.9	3.4	1.7
Built-up	8.0	4.5	3.9	P	P	P	7.1	3.6	2.2
Slate or tile shingles	13.7	5.6	10.3	P	P	P	11.8	6.5	6.2
Wooden materials (including shingles)	16.7	15.5	13.8	P	P	P	13.4	11.7	6.7
Asphalt, fiberglass, or other shingles	6.1	4.1	8.5	P	P	P	5.9	3.7	2.5
Concrete	16.9	10.9	10.4	P	P	P	16.3	10.8	4.4
Other	31.2	10.0	17.6	P	P	P	33.4	12.0	7.2
No one major type	28.0	21.0	16.2	P	P	P	27.4	20.9	7.8
Roof characteristics									
Roof tilt									
Flat	6.3	3.3	3.8	P	P	P	5.5	2.6	1.7
Shallow pitch	7.5	4.6	5.0	P	P	P	7.4	4.1	2.6
Steeper pitch	6.4	4.5	5.7	P	P	P	6.1	4.3	2.8
Cool roof	8.0	4.3	4.8	P	P	P	7.1	3.5	2.6
Renovations in buildings constructed before 2008 (more than one may apply)									
Any type of renovation	5.4	3.3	3.4	P	P	P	4.9	2.9	1.8
Addition or annex	8.9	4.9	6.4	P	P	P	8.2	4.3	2.2
Reduction in floorspace	35.4	23.0	8.1	P	P	P	30.2	16.9	8.8
Roof replacement	7.6	4.9	4.4	P	P	P	7.0	4.4	1.8
Exterior wall replacement	12.1	8.3	8.8	P	P	P	11.2	7.0	3.3
Interior wall reconfiguration	6.8	3.8	4.6	P	P	P	6.5	3.6	2.0
Window replacement	8.6	5.9	6.5	P	P	P	7.7	4.9	2.5
HVAC equipment upgrade	6.7	4.1	3.7	P	P	P	6.2	3.6	2.0
Lighting upgrade	6.1	3.4	4.5	P	P	P	5.6	3.2	1.9
Electrical upgrade	7.8	4.8	5.6	P	P	P	7.5	4.2	2.3
Plumbing system upgrade	8.2	5.3	6.4	P	P	P	7.8	4.7	2.7
Insulation upgrade	11.7	8.2	8.3	P	P	P	10.0	6.5	3.1
Fire, safety, or security upgrade	7.0	3.4	4.5	P	P	P	7.0	3.4	1.9
Structural upgrade	19.1	13.7	15.2	P	P	P	16.3	10.5	4.9
Other	30.3	11.8	16.6	P	P	P	30.1	13.8	9.5
No renovations	5.3	3.7	4.4	P	P	P	5.1	2.9	2.3
Buildings constructed 2008 or later	15.4	7.8	9.1	P	P	P	17.5	9.1	4.5

RSEs for Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	RSEs for sum of major fuel consumption						RSEs for sum of major fuel expenditures		
	RSEs not available for percentiles								
	per building	per square foot	per worker	25th percentile	Median	75th percentile	per building	per square foot	per million Btu
All buildings	4.7	2.6	2.9	P	P	P	4.6	2.3	1.6
Energy sources (more than one may apply)									
Electricity	4.7	2.6	2.9	P	P	P	4.5	2.3	1.6
Natural gas	4.7	2.5	3.1	P	P	P	4.9	2.6	1.5
Fuel oil	11.8	3.8	4.6	P	P	P	11.4	3.5	2.0
District heat	15.1	8.7	8.9	P	P	P	14.3	7.0	4.6
District chilled water	20.4	11.7	11.3	P	P	P	19.3	10.5	3.7
Propane	14.9	10.7	10.0	P	P	P	12.4	8.2	4.7
Other	17.7	8.5	12.3	P	P	P	16.9	7.1	4.0
Space-heating energy sources (more than one may apply)									
Electricity	5.0	2.4	3.8	P	P	P	4.8	2.1	1.7
Natural gas	4.6	2.4	3.3	P	P	P	5.2	2.9	1.6
Fuel oil	15.1	9.7	6.4	P	P	P	14.0	9.2	3.1
District heat	15.2	8.8	8.9	P	P	P	14.4	7.0	4.6
Propane	12.6	10.1	12.0	P	P	P	11.4	8.9	4.0
Other	24.9	14.8	18.5	P	P	P	26.1	15.4	5.4
Primary space-heating energy source									
Electricity	6.2	4.0	5.8	P	P	P	5.5	3.1	2.3
Natural gas	4.7	2.4	2.7	P	P	P	5.4	2.9	1.6
Fuel oil	15.0	14.6	9.2	P	P	P	14.2	14.2	2.5
District heat	15.3	8.8	9.0	P	P	P	14.5	7.1	4.7
Propane	14.7	12.2	14.1	P	P	P	12.2	10.3	4.9
Other	36.3	22.4	13.3	P	P	P	37.3	24.8	4.7
Cooling energy sources (more than one may apply)									
Electricity	4.5	2.5	3.1	P	P	P	4.4	2.3	1.5
Natural gas	34.1	11.6	11.4	P	P	P	32.9	12.6	6.7
District chilled water	20.4	11.7	11.3	P	P	P	19.3	10.5	3.7
Water-heating energy sources (more than one may apply)									
Electricity	5.5	2.9	3.4	P	P	P	5.3	2.5	1.7
Natural gas	5.0	2.8	3.9	P	P	P	5.3	3.1	1.7
Fuel oil	23.4	10.0	6.2	P	P	P	23.4	10.4	5.6
District heat	14.1	10.2	10.1	P	P	P	13.9	8.5	4.8
Propane	16.1	10.8	11.9	P	P	P	15.7	9.3	6.2
Cooking energy sources (more than one may apply)									
Electricity	5.6	2.3	3.1	P	P	P	5.9	2.6	1.5
Natural gas	5.4	3.1	3.6	P	P	P	5.3	3.1	2.0
Propane	19.3	11.1	7.4	P	P	P	19.9	11.1	4.5

RSEs for Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	RSEs for sum of major fuel consumption					RSEs for sum of major fuel expenditures			
	RSEs not available for percentiles								
	per building	per square foot	per worker	25th percentile	Median	75th percentile	per building	per square foot	per million Btu
All buildings	4.7	2.6	2.9	P	P	P	4.6	2.3	1.6
Energy end uses (more than one may apply)									
Buildings with space heating	4.5	2.4	2.9	P	P	P	4.4	2.2	1.6
Buildings with cooling	4.7	2.6	3.0	P	P	P	4.4	2.2	1.6
Buildings with water heating	4.6	2.5	3.0	P	P	P	4.4	2.2	1.5
Buildings with cooking	5.3	2.7	2.8	P	P	P	5.2	2.7	1.6
Buildings with manufacturing	16.0	11.5	12.0	P	P	P	13.8	9.2	5.0
Buildings with electricity generation	6.8	2.8	4.4	P	P	P	6.5	2.7	1.8
Percent of floorspace heated									
Not heated	13.7	12.5	13.1	P	P	P	13.2	11.1	6.4
1 to 50	12.3	9.0	12.2	P	P	P	11.0	7.3	3.5
51 to 99	6.9	4.5	6.0	P	P	P	6.3	4.1	2.4
100	4.4	2.4	3.1	P	P	P	4.2	2.3	1.5
Percent of floorspace cooled									
Not cooled	9.8	9.5	9.0	P	P	P	9.9	9.9	4.3
1 to 50	8.3	5.7	7.8	P	P	P	6.9	4.3	3.1
51 to 99	5.9	3.5	4.3	P	P	P	5.8	3.2	2.1
100	4.9	2.9	3.7	P	P	P	4.6	2.7	1.8
Percent lit when open									
Zero	38.4	33.8	38.9	P	P	P	35.4	30.2	12.3
1 to 50	6.5	5.9	8.7	P	P	P	5.9	4.7	2.8
51 to 99	6.4	3.5	3.6	P	P	P	6.4	3.6	1.8
100	5.3	3.4	4.2	P	P	P	4.8	2.9	2.0
Building never open/electricity not used	21.1	20.1	51.9	P	P	P	22.1	21.0	11.4
Percent lit during off hours									
Zero	5.3	4.1	5.6	P	P	P	5.4	4.0	2.4
1 to 50	4.3	2.2	2.9	P	P	P	4.3	2.2	1.4
51 to 100	13.8	6.8	7.3	P	P	P	12.7	5.8	3.1
Building always open with no "off hours"	14.3	7.3	13.7	P	P	P	14.7	7.2	4.0
Electricity not used	0.0	0.0	0.0	P	P	P	0.0	0.0	0.0
Heating equipment (more than one may apply)									
Heat pumps	8.0	3.5	5.7	P	P	P	7.3	3.1	2.0
Furnaces	7.2	4.8	6.1	P	P	P	6.9	4.8	2.5
Individual space heaters	5.9	3.3	3.0	P	P	P	6.2	3.8	1.8
District heat	15.2	8.8	8.9	P	P	P	14.4	7.0	4.6
Boilers	6.6	3.0	3.5	P	P	P	6.7	3.3	1.5
Packaged heating units	4.8	2.8	4.0	P	P	P	4.9	2.7	1.8
Other	19.9	8.5	10.4	P	P	P	19.7	8.7	4.2

RSEs for Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	RSEs for sum of major fuel consumption					RSEs for sum of major fuel expenditures			
	RSEs not available for percentiles								
	per building	per square foot	per worker	25th percentile	Median	75th percentile	per building	per square foot	per million Btu
All buildings	4.7	2.6	2.9	P	P	P	4.6	2.3	1.6
Cooling equipment (more than one may apply)									
Residential-type central air conditioners	5.9	4.6	5.1	P	P	P	6.1	4.5	3.1
Heat pumps	6.5	3.6	4.7	P	P	P	6.1	3.2	2.3
Individual air conditioners	6.9	3.9	5.1	P	P	P	6.7	4.0	2.0
District chilled water	20.4	11.7	11.3	P	P	P	19.3	10.5	3.7
Central chillers	6.6	2.8	4.3	P	P	P	7.1	3.1	1.9
Packaged air conditioning units	4.9	2.8	4.0	P	P	P	4.9	2.7	1.6
Swamp coolers	17.7	10.9	9.0	P	P	P	18.0	11.0	4.0
Other	78.7	22.4	27.4	P	P	P	79.0	27.4	10.5
Main equipment replaced since 1990 (more than one may apply)									
Heating	4.4	3.2	3.7	P	P	P	4.3	3.3	1.9
Cooling	4.6	2.8	3.5	P	P	P	4.4	2.6	1.8
Water-heating equipment									
Centralized system	5.0	3.1	3.1	P	P	P	4.6	2.6	1.7
Distributed system	7.8	5.2	5.7	P	P	P	6.7	4.0	2.9
Combination of centralized and distributed system	5.5	3.4	6.8	P	P	P	5.7	3.7	2.0
Lighting equipment types (more than one may apply)									
Incandescent	5.7	3.1	3.1	P	P	P	5.6	2.8	1.8
Standard fluorescent	4.7	2.5	3.0	P	P	P	4.5	2.2	1.6
Compact fluorescent	5.3	2.6	2.9	P	P	P	5.1	2.4	1.5
High-intensity discharge (HID)	7.9	3.9	3.9	P	P	P	7.4	3.2	2.2
Halogen	6.2	3.2	4.0	P	P	P	6.4	3.2	1.8
LED	6.4	3.5	4.4	P	P	P	6.0	3.1	2.1
Other	30.4	12.8	13.6	P	P	P	32.6	18.8	10.7
Refrigeration equipment (more than one may apply)									
Any refrigeration	4.8	2.4	2.4	P	P	P	4.6	2.2	1.5
Walk-in units	4.9	2.9	3.4	P	P	P	4.7	2.6	1.6
Cases or cabinets	5.6	2.9	3.7	P	P	P	5.4	2.6	1.7
Large cold storage areas	11.6	6.0	7.2	P	P	P	11.6	5.3	3.4
Commercial ice makers	5.3	2.9	3.1	P	P	P	5.3	2.8	1.7
Residential-type or compact units	5.2	2.7	2.7	P	P	P	5.1	2.3	1.7
Vending machines	5.0	2.6	3.0	P	P	P	4.7	2.5	1.8
No refrigeration	8.4	6.3	14.2	P	P	P	9.0	6.2	3.8

RSEs for Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	RSEs for sum of major fuel consumption					RSEs for sum of major fuel expenditures			
	RSEs not available for percentiles								
	per building	per square foot	per worker	25th percentile	Median	75th percentile	per building	per square foot	per million Btu
All buildings	4.7	2.6	2.9	P	P	P	4.6	2.3	1.6
Office equipment (more than one may apply)									
Desktop computers	4.7	2.6	3.1	P	P	P	4.3	2.2	1.6
With flat screen monitors	4.8	2.6	3.1	P	P	P	4.4	2.2	1.6
With multiple monitors	6.9	3.3	3.7	P	P	P	6.3	2.7	2.0
Laptop computers	5.4	2.7	3.2	P	P	P	5.0	2.3	1.6
Dedicated servers	5.9	2.7	3.0	P	P	P	5.4	2.3	1.7
Laser printers	5.3	3.0	3.2	P	P	P	4.9	2.6	1.6
Inkjet printers	5.1	2.8	3.9	P	P	P	4.8	2.5	2.1
FAX machines	5.2	2.8	2.8	P	P	P	4.7	2.2	1.6
Photocopiers	5.8	2.8	3.5	P	P	P	5.4	2.4	1.6
Number of desktop computers									
None	8.3	8.4	7.0	P	P	P	9.5	9.2	3.3
1 to 4	4.6	4.6	5.4	P	P	P	3.9	4.0	2.2
5 to 9	8.4	6.7	14.9	P	P	P	7.6	5.7	2.8
10 to 19	7.3	5.3	6.2	P	P	P	6.8	4.7	2.6
20 to 49	6.3	3.9	5.4	P	P	P	5.9	3.8	2.9
50 to 99	7.4	4.6	6.6	P	P	P	6.7	4.0	3.1
100 to 249	10.4	8.2	7.8	P	P	P	8.5	6.3	2.9
250 or more	6.1	3.8	4.9	P	P	P	6.5	3.7	2.5
Number of laptop computers									
None	5.1	4.0	4.3	P	P	P	5.9	3.6	2.6
1 to 4	5.1	4.5	4.7	P	P	P	4.3	3.8	2.5
5 to 9	13.4	9.7	6.5	P	P	P	11.6	7.4	3.5
10 to 19	7.9	5.8	5.3	P	P	P	8.3	6.2	2.6
20 to 49	9.5	6.3	9.2	P	P	P	7.9	4.6	3.0
50 to 99	9.8	6.6	14.2	P	P	P	9.7	6.1	3.3
100 to 249	11.0	5.9	8.5	P	P	P	10.1	4.9	4.1
250 or more	9.6	5.0	6.0	P	P	P	9.7	5.1	3.1
Number of dedicated servers									
None	5.1	4.2	6.4	P	P	P	4.8	3.5	2.1
1 to 4	6.5	3.9	3.8	P	P	P	5.8	3.1	2.1
5 to 9	9.5	4.8	6.0	P	P	P	9.1	4.7	2.6
10 to 19	16.2	8.7	11.6	P	P	P	14.4	6.2	5.0
20 to 49	14.5	5.4	7.7	P	P	P	14.5	4.7	3.7
50 or more	10.9	6.2	9.2	P	P	P	10.9	6.3	4.4
Number of photocopiers									
None	4.7	3.5	3.9	P	P	P	5.1	3.4	2.1
One	6.5	5.0	6.5	P	P	P	5.8	3.9	2.9
2 to 4	6.0	3.9	6.2	P	P	P	5.6	3.7	2.2
5 to 9	12.6	8.1	5.8	P	P	P	11.1	6.6	2.9
10 or more	10.2	4.2	6.3	P	P	P	10.0	3.8	2.7

RSEs for Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	RSEs for sum of major fuel consumption					RSEs for sum of major fuel expenditures			
	RSEs not available for percentiles								
	per building	per square foot	per worker	25th percentile	Median	75th percentile	per building	per square foot	per million Btu
All buildings	4.7	2.6	2.9	P	P	P	4.6	2.3	1.6
Number of TVs or video displays									
None	5.1	4.5	8.1	P	P	P	4.9	3.8	2.2
One	5.7	5.3	6.5	P	P	P	5.1	4.5	2.3
2 to 4	6.3	4.6	5.5	P	P	P	5.7	4.3	2.5
5 to 9	8.3	6.1	6.7	P	P	P	7.6	5.9	3.4
10 to 19	12.3	7.8	6.7	P	P	P	11.1	6.5	3.1
20 to 49	7.3	3.4	5.8	P	P	P	7.7	4.1	2.0
50 to 99	10.4	4.8	9.5	P	P	P	8.4	5.7	5.4
100 or more	11.5	5.7	8.3	P	P	P	11.8	5.1	3.5
Food preparation or serving areas in non-food service buildings (more than one may apply)									
Snack bar or concession stand	9.8	5.6	7.0	P	P	P	9.7	4.7	3.0
Fast food or small restaurant	8.3	4.3	5.9	P	P	P	7.6	3.2	2.7
Cafeteria or large restaurant	7.9	5.0	4.9	P	P	P	7.3	4.0	2.2
Commercial kitchen/ food preparation area	7.8	4.4	4.3	P	P	P	7.4	4.0	2.4
Small kitchen area	8.3	5.1	5.9	P	P	P	7.5	4.1	2.6
Separate computer areas (more than one may apply)									
Data center or server farm	9.9	4.6	6.3	P	P	P	9.8	4.4	3.1
Computer-based training room	6.8	3.8	5.0	P	P	P	6.3	3.3	2.7
Student or public computer center	8.0	5.0	5.7	P	P	P	7.3	4.9	2.4
HVAC conservation features (more than one may apply)									
Economizer cycle	5.5	3.1	3.4	P	P	P	5.1	2.8	1.8
Regular HVAC maintenance	4.5	2.5	3.0	P	P	P	4.3	2.2	1.6
Building automation system (BAS) ¹	6.2	2.5	3.5	P	P	P	5.9	2.5	1.7
Window and interior lighting features (more than one may apply)									
Multipaned windows	4.7	2.5	2.6	P	P	P	4.7	2.5	1.5
Tinted window glass	6.8	3.9	4.2	P	P	P	6.1	3.1	1.9
Reflective window glass	9.4	4.7	5.6	P	P	P	8.8	4.2	2.3
External overhangs or awnings	5.8	3.6	3.6	P	P	P	5.4	3.0	1.9
Skylights or atriums	10.4	5.4	5.3	P	P	P	9.5	4.4	2.1
Light scheduling	6.4	3.0	4.9	P	P	P	6.5	2.9	1.9
Occupancy sensors	7.0	2.8	3.7	P	P	P	6.3	2.1	1.6
Multi-level lighting or dimming	7.7	4.3	5.1	P	P	P	7.6	4.1	2.2
Daylight harvesting	12.8	5.1	8.8	P	P	P	13.1	4.4	3.0
Demand responsive lighting	17.4	8.4	8.6	P	P	P	17.4	7.7	4.0
Building automation system (BAS) for lighting ¹	9.0	3.4	5.8	P	P	P	9.3	3.6	2.4

RSEs for Table C4. Sum of major fuel consumption and expenditure gross energy intensities, 2012 - PUBLIC USE VERSION

	RSEs for sum of major fuel consumption					RSEs for sum of major fuel expenditures			
	RSEs not available for percentiles								
	per building	per square foot	per worker	25th percentile	Median	75th percentile	per building	per square foot	per million Btu
All buildings	4.7	2.6	2.9	P	P	P	4.6	2.3	1.6
Equipment usage reduced when building not in full use (more than one may apply)									
Heating	5.1	2.8	3.0	P	P	P	4.8	2.5	1.7
Cooling	5.3	2.8	3.0	P	P	P	5.1	2.5	1.8
Lighting	4.8	2.7	3.0	P	P	P	4.5	2.3	1.5

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RSEs for Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total electricity consumption				RSEs for total floorspace of buildings using electricity				RSEs for electricity energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	8.3	7.0	8.0	11.8	6.2	5.9	8.0	14.5	5.8	3.3	4.4	5.5
Building floorspace (square feet)												
1,001 to 5,000	16.2	14.5	7.4	10.9	12.8	11.1	7.6	11.4	9.0	9.0	6.5	6.7
5,001 to 10,000	17.0	12.3	11.3	21.7	7.4	11.4	9.6	26.8	15.5	8.2	8.1	13.7
10,001 to 25,000	13.3	20.2	9.9	15.1	10.0	11.3	10.9	19.9	12.3	13.0	8.2	10.7
25,001 to 50,000	18.5	14.9	13.2	15.2	14.9	9.7	15.2	18.8	16.2	11.4	8.8	8.1
50,001 to 100,000	15.2	16.1	16.0	13.0	13.1	13.5	14.1	15.5	9.7	6.6	7.3	9.8
100,001 to 200,000	27.8	15.0	14.0	21.3	17.3	11.6	11.7	18.0	13.4	8.6	8.1	8.0
200,001 to 500,000	14.3	12.0	16.4	25.2	12.8	11.9	11.7	17.2	9.6	6.2	11.4	12.9
Over 500,000	12.4	14.8	17.9	29.5	9.4	19.5	19.1	18.7	8.2	8.4	11.7	16.4
Principal building activity												
Education	17.8	11.2	12.3	14.0	10.5	7.6	11.2	18.4	14.1	8.2	4.2	7.8
Food sales	25.7	30.0	16.5	24.3	24.1	31.5	14.6	32.0	7.9	9.8	7.5	14.9
Food service	24.9	22.8	15.3	21.2	16.5	17.8	11.6	17.4	18.7	13.6	10.3	15.0
Health care	17.9	15.7	13.0	29.9	15.8	11.4	11.6	21.7	5.3	8.0	6.6	12.1
Inpatient	16.1	13.4	12.1	36.3	16.4	11.0	11.1	27.6	5.6	5.0	4.8	13.0
Outpatient	28.5	33.4	29.3	17.2	23.2	21.7	22.3	18.1	10.5	18.8	17.4	7.1
Lodging	17.1	16.4	14.3	28.7	14.2	18.0	15.1	17.8	8.1	5.7	7.6	19.2
Mercantile	17.7	13.4	19.3	17.6	14.5	12.3	16.1	16.6	7.8	6.1	5.4	5.6
Retail (other than mall)	18.9	11.9	18.2	22.1	17.4	14.0	14.4	19.2	9.7	10.6	8.5	9.2
Enclosed and strip malls	23.1	19.9	24.8	21.2	17.6	17.6	23.0	20.0	10.7	6.5	5.2	5.8
Office	18.5	12.6	11.1	10.0	10.4	12.9	11.7	12.7	11.3	3.6	4.4	6.8
Public assembly	21.6	23.4	16.3	16.9	15.1	18.5	17.9	18.2	17.5	18.2	9.5	12.3
Public order and safety	44.5	19.8	25.8	39.1	30.6	22.5	21.8	45.2	21.6	15.6	11.0	20.6
Religious worship	35.1	15.9	14.2	20.0	23.7	14.8	14.2	18.8	22.3	9.6	10.1	12.1
Service	24.7	14.6	12.4	29.5	21.2	13.5	13.7	31.3	18.7	8.7	9.3	15.0
Warehouse and storage	19.0	20.6	20.4	32.9	16.5	15.2	17.4	31.9	15.3	11.9	19.6	15.5
Other	43.0	42.2	30.9	39.3	28.6	29.5	29.1	28.4	22.6	40.3	25.3	32.8
Vacant	44.9	41.8	23.4	44.6	28.2	25.8	24.6	19.1	40.0	38.1	31.1	27.2
Year constructed												
Before 1920	18.8	14.5	25.3	33.9	22.5	13.1	23.5	25.5	16.3	15.7	14.3	16.1
1920 to 1945	10.9	18.7	17.1	36.9	11.5	15.3	17.6	20.3	9.3	13.6	14.1	23.8
1946 to 1959	18.5	16.7	16.1	10.6	14.3	12.5	17.8	11.8	12.4	7.1	10.8	9.8
1960 to 1969	17.4	14.1	15.4	16.4	13.5	11.7	12.6	16.8	10.4	8.1	11.1	11.1
1970 to 1979	25.3	10.3	7.7	15.2	14.5	8.8	9.8	22.5	13.9	6.5	8.9	11.9
1980 to 1989	18.2	14.4	12.6	16.0	10.3	12.9	8.4	19.0	16.4	8.3	7.6	7.5
1990 to 1999	14.1	12.8	8.3	12.0	11.3	13.2	7.7	11.9	7.5	6.9	4.9	9.5
2000 to 2003	22.1	21.2	12.8	15.6	17.7	14.9	12.9	16.2	15.9	13.3	6.1	11.6
2004 to 2007	24.8	16.8	25.5	32.5	19.3	20.1	21.6	39.1	16.9	7.6	8.3	21.9
2008 to 2012	24.7	28.6	40.2	50.9	21.5	22.8	32.5	33.3	13.7	19.1	12.3	25.5
Number of floors												
One	12.9	9.6	11.1	16.7	11.2	9.8	10.6	20.0	11.7	5.7	6.1	7.0
Two	21.2	9.1	13.3	12.7	13.1	7.7	10.5	14.0	13.7	5.6	7.5	8.7
Three	18.6	18.6	13.5	19.2	10.6	11.1	13.7	17.0	15.7	11.4	7.7	9.6
Four to nine	10.7	9.8	14.6	19.8	10.7	9.9	16.4	18.6	7.8	6.6	6.5	10.9
Ten or more	14.4	14.1	19.3	35.7	10.9	19.1	22.2	23.8	6.3	6.9	5.3	16.5

RSEs for Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total electricity consumption				RSEs for total floorspace of buildings using electricity				RSEs for electricity energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	8.3	7.0	8.0	11.8	6.2	5.9	8.0	14.5	5.8	3.3	4.4	5.5
Elevators and escalators (more than one may apply)												
Any elevators	11.5	9.3	9.7	12.9	8.3	7.0	9.5	11.3	5.8	4.1	4.2	6.6
Number of elevators												
One	29.9	15.7	12.8	14.3	13.9	10.0	11.4	11.3	20.5	7.4	6.6	9.4
Two to five	17.8	14.3	14.7	17.6	14.2	11.9	13.1	17.5	8.4	8.5	6.6	9.6
Six or more	12.7	11.4	14.1	25.4	10.6	15.0	17.8	18.1	4.9	6.4	6.1	10.4
Any escalators	17.3	33.5	19.1	41.2	21.6	34.2	19.1	26.9	11.4	11.5	11.1	21.2
Number of workers (main shift)												
Fewer than 5	12.7	18.5	8.5	11.3	16.6	12.0	12.3	15.2	10.4	13.8	9.5	10.8
5 to 9	15.8	15.3	8.5	18.9	13.2	12.3	7.4	21.4	8.9	8.7	7.6	9.8
10 to 19	15.3	18.9	10.9	18.8	11.2	14.2	11.9	24.2	12.2	9.3	8.2	12.9
20 to 49	16.1	13.0	13.3	14.2	12.8	7.3	9.6	17.0	8.9	8.5	9.3	9.2
50 to 99	14.9	16.1	14.0	18.5	10.1	10.5	11.2	18.0	11.9	8.6	7.2	4.9
100 to 249	11.8	13.1	19.8	18.1	11.5	11.8	18.9	15.7	4.3	8.3	6.4	6.2
250 or more	14.2	11.6	12.1	19.5	9.8	13.2	14.9	13.8	6.6	4.5	5.2	9.0
Weekly operating hours												
Fewer than 40	21.8	13.1	13.2	19.4	18.7	10.9	16.4	17.1	19.8	12.9	10.3	16.5
40 to 48	15.0	10.5	13.9	16.0	15.8	8.6	11.9	18.9	10.5	5.7	12.3	9.4
49 to 60	12.9	15.3	10.7	12.5	7.7	10.8	10.5	18.8	11.6	7.7	5.6	8.0
61 to 84	10.2	11.9	9.8	17.6	9.8	12.0	9.2	15.3	6.7	7.2	4.1	6.7
85 to 167	19.1	12.9	15.2	17.6	18.7	12.9	13.1	26.5	9.6	6.4	8.8	18.2
Open continuously	15.6	13.4	9.1	17.4	11.6	10.2	9.3	14.5	7.7	8.2	5.9	7.7
Party responsible for operation and maintenance of energy systems												
Building owner	9.3	6.7	6.9	9.6	7.0	6.0	7.5	12.6	6.2	3.2	4.8	4.8
Business owner or tenant	16.6	18.0	19.9	27.8	11.2	13.1	19.7	25.8	13.2	11.6	7.6	17.3
Property management	39.4	38.9	24.5	35.1	31.8	37.3	20.6	34.6	17.9	22.3	16.2	12.8
Other	40.3	38.6	31.3	43.3	25.0	35.4	29.0	25.9	24.1	17.4	16.9	41.0
Provider of direct input on energy-related equipment purchases												
Building owner	8.9	6.8	7.0	10.0	6.7	6.2	7.5	12.9	6.2	3.1	4.8	4.6
Business owner or tenant	19.7	14.6	17.0	29.4	11.6	14.2	18.1	26.5	13.5	12.3	7.4	20.3
Property management	51.9	48.6	28.3	51.0	45.1	41.7	24.3	49.1	15.9	20.3	17.9	22.9
Other	32.4	49.9	30.1	36.1	20.1	34.7	24.1	34.4	21.4	29.8	12.8	11.2
Number of establishments												
One	12.9	8.5	7.2	13.4	9.1	7.3	8.1	16.1	8.4	4.9	5.4	5.8
2 to 5	7.4	14.9	10.2	14.4	8.0	10.4	11.3	14.8	6.8	7.2	6.8	9.0
6 to 10	19.2	24.7	16.4	20.3	16.7	21.7	19.5	24.5	10.6	9.8	9.0	13.0
11 to 20	25.5	22.0	30.8	22.3	21.9	20.6	27.1	19.0	8.8	6.3	7.8	14.3
More than 20	22.2	22.8	22.2	19.2	16.4	23.7	16.5	15.1	14.3	7.6	16.2	10.4
Currently unoccupied	42.7	56.4	30.4	50.3	33.9	41.0	41.5	32.1	25.0	39.1	32.7	33.1

RSEs for Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total electricity consumption				RSEs for total floorspace of buildings using electricity				RSEs for electricity energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	8.3	7.0	8.0	11.8	6.2	5.9	8.0	14.5	5.8	3.3	4.4	5.5
Predominant exterior wall material												
Brick, stone, or stucco	11.1	8.1	9.5	11.8	8.3	5.6	9.1	13.5	6.4	5.1	5.5	5.7
Concrete (block or poured)	19.4	9.2	9.8	12.9	11.8	9.8	10.0	17.3	12.6	7.2	5.6	8.4
Concrete panels	25.5	14.6	15.2	24.3	20.2	15.0	15.5	28.7	15.2	10.4	10.8	11.0
Siding or shingles	24.5	26.0	10.6	34.2	22.1	23.6	11.2	23.8	13.3	17.4	10.6	15.4
Metal panels	28.5	16.5	20.8	17.5	14.4	15.3	15.1	15.7	22.0	9.6	17.5	11.2
Window glass	34.0	23.4	27.9	33.5	24.5	29.7	24.7	28.2	20.0	27.9	10.2	28.0
Other	47.1	50.0	33.5	53.3	68.0	36.9	41.6	41.6	86.8	24.6	24.1	13.5
No one major type	19.0	33.0	34.1	60.3	32.8	43.8	39.0	51.2	30.6	28.7	37.2	23.6
Predominant roof material												
Metal surfacing	29.4	16.8	11.8	18.0	16.8	11.8	10.9	18.5	25.8	10.9	9.2	9.6
Synthetic or rubber	12.4	11.0	12.6	16.2	8.8	8.5	14.4	15.0	7.7	4.6	7.3	8.0
Built-up	15.8	10.2	7.5	11.9	11.2	9.4	7.3	14.9	9.9	5.5	4.4	9.3
Slate or tile shingles	25.6	25.8	24.2	20.8	20.0	21.8	28.6	15.0	14.0	17.9	8.9	10.6
Wooden materials (including shingles)	42.5	30.1	21.6	22.0	34.2	37.0	19.9	32.8	32.4	20.0	17.6	18.2
Asphalt, fiberglass, or other shingles	11.7	13.9	10.2	14.6	9.0	12.7	8.1	17.7	8.1	5.3	6.6	7.1
Concrete	26.6	67.6	21.3	20.5	26.1	44.3	22.6	24.0	11.6	58.9	17.9	12.2
Other	48.0	53.4	37.9	70.3	41.5	40.7	33.2	65.1	14.6	37.8	12.7	18.7
No one major type	43.3	63.8	45.3	53.6	58.0	36.6	39.1	64.5	74.6	47.9	17.0	17.2
Roof characteristics												
Roof tilt												
Flat	9.5	7.5	7.8	12.3	6.5	7.0	7.7	16.9	5.5	3.6	4.9	7.9
Shallow pitch	12.9	11.9	13.0	14.8	13.2	9.1	11.5	16.0	11.2	7.5	7.3	6.9
Steeper pitch	14.8	15.8	9.7	14.5	14.8	14.3	9.4	10.7	9.3	7.4	7.0	7.1
Cool roof	20.7	10.1	11.5	17.5	14.2	11.3	10.4	15.2	11.3	5.1	5.3	6.7
Renovations in buildings constructed before 2008 (more than one may apply)												
Any type of renovation	11.7	8.5	6.7	8.7	7.3	6.4	7.2	10.4	8.0	4.4	5.0	6.0
Addition or annex	8.8	10.9	8.5	25.5	7.7	8.7	9.2	17.4	6.5	5.2	6.8	12.1
Reduction in floorspace	69.0	31.9	21.5	27.7	47.9	25.7	18.4	32.4	36.3	22.3	18.0	21.6
Roof replacement	17.6	10.9	9.0	11.4	9.2	7.8	7.9	11.9	11.0	6.2	7.3	7.1
Exterior wall replacement	15.1	22.2	20.7	26.5	15.3	17.0	13.8	16.0	6.8	11.6	17.7	18.7
Interior wall reconfiguration	11.3	10.1	9.4	12.2	7.5	7.6	8.9	12.3	7.5	6.0	6.5	8.7
Window replacement	7.2	12.9	11.6	26.4	7.4	11.2	7.7	18.0	6.9	10.2	10.0	15.8
HVAC equipment upgrade	13.8	8.4	7.3	11.3	7.0	6.7	7.4	9.6	8.9	5.9	6.4	6.5
Lighting upgrade	8.0	10.3	8.9	10.5	6.7	7.7	9.8	10.8	5.8	6.0	6.7	7.2
Electrical upgrade	12.2	11.5	10.3	18.1	11.4	9.6	9.7	14.9	5.9	6.7	9.0	12.3
Plumbing system upgrade	14.0	13.1	12.1	17.3	13.0	9.4	10.7	13.3	7.8	8.4	10.0	10.6
Insulation upgrade	15.0	15.1	18.2	28.3	12.0	12.6	13.2	18.0	10.2	11.1	15.4	14.5
Fire, safety, or security upgrade	10.3	13.1	10.3	12.1	8.8	10.2	9.7	11.4	6.1	6.4	8.0	8.6
Structural upgrade	15.4	22.6	26.9	31.8	18.0	16.8	17.4	19.1	14.5	13.3	22.9	21.6
Other	42.3	61.7	37.4	52.8	38.2	51.0	49.6	48.4	16.5	21.2	41.3	28.9
No renovations	11.6	10.1	8.4	14.0	8.5	9.2	7.2	18.6	6.0	4.6	5.9	7.1
Buildings constructed 2008 or later	24.7	28.6	40.2	50.9	21.5	22.8	32.5	33.3	13.7	19.1	12.3	25.5

RSEs for Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total electricity consumption				RSEs for total floorspace of buildings using electricity				RSEs for electricity energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	8.3	7.0	8.0	11.8	6.2	5.9	8.0	14.5	5.8	3.3	4.4	5.5
Energy sources (more than one may apply)												
Electricity	8.3	7.0	8.0	11.8	6.2	5.9	8.0	14.5	5.8	3.3	4.4	5.5
Natural gas	11.3	7.1	9.7	11.6	7.8	6.0	10.3	12.3	5.9	3.5	5.0	5.5
Fuel oil	8.5	11.8	9.8	18.4	9.7	9.6	10.1	13.6	9.3	6.4	6.1	8.5
District heat	27.2	25.2	24.6	35.9	19.2	20.6	27.8	25.2	13.5	11.5	9.5	18.6
District chilled water	47.5	24.2	21.2	40.5	38.8	25.6	25.5	27.0	17.2	13.6	11.4	20.9
Propane	21.4	23.3	16.0	32.7	16.8	19.1	12.6	23.5	20.4	12.4	14.1	18.8
Other	25.5	30.4	19.3	23.9	22.7	17.7	16.1	25.1	13.1	18.4	10.0	12.8
Space-heating energy sources												
Electricity	11.4	7.3	8.9	12.0	8.7	6.7	8.4	13.2	5.6	2.9	3.8	6.3
Electricity main	17.8	11.2	8.8	15.1	11.2	12.4	8.3	18.0	11.4	4.1	5.3	8.5
Electricity secondary	11.9	8.4	15.0	11.7	9.7	7.4	12.9	11.4	5.5	4.1	5.3	6.5
Other excluding electricity	12.1	9.2	11.5	15.3	9.6	6.8	14.3	16.0	9.2	5.2	8.5	7.5
Buildings without heating	52.0	42.6	17.9	27.1	31.8	22.2	12.9	30.8	54.5	41.6	14.4	11.8
Primary space-heating energy source												
Electricity	17.8	11.2	8.8	15.1	11.2	12.4	8.3	18.0	11.4	4.1	5.3	8.5
Natural gas	9.1	7.0	13.2	12.1	7.4	6.0	12.9	12.5	4.7	4.1	6.5	5.7
Fuel oil	19.0	76.9	22.6	61.6	26.1	24.8	27.7	60.4	16.8	75.6	28.2	68.6
District heat	27.4	25.9	25.1	36.6	19.4	20.5	28.6	25.9	13.7	11.8	9.8	19.0
Propane	26.7	34.6	31.0	30.0	23.9	24.4	17.9	30.8	19.6	17.8	26.5	15.0
Other	22.5	76.1	72.7	78.9	43.4	53.0	59.8	78.9	31.3	45.2	29.0	15.1
Cooling energy sources												
Electricity	8.2	6.9	8.2	12.5	5.7	6.1	7.7	15.2	5.4	3.1	4.0	6.6
Other excluding electricity	57.0	33.8	27.8	57.5	42.6	32.5	31.7	35.8	26.6	10.4	14.4	33.5
Buildings without cooling	25.3	20.7	21.4	23.3	28.6	15.6	23.0	17.4	23.8	16.9	18.6	23.4
Water-heating energy sources												
Electricity	9.6	8.4	9.2	12.5	8.2	7.2	8.4	15.2	7.1	4.7	4.6	7.4
Other excluding electricity	11.7	9.5	10.2	12.5	7.7	8.2	12.1	13.5	6.9	5.1	5.9	6.6
Buildings without water heating	41.4	28.4	16.5	28.4	22.1	17.7	17.5	27.4	31.4	24.4	12.3	10.9
Cooking energy sources												
Electricity	10.6	7.9	9.4	15.8	8.3	7.1	7.9	13.6	5.9	5.3	3.9	6.8
Other excluding electricity	22.6	14.4	11.4	16.3	14.8	10.6	8.7	13.4	10.6	7.8	6.2	6.3
Buildings without cooking	9.2	9.7	9.1	14.9	8.5	7.6	10.6	19.2	7.6	5.1	6.6	5.8
Energy end uses (more than one may apply)												
Buildings with space heating	8.4	7.0	8.3	11.5	6.3	5.8	8.3	13.3	5.8	3.1	4.3	5.5
Buildings with cooling	8.7	7.1	8.0	12.3	6.3	6.2	7.9	15.0	4.9	3.0	4.0	6.4
Buildings with water heating	8.7	7.1	8.2	11.5	6.4	5.9	8.1	13.9	5.5	3.0	4.1	6.1
Buildings with cooking	12.6	6.8	8.9	13.2	8.5	5.7	6.8	11.8	5.8	3.9	4.2	5.0
Buildings with manufacturing	21.2	28.4	30.8	19.6	15.2	17.4	22.0	30.3	18.3	16.1	26.4	19.9
Buildings with electricity generation	8.0	10.3	9.9	15.3	6.6	8.4	9.7	13.2	4.3	5.5	5.5	5.0

RSEs for Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total electricity consumption				RSEs for total floorspace of buildings using electricity				RSEs for electricity energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	8.3	7.0	8.0	11.8	6.2	5.9	8.0	14.5	5.8	3.3	4.4	5.5
Percent of floorspace heated												
Not heated	52.0	42.6	17.9	27.1	31.8	22.2	12.9	30.8	54.5	41.6	14.4	11.8
1 to 50	27.3	28.8	14.0	20.4	25.8	20.6	12.8	25.0	33.0	16.0	10.0	17.3
51 to 99	11.2	11.8	12.7	15.7	10.0	11.1	8.2	14.7	6.6	7.9	8.8	7.7
100	10.1	7.9	8.6	11.4	6.8	6.4	9.4	11.3	5.8	3.7	4.1	4.8
Percent of floorspace cooled												
Not cooled	25.3	20.7	21.4	23.3	28.6	15.6	23.0	17.4	23.8	16.9	18.6	23.4
1 to 50	12.6	11.3	12.7	22.6	8.7	9.6	14.5	28.8	10.9	8.4	8.2	13.7
51 to 99	8.4	15.0	11.8	11.2	8.3	13.4	8.4	11.2	4.8	4.5	8.6	6.4
100	15.2	7.2	7.8	13.9	11.6	6.8	8.7	13.4	7.6	4.1	3.7	5.8
Percent lit when open												
Zero	71.4	50.3	49.2	63.0	79.7	44.7	35.1	46.0	196.3	31.9	38.7	40.0
1 to 50	13.2	17.4	9.8	21.0	16.1	12.1	10.2	23.8	13.2	9.5	9.6	9.4
51 to 99	9.0	10.7	12.5	12.3	7.4	7.8	9.5	13.5	6.4	5.5	6.5	8.9
100	13.0	6.5	7.3	14.4	7.1	7.1	7.7	14.8	9.0	3.5	5.6	4.6
Building never open/electricity not used	28.3	48.7	26.9	41.7	29.2	22.2	33.8	26.0	24.3	46.1	24.8	28.8
Percent lit during off hours												
Zero	17.7	11.2	9.6	14.4	11.7	8.4	11.5	18.6	16.3	8.4	6.7	6.3
1 to 50	7.2	6.8	9.0	13.6	7.3	6.3	7.9	14.4	3.9	2.9	4.3	5.3
51 to 100	24.9	16.9	13.9	18.5	19.5	13.6	13.3	17.3	8.9	9.3	10.1	9.8
Building always open with no "off hours"	34.8	27.7	17.3	27.9	30.2	25.6	16.0	26.7	24.6	9.7	10.0	13.3
Electricity not used	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heating equipment (more than one may apply)												
Heat pumps	12.5	16.2	11.6	13.3	10.7	15.0	10.3	13.4	5.3	7.9	5.3	5.5
Furnaces	17.3	15.1	11.6	22.6	11.8	14.7	14.9	15.9	11.1	5.7	7.8	12.9
Individual space heaters	14.1	11.6	8.1	11.1	10.4	10.3	9.5	12.9	10.8	5.6	5.8	7.6
District heat	27.2	25.2	24.8	36.6	19.2	20.6	28.0	25.9	13.5	11.5	9.6	19.0
Boilers	8.3	6.9	9.2	16.6	6.7	5.2	10.7	13.1	6.1	4.5	5.7	8.9
Packaged heating units	11.6	7.9	9.8	14.4	8.1	6.7	9.3	15.3	7.4	3.6	5.0	6.5
Other	36.3	38.7	30.7	23.1	33.1	31.7	26.6	24.6	12.9	16.5	14.8	23.0
Cooling equipment (more than one may apply)												
Residential-type central air conditioners	20.1	10.6	9.4	17.1	12.3	12.0	11.4	23.4	15.4	8.0	6.1	11.8
Heat pumps	14.2	14.5	11.3	11.3	14.5	12.8	10.4	12.9	6.7	6.5	5.3	5.1
Individual air conditioners	11.5	13.0	9.5	16.6	8.8	12.5	8.2	18.8	6.6	6.3	7.6	8.4
District chilled water	47.5	24.2	21.2	40.5	38.8	25.6	25.5	27.0	17.2	13.6	11.4	20.9
Central chillers	12.5	8.7	9.3	14.6	9.9	8.1	7.9	11.6	5.3	4.0	5.5	9.4
Packaged air conditioning units	7.7	8.8	9.7	14.9	6.1	7.7	8.6	15.2	5.2	3.8	5.3	7.3
Swamp coolers	87.5	37.3	34.9	19.4	73.0	39.2	32.5	17.8	53.5	19.6	31.8	12.6
Other	77.7	57.3	41.9	72.8	59.7	52.9	29.3	44.8	78.0	35.7	22.4	66.1

RSEs for Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total electricity consumption				RSEs for total floorspace of buildings using electricity				RSEs for electricity energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	8.3	7.0	8.0	11.8	6.2	5.9	8.0	14.5	5.8	3.3	4.4	5.5
Main equipment replaced since 1990 (more than one may apply)												
Heating	12.8	6.9	8.6	12.0	6.3	6.1	7.4	14.2	11.0	3.9	5.9	6.0
Cooling	11.7	10.2	6.5	11.1	7.1	7.6	6.0	14.4	7.0	5.0	4.5	5.6
Water-heating equipment												
Centralized system	11.6	8.5	8.4	12.3	7.9	7.3	8.6	14.1	6.9	3.9	4.8	6.1
Distributed system	13.2	12.7	12.4	18.6	8.8	7.9	11.5	22.4	9.6	7.8	7.8	9.5
Combination of centralized and distributed system	9.6	9.8	12.4	14.5	8.6	8.9	9.4	12.4	7.8	7.0	6.7	6.7
Lighting equipment types (more than one may apply)												
Incandescent	12.1	7.7	9.0	11.8	7.9	6.5	7.4	12.0	7.5	3.9	5.4	6.4
Standard fluorescent	8.4	7.1	7.7	12.1	5.9	5.8	8.0	14.3	5.3	3.0	4.3	5.9
Compact fluorescent	9.3	8.3	9.2	11.3	6.7	6.6	8.1	11.7	5.4	3.4	4.6	6.2
High-intensity discharge (HID)	13.1	11.0	10.4	16.3	9.9	9.8	8.2	14.1	8.4	5.2	5.4	8.7
Halogen	8.0	11.0	12.6	16.1	8.0	7.3	9.8	12.2	5.5	5.8	5.4	7.5
LED	9.0	9.5	12.9	15.0	9.7	7.4	9.8	14.1	5.6	4.7	6.1	5.9
Other	44.1	53.3	28.4	47.4	47.0	53.1	27.3	41.8	20.5	27.8	12.7	15.6
Refrigeration equipment (more than one may apply)												
Any refrigeration	8.7	7.4	7.7	11.2	6.3	5.8	7.5	12.6	4.9	3.3	4.2	5.9
Walk-in units	11.5	7.6	9.6	12.5	9.9	5.3	7.6	11.2	4.0	4.9	4.4	4.2
Cases or cabinets	11.1	6.7	11.6	14.3	9.4	5.6	9.7	12.1	4.5	3.7	4.3	4.9
Large cold storage areas	16.5	21.9	18.9	17.7	14.6	19.9	19.2	19.2	13.3	12.5	8.5	8.6
Commercial ice makers	13.5	8.6	9.2	13.1	10.5	7.5	7.4	11.1	5.2	4.8	5.2	4.6
Residential-type or compact units	8.8	7.9	8.9	11.1	6.5	5.9	8.5	13.6	5.2	4.0	4.7	6.3
Vending machines	11.6	7.2	9.5	13.9	8.1	6.3	8.5	13.6	5.3	3.3	5.0	5.4
No refrigeration	26.1	29.5	17.0	24.1	15.2	19.7	13.6	24.1	21.9	15.0	10.3	5.9
Office equipment (more than one may apply)												
Desktop computers	8.2	7.1	8.0	12.4	6.1	5.9	8.0	14.8	4.9	3.0	4.1	6.5
With flat screen monitors	8.3	7.0	8.2	12.5	6.2	5.8	8.0	15.0	5.0	2.9	4.0	6.5
With multiple monitors	12.9	8.6	8.9	12.5	9.1	8.2	9.5	13.4	6.6	4.3	4.6	6.5
Laptop computers	9.1	7.6	9.0	11.2	5.9	6.3	8.6	13.2	6.2	3.6	4.3	6.3
Dedicated servers	9.3	6.5	9.4	12.5	5.8	6.1	8.6	14.8	5.4	2.8	3.8	6.5
Laser printers	11.2	9.0	8.7	12.9	7.4	6.3	8.8	14.1	6.1	4.5	4.3	7.3
Inkjet printers	7.9	8.6	9.5	14.5	8.4	9.1	8.3	17.6	5.7	5.8	4.9	6.6
FAX machines	9.0	7.2	8.9	11.1	6.0	6.4	7.9	14.7	5.4	3.1	3.9	6.0
Photocopiers	9.5	8.1	9.4	12.7	7.0	6.3	8.2	14.3	5.7	3.1	4.4	6.9
Number of desktop computers												
None	45.6	20.4	15.1	19.3	22.7	11.3	14.6	21.0	43.8	20.6	11.3	17.9
1 to 4	8.8	14.4	7.4	10.4	10.8	10.5	8.7	16.0	6.9	10.3	8.2	9.3
5 to 9	23.8	16.9	14.7	17.1	14.5	15.1	11.8	23.9	14.4	10.8	7.4	14.1
10 to 19	20.9	14.0	11.8	21.7	14.1	11.5	12.8	24.3	12.0	7.6	7.2	11.7
20 to 49	13.4	12.9	17.6	18.4	11.0	10.4	13.9	17.4	10.7	6.7	9.2	6.1
50 to 99	14.4	21.2	13.7	24.3	11.8	15.5	13.1	22.1	11.9	9.4	6.6	8.3
100 to 249	25.5	13.4	15.3	19.5	15.6	11.4	14.4	11.8	14.9	9.5	8.7	11.1
250 or more	10.0	11.7	12.2	17.2	9.0	9.7	14.9	11.8	6.4	6.2	6.2	9.7

RSEs for Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total electricity consumption				RSEs for total floorspace of buildings using electricity				RSEs for electricity energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	8.3	7.0	8.0	11.8	6.2	5.9	8.0	14.5	5.8	3.3	4.4	5.5
Number of laptop computers												
None	12.9	11.1	8.0	17.0	10.0	7.4	8.4	19.5	9.3	7.8	8.3	6.3
1 to 4	12.4	11.5	10.4	14.7	8.2	9.4	9.4	18.5	10.5	8.7	8.0	8.6
5 to 9	36.4	17.4	12.3	21.2	21.4	11.7	13.4	21.4	21.8	10.0	8.2	10.0
10 to 19	18.1	13.9	19.6	30.2	12.9	13.1	15.7	20.4	12.3	7.2	7.4	15.5
20 to 49	14.8	12.9	14.2	20.9	16.7	11.2	14.5	15.5	7.7	6.3	5.9	12.0
50 to 99	19.3	20.6	17.7	17.6	17.9	16.6	15.2	16.2	10.8	11.8	13.1	8.7
100 to 249	10.1	18.4	17.9	12.4	11.6	17.1	18.2	14.1	7.8	10.4	12.9	9.0
250 or more	18.1	13.6	16.1	21.0	14.3	16.4	18.0	20.3	11.3	7.6	8.6	9.6
Number of dedicated servers												
None	14.1	13.2	6.9	14.0	11.2	9.6	9.3	15.7	9.7	7.7	7.6	4.2
1 to 4	15.2	6.9	12.1	14.5	8.5	6.3	9.8	18.4	9.0	4.0	4.7	7.2
5 to 9	17.8	16.0	14.3	20.5	11.3	14.2	16.6	20.2	13.7	6.1	7.1	9.8
10 to 19	15.3	20.7	17.3	25.9	14.3	21.7	16.9	18.4	6.9	8.2	7.8	15.0
20 to 49	21.9	18.3	14.4	17.1	19.8	18.7	16.1	14.1	10.9	14.1	6.6	10.4
50 or more	19.0	14.0	25.4	34.7	19.3	13.3	28.5	25.3	15.3	7.2	18.7	16.7
Number of photocopiers												
None	11.7	10.4	7.1	14.2	10.2	8.7	9.2	16.9	9.7	7.2	6.5	7.3
One	18.9	19.3	11.7	17.9	13.0	13.3	11.0	22.2	14.6	9.6	5.7	9.4
2 to 4	11.1	12.6	13.6	14.8	10.2	8.0	9.9	14.6	7.3	6.2	8.4	7.6
5 to 9	32.4	14.3	15.8	18.4	18.5	10.6	12.2	13.1	17.8	7.2	9.9	9.9
10 or more	10.2	13.1	12.9	19.6	8.6	13.4	14.4	13.8	5.4	5.2	4.4	8.4
Number of TVs or video displays												
None	10.9	10.7	8.1	12.4	12.5	9.4	10.7	20.0	10.1	8.5	8.3	9.4
One	13.9	22.4	8.6	16.8	11.0	13.5	9.9	17.5	10.0	13.7	7.9	10.9
2 to 4	13.1	15.1	12.8	15.2	11.3	10.4	9.6	17.0	8.1	8.5	7.4	7.9
5 to 9	25.2	16.6	14.4	19.3	14.0	13.3	12.3	21.6	18.5	6.8	11.8	14.3
10 to 19	32.4	14.6	16.1	14.0	22.8	11.5	14.7	13.4	16.2	9.6	7.6	6.7
20 to 49	16.4	13.3	18.5	15.9	16.0	12.9	15.1	14.7	8.4	5.0	8.0	7.8
50 to 99	17.6	18.1	23.1	36.2	14.2	17.3	24.2	32.0	11.5	8.7	13.6	8.8
100 or more	15.6	14.1	10.7	28.0	17.6	13.9	14.3	19.7	6.8	5.4	7.8	12.6
Food preparation or serving areas in non-food service buildings (more than one may apply)												
Snack bar or concession stand	18.1	10.1	13.4	21.0	12.9	11.2	11.5	17.5	7.8	7.2	6.9	10.2
Fast food or small restaurant	14.7	10.4	12.6	16.4	12.9	10.4	13.5	16.0	5.0	5.3	4.7	7.4
Cafeteria or large restaurant	18.7	7.7	9.1	21.1	12.8	7.5	8.7	15.3	8.5	5.1	4.7	9.9
Commercial kitchen/ food preparation area	17.5	9.1	8.9	22.8	11.7	6.6	8.8	18.4	8.9	5.3	5.1	8.3
Small kitchen area	12.3	12.7	9.7	19.2	9.7	9.6	9.1	17.1	7.4	7.3	5.8	13.1
Separate computer areas (more than one may apply)												
Data center or server farm	13.7	10.7	13.9	17.4	10.3	9.7	14.9	12.7	8.3	6.2	8.1	9.1
Computer-based training room	9.2	8.4	11.0	18.5	8.1	8.3	10.5	17.7	6.4	6.1	4.1	7.4
Student or public computer center	11.7	11.0	11.6	27.8	9.4	9.0	11.4	16.7	7.8	5.9	5.1	14.7

RSEs for Table C15. Electricity consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total electricity consumption				RSEs for total floorspace of buildings using electricity				RSEs for electricity energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	8.3	7.0	8.0	11.8	6.2	5.9	8.0	14.5	5.8	3.3	4.4	5.5
HVAC conservation features (more than one may apply)												
Economizer cycle	12.2	8.4	12.0	14.1	8.5	8.0	11.6	12.2	5.8	3.5	4.9	5.6
Regular HVAC maintenance	8.6	7.1	8.7	12.2	5.9	6.1	8.4	14.3	5.6	3.1	3.8	6.0
Building automation system (BAS) ¹	9.9	8.2	10.6	14.1	8.0	7.0	9.3	12.8	4.4	2.9	4.2	5.8
Window and interior lighting features (more than one may apply)												
Multipaned windows	8.7	7.3	10.0	13.5	7.2	6.7	8.9	14.0	5.7	3.3	4.6	5.6
Tinted window glass	13.3	8.3	9.9	13.8	9.8	6.6	9.0	18.2	6.2	4.7	5.0	7.0
Reflective window glass	19.6	10.9	14.0	20.0	12.9	8.8	11.3	17.0	12.9	6.5	7.6	8.5
External overhangs or awnings	15.5	8.0	9.2	12.8	11.0	8.0	8.1	14.1	7.6	4.9	5.3	5.7
Skylights or atriums	16.4	9.9	12.4	13.2	8.8	9.3	10.7	16.4	10.3	5.2	5.5	9.8
Light scheduling	10.7	8.3	12.4	15.2	7.8	7.8	10.6	14.3	6.4	3.8	4.6	5.9
Occupancy sensors	7.2	7.6	10.7	11.2	7.6	6.1	10.3	13.7	4.4	3.6	4.3	5.6
Multi-level lighting or dimming	16.4	12.2	14.2	16.3	11.7	11.4	10.2	12.4	9.2	5.9	6.0	7.1
Daylight harvesting	16.0	17.8	16.0	19.6	16.2	13.8	13.8	20.6	7.9	8.1	9.4	5.3
Demand responsive lighting	21.4	21.8	32.0	30.3	25.7	20.4	25.3	38.8	21.0	8.4	10.7	11.7
Building automation system (BAS) for lighting ¹	14.5	12.1	17.4	18.1	13.3	11.0	14.4	17.2	6.7	6.9	5.9	7.5
Equipment usage reduced when building not in full use (more than one may apply)												
Heating	9.5	5.9	9.8	11.2	6.1	5.5	8.8	14.6	7.3	3.8	4.7	5.6
Cooling	10.5	6.0	9.5	12.1	7.0	5.7	8.3	15.7	6.1	3.0	4.4	6.1
Lighting	9.1	6.9	8.9	11.1	6.6	5.9	8.5	13.8	5.8	3.2	4.3	6.0
Annual consumption (kilowatthours)												
10,000 or less	24.4	18.7	17.5	14.6	27.4	14.7	23.4	19.8	12.6	10.1	9.7	11.8
10,001 to 50,000	10.0	10.6	9.8	20.9	12.5	12.7	11.8	22.2	7.2	5.9	5.5	4.9
50,001 to 100,000	9.2	9.6	9.9	24.0	11.7	11.4	13.8	30.4	7.4	8.5	6.5	11.5
100,001 to 500,000	7.7	11.9	7.7	12.7	9.0	9.6	10.8	15.8	6.7	5.4	5.4	6.0
500,001 to 1,000,000	19.9	12.7	9.4	12.0	15.4	10.3	10.0	11.4	11.3	7.9	7.1	6.5
1,000,001 to 5,000,000	12.3	12.3	11.9	15.6	11.1	10.3	11.0	16.7	4.8	5.9	4.9	6.0
Over 5,000,000	13.7	12.2	14.1	17.8	11.6	12.5	13.4	15.5	5.7	6.3	9.0	8.4

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RSEs for Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	11.6	8.4	11.1	12.6	7.8	6.0	10.3	12.3	6.3	4.9	6.0	8.8
Building floorspace (square feet)												
1,001 to 5,000	16.9	11.1	12.2	13.9	11.6	9.8	10.3	12.2	16.5	8.3	9.7	8.7
5,001 to 10,000	16.6	17.8	19.0	14.5	13.4	11.5	14.8	22.0	14.3	12.0	13.5	16.5
10,001 to 25,000	20.5	16.6	18.7	13.3	10.0	13.5	15.8	17.1	13.9	8.6	10.6	11.4
25,001 to 50,000	20.5	15.2	20.0	13.0	15.3	10.0	18.4	15.2	14.3	11.8	12.2	15.1
50,001 to 100,000	19.0	24.4	16.7	16.1	13.6	14.2	15.7	12.9	14.1	14.4	10.6	7.1
100,001 to 200,000	35.8	14.9	19.6	26.7	19.9	10.5	14.4	20.6	22.8	10.7	17.6	27.9
200,001 to 500,000	20.6	15.4	10.0	32.7	15.5	12.6	12.3	18.3	11.4	8.9	9.4	19.4
Over 500,000	16.6	22.0	16.1	62.2	16.9	22.7	17.0	22.1	17.7	10.1	16.3	52.0
Principal building activity												
Education	19.5	15.3	17.1	19.0	12.6	8.6	13.6	19.7	16.7	11.7	18.0	9.8
Food sales	32.0	35.2	36.2	23.0	29.0	35.7	24.2	37.2	14.5	23.0	25.5	38.6
Food service	18.6	18.6	16.4	17.1	17.0	14.1	12.3	19.2	15.2	14.6	10.6	16.3
Health care	17.1	13.3	9.8	33.1	18.9	12.1	11.9	23.1	9.6	7.2	9.8	14.9
Inpatient	17.5	13.3	10.8	38.3	18.3	12.6	11.8	28.8	12.3	4.1	9.1	14.0
Outpatient	33.5	33.0	46.5	19.8	27.5	22.1	37.3	21.5	9.7	19.1	32.1	12.0
Lodging	22.9	22.1	18.1	42.1	17.0	20.7	17.4	18.8	17.1	8.7	8.9	35.2
Mercantile	21.3	22.7	24.7	19.0	16.0	13.4	22.5	16.3	14.4	13.4	12.8	9.8
Retail (other than mall)	24.8	30.0	22.0	16.7	23.2	13.9	22.5	20.7	16.0	23.5	12.6	13.3
Enclosed and strip malls	26.3	23.7	28.0	23.6	17.6	17.8	29.2	20.5	17.4	12.3	14.0	6.8
Office	32.8	17.3	16.0	14.1	13.4	14.7	15.8	11.1	23.9	9.5	9.1	10.4
Public assembly	24.2	20.7	27.2	23.0	20.3	24.0	17.9	20.8	16.2	10.1	24.9	12.4
Public order and safety	45.4	28.3	30.5	45.2	35.6	25.9	26.6	36.0	24.3	21.1	17.2	28.5
Religious worship	20.1	15.1	34.8	46.5	25.3	16.7	21.9	24.1	10.8	7.9	24.5	41.8
Service	33.2	15.0	20.2	31.3	24.1	14.4	15.0	37.3	32.4	12.4	20.8	32.1
Warehouse and storage	28.0	22.7	26.7	36.8	15.9	17.0	22.3	34.7	25.0	11.0	14.5	33.1
Other	51.5	62.1	39.7	62.5	35.6	37.9	38.9	34.0	47.2	50.1	31.5	45.2
Vacant	29.1	29.1	73.3	34.4	35.2	25.1	54.9	22.0	18.6	22.3	87.7	44.4
Year constructed												
Before 1920	29.5	16.7	16.5	31.0	18.6	13.5	25.8	29.2	20.1	11.1	16.9	15.3
1920 to 1945	15.4	12.3	26.6	19.2	15.3	15.2	17.4	26.8	16.7	12.4	24.1	23.1
1946 to 1959	29.6	18.1	18.6	16.2	21.9	14.0	20.6	14.2	22.5	13.0	15.5	9.1
1960 to 1969	18.8	15.8	15.7	22.7	17.7	12.2	13.4	15.9	9.8	9.8	12.4	18.8
1970 to 1979	30.3	12.7	16.5	15.7	17.3	10.6	15.3	19.9	18.0	7.6	16.8	11.1
1980 to 1989	11.3	23.7	14.9	13.3	14.4	15.6	10.7	15.7	11.8	16.7	10.9	11.8
1990 to 1999	23.5	14.6	12.4	12.6	13.9	13.5	11.6	11.8	18.5	6.0	11.0	13.3
2000 to 2003	30.6	13.8	17.5	21.7	20.8	14.5	22.4	18.2	23.2	12.7	25.1	12.8
2004 to 2007	31.1	21.4	30.8	53.3	21.8	21.5	28.0	29.8	22.5	12.8	13.2	47.6
2008 to 2012	26.6	28.6	38.9	50.2	25.2	27.1	29.2	36.1	16.6	23.2	17.6	26.4
Number of floors												
One	13.0	13.5	17.0	11.9	12.3	9.5	15.5	17.6	10.5	7.1	7.9	9.1
Two	25.1	11.4	12.8	14.9	15.7	8.8	11.4	13.7	13.7	7.0	9.4	11.7
Three	14.9	25.7	19.8	19.1	12.3	14.2	16.2	21.9	9.8	16.2	10.5	13.5
Four to nine	18.0	10.4	11.9	28.5	11.1	11.4	16.8	19.5	14.8	8.3	15.0	19.2
Ten or more	21.0	24.1	19.0	70.4	20.6	22.1	18.4	26.1	25.0	13.3	13.0	58.1

RSEs for Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	11.6	8.4	11.1	12.6	7.8	6.0	10.3	12.3	6.3	4.9	6.0	8.8
Number of workers (main shift)												
Fewer than 5	11.9	11.7	17.7	15.6	14.1	13.0	19.7	11.1	14.4	7.2	9.8	8.0
5 to 9	20.3	19.1	16.4	20.6	12.5	11.6	11.3	23.4	14.5	13.5	16.3	12.3
10 to 19	15.1	26.1	19.9	17.1	12.7	13.9	15.0	20.4	15.2	18.8	15.1	15.9
20 to 49	20.7	14.1	15.4	11.6	16.4	7.5	13.2	15.0	13.4	8.7	12.7	14.0
50 to 99	20.9	15.6	20.9	18.9	12.2	11.0	14.8	19.0	13.8	11.0	11.7	16.1
100 to 249	19.1	13.5	18.5	31.1	14.0	11.2	18.5	15.6	16.7	6.8	17.2	22.4
250 or more	27.7	16.5	11.9	37.9	15.3	15.8	10.8	15.5	18.1	9.9	12.3	27.2
Weekly operating hours												
Fewer than 40	19.1	13.6	23.6	33.1	20.4	13.0	20.0	23.3	14.7	10.9	16.3	14.1
40 to 48	20.3	12.0	26.5	22.8	17.5	9.5	18.2	14.9	7.6	7.3	13.1	17.4
49 to 60	10.8	12.6	11.2	14.2	7.8	10.7	14.0	16.4	7.2	7.1	17.1	13.5
61 to 84	16.6	15.2	13.8	16.0	12.7	12.1	14.5	16.8	14.2	9.8	11.7	10.0
85 to 167	29.8	13.9	20.7	17.3	19.5	15.4	18.8	21.5	16.3	12.3	14.4	21.3
Open continuously	24.8	14.7	10.8	23.9	16.9	10.5	10.0	15.1	12.9	10.3	7.9	15.0
Party responsible for operation and maintenance of energy systems												
Building owner	13.4	7.8	9.1	11.4	8.7	5.9	9.0	10.9	7.9	4.7	6.4	9.6
Business owner or tenant	17.0	18.7	26.1	29.2	11.0	13.7	26.4	25.3	13.9	11.2	15.7	15.3
Property management	49.9	43.6	49.5	59.5	35.2	38.7	26.1	46.5	25.1	22.1	41.7	59.5
Other	46.0	37.8	27.6	38.0	33.6	35.4	34.7	25.7	25.8	26.0	39.5	26.3
Provider of direct input on energy-related equipment purchases												
Building owner	12.9	8.0	9.7	11.6	8.5	6.1	9.1	10.9	8.0	4.6	6.3	9.9
Business owner or tenant	19.8	16.6	21.2	36.8	12.0	16.1	24.4	27.2	12.9	11.1	18.7	21.3
Property management	59.9	44.7	43.5	74.4	50.1	38.3	40.1	60.9	20.3	29.8	46.3	37.6
Other	33.6	53.3	40.7	36.5	23.6	36.2	31.4	30.8	21.2	37.7	20.8	19.1
Number of establishments												
One	14.2	7.8	10.5	14.7	10.1	6.8	10.6	14.2	8.1	5.5	8.5	12.0
2 to 5	18.9	15.4	14.7	12.2	9.4	10.1	15.1	13.9	14.6	8.7	9.5	11.4
6 to 10	26.2	25.9	28.5	21.6	22.2	20.3	25.3	21.5	26.3	19.6	16.6	11.3
11 to 20	23.1	29.3	35.7	33.7	20.9	22.4	35.6	22.8	19.0	11.1	20.4	25.0
More than 20	28.3	38.1	25.8	38.7	14.3	23.2	18.2	17.7	24.1	25.2	21.7	33.6
Currently unoccupied	58.7	35.1	61.6	46.7	46.8	43.9	84.5	45.2	42.9	28.3	111.4	39.0
Predominant exterior wall material												
Brick, stone, or stucco	10.6	7.8	12.7	10.1	8.9	6.9	10.9	11.7	7.0	4.8	9.0	5.7
Concrete (block or poured)	28.6	16.0	11.7	15.7	15.8	10.3	13.0	15.5	17.2	12.1	12.1	14.2
Concrete panels	31.6	18.8	29.6	55.5	23.0	17.9	22.3	27.5	21.5	15.5	24.9	46.4
Siding or shingles	29.4	26.7	26.6	44.6	20.6	26.8	20.2	27.4	17.1	14.4	29.8	25.2
Metal panels	76.9	16.6	21.5	27.1	38.6	15.4	21.3	23.5	56.0	10.2	12.7	9.1
Window glass	58.7	39.8	44.0	35.9	30.0	29.7	30.5	31.5	55.1	34.3	32.7	38.1
Other	51.8	61.6	58.8	82.4	62.7	40.9	64.7	52.0	67.4	35.4	158.9	21.1
No one major type	56.0	50.9	58.3	58.3	18.5	49.2	52.8	56.5	54.9	37.2	10.1	35.6

RSEs for Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	11.6	8.4	11.1	12.6	7.8	6.0	10.3	12.3	6.3	4.9	6.0	8.8
Predominant roof material												
Metal surfacing	21.0	20.8	16.3	15.1	19.8	16.5	16.7	20.0	21.8	11.1	12.9	16.9
Synthetic or rubber	15.5	11.6	16.8	24.0	10.3	8.7	17.1	15.6	8.2	7.2	8.6	14.7
Built-up	23.2	12.0	12.1	14.5	13.5	10.1	9.0	12.5	15.9	6.0	7.1	11.4
Slate or tile shingles	24.1	24.7	20.3	14.4	20.8	24.7	32.1	16.8	21.3	9.6	57.6	18.7
Wooden materials (including shingles)	62.3	45.9	43.6	14.0	55.8	38.6	21.0	28.8	34.3	18.0	31.9	26.6
Asphalt, fiberglass, or other shingles	13.1	22.0	16.5	15.4	11.0	12.8	12.2	17.9	8.5	12.2	10.5	8.8
Concrete	46.1	60.6	38.0	32.0	34.8	44.3	33.1	17.4	42.3	41.1	28.4	26.5
Other	76.2	64.4	48.3	67.1	65.1	48.0	40.7	62.3	39.4	58.6	22.9	23.3
No one major type	62.7	37.4	75.6	67.6	76.0	36.6	69.0	88.7	80.4	21.3	81.7	25.1
Roof characteristics												
Roof tilt												
Flat	13.6	8.6	10.5	12.5	8.9	8.0	10.0	13.5	7.8	4.7	5.8	9.3
Shallow pitch	16.7	14.2	17.5	25.6	12.7	8.1	15.7	14.5	12.1	11.5	12.3	20.8
Steeper pitch	14.6	20.4	14.9	13.7	11.6	16.3	11.9	13.8	11.8	10.1	11.4	7.9
Cool roof	31.0	14.2	11.5	17.8	20.1	11.7	12.8	15.7	15.5	8.5	9.9	9.9
Renovations in buildings constructed before 2008 (more than one may apply)												
Any type of renovation	17.0	10.3	10.0	17.3	10.2	6.8	8.3	9.7	9.8	6.8	7.1	12.6
Addition or annex	13.5	9.9	12.5	37.4	11.3	8.8	11.1	17.1	8.3	7.6	10.8	27.1
Reduction in floorspace	80.0	31.8	29.0	41.8	51.4	24.9	23.5	38.2	52.7	27.9	24.3	29.1
Roof replacement	23.5	12.0	12.6	18.6	13.3	7.4	10.0	12.3	13.9	9.6	10.3	15.3
Exterior wall replacement	21.2	14.3	24.3	43.5	20.5	17.1	15.6	18.4	18.4	10.9	25.4	31.3
Interior wall reconfiguration	14.9	10.2	11.1	25.6	9.5	8.4	9.4	12.0	10.4	7.4	10.0	19.0
Window replacement	13.6	12.2	14.6	39.4	10.1	11.6	9.6	18.5	11.0	9.2	13.6	28.9
HVAC equipment upgrade	19.4	8.9	10.7	21.9	10.6	8.2	9.7	10.7	12.5	6.7	9.1	15.9
Lighting upgrade	15.6	11.4	11.8	21.2	10.3	8.0	9.6	10.2	10.4	8.9	9.5	16.9
Electrical upgrade	20.6	11.6	12.8	27.9	13.4	11.5	11.4	14.9	14.0	7.4	11.2	21.7
Plumbing system upgrade	21.3	11.7	14.4	28.5	14.2	9.8	13.2	14.9	15.6	7.8	12.2	22.7
Insulation upgrade	13.8	11.6	21.8	51.0	12.1	11.0	14.3	22.2	14.1	9.0	18.7	36.5
Fire, safety, or security upgrade	16.9	11.4	11.5	15.7	10.9	11.2	10.2	11.1	11.1	5.2	9.2	14.0
Structural upgrade	17.9	20.9	27.4	51.1	18.4	19.6	15.4	24.4	19.5	14.8	21.9	37.6
Other	47.1	35.8	44.3	63.0	37.2	51.0	40.5	67.1	55.0	40.9	53.9	31.5
No renovations	13.6	13.3	11.4	11.1	9.7	9.0	11.1	16.3	9.1	6.6	8.5	10.2
Buildings constructed 2008 or later	26.6	28.6	38.9	50.2	25.2	27.1	29.2	36.1	16.6	23.2	17.6	26.4
Energy sources (more than one may apply)												
Electricity	11.6	8.4	11.1	12.6	7.8	6.0	10.3	12.3	6.3	4.9	6.0	8.8
Natural gas	11.6	8.4	11.1	12.6	7.8	6.0	10.3	12.3	6.3	4.9	6.0	8.8
Fuel oil	11.0	11.5	10.5	29.9	9.5	11.2	10.3	15.8	7.4	6.6	9.1	17.3
District heat	73.7	41.8	40.3	68.9	33.1	19.0	39.8	36.1	63.3	40.2	70.4	48.3
District chilled water	68.0	42.7	30.6	62.1	53.6	26.0	36.5	38.8	30.5	43.0	49.4	38.1
Propane	24.6	23.4	28.0	63.7	22.5	21.3	21.5	31.5	14.3	19.2	28.0	55.0
Other	46.8	20.7	43.7	38.5	29.0	15.7	19.1	21.9	23.8	17.8	36.9	30.9

RSEs for Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	11.6	8.4	11.1	12.6	7.8	6.0	10.3	12.3	6.3	4.9	6.0	8.8
Space-heating energy sources												
Natural gas	10.5	8.2	13.2	11.0	7.8	6.1	12.6	12.8	5.2	4.6	6.0	6.5
Natural gas main	10.5	8.1	14.0	12.0	7.4	6.0	12.9	12.5	5.4	4.8	7.0	6.7
Natural gas secondary	19.8	21.8	18.3	10.8	19.3	17.6	15.5	20.5	14.9	13.6	16.6	14.4
Other excluding natural gas	59.3	29.5	11.5	39.7	22.4	15.1	10.8	17.8	49.3	28.8	14.1	35.4
Buildings without heating	96.3	100.0	46.4	44.0	90.2	100.0	26.5	31.5	284.4	0.0	36.0	52.2
Primary space-heating energy source												
Electricity	19.1	22.6	11.4	11.6	14.7	13.4	9.6	13.8	12.8	15.8	10.9	8.8
Natural gas	10.5	8.1	14.0	12.0	7.4	6.0	12.9	12.5	5.4	4.8	7.0	6.7
Fuel oil	33.2	0.0	60.3	112.6	38.0	0.0	62.1	112.6	44.2	0.0	76.9	0.0
District heat	76.2	47.9	40.5	69.0	33.9	19.9	40.2	37.4	66.0	46.3	71.8	47.8
Propane	101.8	60.1	112.6	97.6	107.0	64.3	112.6	97.6	109.7	19.5	0.0	0.0
Other	86.5	85.6	85.1	79.9	74.9	62.9	78.5	79.3	40.7	56.7	164.8	34.8
Cooling energy sources												
Natural gas	26.8	53.3	49.2	37.1	25.8	53.4	55.7	32.1	22.0	17.5	47.3	24.6
Other excluding natural gas	13.4	8.4	11.1	13.4	8.8	5.9	10.2	13.1	7.0	5.2	6.1	9.4
Buildings without cooling	31.6	23.5	33.2	12.9	22.8	18.9	33.7	21.8	14.8	10.3	19.2	19.7
Water-heating energy sources												
Natural gas	12.8	9.1	12.2	12.1	8.6	7.2	11.5	13.3	7.1	5.3	5.7	7.0
Other excluding natural gas	10.1	8.5	11.2	31.8	11.5	7.4	11.3	13.8	10.2	5.2	9.7	26.0
Buildings without water heating	41.2	23.2	43.8	26.3	34.0	22.7	30.8	27.4	33.9	21.4	41.6	13.6
Cooking energy sources												
Natural gas	17.9	8.0	10.9	18.5	12.3	5.2	7.9	12.9	8.4	6.0	6.7	11.9
Other excluding natural gas	17.6	12.4	18.1	19.3	17.8	11.4	14.0	18.5	13.5	9.4	16.6	14.5
Buildings without cooking	15.5	12.1	15.2	13.1	9.1	8.5	15.0	16.4	10.3	6.3	9.8	12.8
Energy end uses (more than one may apply)												
Buildings with space heating	11.8	8.4	11.3	12.8	7.8	6.0	10.5	12.4	6.5	4.9	6.1	8.9
Buildings with cooling	12.7	8.7	11.1	13.3	8.5	6.2	10.2	13.0	6.6	5.1	6.0	9.3
Buildings with water heating	11.7	8.4	11.2	12.6	7.9	6.1	10.4	12.0	6.2	4.9	5.5	8.8
Buildings with cooking	15.9	7.7	10.7	16.3	10.9	5.6	8.1	11.5	7.6	5.5	6.1	11.2
Buildings with manufacturing	27.4	25.3	32.5	31.7	17.6	21.7	23.1	23.1	19.8	8.1	30.8	34.3
Buildings with electricity generation	13.0	9.8	11.4	25.3	9.2	8.4	11.8	13.7	9.2	5.4	9.4	14.8
Percent of floorspace heated												
Not heated	96.3	100.0	46.4	44.0	90.2	100.0	26.5	31.5	284.4	0.0	36.0	52.2
1 to 50	21.4	32.5	16.4	23.2	17.6	20.6	17.1	23.6	15.2	25.6	16.8	26.4
51 to 99	23.7	15.6	17.4	12.9	15.0	11.8	10.8	13.9	16.3	15.6	13.4	7.3
100	12.0	8.1	10.7	17.1	8.1	6.7	11.7	12.4	6.9	4.7	6.0	10.1
Percent of floorspace cooled												
Not cooled	31.6	23.5	33.2	12.9	22.8	18.9	33.7	21.8	14.8	10.3	19.2	19.7
1 to 50	13.5	10.5	18.9	21.4	9.5	9.2	19.8	24.9	8.0	6.3	16.2	22.3
51 to 99	19.7	21.0	16.9	8.9	9.7	13.6	10.5	9.9	13.9	10.4	10.6	6.0
100	20.3	9.5	10.5	18.6	12.8	8.5	11.2	14.0	12.0	6.0	7.1	12.8

RSEs for Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	11.6	8.4	11.1	12.6	7.8	6.0	10.3	12.3	6.3	4.9	6.0	8.8
Heating equipment (more than one may apply)												
Heat pumps	17.2	17.4	14.0	15.2	11.5	15.7	13.2	13.6	13.5	13.4	9.8	9.4
Furnaces	14.1	18.7	17.9	33.4	12.1	15.6	19.0	17.6	11.3	10.1	12.9	21.4
Individual space heaters	14.4	10.0	12.2	12.4	11.7	10.2	11.4	11.9	7.7	6.2	9.5	6.6
District heat	73.7	41.8	40.5	69.0	33.1	19.0	40.2	37.4	63.3	40.2	71.8	47.8
Boilers	10.8	8.5	9.4	17.7	7.3	5.8	11.2	13.5	6.8	6.0	7.5	8.4
Packaged heating units	13.4	9.3	13.4	12.5	9.8	6.9	11.5	13.9	6.6	6.1	6.9	9.0
Other	33.6	45.8	38.5	29.5	34.5	31.5	34.1	18.6	16.1	22.8	21.3	15.5
Cooling equipment (more than one may apply)												
Residential-type central air conditioners	20.0	12.7	14.6	24.0	12.4	12.6	14.9	20.4	14.5	7.8	9.2	22.1
Heat pumps	16.9	19.2	14.9	15.4	16.4	12.7	13.9	12.3	13.7	13.7	11.3	12.1
Individual air conditioners	10.9	11.7	13.8	16.2	9.1	11.7	10.1	16.5	8.0	9.0	10.7	8.0
District chilled water	68.0	42.7	30.6	62.1	53.6	26.0	36.5	38.8	30.5	43.0	49.4	38.1
Central chillers	18.3	12.5	9.4	19.2	13.6	9.4	8.9	11.9	12.7	8.1	7.2	13.1
Packaged air conditioning units	11.9	10.7	13.6	14.3	9.0	7.9	11.3	13.5	6.2	5.5	8.0	7.1
Swamp coolers	98.7	36.2	53.7	24.3	84.4	39.2	42.0	22.0	260.8	19.4	40.3	18.9
Other	67.7	64.9	46.4	60.2	59.7	56.8	28.9	44.8	10.2	52.9	37.8	34.1
Main equipment replaced since 1990 (more than one may apply)												
Heating	11.7	10.0	11.0	11.0	8.1	7.2	10.0	12.0	8.5	5.2	8.6	8.3
Cooling	13.9	12.2	10.5	11.2	9.7	8.1	8.8	12.0	9.3	6.8	7.3	7.9
Water-heating equipment												
Centralized system	15.3	9.0	10.8	16.1	9.5	7.0	11.5	14.3	8.9	5.2	6.8	12.0
Distributed system	21.0	15.5	19.8	22.9	11.8	8.7	14.2	17.1	16.2	10.0	12.0	19.1
Combination of centralized and distributed system	16.5	14.5	16.0	14.1	10.9	10.5	11.7	12.0	14.7	8.6	10.0	10.0
Food preparation or serving areas in non-food service buildings (more than one may apply)												
Snack bar or concession stand	15.9	15.7	13.9	39.4	15.7	14.6	13.2	18.3	10.7	9.4	9.0	33.8
Fast food or small restaurant	17.5	12.2	15.6	35.4	15.0	11.0	15.9	17.3	11.7	9.1	11.1	27.5
Cafeteria or large restaurant	24.8	10.4	9.8	31.7	15.7	8.6	9.1	15.3	12.9	6.0	8.1	20.6
Commercial kitchen/food preparation area	18.9	9.0	8.8	28.9	13.5	7.1	8.9	19.4	9.9	6.5	6.4	18.4
Small kitchen area	12.0	10.5	12.4	36.6	10.4	10.3	11.0	17.1	8.1	6.2	8.4	32.2
HVAC conservation features (more than one may apply)												
Economizer cycle	17.9	9.7	11.1	20.3	11.7	8.9	12.9	12.1	10.2	4.7	7.0	12.9
Regular HVAC maintenance	12.0	8.8	11.7	13.8	8.1	6.3	10.4	13.3	7.0	4.8	6.6	9.3
Building automation system (BAS) ²	15.7	9.7	12.1	18.6	10.6	8.6	11.3	12.8	9.5	5.4	7.2	12.7

RSEs for Table C25. Natural gas consumption and conditional energy intensity by Census region, 2012 - PUBLIC USE VERSION

	RSEs for total natural gas consumption				RSEs for total floorspace of buildings using natural gas				RSEs for natural gas energy intensity			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West	North-east	Mid-west	South	West
All buildings	11.6	8.4	11.1	12.6	7.8	6.0	10.3	12.3	6.3	4.9	6.0	8.8
Window and interior lighting features (more than one may apply)												
Multipaned windows	12.2	9.8	12.8	15.9	8.1	7.0	11.2	13.3	6.0	5.0	6.6	8.7
Tinted window glass	17.9	8.3	11.8	16.1	11.8	7.0	11.3	14.9	9.1	4.6	5.9	12.6
Reflective window glass	28.2	9.0	13.1	28.7	15.8	9.0	12.6	19.0	20.1	5.9	9.0	16.7
External overhangs or awnings	21.3	9.7	12.3	17.6	14.3	8.0	11.4	13.9	12.1	5.5	8.1	12.5
Skylights or atriums	20.8	9.8	14.8	23.3	11.2	9.8	14.0	15.0	13.3	6.4	12.3	18.5
Light scheduling	16.0	12.6	13.4	20.1	10.1	8.3	13.4	14.1	10.3	8.2	6.9	13.8
Occupancy sensors	13.6	8.5	14.4	19.2	9.9	7.0	11.7	12.4	7.8	3.9	8.3	15.0
Multi-level lighting or dimming	17.5	11.2	17.4	24.1	13.2	11.5	13.0	12.5	11.5	7.3	8.6	17.3
Daylight harvesting	27.2	18.6	18.0	27.1	17.3	17.6	16.8	22.1	18.5	12.0	16.6	22.6
Demand responsive lighting	23.8	18.0	39.3	22.9	21.0	20.6	35.0	36.2	18.9	14.4	9.6	21.6
Building automation system (BAS) for lighting ²	23.6	17.3	23.2	19.0	15.6	13.2	20.0	19.6	15.0	9.0	11.1	8.4
Equipment usage reduced when building not in full use (more than one may apply)												
Heating	12.3	7.4	13.1	10.0	7.7	5.8	12.0	13.4	7.3	5.0	7.5	9.5
Cooling	13.5	8.1	12.9	10.5	8.8	6.2	11.6	14.2	7.5	5.3	7.3	9.5
Lighting	12.2	8.3	11.9	12.9	8.1	6.1	10.9	11.9	6.8	4.9	6.2	9.5
Annual consumption (hundred cubic feet)												
1,000 or less	15.6	11.5	11.5	18.9	20.8	9.3	16.3	31.1	19.8	6.9	15.0	13.9
1,001 to 5,000	8.5	10.4	13.2	14.1	7.0	8.9	13.2	16.3	6.1	5.4	6.8	7.2
5,001 to 10,000	10.9	14.5	13.3	16.8	14.0	16.1	14.7	17.0	10.1	8.9	8.6	11.2
10,001 to 25,000	17.9	10.8	15.3	14.3	14.7	10.1	11.5	15.6	12.5	7.4	9.5	9.9
25,001 to 50,000	17.9	18.0	23.7	10.7	13.2	11.9	20.9	10.5	12.0	11.5	14.7	9.8
50,001 to 100,000	20.6	21.7	21.3	21.3	16.1	13.5	18.2	21.3	10.9	13.2	16.2	16.2
Over 100,000	22.7	11.6	12.4	32.1	20.2	14.0	11.2	25.2	8.7	9.7	8.3	12.6