



BENCHMARKING 2023 ANNUAL REPORT

THE CITY OF
MIAMI

BUILDING DEPARTMENT
Benchmark305.com

Table of Contents

Executive Summary	3-4
National Perspective	5
Benchmarking Ordinance Timeline	6
Key Metrics and Analysis	7-10
Transparency and Policy Map	11
Outreach and Resources	12



Executive Summary



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Building Department Director

In January of 2020, The City of Miami released Miami Forever Climate Ready, the City’s Climate Action Plan. This plan focuses on building a resilient and sustainable future through actions which prepare for, adapt to, and mitigate current and future climate risks. One of those actions was the creation of the Building Efficiency 305 Program (BE305) which would require public and private buildings over 20,000 sq. ft. to track and report energy and water usage.

As 55% of the greenhouse gas emissions in Miami come from building energy consumption, building efficiency must be prioritized to meet our climate goals.

In June of 2021, the City of Miami Commission unanimously voted to adopt the Energy and Water Benchmarking and Retuning Ordinance. The BE305 program, housed within the Building Department requires buildings 20,000 square feet and larger to track monthly energy and water usage and submit yearly benchmarking reports directly to the city in ENERGY STAR® Portfolio Manager, a free website provided by the U.S. Environmental Protection Agency (EPA). In addition, all buildings 50,000 square feet and larger will be required to submit a retuning report every 5 years to ensure the

Base Building Systems are maintained, cleaned and repaired.

Covered buildings in good standing with submission of benchmarking and retuning reports will be granted a one-time permit fee credit every retuning period up to the amount provided in the table below.

Size	Maximum Permit Fee Credit
Buildings 500,000 square feet or larger	Up to \$25,000.00
Buildings between 100,000 and 499,999 square feet	\$10,000.00
Buildings between 20,000 and 99,999 square feet	\$5,000.00

The permit fee credit shall be used for the City’s building permit fees related to professional service/“soft costs” incurred for retuning purposes. Rolled out as the first of its kind nation-wide, the permit fee credit incentivizes and promotes further investment within properties. By identifying deficiencies during the retuning period, building owners can enhance their energy and water systems through low-cost adjustments and minor repairs.

Annual benchmarking of energy and water consumption helps building owners, property managers, and facilities’ staff establish energy performance baselines, monitor performance over time, guide actions to cut waste, verify energy and water savings from investments, and mitigate carbon emissions. Benchmarking data provides summary information about public and private buildings, documenting trends in energy and water performance as well as allow a data-based approach to analyzing future energy needs where improvements can be made, and how to reduce costs.

The success of a benchmarking program depends on the cooperation from multiple parties including building owners, property managers, utility companies, homeowner’s associations, community organizations and the development community.

To ensure this success, a comprehensive stakeholder engagement process was conducted from November 2017 through May 2021. The City of Miami continues to engage the

community and stakeholders, working closely with utility companies to streamline the implementation process. The city is committed to providing building owners with all of the necessary resources to make the benchmarking process as efficient and simple as possible.

Implementation of the Benchmarking Program was to be done in phases over the first three years. This year, all buildings over 100,000 square feet had to submit their benchmarking reports. In 2024, all buildings between 50,000 square feet and 99,999 square feet will be required to comply. This first year had many milestones, including working with Miami-Dade Water and Sewer to establish an easy, online access to 24 months of water consumption data to building owners. Additionally, working with Florida Power and Light to establish and implement a process for building owners to obtain whole-building aggregated data for those buildings that are not master-metered.

In addition, in April of 2022 the City of Miami enrolled in the Building Efficiency 305 Challenge, a voluntary program managed by Miami-Dade County aimed to improve efficiency in buildings over 20,000 square feet. This program is a voluntary version of the City of Miami's ordinance backed BE305 Program. By participating in the County's BE305 Challenge, the city took the lead by enrolling and benchmarking 32 of its municipal buildings into this program.

As a result, the City of Miami was recognized at the March 28, 2023, BE305 Challenge Awards Ceremony for registering the most buildings into the challenge. The city was also awarded a free energy and water assessment conducted by The Industrial Center at the University of Miami. The objective of the assessment was to identify, evaluate and recommend opportunities to conserve energy, minimize waste and reduce overall costs at the Miami Police Station. Results from the assessment revealed four recommendations with an almost immediate payback which could save the city about \$86,308 annually, if implemented.

The first year of the program allows for a grace period in which no fines or violations are issued. This allowed building owners and managers an opportunity to learn about the program. To assist building owners, the city conducted a series of virtual trainings from May 2023 through September 2023. In addition, a Benchmarking Help Desk was created to provide building owners and managers with an additional resource and receive assistance throughout the entire process.

The City of Miami Building Department is taking an innovative and holistic approach to resilience by addressing climate adaptation, carbon mitigation and sustainability. The BE305 program is an integral part of the City's approach to reducing the community-wide carbon footprint and is a key initiative administered by the Building Department.



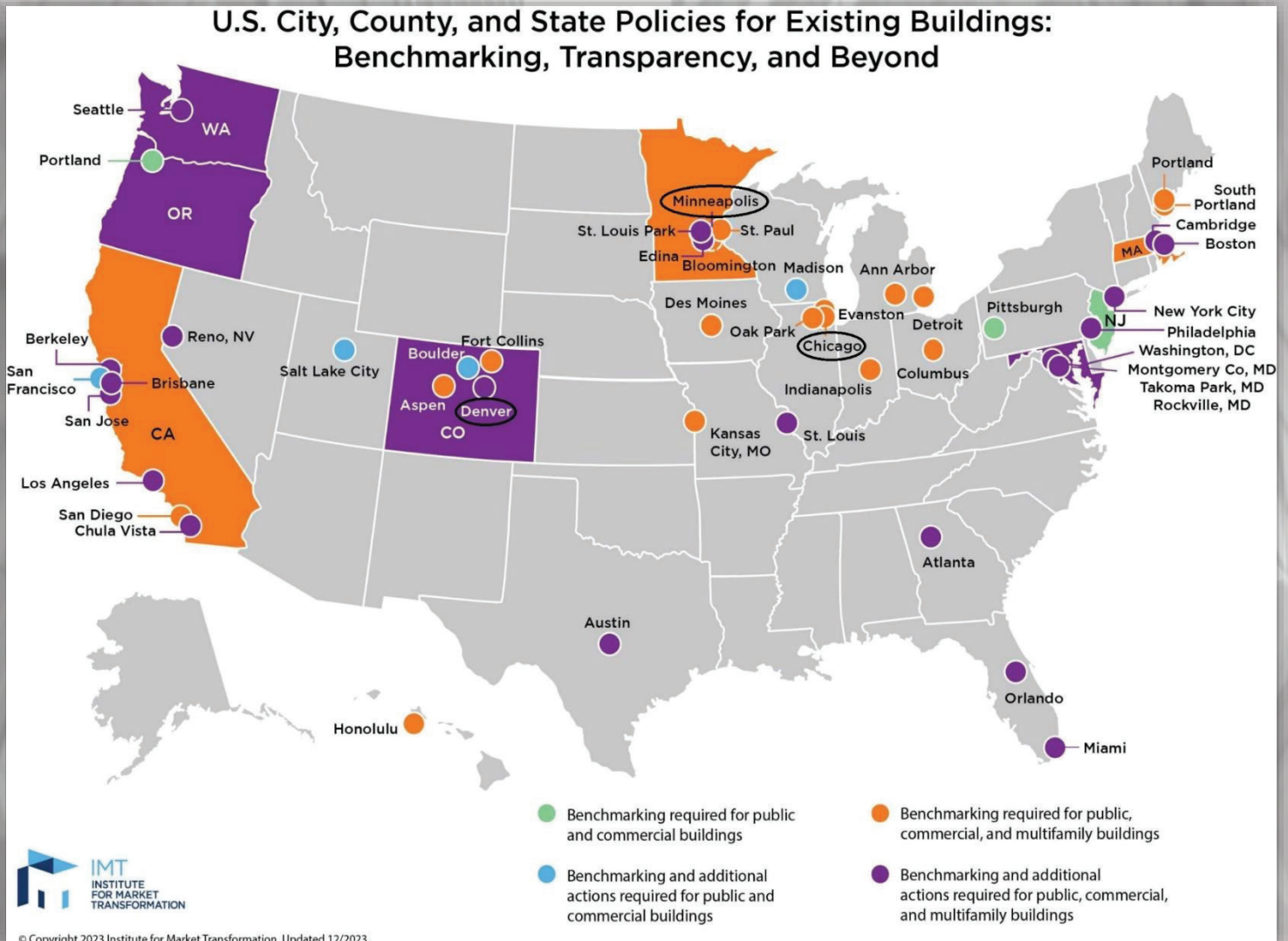
Benefits of Benchmarking Ordinances

When we make our buildings more energy efficient, owners and tenants can save money on utilities, businesses can reduce operating costs, reduce air pollution, and ultimately mitigate carbon emissions. To obtain these benefits, we need to know how energy efficient buildings are and share that information with the community. Participation in the BE305 program is entirely free and will ultimately provide building owners and managers with free cost-saving opportunities. The cities below have a similar ordinance to Miami and are already seeing the benefits.

U.S. City	Building Size	Energy Savings	Cost Savings Per Year
Chicago	>50,000 Sq. Ft.	5.2% (over five years)	\$15.1 Million
Denver	>25,000 Sq. Ft.	4.5% (over two years)	\$13.5 Million
Minneapolis	>50,000 Sq. Ft.	3.4% (over four years)	\$21 Million

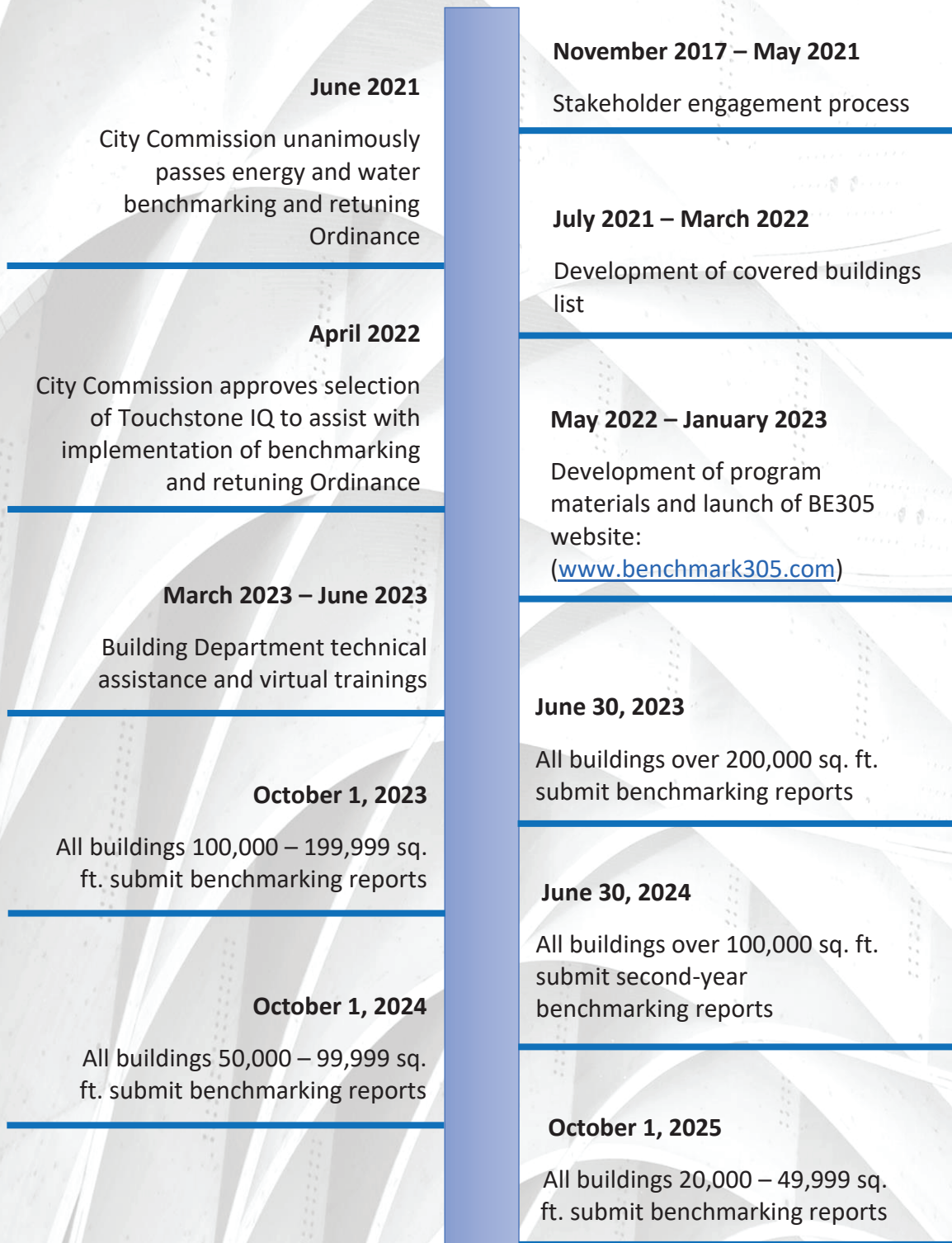
*[Benchmarking Benefits](#)

(Includes commercial and multi-family buildings)



Building Department Benchmarking Timeline for BE305

Prior to implementation of the Benchmarking Program, the City of Miami completed many milestones before receiving its first benchmarking report. A thorough engagement process was conducted which included close to a total of 50,000 community members at over 200 meetings. This included a working group of 19 industry experts as well as weekly engagement with the utility companies. Other groups included builder's associations, homeowner's associations, property management companies, universities, chambers of commerce and hotel industry representatives. This collaborative effort resulted in the benchmarking ordinance which meets City goals and the community's expectations.



Building Department Compliance Metrics & Data

With 2023 being the first year of compliance for buildings over 100,000 sq. ft. this annual report will focus on general compliance data as per the ordinance and energy performance by building type. This first-year data will create a baseline for which to track progress and create a comparison to in subsequent years.

- Out of a total of 390 buildings over 200,000 sq. ft., 133 buildings or 34% were in compliance.
- Out of a total of 229 buildings over 100,000 sq. ft., 61 buildings or 26% were in compliance.
*** Initial compliance rates for municipalities in their first year of benchmarking ordinances tend to see compliance rates between 15% - 25%.**



Buildings that submitted their benchmarking reports went through a vetting process which included more than 30 different quality control flags to ensure accuracy. The most common quality control flags that were seen in 2023 were:

- Abnormally High ENERGY STAR® Score (47 instances)
- Abnormally Low Site Energy Use Intensity (46 instances)
- No Natural Gas Usage Data Included (94 instances)
- Submission Includes Estimated Energy Values (25 instances)

Buildings that trigger a quality control flag are placed under “pending revisions.” This group is advised that their submission contains some errors and corrections are needed. The help desk provides one-on-one assistance to these building owners and managers to correct the errors and move them to “in compliance.” Currently, there are 64 buildings that have submitted a benchmarking report but are pending revisions. These quality control flags will be evaluated on an annual basis to identify trends and add or remove any flags as appropriate.

2023 Compliance Data

In Compliance	194 Buildings
Exemptions Approved	21
Benchmarking Reports Accepted and Approved	173
Total Square footage "In Compliance"	100,060,412 Sq. Ft.
Total Metric Million British Thermal Units (MMBtu)	4,019,265.68 MMBtu
Total Metric Tons of Carbon Dioxide Equivalent (MTCO ₂ e)	435,222.80 MTCO ₂ e

* City-wide total combined energy usage is measured in MMBtu (Metric Million British Thermal Units)

* Greenhouse gasses are measured in MTCO₂e (Metric Tons of Carbon Dioxide Equivalent)

* ENERGY STAR® Scores range from 1 – 100, with higher values representing more efficient buildings with a score of 50 being the average.

* Energy Use Intensity (EUI) is the amount of energy per square foot a space has used over a period of time

Exemptions

For reporting year 2023, there were a total of 56 exemption requests submitted; 21 of which were approved. Of those that were approved, some of the most common reasons were:

- The property did not receive energy or water services for the entire calendar year to be benchmarked.
- The covered property had average physical occupancy of less than 50 percent throughout the calendar year for which benchmarking is required.
- The property does not have a certificate of occupancy or temporary certificate of occupancy for all 12 months of the calendar year being benchmarked.
- A demolition permit for the entire building was issued for the calendar year being benchmarked, provided that demolition work has commenced, and legal occupancy was no longer possible prior to the end of that year.

Energy Performance by Building Type

2023

Building Type	Number of Accepted Submittals	Miami Average ENERGY STAR® Score	<u>Miami Average Site Weather Normalized EUI</u> (kBtu/sq. ft./year)	National Median Site EUI (kBtu/sq. ft./year) <u>ENERGY STAR®</u>
Casino	2	N/A	107.2	56.2
Financial Office	2	80.0	44.9	52.9
Hotel	15	63.4	74.1	63
Lifestyle Center	1	N/A	544.3	103.5
Medical Office	1	51.0	153.7	97.8
Multifamily Housing	91	74.3	37.9	59.6
Museum	2	N/A	170.3	56.2
Office	19	69.7	52.6	52.9
Other	3	N/A	35.0	40.1
Other – Education	2	N/A	39.7	52.4
Other – Lodging/Residential	15	N/A	30.0	63.6
Other – Recreation	1	N/A	30.2	50.8
Parking	7	N/A	75.6	N/A
Performing Arts	1	N/A	839.9	56.2
Police Station	1	N/A	80.8	63.5
Refrigerated Warehouse	1	N/A	55.6	84.1
Residential Care Facility	1	N/A	74.2	99
Self-Storage Facility	9	N/A	10.6	20.2

* Of the over 80 property types listed in ENERGY STAR® Portfolio Manager, only 24 are eligible to receive an ENERGY STAR® score. Those with an “N/A” in the ENERGY STAR® score column do not qualify.

* To learn more about which property types qualify, [click here](#).

2023 EUI & Energy Star® Score Defined

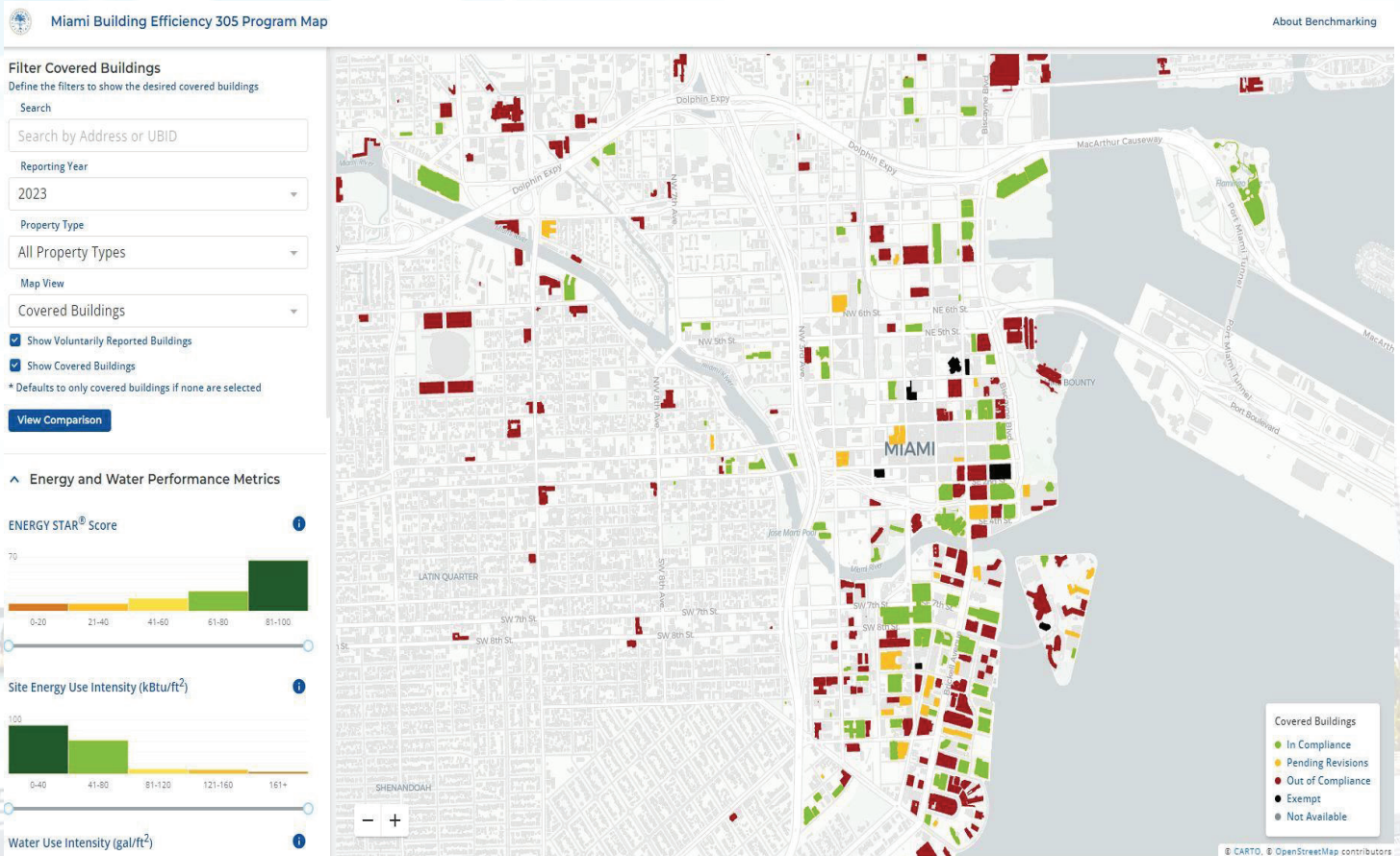
The climate of the area where a property is located and the annual fluctuations in weather conditions can affect how much energy is needed to operate a building. To incorporate these effects and help you understand your buildings energy performance, the U.S. Environmental Protection Agency's (EPA) ENERGY STAR® Portfolio Manager application evaluates performance for buildings using 2 key metrics.

- Weather Normalized Energy Use Intensity (EUI)
 - Energy your building would have used under average conditions. The weather in any given year could have been much hotter or colder than your building's normal climate, therefore the weather normalized EUI accounts for this difference. EUI is expressed as energy per square foot per year. It is calculated by dividing total energy consumed by a building in 1 year (measured in kBtu) by the total gross floor area of the building (measured in square feet). Generally, a low EUI signifies good energy performance, however, certain property types will always use more energy than others. The Weather Normalized EUI metric is not available for new building design projects because they have not experienced years with different weather.
- ENERGY STAR® Score
 - This is a percentile ranking with scores ranging from 1 – 100 and is used to compare buildings to those of the same type. Buildings with a score of 50 perform better than 50% of their peers and buildings earning a score of 75 or higher are in the top quarter of energy performance. To compute your ENERGY STAR® score, Portfolio Manager compares your actual, measured source EUI with a predicted source EUI. Buildings that use less energy than predicted tend to score relatively higher and vice versa. Overall, the ENERGY STAR® score aims to evaluate energy performance for the whole building, reflect actual metered energy consumption and provide a peer group comparison. However, not all building types are eligible to receive an ENERGY STAR® score.

Transparency and Policy Map

To further understand the data and analyze progress over time, a transparency component was included in the benchmarking ordinance. This permits the city to share energy and water data via a publicly accessible website empowering building owners and managers to understand how buildings are performing. This information will also allow potential renters and investors to make more informed decisions about a property based on its energy and water performance.

With 2023 being the initial year of compliance for buildings over 100,000 sq. ft., the current data available to the public will serve as a baseline for future benchmarking submissions. With the baseline established, building owners and managers will be able to track their progress over time and identify areas where they can cut waste and save money by making investments. Furthermore, the city has launched a customized web-based interactive policy map presenting individual building performance metrics. This interactive map allows users to view building compliance statistics, EN ERGY STAR® score, EUI, as well as compare buildings by size, type, location, and numerous other data points. This data is compiled year-over-year to provide historical comparison ability. This map can be accessed via: <https://www.benchmark305.com/map>.



Benchmarking Help Desk & Outreach Summary

As part of the implementation of the Building Efficiency 305 Program (BE305), the City of Miami partnered with Touchstone IQ; an energy and water benchmarking solutions provider to assist with the education of building owners, tracking reporting and compliance data and manage a help center staffed with trained sustainability consultants.

The benchmarking help desk is a vital resource dedicated to providing one-on-one support for buildings owners and managers throughout the benchmarking process. A unique email address and phone number were created so that owners and managers can call in, email or schedule video calls to receive assistance on how to bring their building into compliance. Throughout the months of March 2023 through December 2023, the benchmarking help desk responded to 247 phone calls and 2,058 emails as well as performed scheduled cold calls to buildings who had not submitted a report to remind them of the requirements. In addition, the Building Department sent out physical mailers via Certified Mail to all buildings required to comply. These mailers were sent to both physical building addresses and owner addresses as per the Miami-Dade Property Appraiser website. For those mailers that were returned to sender, staff at the Building Department conducted further outreach by hand-delivering letters to buildings.

Aside from the help desk, the City of Miami Building Department, with the support of Touchstone IQ conducted outreach to building owners and managers via virtual training sessions. These sessions included a background on the City's sustainability goals, how the BE305 program was developed, benefits of benchmarking, compliance deadlines and a live demonstration on how to use the free ENERGY STAR® Portfolio Manager Application. Virtual training sessions will be conducted on an annual basis and will begin once the new reporting year commences. Throughout the months of March 2023 through September 2023, staff conducted a total of 17 virtual trainings, reaching a total number of 87 registered attendees over its course. These recorded trainings as well as many more resources can be found on our one-stop-shop website for all of your benchmarking needs: www.benchmark305.com.



www.miamigov.com/Building



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