



NJ Building Energy and Water Benchmarking

Public Stakeholder Meeting
Docket Number: QO21071023

January 6, 2022

Follow NJBPU
on social media:





Legislative Background

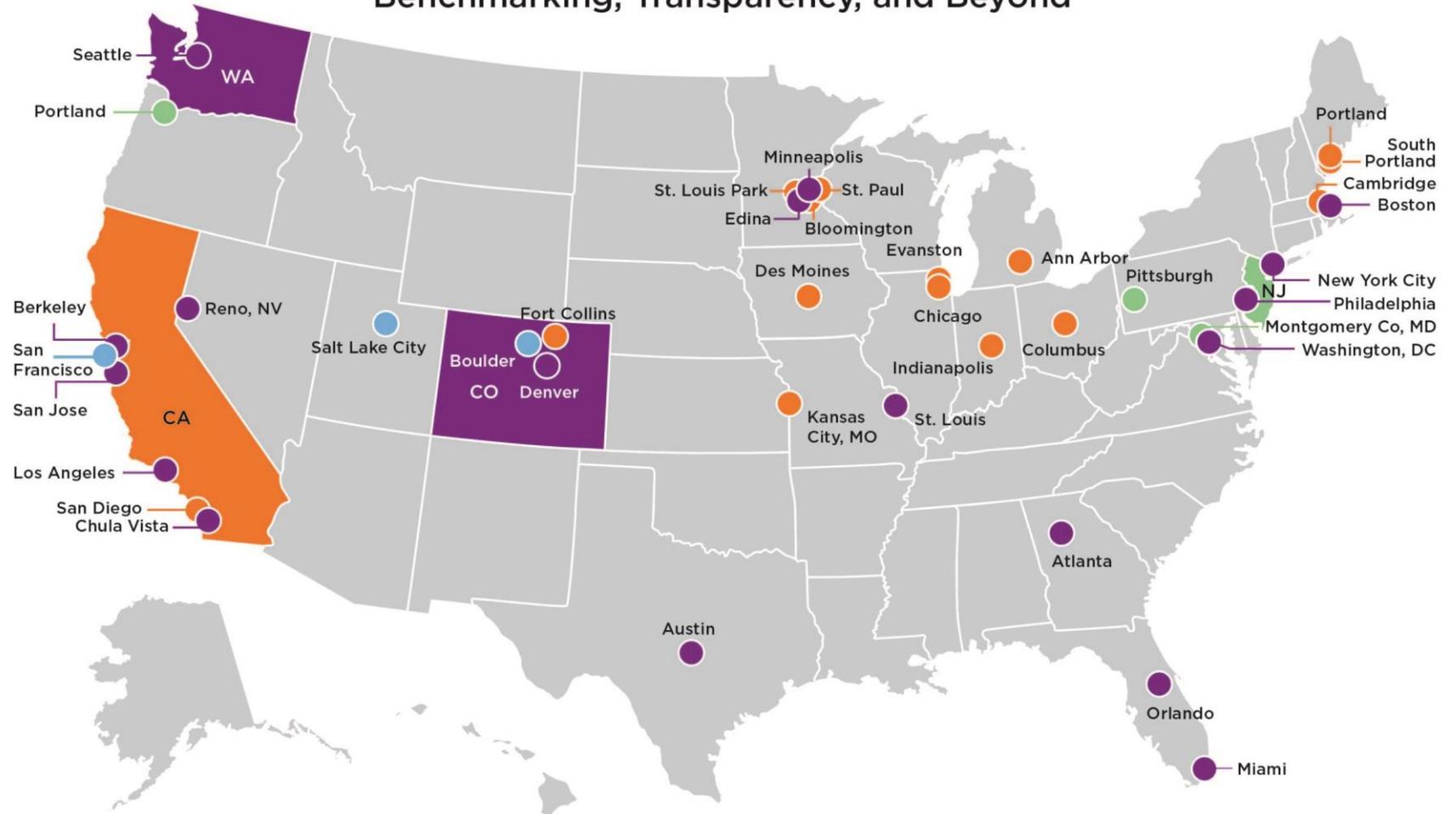
- The Clean Energy Act of 2018 calls for the benchmarking of commercial buildings by May 2023:

“No later than five years after the date of enactment of P.L.2018, c.17 (C.48:3-87.8 et al.) [by May 23, 2023], the board shall require the owner or operator of each commercial building over 25,000 square feet in the State to benchmark energy and water use for the prior calendar year [2022] using the United States Environmental Protection Agency’s Portfolio Manager tool.”
- Goal 3.3.2, *Establish transparent benchmarking and energy labeling*, of the 2019 New Jersey Energy Master Plan (“EMP”) lists building energy use benchmarking as a critical component in promoting market-driven increases in energy efficiency



Jurisdictions with benchmarking

U.S. City, County, and State Policies for Existing Buildings: Benchmarking, Transparency, and Beyond



- Benchmarking required for public and commercial buildings
- Benchmarking required for public, commercial, and multifamily buildings
- Benchmarking and additional actions required for public and commercial buildings
- Benchmarking and additional actions required for public, commercial, and multifamily buildings





Benefits of Benchmarking for Building Owners

- Raise awareness of building energy efficiency
- Track trends and set efficiency targets
- Prioritize efficiency projects across portfolios of buildings
- Output report will highlight appropriate incentive programs
 - › Local Government Energy Audit (LGEA)
 - › Energy Savings Improvement Program (ESIP)
 - › School and Small Business Energy Efficiency Stimulus Program (SSBP)
 - › Community Energy Plans (CEP)
 - › State Facilities Initiative (SFI)



What is Portfolio Manager?

Input building characteristics and monthly energy & water use

Output Report shows benchmarks against EPA's national database of buildings

ENERGY STAR® Portfolio Manager®

Welcome | Account Settings | Contacts | Help | Sign Out

MyPortfolio | Sharing | Planning | Reporting | Recognition

John L Moore Building
 287 17th Street, Oakland, CA 94612 | [Map It](#)
 Portfolio Manager Property ID: 1242195
 Year Built: 1960

[Edit](#)

ENERGY STAR Score (1-100)
Current Score: 100
Baseline Score: N/A

Summary | Details | Energy | Water | Goals | Design

Notifications (1)
 Congratulations! John L Moore Building has received the ENERGY STAR for 2015

Property Profile
 Green / Energy Efficient Features Specified in kW's New Home * Overall Lighting Power Density of 0.89 W/sf (EA-1.1) * Daylight / Views from 90+% of workspaces (IEQ 8.1, 8.2...
[View Published Profile](#) (approved on 06/15/2015)
[View Unpublished Profile](#) (reviewed and not approved on 04/18/2008)
[Edit Profile](#) [Delete Profile](#)

Source EUI Trend (kBtu/ft²)
 60

Metrics Summary | [Change Time Period](#)

Metric	Baseline (Jan 2011)	Current (Mar 2015)	Change
ENERGY STAR score (1-100)	Not Available	100	N/A
Source EUI (kBtu/ft²)	Not Available	35.4	N/A
Site EUI (kBtu/ft²)	Not Available	18.4	N/A
Energy Cost (\$)	10,948.46	13,201.46	2253.00(20.8%)
Total GHG Emissions (Metric Tons CO2e)	29.7	23.6	-6.1(-20.5%)

Check for Possible Data Errors
 Run a check for any 12-month time period to see if there are any possible errors found with your data.
[Check for Possible Errors](#)

Sharing this Property
 9 People Have Access to this Property

Name	Permissions	Action
------	-------------	--------

Energy Usage Report | **2 WFC** | 225 Liberty Street, New York, NY 10281 | March 4, 2011

Owner: Building Owner
Year Built: 1987
Square Footage: 6,666 sf
Analysis Period: 12/1/2006 - 12/1/2007

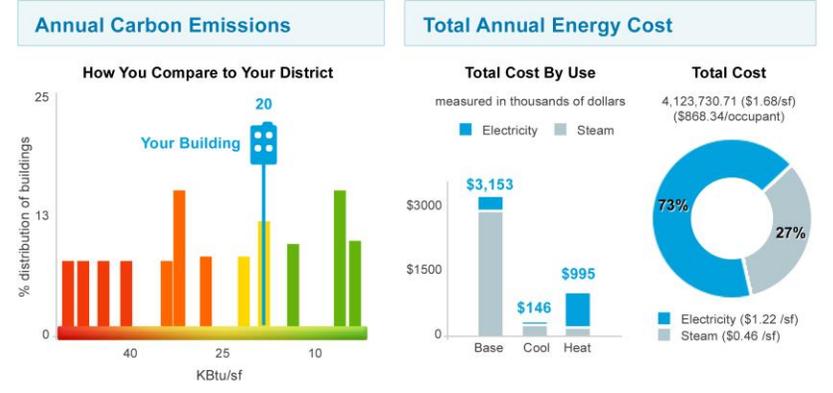
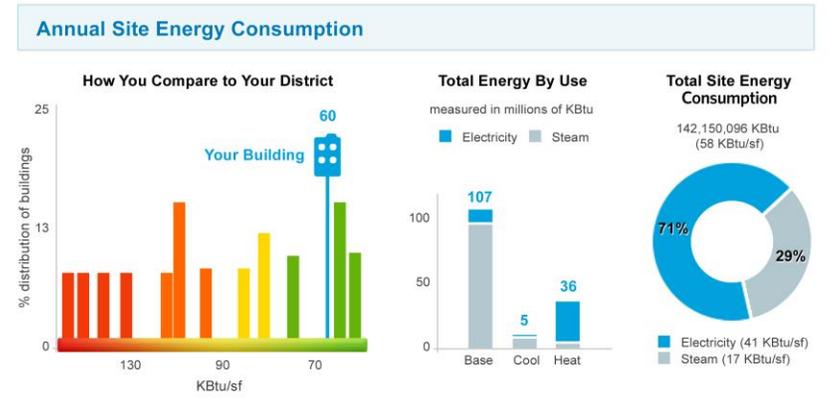
ENERGY STAR® Portfolio Manager™ Score

Your Building's Score
94

Average Score For Your District
64

Total Carbon Footprint:
27,109,373 lbs/year

The total building energy is converted to one consistent unit (Btus) to allow for comparison with other buildings. Display of carbon emissions accounts for the environmental impact of the site energy used and considers the source fuel for electricity.





How to Benchmark

Getting Started

- Receive benchmark notification from BPU with building ID (UBID*)
- Assign responsibility – staff or third-party
- Enter building information into Portfolio Manager

Obtain Utility Data

- Owner occupied - Enter own utility data
- Tenants – Building owner sends a data access request to their utility
- Submit to Portfolio Manager

Getting Results

- Portfolio Manager has QA checks for input values and output results
- BPU has a help desk to assist with Portfolio Manager and to learn about EE programs
- Receive benchmarking report

* UBID is a building identification standard developed by US-DOE that is based latitude, longitude, and building footprint.



Covered Buildings

- Definition
- Exemptions
- Appeals

Getting Data

Outreach

Training

Public Reporting

Compliance

Future



Covered Buildings

Staff recommends defining "commercial" as any building used for profit-making purposes as defined by the Division of Taxation for tax assessments as Class 4A.

- Retail
- Office (including medical offices)
- Self-storage & warehouses
- Data centers
- Private educational facilities
- Hospitals
- Hospitality
- Specialty (RV parks, arenas, casinos, amusement centers)
- Parking garages
- Mixed use (even if only one square foot is used for commercial purposes)
- Also proposed for inclusion:
 - › State buildings (Class 15C)
- **Proposed excluded buildings**
 - › Industrial
 - › Multi-family residential
 - › Single-family residential
 - › Public schools
 - › Federal
 - › County and municipal
 - › Religious facilities

1. Staff requests stakeholder comment on the proposed definition of "commercial buildings."



Exclusions & Campuses

A building is proposed to be **excluded** from benchmarking under these conditions:

- › Newly constructed
- › Demolished
- The covered buildings list would be filtered to remove these cases.

Should a commercial **campus** be included if:

- i) The sum total of all the buildings exceeds 25,000 sq ft; or
- ii) One building on the campus exceeds 25,000 sq ft?

2. Staff seeks stakeholder feedback on which buildings should be excluded from the covered buildings list, how campuses should be treated, and why.



Appeals

Building owners may appeal to remove their buildings from the covered buildings list:

- › With cause (e.g., size falls below the established threshold, the building is 100% unoccupied for the whole year, or the building is foreclosed)
- › With the provision of evidence (e.g., architectural drawings)

3. Staff recommends an appeal process to have buildings removed from the covered buildings list and seeks stakeholder feedback on the criteria for granting appeals



Covered Buildings

- Definition
- Exemptions
- Appeals

Getting Data

- Data Access
- Cybersecurity
- Web services (automated, secure data feed)

Outreach

Training

Public Reporting

Compliance

Future



Data Access - Getting utility data

- A building owner must obtain all of their tenants' utility data.
- All existing benchmarking jurisdictions require their regulated utilities to provide anonymized building-level data to building owners
 - › Staff recommends that NJ require utilities to aggregate the data up to the building-level and provide it to the building owner



CITY OF PHILADELPHIA
OFFICE OF SUSTAINABILITY

Utility Account Information Data Release Form Whole Building Aggregated Data

Please return to requestor once complete

REQUESTOR CONTACT					
Contact Person:			Company:		
Phone:	Fax:	E-mail:			
Address:		Unit #	City	State	Zip
BUILDING INFORMATION					
OPA # (9 digits):					
BUILDING OWNER CONTACT INFORMATION					
Contact Person:			Company:		
Phone:	Fax:	E-mail:			
Address / Physical Location of Utility Meter(s):			Philadelphia	PA	Zip
Billing Address:		Unit #	City	State	Zip
TIME PERIOD REQUESTED					
From (MM/YYYY):			To (MM/YYYY):		
UTILITY					
Name as listed on bill:		Utility Name:	Utility Account #:		
AUTORIZATION TO REVIEW UTILITY ACCOUNT HISTORY					
I hereby authorize the above named requestor and/or their designated representatives to obtain records on demand documenting monthly consumption of energy or water for the accounts listed above. I authorize release of records for the time period indicated above plus up to one year after today's date. Such data will be used only for purpose of complying with the City of Philadelphia's benchmarking law (§ 9-3402 of the Philadelphia Code) and improving the energy efficiency of the building.					
Signature:			Date:		

Example of data release form (Philadelphia)

Data Access



Cybersecurity

- Staff does not anticipate privacy and cybersecurity issues
 - › Monthly, building-level data maintains tenant/business privacy and is disclosed only to EPA and BPU
 - › Secure data transfers among building owner, utility and EPA

Opting Out

- Allow for opting-out for buildings with:
 - › Four or fewer tenants or
 - › One tenant who consumes more than 50% of the total energy

4. Staff requests stakeholder feedback about the proposed data access approach, privacy and cybersecurity concerns about building owners and building operators accessing tenant data, and eligibility requirements for opt-outs based on privacy and cybersecurity concerns.



Automating data access

- There are three methods to enter utility data into Portfolio Manager: manual, spreadsheet, and web services*
- Staff recommends requiring regulated utilities with more than 50,000 customers to implement web services**
- Staff recommends outreach and workshops to municipal and smaller private water utilities to raise awareness of benchmarking and to encourage use of either spreadsheets or web services

5. Staff requests stakeholder comment on the utility implementation of data access and web services and other available options that would be secure and efficient and would streamline data upload for building owners/operators.

* Web services is an XML data standard that allows two software systems (Utility & PM) to communicate with each other and to share data. Also known as Portfolio Manager Data Exchange. To date, ACE has implemented web services.

** Includes all EDCs and GDCs and the large water utilities: NJ American Water, Suez, Middlesex Water, and Aqua



Covered Buildings

- Definition
- Exemptions
- Appeals

Getting Data

- Data Access
- Cybersecurity
- Web services

Outreach

Training

Public Reporting

Compliance

Future

Outreach



- Opportunities with current partners
 - › NJIT – training content in a variety of formats
 - › Sustainable Jersey – municipal outreach
- Outreach to and workshops with building, commercial, and real estate associations
- Outreach would be customized for a variety of building classes and uses
 - › What organizations can help?
 - › What are the tailored messages?

6. Staff seeks stakeholder feedback on best strategies and recommended approaches for outreach to ensure that all commercial building owners and operators are aware of the benchmarking requirement and its benefits.



Covered Buildings

- Definition
- Exemptions
- Appeals

Getting Data

- Data Access
- Cybersecurity
- Web services

Outreach

Training

- Material and Media
- Certified Benchmarkers

Public Reporting

Compliance

Future

Training



- One-year lead time for training
- Content
 - › Benchmark policy
 - › Using Portfolio Manager
 - » General operation
 - » Dealing with special cases, such as solar panels or well water
- Delivery
 - › Website – videos, one-page explainers, FAQs
 - › Workshops

7. Staff seeks stakeholder feedback about what training content, media, and platforms would be useful to provide building owners and operators, as well as for any other entities.



Benchmarking Certification

- Owner may hire a certified benchmarker to complete the Portfolio Manager submission
- Goal is to ease burden on building owners to comply
- Created by NJIT
 - › Based on EPA Portfolio Manager training
 - › Certification test

8. Staff recommends developing such a benchmarking certification program with the assistance of New Jersey Institute of Technology's ("NJIT's") Center for Building Knowledge and seeks feedback on how it might be implemented.



Covered Buildings

- Definition
- Exemptions
- Appeals

Getting Data

- Data Access
- Cybersecurity
- Web services

Outreach

Training

- Material and Media
- Certified benchmarks

Public Reporting

Compliance

Future

- Improve
- Additional Elements

Annual Public Reporting - Options



Seattle Energy Benchmarking
Office of Sustainability & Environment

100 MELROSE AVE E Neighborhood Council District 2015 2016

METRIC FILTERS RESET ALL
Select a metric to see filtered results on the map

Show All Buildings

Property Information

Energy Performance Metrics

Building EUI Quartiles MORE INFO
Building EUI Quartiles cannot be calculated across building types. Select a building type above to view this metric.

ENERGY STAR Score LESS INFO

1 100
MEDIAN FOR ALL BUILDINGS: 79

The 1-100 score calculated by ENERGY STAR® Portfolio Manager® that measures how well the property is performing relative to similar properties, when normalized for climate and operational characteristics. The 1-100 scale is set so that 1 represents the top performing buildings and 100 represents the best performing buildings. A score of 50 indicates that a building is performing

DENNY TERRACE
100 MELROSE AVE E
Seattle, WA 98102
High-Rise Multifamily
139,127 ft²
Building ID 27,189
Built in 1969

DATA

45.3 Site EUI (kBtu/ft²)

49 ENERGY STAR Score
0 least efficient 100 most efficient

VIEW BUILDING REPORT

COMPARE BUILDING

Building Energy Efficiency Rating

D 54

39-65 52 STREET, QUEENS

Year of Construction: 2012
Energy Star EUI (kBtu/ft²): 45.3
ENERGY STAR Score: 49

Learn more about Building Energy Ratings. Find ways to improve. [NYC](#)

2019 Chicago Energy Benchmarking Report * * * *

ENERGY benchmarking is the foundation for

- Reducing energy,
- Saving on utility costs, &
- Supporting clean energy jobs.

REACH
Under Chicago Energy Benchmarking, 91% of large buildings reported energy use in 2019, up from 88% in 2018.

There are also over a thousand buildings voluntarily benchmarking in Chicago.

IMPACT AND OPPORTUNITY
Reporting properties have saved an estimated \$24.6 million per year from energy reductions, with cumulative savings of nearly \$74 million since 2016. The carbon emissions from these buildings are down by 15% in just three years.

BUILDING ON SUCCESS
The Chicago Energy Rating System was successfully rolled out in 2019 to increase awareness of energy use. Building owners are now able to display a placard illustrating their building's energy performance to the general public. Chicago is proud to be the first city in the nation to require this kind of transparency.

The next energy reports are due by June 1, 2020
To learn more, go to: www.CityofChicago.org/EnergyBenchmarking
www.ChicagoEnergyRating.org

1) Poster on building (e.g., NYC)

2) Public Database or interactive map with only annual data (e.g., Seattle).

3) Program Impact Report (e.g., Chicago)

4) Transactional report – Time-of Sale

9. Staff seeks stakeholder feedback on a public reporting approach that takes into account public awareness and transparency goals, privacy considerations, and minimization of cybersecurity risk.



Covered Buildings

- Definition
- Exemptions
- Appeals

Getting Data

- Data Access
- Cybersecurity
- Web services

Outreach

Training

- Material and Media
- Certified benchmarkers

Public Reporting

Compliance

Future

- Improve
- Additional Elements

Compliance



Incorrect or incomplete submissions

- To ensure correct and complete submissions, Staff recommends:
 - › Using customer relationship software (CRM) with QA checks to automatically notify and guide the owners to fix data errors
 - › Running training workshops and posting videos
 - › Staffing a help desk to answer questions

Late or missing submissions

- CEA of 2018 did not give BPU the authority to levy fines. Staff requests feedback on the following:
 - › Include compliance status in the aforementioned building-level database
 - › Send out a warning letter 90 days after the July 1 submission deadline for delinquent reporting
 - › Require compliance with benchmarking as a prerequisite for participation in any of the Board's other programs, as well as utility energy efficiency programs

10. Staff seeks feedback on how to optimize reporting compliance.



Covered Buildings

- Definition
- Exemptions
- Appeals

Getting Data

- Data Access
- Cybersecurity
- Web services

Outreach

Training

- Material and Media
- Certified benchmarkers

Public Reporting

Compliance

Future

Future

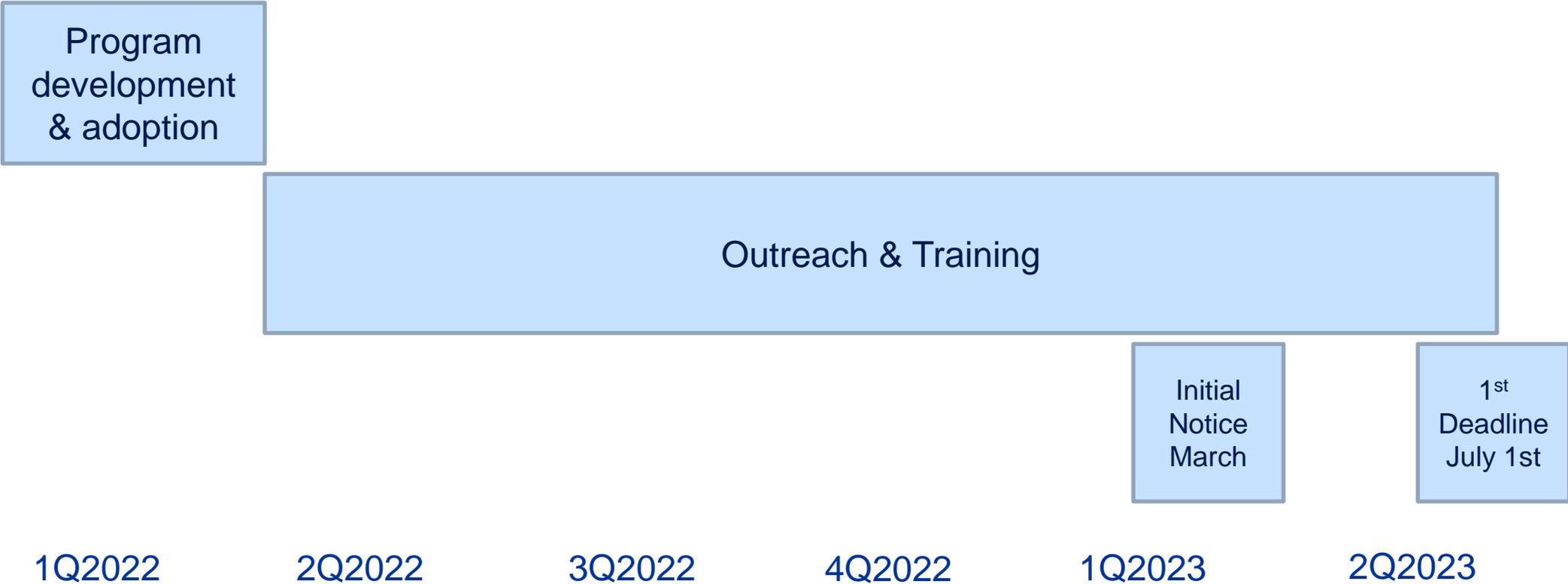


- As the BPU looks to establish this benchmarking program, Staff seeks input about how the program can be designed to be as effective as possible in realizing the benefits of benchmarking throughout the state and achieving the long-term GHG emissions goals of the Energy Master Plan.

11. Staff seeks suggestions about how to design the benchmarking program so as to potentially be able to expand in future years (e.g., by accommodating additional buildings) and form the foundation for future efforts in increasing energy efficiency in buildings.

12. Staff seeks comments on additional elements of the benchmarking program that would maximize its benefits.

Timeline





Questions

- Submit comments by 5:00 p.m. ET on **January 20, 2022**
- Please submit comments directly to the specific docket listed above (Docket No. QO21071023) using the “Post Comments” button on the Board’s Public Document Search tool (<https://publicaccess.bpu.state.nj.us/Search.aspx>)
- Written comments may also be submitted to:
 - Aida Camacho-Welch
 - Secretary of the Board
 - 44 South Clinton Ave., 1st Floor
 - PO Box 350
 - Trenton, NJ 08625-0350
 - Phone: 609-292-1599
 - Email: board.secretary@bpu.nj.gov





Covered Buildings

Generating the Covered Buildings list

- Rutgers Center for Green Building will use the State's tax assessment database, MOD-IV, to create the covered buildings list
 - › It includes property owner, address, building class, and use
 - » Taxation will require county tax assessors to report square footage, which was not consistently reported in the past
 - › MOD-IV is updated annually in June
 - › Property sales are reported monthly (needed to track current owners)
 - › RCGB will create a Unique Building ID (UBID*) using footprint data
- Staff recommends pursuing a subscription for one year to a commercial real estate database to initially verify square footage and ownership

* UBID is a building identification standard developed by US-DOE that uses latitude, longitude, and building footprint.