

WHOLE-BUILDING ENERGY DATA – KEY TO BENCHMARKING AND BEPS



GOVERNMENT OF THE
DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

BENCHMARKING IN DC

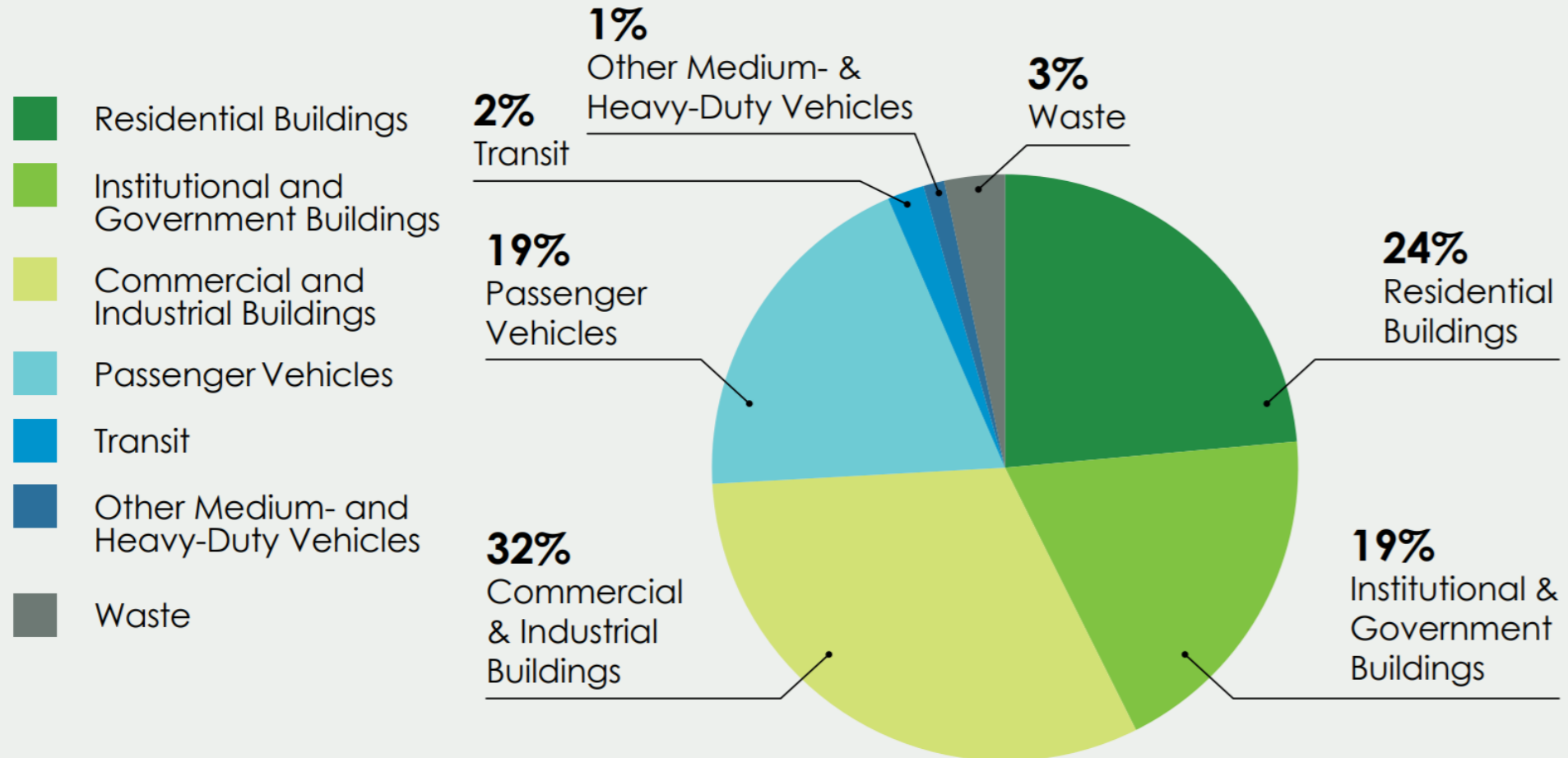
- Clean and Affordable Energy Act of 2008 and implementing regulations requires all private buildings >25,000 sq ft to report their **annual energy and water use**
- Annual reporting deadline is **April 1** of each year
- All reporting is done through the US EPA's ENERGY STAR Portfolio Manager®
- Failure to meet the reporting requirements results in a fine of up to \$100/day for every day that building is not in compliance
- Sustainable DC Omnibus Amendment Act of 2014 required local utilities Pepco and Washington Gas to provide building owners with monthly aggregate whole-building data

WHAT IS “WHOLE-BUILDING” ENERGY DATA?

- Whole-building data refers to energy data for the **entire property**, including all retail, tenant, and common area spaces.
 - This may be one central meter or a combination of house and tenant meters
- If a building has 5 or more electricity and/or natural gas meters, it can request **aggregate whole-building data** directly from the utilities
 - Aggregate data protects the privacy of individual tenants while still allowing building owners to report the total energy consumption at your property
 - Aggregate data can be automatically uploaded into Portfolio Manager account every month
 - Historic data can be requested up to two years prior

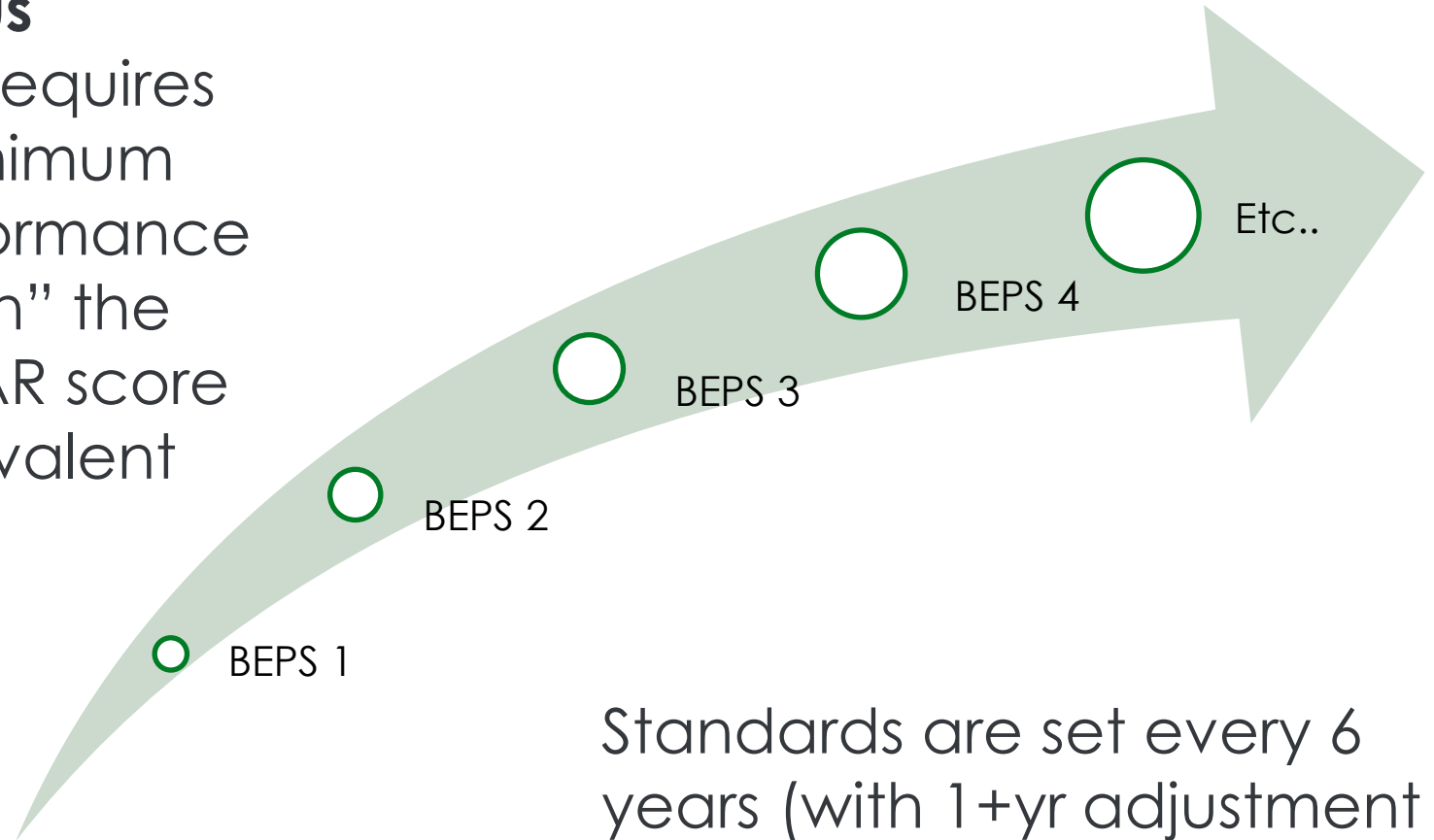
ENERGY USE AND EMISSIONS IN DC

MODELED PROPORTION OF GHG EMISSIONS BY SECTOR



BUILDING ENERGY PERFORMANCE STANDARD 101

Clean Energy DC Omnibus Amendment Act of 2018 requires an establishment of a minimum threshold for energy performance that will be “no lower than” the local median ENERGY STAR score by property type (or equivalent metric).



Standards are set every 6 years (with 1+yr adjustment for COVID in Period 1).

BEPS APPLICABILITY

As the benchmarking requirements ratchet down in square footage over time, the buildings will be required to meet the BEPS in the following periods until all buildings 10,000 sq. ft. and over are following the performance standards.

BEPS 1:

Private buildings >50,000 sq. ft.
and DC-owned >10,000 sq. ft.

BEPS 2:

Private buildings >25,000 sq.
ft. and DC-owned >10,000 sq.
ft.

BEPS 3:

Private buildings and
DC-owned >10,000 sq. ft.





Whole-Building Energy Data

Brendan Hall

Why building owners need this data

Where this data is currently available—and isn't

EPA tools, resources, and support to expand data availability, including proposed campaign

What states can do



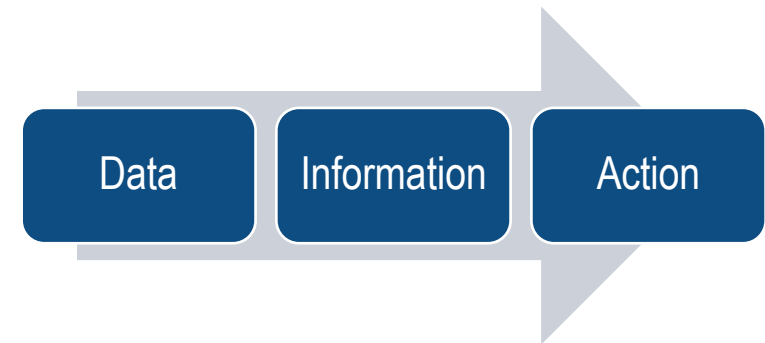
Why this data is needed

The building/property is the meaningful level at which to assess energy performance

In multi-tenant buildings, owners often have access to common area energy use data only; building owners need whole-building energy data so that they can understand and document their building's performance—for many different reasons


New incentives based on whole-building performance

- 179D Commercial Buildings Energy Efficiency Tax Deduction
- HUD Green and Resilient Retrofit Program
- DOE Home Efficiency Rebates program



EPA Backgrounder: Multitenant Buildings & Federal Incentives

“Equity Implications: Both the Inflation Reduction Act and the Bipartisan Infrastructure Law seek to drive significant improvements in building energy performance in historically marginalized communities. Whole-building energy data may increasingly become an equity issue, since building owners and communities without access to this data face barriers in benefitting from opportunities to upgrade their buildings and reduce energy use, costs, and burdens.”



Multitenant Buildings and Federal Incentives

Why Providing Whole-Building Energy Data Is More Critical Than Ever

Funding Opportunities Require Whole-Building Data

A growing number of funding opportunities for improving building energy performance provide incentives to building owners based on their whole-building energy use, typically documented in EPA's ENERGY STAR® Portfolio Manager tool. However, in most of the country, owners of multitenant buildings can only access partial building data, because the energy used in their tenant spaces is billed separately to individual tenants. Obtaining consent from each tenant to access their energy use information is burdensome for owners and tenants alike, especially in large buildings that could have hundreds of tenants. As a result, these building owners often lack a way to access the complete energy use of their buildings, which is a prerequisite for many funding opportunities. Without this data, owners will face significant barriers to (or in some cases be barred from) participating in incentive programs that together provide billions of dollars of funding and incentives for improvements of these buildings.

The Potential Impacts Are Widespread

This issue affects owners of multitenant buildings, including office buildings, multifamily housing buildings (apartments and condominiums), warehouses, and more, as well as the tenants and residents in these buildings. Collectively, these property types constitute a large percentage of the floor area and energy use of commercial and multifamily buildings nationwide.

Multitenant Building Owners May Miss Out on Billions of Dollars of Funding

The Opportunities

The Inflation Reduction Act and Bipartisan Infrastructure Law include several funding opportunities for building upgrades. However, since many of these opportunities provide funding based on before-and-after measurement of whole-building energy usage, owners of multitenant buildings may be unintentionally excluded in places where this data is not readily available. The opportunities include, but are not limited to, the following:

- **179D Energy Efficient Commercial Buildings Tax Deduction Expansion.** Commercial and multifamily buildings demonstrating a measured post-retrofit reduction in whole-building energy use of 25% or more can receive a tax deduction of up to \$5 per square foot, with no cap on the total.
- **\$1 Billion HUD Green and Resilient Retrofit Program.** Affordable multifamily housing properties may be eligible for grants and loans from the U.S. Department of Housing and Urban Development for energy efficiency and resiliency projects. To receive funding, they will need to track pre- and post-retrofit whole-building energy performance.
- **\$4.3 billion Home Efficiency Rebate Program.** Multifamily properties demonstrating a measured post-retrofit reduction in whole-building energy use of 15% can receive rebates up to a maximum of \$400,000 per building.


See the appendix for examples of the amounts of incentives available for select sample buildings.

Key Highlights

- Most Inflation Reduction Act and Bipartisan Infrastructure Law funding opportunities for buildings require whole building data for measurement and verification.
- Multitenant buildings like offices and multifamily housing may be unable to access federal funding due to data access challenges.
- State and local governments, and utilities, can make this data available to building owners.

Equity Implications

Both the Inflation Reduction Act and the Bipartisan Infrastructure Law seek to drive significant improvements in building energy performance in historically marginalized communities. Whole-building energy data may increasingly become an equity issue, since building owners and communities without access to this data face barriers in benefitting from opportunities to upgrade their buildings and reduce energy use, costs, and burdens.

 United States Environmental Protection Agency

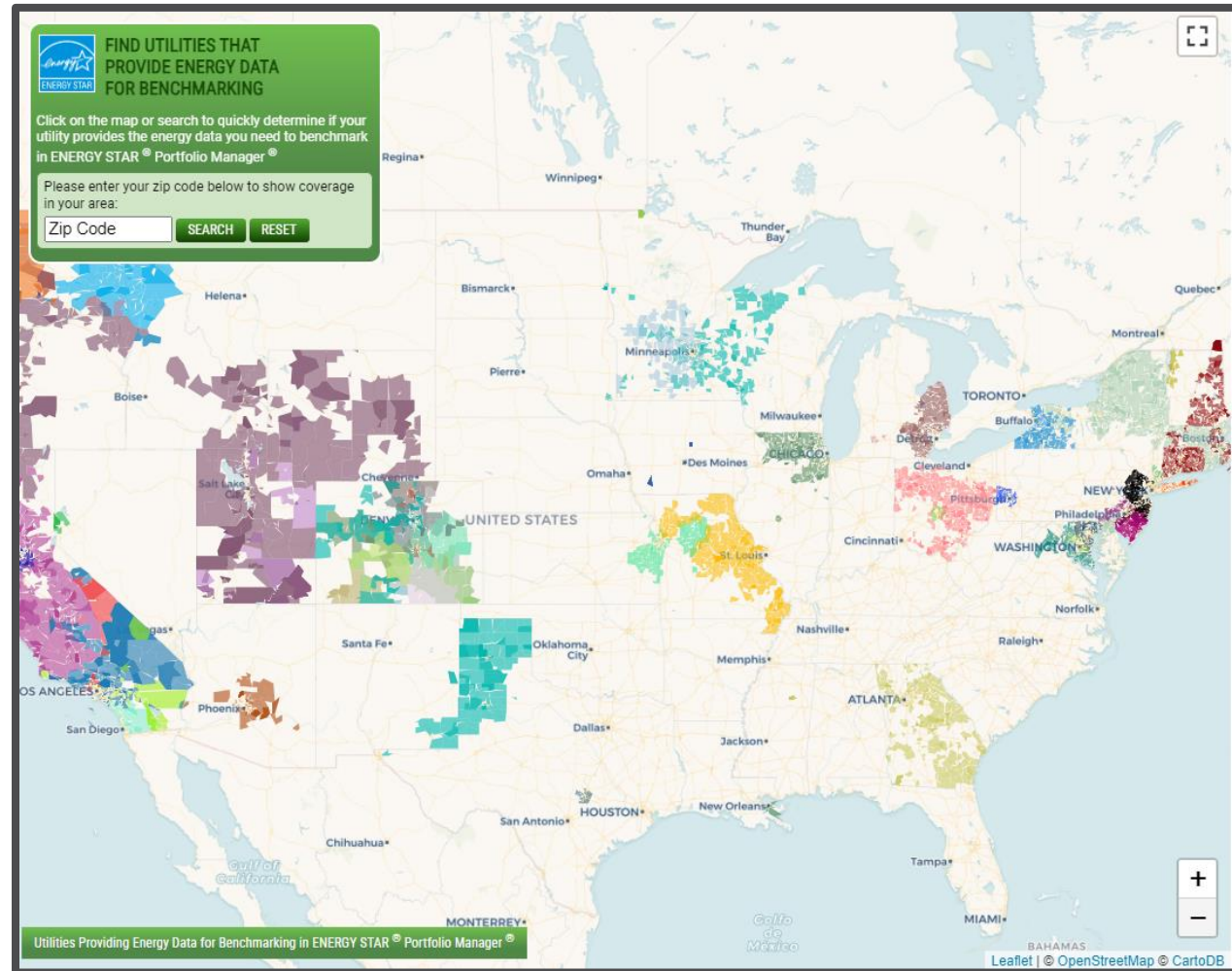
Multitenant Buildings and Federal Incentives | July 2023



Where is this data available?

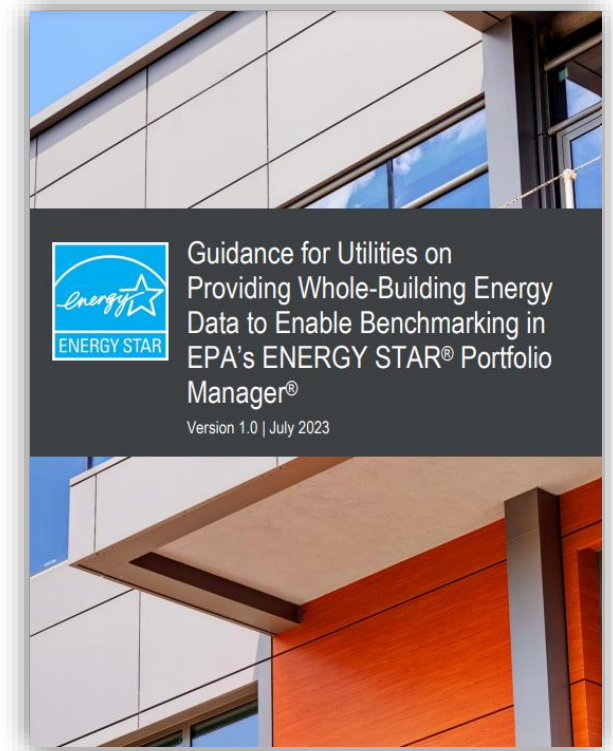
There's an EPA map for that

energystar.gov/utilitydata



EPA Guidance for Utilities

- **Establish an aggregation threshold** (if not already established by policymakers) to enable delivery of aggregate consumption data to a building owner/requestor.
- Ensure that the data access solution can **support requests at varying levels of granularity.**
- Implement a **utility-led process to identify all meters/accounts** at a property that will be included in aggregate consumption.
- Provide aggregate whole-building data to requestors **monthly.**
- Provide an **“itemized receipt” for meter-to-building mapping** and ensure it can be updated over time.
- **Proactively communicate any corrections or updates** to aggregate consumption data to the building owner/data requestor.
- Ensure that aggregate consumption **captures total (gross) grid electricity consumption,** rather than net (or net-metered) consumption.
- Larger utilities should **use the Portfolio Manager web services API** to deliver data to requestors.



Proposed whole-building energy data campaign

Building owner/manager-centric campaign where EPA assists owners/managers in making the case to decision makers on the need for whole-building energy data.

- Customer demand is a powerful signal
- New incentives are a rallying point
- EPA offers guidance for utilities
- IMT and RAP recently published a model state law



Proposed whole-building energy data campaign, continued

Timeframe	Component
Early 2024	Gather testimonials
Mid 2024	Provide an engagement toolkit
Late 2024	Convene meetings with decision-makers

What states can do now

Raise utilities' awareness regarding the need for this data and encourage voluntary efforts to provide it to their customers

Serve as a convener for utilities to discuss opportunities and challenges

Incentivize such as through providing grants to utilities to provide this data

Require utilities to provide this data

Contact us! statelocal@energystar.gov



IMT-RAP Model Utility Data Access Law



NASEO, January 23, 2023

IMT-RAP Model Utility Data Access Law (Annotated)

Cliff Majersik (IMT), Julia Eagles (IMT), Camille Kadoch (RAP), David Farnsworth (RAP)



- Developed in response to requests from building owners, policymakers, and others; written for adoption by states
- Authored by IMT and Regulatory Assistance Project (RAP), with key input from ENERGY STAR
- Published November 2023
- www.imt.org/UtilityData

November 2023

Model Law Development Process

Incorporated lessons learned from precedent laws, rules, and utility practices



Draft model law reviewed by expert stakeholders in real estate, service providers, utilities, policy makers, tenant, social equity, and privacy advocates, and more



More than 40 associations, organizations, and companies shared comments

Big Picture



Photo by [Michael Cheng](#) on [Unsplash](#)

- Requires utilities to share aggregated consumption data with building owners & digitally share data at account holder request
- Sets lead agency (usually utility regulator) to write the rules guided by a stakeholder process
- Codifies best practices from 70+ utilities that provide whole building data
- Puts requirements only on utilities and rule writers
- Provides data access only to owners, landlords and their designees

Covered utilities

- **UTILITY** means a company, cooperative, association, or government entity that distributes and sells electricity, natural gas, delivered fuel (fuel oil, propane, kerosene, and coal), or **DISTRICT ENERGY** for use in buildings.
- A second version of the law adds water utilities



Photo by [Alexander Schimmeck](#) on [Unsplash](#)

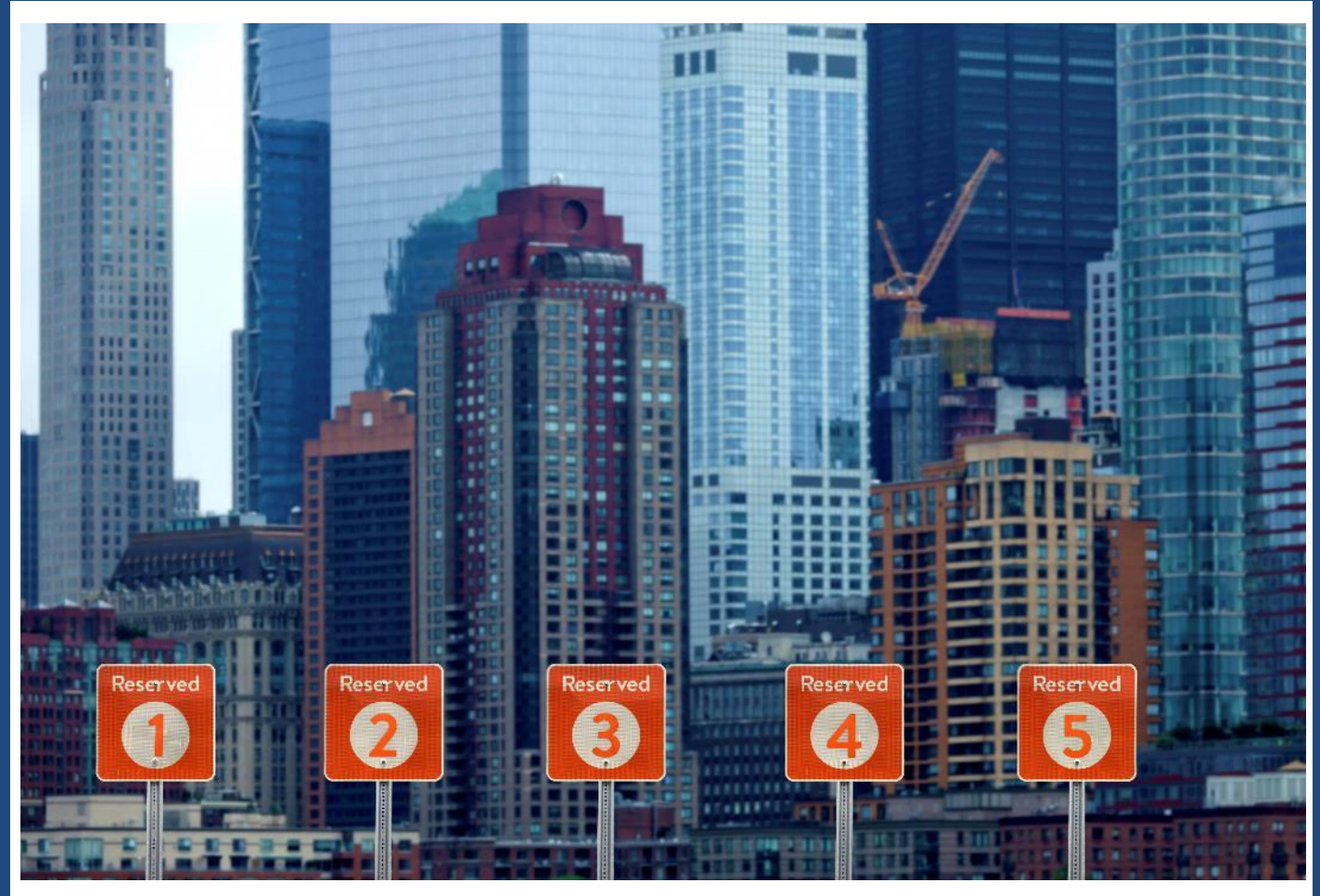
Requires more faster from large utilities



- Large utilities must provide data earlier, retain data longer, and upload data directly to ENERGY STAR Portfolio Manager if building owner requests
- Medium-sized utilities have more time and may offer data in spreadsheets only
- Law largely exempts very small utilities with fewer than [20] active customers or less than [\$10,000,000] in annual revenue from within the state

Aggregation threshold

- Sets an aggregation threshold of [5] utility accounts for residential buildings and [3] accounts for all other buildings
- Tenant and individual condo or coop owner accounts count
- Law clarifies that aggregated data is not confidential or personally identifiable information




Utilities must seek other funding before seeking cost recovery



Prior to filing for cost recovery, utilities must first demonstrate good faith efforts to secure federal, state, or other relevant funding options.

Thereafter, utilities may file for cost recovery of the reasonable and prudently-incurred costs of providing aggregated usage data.

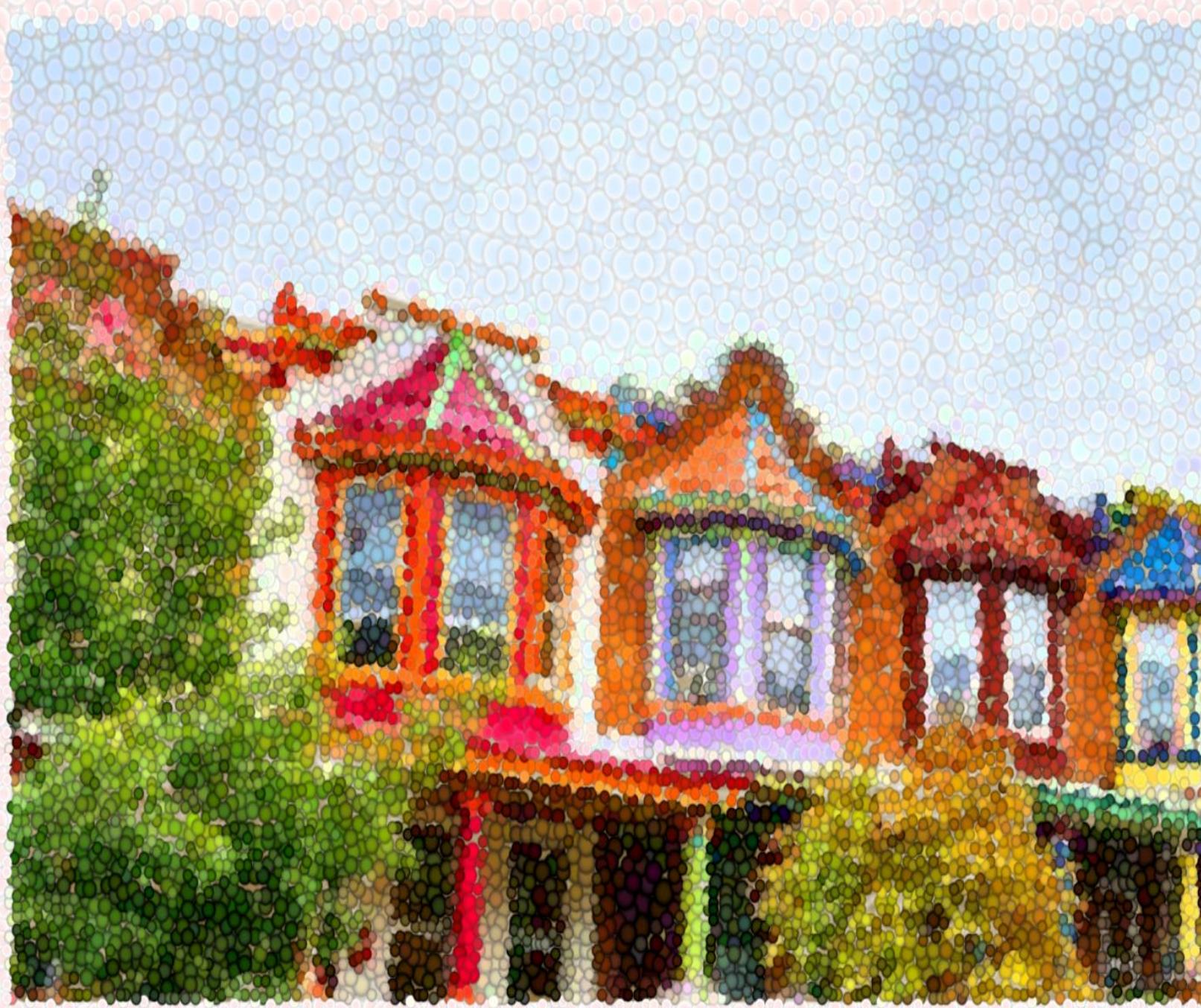


thanks!

Cliff Majersik

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Twitter: @IMTCliff



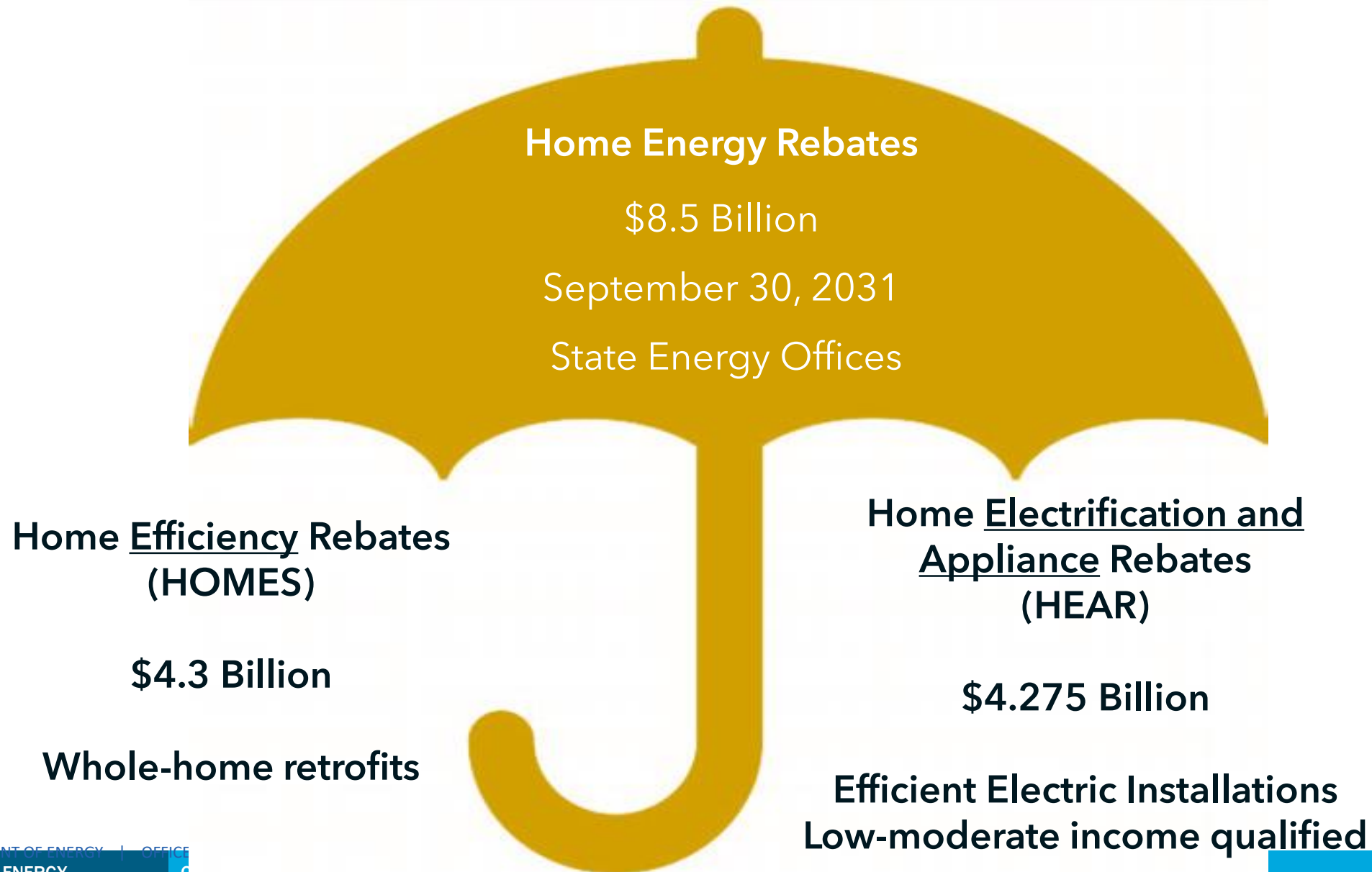
Data Access and Home Energy Rebates

January 23, 2024



SCEP
STATE & COMMUNITY ENERGY PROGRAMS

Home Energy Rebates Programs



Funding Allocations to States and Territories

Alabama	\$146 M	Iowa	\$121 M	New Mexico	\$88 M	Virginia	\$189 M
Alaska	\$75 M	Kansas	\$106 M	New York	\$318 M	Washington	\$166 M
Arizona	\$153 M	Kentucky	\$134 M	North Carolina	\$209 M	West Virginia	\$88 M
Arkansas	\$105 M	Louisiana	\$213 M	North Dakota	\$74 M	Wisconsin	\$149 M
American Samoa	\$50 M	Maine	\$72 M	Ohio	\$249 M	Wyoming	\$69 M
California	\$582 M	Maryland	\$137 M	Oklahoma	\$129 M		
Colorado	\$140 M	Massachusetts	\$146 M	Oregon	\$114 M		
Connecticut	\$99 M	Michigan	\$211 M	Pennsylvania	\$259 M		
District of Columbia	\$59 M	Minnesota	\$148 M	Puerto Rico	\$85 M		
Delaware	\$66 M	Mississippi	\$105 M	Rhode Island	\$64 M		
Florida	\$346 M	Missouri	\$151 M	South Carolina	\$137 M		
Georgia	\$219 M	Montana	\$71 M	South Dakota	\$69 M		
Guam	\$51 M	Northern Marianas	\$50 M	Tennessee	\$167 M		
Hawaii	\$68 M	Nebraska	\$91 M	Texas	\$690 M		
Idaho	\$81 M	Nevada	\$96 M	Utah	\$101 M		
Illinois	\$264 M	New Hampshire	\$70 M	Vermont	\$59 M		
Indiana	\$182 M	New Jersey	\$183 M	U.S. Virgin Islands	\$51 M		

Up to 20% of these funds may be used for program administration.

Allocations split roughly 50/50 between home energy and electrification rebates

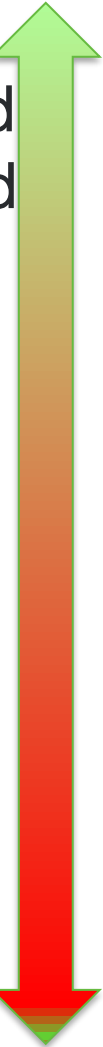
NOTE: These figures are rounded. Exact amounts can be found here: <https://www.energy.gov/articles/biden-harris-administration-announces-state-and-tribe-allocations-home-energy-rebate>

Home Energy Rebates and Data Access – The Basics

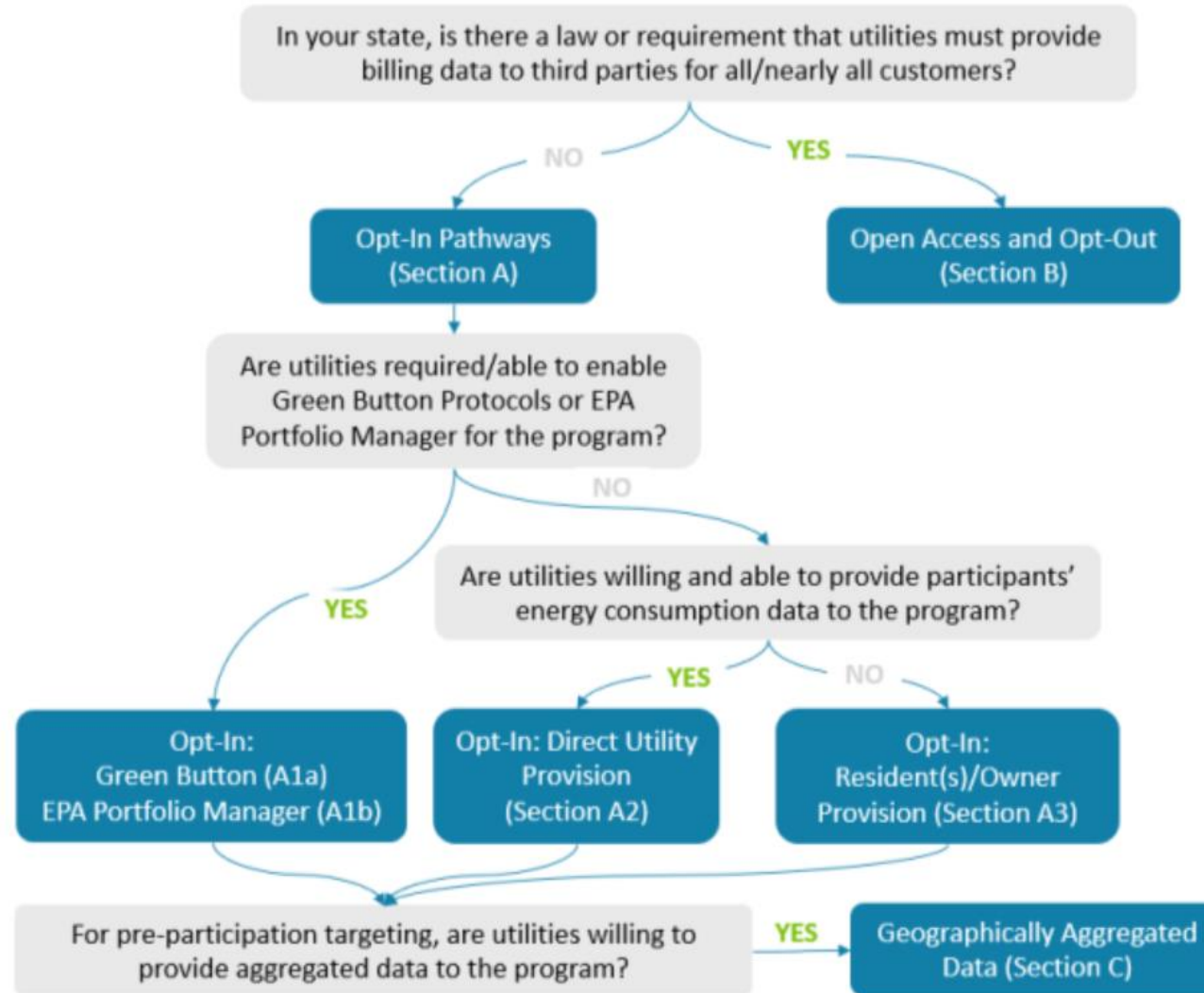
- Energy consumption data is fundamental to the Home Efficiency Rebates Program (Section 50121), but not required for the Home Electrification and Appliance Rebates Program (Section 50122).
- Energy consumption data is required for program implementation efforts, but not for pre-participation targeting purposes.
- States must collect consumption data for the Measured program and for the Modeled, Single-Family program.

What are the options to collect utility bills?

- **Green Button and/or EPA's Portfolio Manager**
 - Leverage established utility agreements with Green Button (single-family and master-metered multifamily) or EPA's Portfolio Manager (individually-metered multifamily).
- **Collect from Utilities**
 - Coordinate with utilities to provide data needed for the program. This may include creating direct agreements to collect data for program purposes or working with state regulators to encourage utilities to provide this data.
- **Collect from Residents/Owners**
 - Collect the data directly from residents and building owners. This could take the form of requesting copies of bills or providing portal access to energy consumption data.



Data Access Pathways



More Information/References

- **Section 50121 Requirements and Guidelines:** As described in Section 3.2.3 of the [Home Energy Rebate Programs Requirements & Application Instructions](#), for Section 50121 programs, States must develop and submit a Utility Data Access Plan that contains information on safety and security protocols and consumer consent processes.
- **Data Access Guidelines.** The [Utility Data Access Guidelines](#) were required by law for Section 50121 (i.e., Homes Modeled and Measured), but are not required for Section 50122. These Guidelines include best practices for data access and sharing and recommendations for developing a comprehensive Data Access Plan.
- For more information about pathways and for a Data Access Plan Template: [IRA Section 50121 Home Efficiency Rebates: Data Access Pathways Background and Plan Templates](#).

Thank You! Questions?



SCEP

STATE & COMMUNITY ENERGY PROGRAMS



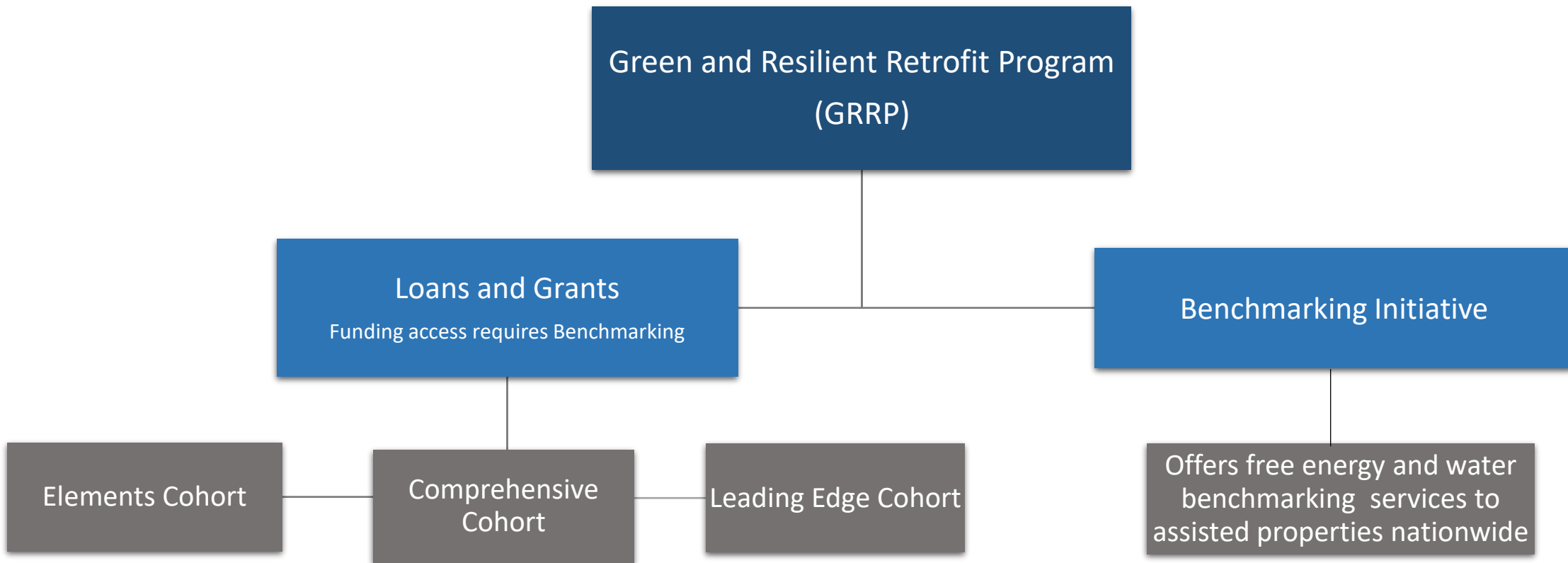
OFFICE OF HOUSING

Green and Resilient Retrofit Program (GRRP)

OFFICE OF MULTIFAMILY HOUSING PROGRAMS

January 2024

What is HUD's GRRP?



- ✓ Loans and Grants Funding Available for Multifamily Assisted Properties
- ✓ Multi-year contract for energy and water benchmarking services, free of charge
- ✓ Implementation requires Whole-Building Data Accessibility
- ✓ Email questions to MFBenchmarking@HUD.gov

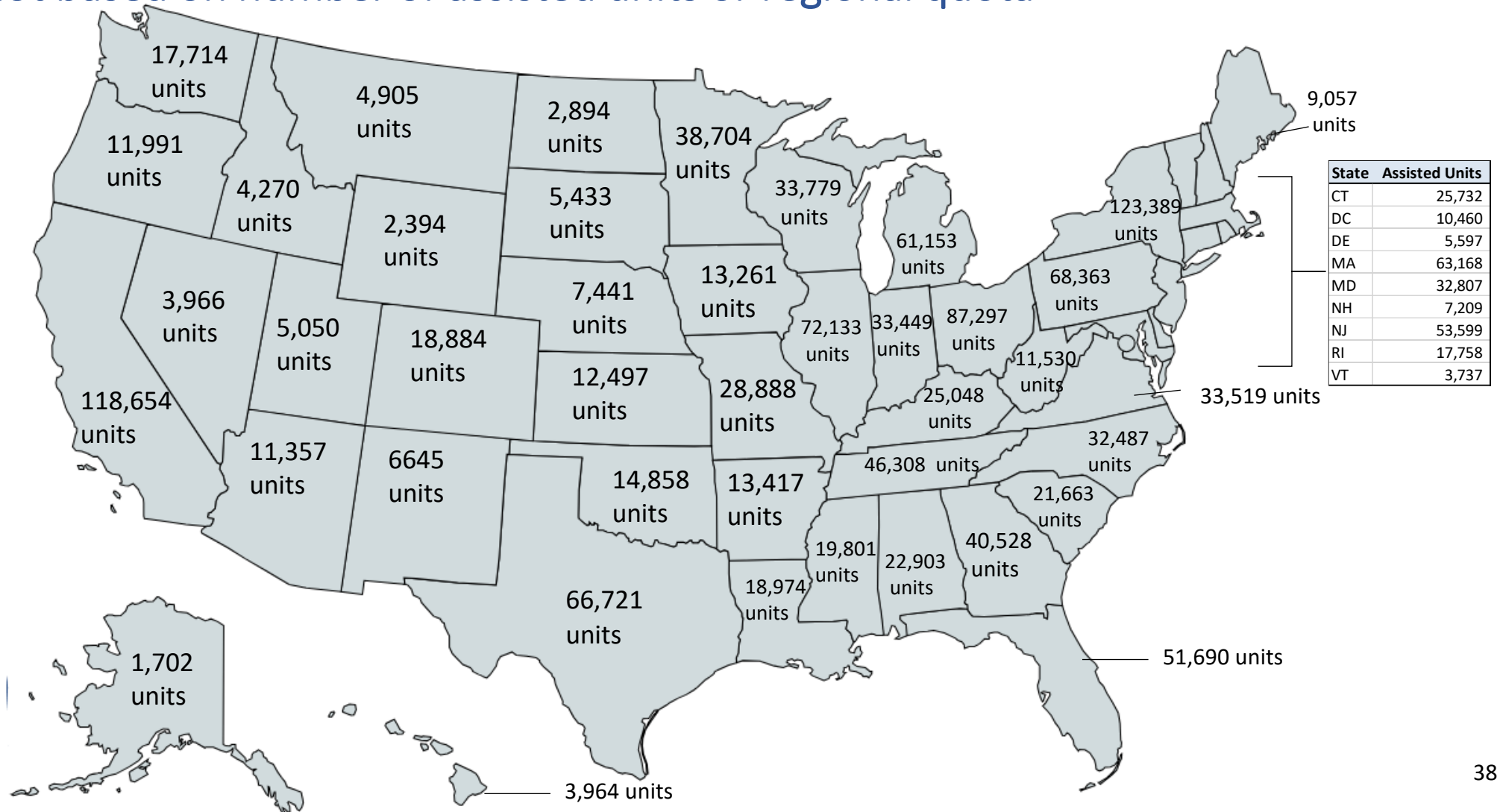
GRRP and Whole-Building Data Accessibility

- ❖ Why is access to Whole-Building Data Critical to HUD Programs?
 - ✓ Whole building data is particularly important in identifying energy and water usage improvement for MF properties.
 - ✓ An assessment of energy usage is required for properties to be eligible for GRRP loans and grants, and Benchmarking with whole-building data is the most streamlined and effective way to do this.
 - ✓ To that end, whole building data unlocks this significant funding stream.

- ❖ Some states with access to Whole-Building Data Accessibility (Per EPA's Backgrounder)
 - ✓ California
 - ✓ Washington
 - ✓ Colorado
 - ✓ Minnesota
 - ✓ New Jersey

GRRP Funding Potential

- ✓ Over 1,400,000+ HUD assisted units eligible for funding
- ✓ Funding not based on number of assisted units or regional quota



GRRP Progress

- ❖ Over \$295 million in GRRP loans and grants awarded for 74 properties spanning over 24 states.
- ❖ \$655 million remaining to be awarded.
Upcoming application opportunities:
 - \$10 million per property for Leading Edge Award due 1/31/2024
 - \$20 million per property for Comprehensive Award due 2/28/2024.
- ❖ 274 properties have signed up for the complimentary Benchmarking program.
Services include:
 - ✓ A multi-year contract with an Energy Star professional firm to benchmark and train property staff,
 - ✓ Identification of energy and water usage deficiency within the property, and
 - ✓ Suggestion to improve utility bills.

Join EPA, DoE and HUD in Unlocking Fundings



UNITED STATES DEPARTMENT OF ENERGY
UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

January 18, 2024

Dear Utility and State Utility Commission Representatives:

The people, properties, and communities you serve need your help to access billions of dollars in Federal funding. As the Federal Government works with state, local, private, and nonprofit entities to invest significant new funding for energy efficiency upgrades in multifamily housing, utility companies play an essential role in ensuring that the communities they serve realize the full benefits of these investments.

Multifamily properties are home to more than 19 million low-income households (over 15% of all U.S. households) and many of these properties need upgrades that would significantly reduce energy and water costs for their residents. The Inflation Reduction Act of 2022 (Pub. L. 117-169) is addressing these needs through the provision of more than \$6.6 billion in funding for U.S. multifamily properties to improve efficiency and lower costs. This includes programs like the U.S. Department of Housing and Urban Development (HUD)'s [Green and Resilient Retrofit Program \(GRRP\)](#) and the U.S. Department of Energy (DOE)'s [Home Efficiency Rebate Program](#).

These programs offer tremendous benefits to your constituents and customers through both direct funding and future utility savings for owners and renters. However, in order to streamline participation in these programs and/or maximize the impact of available investments, property owners need access to complete energy use data for their buildings – something which is typically not available to owners of multifamily properties (because individual residents often have their own utility accounts). Therefore, we are asking that you take action to make whole-building utility data available to multifamily owners seeking to improve the efficiency of their properties through these and other programs. Making these data easily available for multifamily properties is critical to the ability of property owners participating in these programs to assess the need for energy upgrades and prioritize those upgrades which will have the greatest benefit to their residents.

We know that it is feasible to provide whole-building utility data for multifamily properties through the development of an [IT solution](#) that aggregates the data from all accounts in a building while maintaining the privacy of individual account holders. According to the U.S. Environmental Protection Agency's (EPA) data, 64 utilities in 28 states serving 11,442 zip codes currently provide aggregate whole-building data, but this covers only a small percentage of our nation's buildings, and large swaths of the country have no data available for owners (a map showing the availability of this data can be found at www.energystar.gov/utilitydata). EPA also offers [Guidance for Utilities on Providing Whole-Building Energy Data](#) as well as one-on-one support to utilities interested in making this data available to owners.

By championing the availability of whole-building utility data access, you will play an important role in facilitating cost-effective investments in the communities you serve. EPA, DOE, and HUD strongly encourage you to join us in ensuring that the Federal Government's efficiency investments achieve maximum results and that owners and residents in your jurisdiction benefit from these investments by making available whole-building utility data for your respective jurisdiction(s). If you have questions, need additional information, or would like examples of best practices, please contact EPA at statelocal@energystar.gov.

Sincerely,


DOE SECRETARY


HUD SECRETARY


EPA ADMINISTRATOR

- ❖ By championing the availability of whole-building utility data access, you will play an important role in facilitating cost-effective investments in the communities you serve.
- ❖ EPA, DOE, and HUD strongly encourage you to join us in ensuring that the Federal Government's efficiency investments achieve maximum results and that owners and residents in your jurisdiction benefit from these investments by making available whole-building utility data for your respective jurisdiction(s).
- ❖ [EPA, DoE, HUD Joint Letter](#)

Questions?

✓ GRRP Loans and Grants

- www.hud.gov/GRRP#GRRP_Grants_Loans
- Email questions to grrp@hud.gov

✓ GRRP Benchmarking

- www.hud.gov/grrp/benchmarking
- Email questions to MFBenchmarking@HUD.gov
- Sign up for the Benchmarking program newsletter at this link –
<https://public.govdelivery.com/accounts/USHUDFHA/subscriber/new>
 - Enter email and select “Benchmarking Program” checkbox.