

1 RCNY §103-06

CHAPTER 100

Subchapter C Maintenance of Buildings

§103-06 Benchmarking energy and water use.

- (a) **Purpose.** This section establishes the procedures for benchmarking certain buildings.
- (b) **References.** Article 309 of Chapter 3 of Title 28 of the New York City Administrative Code (“Article 309”).
- (c) **Requirement.** Owners of covered buildings, as defined in Article 309, must benchmark their whole buildings using the online Portfolio Manager tool of the United States Environmental Protection Agency (“EPA”).
- (d) **Definitions.** Terms defined in Article 309 of Title 28 have the same meanings in this section. For the purposes of this section, the following additional terms are defined as follows:

ACTUAL ENERGY DATA: Actual energy data is data taken directly from 1) utility meters or billing information, or data for the entire building provided by the utility; and/or 2) sub-meters for entire buildings that share heating, cooling and/or service (domestic) hot water systems with other buildings; and/or 3) extrapolated energy data calculated in accordance with clause (A) of subparagraph (ii) of paragraph (2) of subdivision (g) of this section.

AGGREGATED ENERGY DATA: Aggregated energy data means total energy data for a specified period as provided by the utility company for the building for a given energy type.

DEFAULT ENERGY DATA: Default energy data means data calculated using default values taken from Table 1 or 2 of this section. Such data is designed to result in a low energy efficiency rating within the bottom 25th percentile in Portfolio Manager and must be used only when the owner is unable to obtain actual energy data either as aggregated energy data from the utility company, directly from meters or sub-meters, or from tenants.

ENERGY TYPE: Energy type is electricity, natural gas, steam, and/or fuel oil. Energy type for a building may take the form of chilled or hot water when heating, cooling and/or service (domestic) hot water systems are shared by multiple buildings.

GROSS FLOOR AREA: Gross floor area is the total number of square feet measured between the exterior surfaces of the enclosing fixed walls. It includes vent shafts, elevator shafts, flues, pipe shafts, vertical ducts, stairwells, light wells, basement space, mechanical/electrical rooms, and interior parking. It excludes unroofed courtyards and unroofed light wells. For atria, gross floor area only includes the area of atrium floors. For tenant spaces, interior demising walls should be measured to the centerline of the wall.

GROSS SQUARE FEET (GROSS SQUARE FOOTAGE): Gross square feet or gross square footage means a building’s total square footage as provided in Department of Finance records.

NEW YORK CITY BENCHMARKING COMPLIANCE REPORT (“COMPLIANCE REPORT”): The New York City Benchmarking Compliance Report is an electronic report generated from the benchmarking data in Portfolio Manager.

PORTFOLIO MANAGER: Portfolio Manager is the benchmarking tool as defined in §28-309.2 of the Administrative Code.

TEMPORARY ENERGY DATA: Temporary energy data is a Portfolio Manager indicator for energy data entries that are not actual energy data, when actual energy data is not available. In this section, temporary energy data means energy data calculated from 1) default values calculated as described in this section, or 2) pro-rated energy use for a covered building that shares heating,

cooling and/or service (domestic) hot water systems with other buildings on other tax lots.

- (e) **Requirement to calculate gross floor area.** The owner must calculate the gross floor area and enter it into Portfolio Manager. All space areas entered into Portfolio Manager for a building must add up to the building’s gross floor area. Gross floor areas as calculated by the owner under this provision are not related to the Department of Finance records that determine whether a building or buildings qualify as covered buildings under §28-309 of the Administrative Code.
- (f) **Period of benchmarking.** The owner must enter energy consumption data into Portfolio Manager for the period covering January 1 through December 31 of the year being benchmarked for each energy type.
- (g) **Energy data entry into Portfolio Manager.** In accordance with section 28.309.4 of the Administrative Code, the owner of a covered building must enter energy data for each applicable energy type into Portfolio Manager. This data must be obtained by one or more of the following methods:
 - (1) **Access to total data for a given energy type used in a building.** Where an owner obtains all energy data for a given energy type for the entire building via aggregated energy data from the utility company, meter data or fuel oil bills, and/or data collected from tenants, the owner must enter such information in Portfolio Manager as actual energy data for that energy type. In the energy meter section of Portfolio Manager, the owner must respond “No” to the question, “Are temporary values being used for energy data?” No further calculation of energy use for that energy type is required.
 - (2) **Access to partial data for a given energy type used in a building.** When an owner has not obtained entire-building energy data in accordance with paragraph (1) of this subdivision, energy use data for the building must be entered into Portfolio Manager as described in this paragraph. In the energy meter section of Portfolio Manager, whenever actual energy data is used, the owner must respond “No” to the question, “Are temporary values being used for energy data?” Whenever default energy data is used, the owner must respond “Yes” to the same question. In addition, when default energy data is entered into Portfolio Manager, the owner must set the meter configuration in the Energy Meters section to "Other" and enter "Default energy data" in the free-text box.

(i) **Common area energy:**
 For each energy type, the owner must enter actual energy data for common areas, and all common or central systems, including but not limited to heating, cooling, lighting and/or service (domestic) water heating as applicable.

(ii) **Tenant energy data - residential:**
 Where energy use data is unavailable for some or all dwelling units in a building, the owner must use one of the following methods to determine energy use for dwelling units. For the purpose of this subparagraph, “apartment” means “dwelling unit.”

<p>(A) Actual –energy data - Extrapolation method</p>	<p>When an owner obtains representative billing or meter data as described below for a given energy type from tenants, the owner may extrapolate such information for the building and enter it into Portfolio Manager as actual energy data. Extrapolation may be used only as follows:</p> <ol style="list-style-type: none"> 1. The owner must obtain all meter data for such energy type for a minimum of ten percent (10%) of apartments in each apartment line in the building. Apartments are considered in the same line if they have similar shape and square footage and are stacked one above another. 2. For a given energy type, extrapolation must be performed each month as follows:
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	<p>Total energy use = $[(E_1 / N_1) * T_1] + [(E_2 / N_2) * T_2] + [(E_3 / N_3) * T_3] \dots [(E_n / N_n) * T_n]$,</p> <p>where:</p> <p>E is the total energy collected by the owner for the month for 10% or more of the apartments in the specified apartment line for a given energy type;</p> <p>N is the number of apartments in the specified apartment line for which the energy was collected;</p> <p>T is the total number of apartments in the specified apartment line;</p> <p>₁ refers to apartment line 1;</p> <p>₂ refers to apartment line 2;</p> <p>_n refers to the total number of apartment lines in the building, or the final apartment line under consideration in the building.</p>
<p>(B) Default value method</p>	<p>If the owner is unable to obtain actual energy data as described in clause (A) of this subparagraph, the owner may calculate tenant energy use from default values by apartment, regardless of the gross floor area of any apartment, and enter it into Portfolio Manager as temporary energy data in accordance with subclauses 1, 2, and 3 below:</p> <ol style="list-style-type: none"> 1. Calculate the building's monthly residential tenant electrical use as follows: For each month, multiply the default kWh/unit value in the second column of Table 1 below by the total number of apartments in the building. 2. If the residential units are not centrally heated, in addition to the calculations in subclause 1, above, calculate the building's monthly tenant heating use, regardless of energy type actually used, as follows: Multiply the default kWh/unit values in the third column of Table 1 below by the total number of apartments in the building. 3. Enter the tenant electrical energy use for all cases and the tenant heating energy when applicable into Portfolio Manager.

TABLE 1
Default Values for Residential Tenant Space

Column 1	Column 2	Column 3
Month	Tenant-paid electrical energy use (kWh/unit)	Tenant-paid heating energy use (kWh/unit)
January	420	1454
February	370	1238
March	350	1022
April	340	562
May	360	202
June	430	29
July	530	0
August	570	0
September	440	58
October	360	360
November	350	749
December	380	1209

Source: Values are based on averaged New York State Energy Research and Development Authority data for multi-family residential buildings in New York City from 2006 – 2009 and correspond to the 25th percentile of building energy performance.

(iii) Tenant energy data – non-residential:	
The owner must use one of the following methods to determine non-residential tenant energy use, as applicable, and must enter the energy data into Portfolio Manager.	
(A) Actual energy data	The building owner must request information from his or her non-residential tenants on the non-residential tenant information collection form. This form is available at the Mayor’s Office of Long-Term Planning and Sustainability website: www.nyc.gov/ggpb . If the building owner has access to aggregated energy data, the owner does not need to collect energy meter information on this form; all other information requested on the form must be completed, including, but not limited to, the service address and other information affecting energy use in the building. In the event the building owner does not have access to aggregated energy data, the owner must use the non-residential tenant information collection form to collect separately metered energy information from the non-residential tenants. In either case, the building owner must enter this information in Portfolio Manager as actual energy data.

<p>(B) Default values</p>	<p>1. If the owner is unable to obtain all actual energy data from a given non-residential tenant, the owner must calculate such tenant's monthly energy use by using the default values in Table 2 below, in kilowatt hours per month per gross square foot regardless of energy type actually used, and must enter such data in Portfolio Manager as temporary energy data. To calculate the temporary energy data, the owner must multiply the default value in Table 2 below by the gross floor area for the respective tenant space type.</p> <p>2. Use of default energy values for non-residential tenant space will not be permitted for benchmarking submissions in 2013, measuring building energy use for calendar year 2012. For benchmarking reports due May 1, 2013 and thereafter, only actual energy data will be permitted.</p>
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TABLE 2
Default Values for Non-Residential Tenant Space

Space Use	kWh/month/gsf
Preschool and K-12	1.17
College/University	2.00
Library	1.93
Laboratory	4.55
Hospital/Inpatient health	2.97
Medical offices/Clinics	1.73
Retail store	2.27
24 hour convenience store/Bodega	6.58
Grocery store/Food sales/Refrigerated warehouse	4.53
Fast food	10.93
Restaurant/Cafeteria	5.01
Fire station/Police station/Post office	1.11
Public assembly/Entertainment/Culture	1.41
Health clubs/Gymnasium	2.00
Office space	1.61
Bank/Other financial	2.46
Data centers/Trading floors/TV studios	15.00
Dormitory/Hotel/Nursing Home/Single Room Occupancy (SRO)	1.75
Religious worship	0.50
Warehouse/Storage/Shipping	0.62
Repair shop/Vehicle service	0.82
Interior parking	0.53
Other	4.00

Source: Values derived from the 2007 American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., Handbook, Chapter 35: "Energy Use and Management," Table 3 Electricity Index Percentiles from 2003 Commercial Buildings Energy Consumption Survey (CBECS) of the United States Department of Energy's Energy Information Administration and represent the 25th percentile of building energy performance.

(iv) Non-residential vacant space:

The owner must account for non-residential vacant space in Portfolio Manager as directed by the EPA.

- (h) **Water data entry into Portfolio Manager.** Buildings provided with automatic meter-reading equipment by the Department of Environmental Protection (“DEP”) for the entire calendar year will be benchmarked by DEP in accordance with section 28-309.5.2 of the Administrative Code. Building owners are not required to enter such data.
- (i) **Special conditions.** The following special conditions must be addressed in the following ways:
- (1) **Space use attributes for multi-family housing spaces.** Building owners must enter all optional space use attributes for multi-family housing spaces as such attributes are defined in Portfolio Manager. Optional space use attributes for multi-family housing spaces include, but are not limited to: number of occupied and unoccupied apartment units in building, number of bedrooms in building, and maximum number of floors.
 - (2) **Multiple buildings on a tax lot.** Multiple buildings on a tax lot must be benchmarked as follows:
 - (i) Multiple buildings on a tax lot that are separately energy-metered and/or energy sub-metered and that have separate heating, cooling and service (domestic) hot water systems must be benchmarked individually.
 - (ii) Multiple buildings on a tax lot that are not separately energy-metered or energy sub-metered and/or that share heating and/or cooling and/or service (domestic) hot water systems must be benchmarked as one building for all energy types using gross energy consumption by energy type and total gross floor area of all such buildings.
 - (3) **Buildings on multiple tax lots that share systems.** Buildings on multiple lots that share systems must be benchmarked as follows:
 - (i) Buildings that are separately metered or are sub-metered for a given energy type must be benchmarked individually for that energy type.
 - (ii) For buildings that are neither separately metered nor sub-metered for a given energy type, the owner(s) must pro-rate the various energy types based on total energy consumption for each energy type. Owners must calculate their prorated share based on the gross square footage of their building compared to the gross square footage of other buildings that share systems with the building and enter the prorated energy data as temporary energy data.
 - (4) **New buildings.** Owners of new buildings must begin benchmarking such buildings in the first full calendar year following the year the building receives its first Temporary Certificate of Occupancy. Energy use for unused spaces or incomplete tenant areas must be estimated in accordance with subparagraph (iv) of paragraph (2) of subdivision (g) of this section.
 - (5) **Buildings with change in ownership.** When a building changes ownership, the new owner must benchmark such building for the first full calendar year following transfer of ownership and must submit the Compliance Report by May 1 of the following year and by the same date every year thereafter.
 - (6) **Demolished buildings.** Buildings for which a full demolition permit has been issued are not required to benchmark for the prior calendar year, provided that demolition work has commenced, some energy-related systems have been compromised and legal occupancy is no longer possible

prior to May 1.

- (7) **Exemptions.** The owner shall not be required to include the following in a building's benchmarking:
- (i) Broadcast antennas, when metered or sub-metered separately from the building;
 - (ii) Cellular towers, when metered or sub-metered separately from the building;
 - (iii) Illuminated signs required by Section 81-732 of the New York City Zoning Resolution, when metered or sub-metered separately from the building;
 - (iv) Natural gas, when separately metered for kitchens in apartments.
- (j) **Submission to the City of New York.** By May 1 following each benchmarked year, the owner must submit the Compliance Report to the Department of Finance. Submission must be made through a web-link provided by the Mayor's Office of Long-Term Planning and Sustainability at their website: www.nyc.gov/ggbp.
- (k) **Required records.** Owners of covered buildings as defined in section 28-309.2 of the Administrative Code must maintain the following records as proof of benchmarking of energy and water use as required in article 309:
- (1) The confirmation email from EPA for proof of submission date;
 - (2) Proof of request to non-residential tenants for information related to the non-residential tenant's separately metered energy use;
 - (3) Back-up information regarding energy use inputs, including, but not limited to, utility bills, fuel oil bills, calculations, and correspondence; and
 - (4) A copy of water and energy input data entered into Portfolio Manager.
- Such records must be retained for three (3) years from the required submission date of May 1 and must be made available to the Department and/or the Mayor's Office of Long Term Planning and Sustainability upon request.
- (l) **Violation and penalty.** Failure to benchmark by August 1, 2011, or by May 1 of subsequent years, may result in a penalty of \$500. Continued failure to benchmark may result in additional violations on a quarterly basis and an additional penalty of \$500 per violation.
- (m) **Challenge to violations.**
- (1) An owner may challenge a violation for failure to benchmark issued pursuant to subdivision (l) of this section. Proof in support of any such challenge may include, but need not be limited to:
 - (i) Proof from the Department of Finance that the building in question is not a covered building as defined in section 28-309.2 of the Administrative Code;
 - (ii) Proof of timely benchmarking as indicated by a confirmation email from the EPA that includes a date-stamped copy of data released to the city; or
 - (iii) Proof of change in ownership during the year in question.
 - (2) Such challenge must be made in writing to the Department within thirty (30) days from the postmark date of the violation served by the Department.