

PHIL MURPHY
GOVERNOR

SHEILA OLIVER
LT. GOVERNOR



State of New Jersey
BOARD OF PUBLIC UTILITIES
44 South Clinton Avenue
Post Office Box 350
Trenton, New Jersey 08625-0350
www.nj.gov/bpu/
(609)777-3300

Joseph L. Fiordaliso
President

Mary-Anna Holden
Commissioner

Dianne Solomon
Commissioner

Dr. Zenon Christodoulou
Commissioner

Benchmarking Protocols for State-Owned Facilities

Outline

- [Background](#)
- [What Needs to be Benchmarked](#)
- [Covered Buildings Overview](#)
- [State Property Portfolio Management](#)
- [Benchmarking Process](#)
- [Data Transfer](#)

Background

The Clean Energy Act (CEA) signed into law by Governor Murphy in 2018 requires the owner or operator of a commercial building above 25,000 square feet to benchmark energy and water consumption using the U.S. Environmental Protection Agency's (EPA) Portfolio Manager (PM) tool. To implement this requirement, the New Jersey Board of Public Utilities (NJBPUB) issued an Order on September 7, 2022, which details how buildings are to comply with the law (Benchmarking Order).¹

The State of New Jersey (SONJ) plans to lead by example in benchmarking its properties and create a model path for county and local governments. The SONJ has an extensive and diverse real estate portfolio of 450 properties that span from the 1600s to newly built buildings in 2021. The properties contain 3,700 buildings and over 30 million square feet of space.

In the Benchmarking Order, the Board directed the Division of State Energy Services (SES) to assist State agencies in benchmarking State Buildings. The protocols set forth in this document are developed by SES to help State agencies understand how to comply with the benchmarking mandate in a standardized manner.

¹ BPU Benchmarking Board Order

<https://nj.gov/bpu/pdf/boardorders/2022/20220907/8C%20ORDER%20Energy%20and%20Water%20Benchmarking%20Program.pdf>

EPA ENERGY STAR Portfolio Manager

Portfolio Manager is an interactive resource management tool that enables you to benchmark the energy use of any type of building, all in a secure online environment. Portfolio Manager relies on property data to establish a profile, calculate the benchmark, and compare the building to other similar buildings. Each account is unique to a specific property.

Certain building types can earn a score from 1-100. The ENERGY STAR score compares your building's energy performance to similar buildings nationwide, normalized for weather and operating characteristics. A score of 50 represents median performance. A higher score is better than average; lower is worse. Among the more than 80 property types built into PM, only 22 are eligible to receive an ENERGY STAR score.²

Portfolio Manager also provides an ENERGY STAR Score for the following five (5) types of campuses: i) K-12 schools, ii) multi-family housing, iii) hotels, iv) senior living facilities, and v) hospitals.

One of the key benchmarking metrics is energy use intensity (EUI). The EUI expresses a building's energy use as a function of its size or other characteristics. An EUI is used to determine a building's score. Many State properties are not able to obtain an ENERGY STAR score. Therefore, the State will use EUI as the metric to measure performance across all properties in the portfolio.

Properties Required to Benchmark

State-owned properties with one or more buildings above 25,000 square feet will be required to benchmark.

Properties are initially identified in the State's capital asset system, called the Land and Building Asset Management system (LBAM), utilizing the total square footage value for each building. Next, the properties are cross-referenced with the Covered Buildings List developed by NJBPU to generate the final list of properties requiring benchmarking. These properties are then vetted with Agency Staff.

Campus Properties

The EPA defines a campus as a single property with multiple buildings. Within the State's portfolio, a majority of the buildings are located on a campus rather than stand alone, individually metered buildings. Any 25,000 square foot and above building(s) located on a campus will result in the entire campus being benchmarked.

How a campus or a building is benchmarked is also dependent on whether the qualifying building is master-metered or sub-metered. A master-meter involves measuring the electric, natural gas, or water usage of multiple buildings with the same meter. Alternatively, a sub-meter receives electricity from the master-meter and allows the ability to measure the electric, natural gas, or water usage in individual

² The property types that are able to receive an ENERGY STAR score in Portfolio Manager include: bank branch, barracks, courthouse, data center, distribution center, financial office, hospital (general medical & surgical), hotel, K-12 school, medical office, multifamily housing, non-refrigerated warehouse, office, refrigerated warehouse, residence hall/ dormitory, retail store, single-family home, senior living community, supermarket/grocery store, wastewater treatment plant, wholesale club/supercenter and worship facility. ([Link](#))

buildings on a campus. Where the campus is master-metered, the energy and water data will be added at the parent-property level. Individual buildings with a sub-meter on the campus, will be recorded as child properties under the campus.

Benchmark Reporting

A “reporting year,” similar to a calendar year, runs from January 1 to December 31 of a given year. The benchmarking submission for the first reporting year is due October 1, 2023 and requires energy and water data for calendar year 2022. The submission date in subsequent years will be July 1st.

What Needs to be Benchmarked

Utility Data Needed

The CEA requires energy and water data to be benchmarked. In the context of the Benchmarking Order, “energy” is interpreted as including, but not limited to, grid-electricity, natural gas, fuel oil, propane, photovoltaic solar, thermal solar, wind, hydropower, geothermal and biomass.

The water sources to be benchmarked include:

- Municipally Supplied Potable Water – water from public water systems
- Municipally Supplied Reclaimed Water – wastewater treatment plan effluent purchased from a public water system, which has been diverted for beneficial uses, such as irrigation, that substitute the use of an existing freshwater source
- Well Water – water that is obtained from wells, bore wells, and other underground sources, and water from natural freshwater sources that are not municipally supplied (including surface water sources such as lakes, streams or ponds)

Each of these water sources can be tracked in one of three types of meters: Indoor, Outdoor, or Mixed (a meter that includes both Indoor & Outdoor).

Covered Buildings Overview

Buildings:

All buildings above 25,000 square feet are required to be benchmarked. For any qualifying building that is part of a campus, the campus shall be benchmarked as a whole.

Parking Garages:

Standalone and attached parking garages above 25,000 square feet are required to benchmark.

For attached parking garages, PM prompts the user to enter information about the garage’s square footage and will model the energy consumption of the garage separately from the other commercial building to which it is affixed. For eligible property types, the ENERGY STAR Score is based only on the

water and energy consumption of the commercial building to which the garage is attached, without taking into account the water and energy consumption of the parking garage itself.³

New Buildings:

A new building must be operational for a full calendar year before benchmarking is required by the State.

Tenant Space:

The State is responsible for benchmarking any tenant space in its building. The Agency Staff shall inform SES of any tenant spaces (occupied or vacant) present in a building.

The State shall seek to provide aggregated data for any buildings containing tenant spaces. The Benchmarking Program has established a 4/50 rule pertaining to tenants.⁴ Written consent of the tenant(s) is required if there are less than four (4) tenants in a particular building or if one (1) tenant exceeds 50% of the energy consumption or water usage in the building. In utilizing the 4/50 rule set by the Benchmarking Program, the Agency Staff shall coordinate with SES to obtain each tenant's written consent to allow the applicable utility to provide energy and water data to the State for benchmarking purposes. If the property is in a regulated utility territory, SES Staff, on behalf of the State, shall request aggregated data from the utility and make a best faith effort to submit complete tenant data, where possible.

If there is a change in the tenant occupying the building space to which a meter is associated, SES shall request monthly meter data from the utility for a calendar year for every tenant in the building and report it in PM.

Appeals and Exemptions:

To request a benchmarking exemption, the Agency Staff shall notify SES of the type of exemption sought and provide any necessary evidence. SES will collectively initiate an application for all necessary exemptions with the Customer Relationship Management (CRM) Team selected by the NJBPU through an application form provided by the Benchmarking Program.

The following are examples of appeal or exemption requests:

- **Demolished**—If a qualifying building has been demolished, the Agency Staff should provide SES a certificate of approval for demolition. The Agency Staff shall also change the status of the building to “demolished” in LBAM. SES will submit this certificate when applying to have demolished buildings removed from the BPU’s covered buildings list.

³ Benchmarking Order, Page 7

<https://nj.gov/bpu/pdf/boardorders/2022/20220907/8C%20ORDER%20Energy%20and%20Water%20Benchmarking%20Program.pdf>

⁴ Benchmarking Order, Page 11

<https://nj.gov/bpu/pdf/boardorders/2022/20220907/8C%20ORDER%20Energy%20and%20Water%20Benchmarking%20Program.pdf>

- **Error in Size or Ownership**—If a building is identified for mandatory benchmarking due to an error, the Agency Staff shall inform SES and ensure all information in LBAM regarding the building is accurate. SES will submit a request to have the building removed from the BPU's covered buildings list.
- **Vacant**— An exemption may be sought for a vacant building. The Agency Staff shall change the status of the building to “vacant” in LBAM and inform SES.
- **Other Issues**—The Agency Staff shall inform SES of any other conditions that prevent the building from being benchmarked.

State Property Portfolio Management

The SONJ has many large and complex properties. Therefore, the State will utilize the Benchmarking Program offered by New Jersey's Clean Energy Program (NJCEP) to ensure all properties are setup consistently and accurately. NJCEP's administrator, TRC, will set up the initial profiles in Portfolio Manager for all properties requiring benchmarking and upload energy and water data for the calendar year 2022.

State Master Account

To manage the State's substantial portfolio successfully, the State will utilize a Top-Down Approach in which properties are created and maintained by one master account and are then shared down with full access to designated Staff in each agency.

The Master Account to be used by the SONJ in Portfolio Manager is: **NJStateFacilities**. Once property profiles are created in PM by TRC, the ownership of the property profile will be transferred to **NJStateFacilities**. This account will be the Property Data Administrator or “owner” of all State property profiles in Portfolio Manager. SES shall manage the SONJ master account in PM.

Agency Portfolio Manager Account and Property Sharing

Decisions for future capital upgrades of Agency properties will depend on metrics calculated in PM. It is critical for Agencies to be involved in managing their property profiles in PM and ensuring they remain up to date. To that point, each Agency must designate a Staff member who will manage and maintain the benchmarking profiles of properties owned by their agency in coordination with SES.

The Agency Staff shall create an account in PM and send a request to connect with the SONJ Master account: **NJStateFacilities**. SES will share the profiles for the Agency Staff to maintain. The EPA's best practices encourage all Staff to have their own PM account and access to each property be shared based on the permissions needed to perform their job.

The Agency Staff or other State Personnel may submit a property share request to SES in the event that another agency or a third-party vendor requires access to carry out projects.

Property Naming Protocols:

When a property profile for a state-owned facility is set up in PM, it is important to use a standard format so the properties are easily identifiable.

Note: There is an 80-character limit for property names in PM.

The following structure must be used when naming State Agency properties and buildings in PM.

1. Use agency abbreviation at the beginning of each property name.
2. Add property name as it appears in the LBAM records after an underscore.

For example: DEP_Liberty State Park

UBID and LBAM ID

The Benchmarking Program will provide a Unique Building Identifier (UBID) for each qualifying building in the Covered Buildings List. UBID is a geospatial identifier that allows for the identification of every unique building across the U.S. in a consistent format, similar to the Vehicle Identification Number (VIN) on a motor vehicle.⁵ If a property contains multiple individual buildings, the corresponding UBIDs are entered into the PM field separated by semicolons, or a single UBID is entered if it's a single-building property. Example: 849VQJH6+95J-51-58-42-50.

The State will also utilize the "Standard ID" field to enter the building and facility number corresponding to the State's LBAM in PM. This will allow correlation between PM and the State's multiple systems holding building and energy information.

Transfer of Ownership:

If a change in ownership of the building or property occurs, the State will retain all benchmarking information for the property for the most recent three (3) years. Upon written request, the State shall transfer the ownership of the property in PM to the new owner.

Benchmarking Process

A. Designate Agency Staff and Verify Data

1. The Agency shall designate a Staff member who will manage benchmarking of agency-owned properties. The Agency shall annually inform SES of the designated Staff member or notify SES if a change in the Staff member occurs. An email with the designated staff should be emailed to BPU.EnergyServices@bpu.nj.gov.
2. SES shall provide the designated Staff member a list of all agency-owned properties identified for mandatory benchmarking. Agency Staff shall review and validate the list of properties. Agency Staff shall inform SES if any property should be removed from the list, tenant space

⁵ <https://buildingid.pnnl.gov>

exists at the property or if an exemption is required for any building/property. The Agency Staff shall submit to SES any required documentation corresponding to an exemption request.

3. SES shall submit a data request to the Agency Staff for each property, which includes building information and utility meter mapping. The Agency Staff shall provide the information and inform SES of any incorrect data.
4. If the energy and water bills for the property are processed in the UtilityAnalytics system, SES shall obtain one (1) copy of a recent bill for each account.
5. If the bills are not processed in UtilityAnalytics, the Agency Staff shall obtain and provide to SES 14 months of utility bills for each account.
6. For a separately metered tenant space, SES, on behalf of the State, shall coordinate with the utilities for verification of the 4/50 rule.
 - a. If the property passes the 4/50 rule, SES, as an authorized agent for the State, shall submit a Data Access Request Form to the utility.
 - b. If the property does not pass the 4/50 rule, SES shall provide the Agency Staff a Consent Letter for each utility, as necessary. The Agency Staff shall provide this Consent Letter to its tenants. Each tenant then completes the Consent Letter, either providing their consent or denying permission for the utility to release their data to the State. The Agency Staff then returns the Consent Letter(s) to SES. SES shall submit the Consent letter to the utility and obtain aggregated data for the consenting tenants or have the utility upload data to PM through Web Services.

B. Initial Building/Campus Property Profile Set up and Future Automation

1. SES shall submit to TRC a complete packet of all required information for benchmarking. This includes the workbook, copy of one bill per account, 14 months of utility data, and the fuel authorization form, where necessary.
2. TRC will create a building profile in PM using the proper naming protocols for State Properties and give ownership to **NJStateFacilities** once the initial setup is complete.
3. SES will accept ownership of the property, set up the campus (if applicable) and re-share the profile with TRC (providing Full-Access).
4. SES will facilitate access for TRC to the property's utility data in UtilityAnalytics. Each month SES shall remove TRC's access to any property in UtilityAnalytics that is already benchmarked.
5. TRC will complete the benchmarking profile using utility data for calendar year 2022 and provide SES a benchmarking Report for the property.
6. SES shall work with AvidXChange to set up automatic data transfer through the UtilityAnalytics' "Web Services" capabilities for all data starting January 2023.

C. Set up Agency Account and Maintain Property Profile

1. Agency Staff shall set up an account in PM and send a connection request to **NJStateFacilities**.
2. SES shall accept the Agency Staff Connection request to **NJStateFacilities**.
3. SES shall share with the Agency Staff all benchmarked buildings belonging to the Agency.
4. Agency Staff shall maintain the property profile, make edits as necessary and ensure all errors in the profile are corrected.

D. Reporting Requirements for Benchmarking

1. By October 1, 2023, SES shall submit the report(s) established for 2022 compliance by the Benchmarking Program. Agency assistance may be needed to meet this deadline.
2. For all subsequent Reporting Years, the Agency Staff shall annually verify via email to SES (BPU.EnergyServices@bpu.nj.gov) by June 20th that all property information is accurate for reporting.
3. SES shall submit to the Benchmarking Program the report(s) required for compliance by July 1st of every year.

Data Transfer

Data Access and Web Services

“Data Access” is the method by which a utility provides aggregated building-level energy and water data to building owners. It can be added manually, via spreadsheet or through Web Services in which utilities upload relevant data.

The State will utilize the Web Services option to upload monthly energy and water data for bills that are processed by the State’s bill payment vendor, AvidXChange, and included in the UtilityAnalytics system. For any bills that are not processed through AvidXChange, the agency will be responsible for adding the data manually for each meter/account.

Questions

Any questions can be sent to BPU.EnergyServices@bpu.nj.gov