



## 7. Benchmarking methodology for energy and water

Any new building assessed using the new online portal will be assessed for energy and water consumption using the ENERGY STAR Portfolio Manager (ESPM) benchmarking methodology. There are three performance metrics in the BOMA BEST Sustainable Buildings 3.0 assessment. None is required to obtain a certification although additional points may be earned for participating.

Applicants must link up existing ESPM accounts with the online portal – this eliminates the need to re-enter data and ensures that data is verifiable. Instructions are provided [here](#).

Applicants that do not have an ESPM account can use the online portal to capture their consumption data. Instructions are provided [here](#).

An [ESPM FAQ](#) has been prepared to assist applicants who have additional questions regarding energy and water benchmarking.

### 7.1. Office, Enclosed Shopping Centre, Light Industrial, Open Air Retail, and Universal

#### 7.1.1. Gross Floor Area

BOMA BEST performance metrics are dependent on an accurate gross floor area (GFA). For the purposes of benchmarking performances, BOMA BEST is aligned with the ENERGY STAR Portfolio Manager definition of the Gross Floor Area. This definition is different from the area required to calculate the BOMA BEST application fees (see Section 4 of this Guide for more details on this).

##### a) For Office and Universal (ENERGY STAR Score eligible) buildings

The GFA that used for the purposes of calculating the energy and water performance must be entered here on the building registration page (“Create New” page - under “Fill in more details”):

Building characteristics

Gross Floor Area (for ENERGY STAR):   as of

GST Exempt:  as of

Name of the company's portfolio to which this building belongs (no.1):  as of

The GFA used for calculating energy or water performance **must** include the following spaces:

- Lobbies
- Tenant Areas
- Common Areas
- Meeting Rooms
- Break Rooms



- Atriums (ground floor only)
- Restrooms
- Elevator Shafts
- Stairwells
- Mechanical Equipment Areas
- Basements
- Storage Rooms
- Indoor/underground parking (depends on whether it is sub-metered – see notes below for more details)

Areas that that **must not** be included in the floor area:

- Exterior spaces
- Balconies
- Patios
- Exterior Loading Docks
- Driveways
- Covered Walkways
- Outdoor Courts (Tennis, Basketball, etc.)
- The interstitial plenum space between floors (which house pipes and ventilation)
- Crawl Spaces
- Exterior parking/Parkades

Indoor and Underground Parking: The above list is identical to the areas required to calculate BOMA BEST Fees **except** for parking areas. Indoor and underground parking areas must be included in the GFA to calculate fees. However, the decision to include this area in the GFA used to benchmark performance depends on whether the space is sub-metered.

- If energy for the parking area is **sub-metered**, the floor area should not be included in the GFA. In such cases, energy consumption from the indoor parking area must also be **excluded** from the energy consumption data entered.
- If the parking area is **not sub-metered**, the floor area must be included in the GFA for benchmarking purposes. It follows that the energy consumption associated with this area will already be included in the total energy consumption data entered for the building.

**b) Enclosed Shopping Centres, Open Air Retail, Light Industrial, Universal (non-ENERGY STAR Score eligible) buildings**

As much as possible, respect the rules listed above for Office etc. However, if the surface areas of all the spaces listed above are not known, include whatever is known in the ENERGY STAR GFA field.

Please note that in the future, these buildings will be required to provide a GFA based on the rules outlined in 7.1.1 a).



### 7.1.2. ENERGY STAR Score

Energy performance for Office buildings and eligible Universal buildings is assessed using the ENERGY STAR Score – a score from 1 to 100.

Buildings that earn a score between 1 and 100 are compared to other buildings nationwide that have the same primary use. In addition to this, the ENERGY STAR Score also normalizes for building characteristics such as weather, occupancy hours, and number of full-time workers.

#### ENERGY STAR Score Benchmarking Scale for Office and eligible Universal buildings

ENERGY STAR Score Benchmarking Matrix – Office and eligible Universal buildings	
ENERGY STAR Score	Points
Unknown	0
0-49	0
50	10
51-100	2 points are earned for every ENERGY STAR Score above 50, up to <b>90</b> points. E.g. ENERGY STAR Score of 73 = 56 points

### 7.1.3. Energy Use Intensity (EUI)

In all asset classes, applicants are requested to provide their Energy Use Intensity. This metric is not scored specifically though points may be earned (depending on the asset class) for being able to calculate a valid EUI. The intent is to encourage participants to benchmark energy consumption over time.

To obtain a weather-normalized site EUI, applicants must provide energy consumption data representing all required spaces in the building for a period of **24** consecutive months. See sub-section 7.1.1 for instructions on how to proceed if there is indoor parking.

### 7.1.4. Water Use Intensity (WUI)

In all asset classes, applicants are requested to provide their Water Use Intensity. For Office buildings, depending on the performance, applicants will obtain points. In the remaining asset classes, simply providing a valid WUI (regardless of the value) may be sufficient for obtaining points. The intent is to encourage participants to benchmark energy consumption over time.

This metric is not scored specifically though points may be earned (depending on the asset class) for being able to calculate a valid WUI.

To obtain a WUI, applicants must provide water consumption data representing all spaces in the building (exceptions can be made depending on the asset class) for a period of **12** consecutive months.

Water used for irrigation must be included.



### Water Use Intensity Benchmarking Scale (Office Only)

Water Benchmarking Matrix – Office	
Water Use Intensity	Points
Unknown / Unable to obtain	0
1.0 m <sup>3</sup> /m <sup>2</sup> /year and above	0
Between 0.8 and 0.99 m <sup>3</sup> /m <sup>2</sup> /year	4
Between 0.65 and 0.79 m <sup>3</sup> /m <sup>2</sup> /year	6
Between 0.50 and 0.64 m <sup>3</sup> /m <sup>2</sup> /year	8
Between 0.33 and 0.49 m <sup>3</sup> /m <sup>2</sup> /year	10
Between 0.2 and 0.32 m <sup>3</sup> /m <sup>2</sup> /year	12
Less than 0.2 m <sup>3</sup> /m <sup>2</sup> /year	15



## 7.2. MURB and Health Care Facilities

Similarly to the other asset classes, when applicants assess their buildings using the MURB or Health Care questionnaires on the new portal they will be accessing the ENERGY STAR Methodology. However, performance is rewarded slightly differently.

### 7.2.1. Gross Floor Area

BOMA BEST performance metrics are dependent on an accurate gross floor area (GFA). For the purposes of benchmarking performances, BOMA BEST is aligned with the ENERGY STAR Portfolio Manager definition of the Gross Floor Area. This definition is different from the area required to calculate the BOMA BEST application fees (see Section 4 of this Guide for more details on this).

The GFA that used for the purposes of calculating the energy and water performance must be entered here on the building registration page (“Create New” page - under “Fill in more details”):

Building characteristics

Gross Floor Area (for ENERGY STAR):   as of

GST Exempt:  as of

Name of the company's portfolio to which this building belongs (no.1):  as of

The GFA used for calculating energy or water performance **must** include the following spaces:

- Lobbies
- Tenant Areas
- Common Areas
- Meeting Rooms
- Break Rooms
- Atriums (ground floor only)
- Restrooms
- Elevator Shafts
- Stairwells
- Mechanical Equipment Areas
- Basements
- Storage Rooms
- Indoor/underground parking (depends on whether it is sub-metered – see notes below for more details)

Areas that that **must not** be included in the floor area:

- Exterior spaces
- Balconies



- Patios
- Exterior Loading Docks
- Driveways
- Covered Walkways
- Outdoor Courts (Tennis, Basketball, etc.)
- The interstitial plenum space between floors (which house pipes and ventilation)
- Crawl Spaces
- Exterior parking/Parkades

Indoor and Underground Parking: The above list is identical to the areas required to calculate BOMA BEST Fees **except** for parking areas. Indoor and underground parking areas must be included in the GFA to calculate fees. However, the decision to include this area in the GFA used to benchmark performance depends on whether the space is sub-metered.

- If energy for the parking area is **sub-metered**, the floor area should not be included in the GFA. In such cases, energy consumption from the indoor parking area must also be **excluded** from the energy consumption data entered.
- If the parking area is **not sub-metered**, the floor area must be included in the GFA for benchmarking purposes. It follows that the energy consumption associated with this area will already be included in the total energy consumption data entered for the building.

### 7.2.2. Energy for MURB

To obtain a weather-normalized site Energy Use Intensity (EUI), applicants must provide energy consumption data representing all required spaces in the building for a period of **24** consecutive months. See sub-section 7.2.1 for instructions on how to proceed if there is indoor parking.

Based on the EUI generated on the new online portal, applicants will receive points based on the following benchmarking scale:

Energy Benchmarking Matrix – Multi-Unit Residential Buildings	
Energy Use Intensity	Points
Unknown / Unable to obtain	0
0.890 GJ/m <sup>2</sup> /yr and above	0
Between 0.850 and 0.889 GJ/m <sup>2</sup> /yr	8
Between 0.810 and 0.849 GJ/m <sup>2</sup> /yr	16
Between 0.770 and 0.809 GJ/m <sup>2</sup> /yr	24
Between 0.740 and 0.769 GJ/m <sup>2</sup> /yr	32
Between 0.700 and 0.739 GJ/m <sup>2</sup> /yr	40
Between 0.660 and 0.699 GJ/m <sup>2</sup> /yr	48
Between 0.620 and 0.659 GJ/m <sup>2</sup> /yr	56
Between 0.580 and 0.619 GJ/m <sup>2</sup> /yr	64
Between 0.540 and 0.579 GJ/m <sup>2</sup> /yr	72
Less than 0.540 GJ/m <sup>2</sup> /yr	80



### 7.2.3. Water for MURB

To obtain a Water Use Intensity (WUI), applicants must provide water consumption data representing all required spaces in the building for a period of **12** consecutive months. Water used for irrigation must be included.

Based on WUI generated on the new online portal, applicants will receive points based on the following benchmarking scale:

Water Benchmarking Matrix – Multi-Unit Residential Buildings	
Water Use Intensity	Points
Unknown / Unable to obtain	0
8.03 m <sup>3</sup> /m <sup>2</sup> /yr and more	0
Between 6.205 and 8.029 m <sup>3</sup> /m <sup>2</sup> /yr	18
Between 5.475 and 6.204 m <sup>3</sup> /m <sup>2</sup> /yr	24
Less than 5.475 m <sup>3</sup> /m <sup>2</sup> /yr	30

### 7.2.4. Energy for Health Care

To obtain a weather-normalized site Energy Use Intensity (EUI), applicants must provide energy consumption data representing all required spaces in the building for a period of **24** consecutive months. See sub-section 7.2.1 for instructions on how to proceed if there is indoor parking.

Based on the EUI generated on the new online portal, applicants will receive points based on the following benchmarking scale:

Energy Benchmarking Matrix – Hospitals	
Energy Use Intensity	Points
Unknown / Unable to obtain	0
3.100 GJ/m <sup>2</sup> /yr and above	0
Between 2.940 and 3.099 GJ/m <sup>2</sup> /yr	7
Between 2.790 and 2.939 GJ/m <sup>2</sup> /yr	14
Between 2.630 and 2.789 GJ/m <sup>2</sup> /yr	21
Between 2.480 and 2.629 GJ/m <sup>2</sup> /yr	28
Between 2.320 and 2.479 GJ/m <sup>2</sup> /yr	35
Between 2.170 and 2.319 GJ/m <sup>2</sup> /yr	42
Between 2.010 and 2.169 GJ/m <sup>2</sup> /yr	49
Between 1.860 and 2.009 GJ/m <sup>2</sup> /yr	56
Between 1.700 and 1.859 GJ/m <sup>2</sup> /yr	63
Less than 1.700 GJ/m <sup>2</sup> /yr	70



Energy Benchmarking Matrix – Medical Offices	
Energy Use Intensity	Points
Unknown / Unable to obtain	0
1.320 GJ/m <sup>2</sup> /yr and above	0
Between 1.240 and 1.319 GJ/m <sup>2</sup> /yr	7
Between 1.160 and 1.239 GJ/m <sup>2</sup> /yr	14
Between 1.050 and 1.159 GJ/m <sup>2</sup> /yr	21
Between 0.930 and 1.049 GJ/m <sup>2</sup> /yr	28
Between 0.810 and 0.929 GJ/m <sup>2</sup> /yr	35
Between 0.700 and 0.809 GJ/m <sup>2</sup> /yr	42
Between 0.580 and 1.699 GJ/m <sup>2</sup> /yr	49
Between 0.460 and 0.579 GJ/m <sup>2</sup> /yr	56
Between 0.350 and 0.459 GJ/m <sup>2</sup> /yr	63
Less than 0.350 GJ/m <sup>2</sup> /yr	70

Energy Benchmarking Matrix – Long Term Care	
Energy Use Intensity	Points
Unknown / Unable to obtain	0
2.290 GJ/m <sup>2</sup> /yr and above	0
Between 2.090 and 2.289 GJ/m <sup>2</sup> /yr	7
Between 1.980 and 2.089 GJ/m <sup>2</sup> /yr	14
Between 1.860 and 1.979 GJ/m <sup>2</sup> /yr	21
Between 1.740 and 1.859 GJ/m <sup>2</sup> /yr	28
Between 1.630 and 1.739 GJ/m <sup>2</sup> /yr	35
Between 1.510 and 1.629 GJ/m <sup>2</sup> /yr	42
Between 1.390 and 1.509 GJ/m <sup>2</sup> /yr	49
Between 1.280 and 1.389 GJ/m <sup>2</sup> /yr	56
Between 1.160 and 1.279 GJ/m <sup>2</sup> /yr	63
Less than 1.160 GJ/m <sup>2</sup> /yr	70





### 7.2.5. Water for Health Care

To obtain a Water Use Intensity (WUI), applicants must provide water consumption data representing all required spaces in the building for a period of **12** consecutive months. Water used for irrigation must be included.

Based on WUI generated on the new online portal, applicants will receive points based on the following benchmarking scale:

Water Use Intensity – Health Care			
Hospitals	Medical Offices	Long Term Care	Points
Unknown / Unable to obtain	Unknown / Unable to obtain	Unknown / Unable to obtain	0
3.0 m <sup>3</sup> /m <sup>2</sup> /yr and above	1.60 m <sup>3</sup> /m <sup>2</sup> /yr and above	1.90 m <sup>3</sup> /m <sup>2</sup> /yr and above	0
Between 2.60 and 2.99 m <sup>3</sup> /m <sup>2</sup> /yr	Between 1.40 and 1.59 m <sup>3</sup> /m <sup>2</sup> /yr	Between 1.70 and 1.89 m <sup>3</sup> /m <sup>2</sup> /yr	5
Between 2.20 and 2.59 m <sup>3</sup> /m <sup>2</sup> /yr	Between 1.20 and 1.39 m <sup>3</sup> /m <sup>2</sup> /yr	Between 1.30 and 1.69 m <sup>3</sup> /m <sup>2</sup> /yr	10
Between 1.70 and 2.19 m <sup>3</sup> /m <sup>2</sup> /yr	Between 1.0 and 1.19 m <sup>3</sup> /m <sup>2</sup> /yr	Between 1.10 and 1.29 m <sup>3</sup> /m <sup>2</sup> /yr	15
Between 1.30 and 1.69 m <sup>3</sup> /m <sup>2</sup> /yr	Between 0.80 and 0.99 m <sup>3</sup> /m <sup>2</sup> /yr	Between 0.90 and 1.09 m <sup>3</sup> /m <sup>2</sup> /yr	20
Between 0.90 and 1.29 m <sup>3</sup> /m <sup>2</sup> /yr	Between 0.50 and 0.79 m <sup>3</sup> /m <sup>2</sup> /yr	Between 0.60 and 0.89 m <sup>3</sup> /m <sup>2</sup> /yr	25
Less than 0.9 m <sup>3</sup> /m <sup>2</sup> /yr	Less than 0.5 m <sup>3</sup> /m <sup>2</sup> /yr	Less than 0.6 m <sup>3</sup> /m <sup>2</sup> /yr	30