



# Multifamily Utility Benchmarking Toolkit

## What is in this Toolkit?

This toolkit is a comprehensive guide to utility benchmarking for the multifamily sector, organized into three sections.

**Benchmarking 101** describes the benefits of tracking utility data and explains how to begin the process of utility benchmarking, including an introduction to ENERGY STAR® Portfolio Manager® and several case studies.

**Utility Benchmarking Step-by-Step** outlines a six-step approach to utility benchmarking, including developing a strategy that works for your organization, collecting and using utility data, and targeting energy- and water-efficiency improvements.

**Policies and Programs** summarizes utility benchmarking requirements for various HUD programs, opportunities for financial assistance, and HUD programs that can support property owners in pursuing green retrofits.

Within the toolkit, there are links to key resources and requirements, tools and reports, case studies, and frequently asked questions.

[Access the online version of this toolkit.](#)

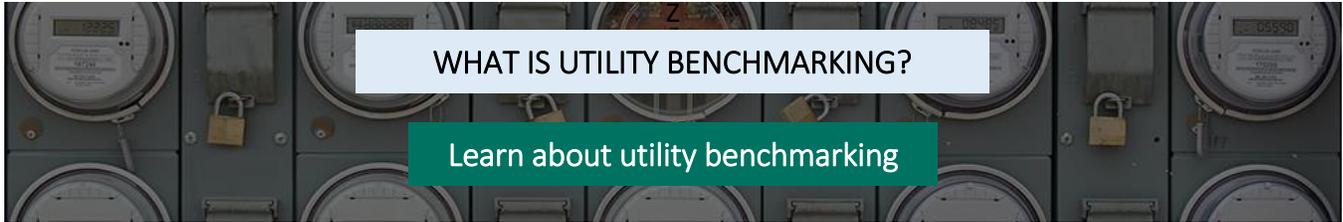


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# Benchmarking 101



## What is utility benchmarking?

Utility benchmarking is a fundamental asset management practice, consisting of tracking, analyzing, and reporting the consumption and costs associated with a property or portfolio of properties. It allows multifamily property owners, as well as associated funding providers and governing agencies, to gain insight into the energy and water performance of properties, the potential for improvement in those properties, changes in performance over time, and the effectiveness of investments made to improve performance.

Armed with this knowledge, property owners, funding providers, and governing agencies can make better decisions about the management of our nation’s building stock, reduce operating costs, increase energy independence, and combat climate change. For federally-supported housing, utility benchmarking serves to preserve affordable housing, protect tenant welfare, target investments, and meet environmental goals.

## How can my organization get started?

Although housing providers are free to approach utility benchmarking as they choose, the [step-by-step process](#) outlined in this online toolkit was developed to demystify the process and promote best practices. It’s important for your organization to understand from the beginning that utility benchmarking of multifamily properties involves:

- Tracking utility consumption and cost on an ongoing basis;
- Calculating the energy and water performance of the property; and
- Comparing a property’s performance to that of similar properties.

While some multifamily housing providers undertake the process of utility benchmarking on their own, others hire interns or consultants to complete some or all of the associated tasks. Still others outsource tasks to third-party utility management service providers. (More details about [organizational approaches to utility benchmarking](#) are provided in other sections of this toolkit.) In some cases, [HUD funds](#) may even be available to cover the internal or external costs of utility benchmarking.

Utility benchmarking in the multifamily buildings sector can be challenging, particularly in cases where a large number of tenant-paid bills must be collected and organized in order to obtain “whole-property” utility data. This toolkit and the tools embedded in it are intended to help unravel and inform the utility benchmarking process for all types of multifamily properties, whatever the combination of owner-paid and tenant-paid utility types serving the property.

In addition to this toolkit, HUD will also be offering direct technical assistance to multifamily housing providers on individual and/or cohort bases. Please revisit the [HUD Exchange Utility Benchmarking website](#) for information on how to request these services in addition to recent HUD announcements, upcoming events, and archived webinars.



### What are the benefits of utility benchmarking?

Just the act of utility benchmarking itself creates a variety of benefits to property owners, tenants, and the public. Property owners who integrate utility benchmarking into their asset management approach often see significant improvements in property performance. Utility data tracking can help property owners discover billing errors and malfunctioning equipment, which, once corrected, can result in immediate financial savings. Knowledge gained from utility benchmarking can inform retrofit planning and help verify savings in individual buildings, multi-building properties, and portfolios of properties.

Utility benchmarking can also lead to improvements in property operations and operating costs, which can help protect tenants' comfort and finances as well. The energy and water performance metrics reported through utility benchmarking programs also help funding providers and governing agencies create better incentives for energy- and water-efficiency improvements, target investments more strategically, and track progress towards mission-related goals. When made available to the public, anonymized data from utility benchmarking programs also supports academic research and enhances public awareness.

### Does HUD require utility benchmarking?

HUD has issued Notices of Proposed Information Collection that, if enacted, would require the collection of utility benchmarking information from housing providers supported by the Office of Multifamily Housing's assisted and insured housing programs and the Office of Public Housing's public housing program, with certain exceptions.

HUD also hosts certain voluntary initiatives, like the Better Buildings Challenge (BBC) or the Green Mortgage Insurance Premium (MIP) Reduction, which require participants to conduct utility benchmarking and share the results.

*Regardless of program involvement, HUD strongly encourages all housing providers to practice utility benchmarking as part of their basic asset management activities.*

Read more about HUD's existing and proposed [utility benchmarking requirements](#).

#### Related Resources

- [Institute for Market Transformation's Guide to Building Energy Performance Profiles](#)
- [BuildingRating.org, an online information exchange on building rating policies and programs](#)
- [U.S. Environmental Protection Agency's report, Benchmarking and Energy Savings](#)
- [Institute for Market Transformation's report, The Benefits of Benchmarking Building Performance](#)



## What is Portfolio Manager?

ENERGY STAR® Portfolio Manager® is a free, web-based utility benchmarking software provided by the U.S. Environmental Protection Agency (EPA) for collecting utility data and scoring performance.

The software can measure and track the energy use, water use, and greenhouse gas emissions of your organization’s entire portfolio of buildings, providing users with sophisticated energy and water performance metrics about their properties. ENERGY STAR Portfolio Manager can calculate energy use intensity (EUI) and water use intensity (WUI), the fundamental measures of energy and water performance, for all properties.

For multifamily properties with 20 or more units, both an ENERGY STAR 1-100 score and an EPA 1-100 Water Score are available, which rate the performance of a property compared to its peers. In order for Portfolio Manager to calculate these scores, some data on [basic property characteristics is required](#), such as number of units and number of bedrooms. Like the EUI and WUI, these scores are highly informative in and of themselves. Moreover, properties with an ENERGY STAR 1-100 score of 75 or higher may also be eligible for an [ENERGY STAR Certification](#), which distinguishes the nation’s top performers.

Under HUD's proposed utility benchmarking information collection, housing providers will be reporting on the EUI, WUI, and the 1-100 scores of their properties, all of which are generated in Portfolio Manager. In addition, the use of ENERGY STAR Portfolio Manager is necessary when applying for ENERGY STAR Certification and when complying with most local utility benchmarking and disclosure laws.

## What if I’ve already hired a company to analyze my utility data?

You’re in excellent shape. Third-party software providers offer alternative options for utility benchmarking, which can feature customized interfaces and enhanced functionality. Major third-party software providers offer the ability to exchange utility data with ENERGY STAR Portfolio Manager so that property owners can generate and submit standard ENERGY STAR Portfolio Manager reports as needed, including reports for HUD.

### Related Resources

Other sections of this toolkit provide [detailed information for multifamily properties](#) on setting up a Portfolio Manager account and collecting/inputting information.

The following documents also provide the EPA's general guidance on setting up accounts in Portfolio Manager, adding properties and utility data, and viewing results:

General information and FAQs

- [Portfolio Manager Overview](#)
- [ENERGY STAR Training Resources](#)
- [ENERGY STAR FAQs](#)



## CASE STUDIES

Leveraging innovative, replicable solutions

### Case Studies

The energy- and water-efficiency solutions featured below demonstrate how leading multifamily housing providers have successfully used utility benchmarking to implement a wide range of projects, realizing deep savings in individual properties and across broad portfolios. These and other case studies and resources are available on the U.S. Department of Energy's (DOE's) [Better Buildings Solution Center](#).

### Showcase Projects Featuring Utility Benchmarking

Property owners share details on their energy- and water-efficiency projects, which apply cutting-edge measures to individual properties taking a multi-measure, whole-property approach to achieve performance improvements and cost savings. Showcase Projects are available for a variety of property types and sizes, and typically show savings of 20% or more.

- [City Gardens Apartments \(LINC Housing\)](#)
- [Colony Plaza Apartments \(POAH\)](#)
- [Boundary Village \(Mercy\)](#)
- [Hazel Plaza \(Capitol Hill Housing\)](#)
- [Castle Square Apartments \(Winn Companies\)](#)

### Implementation Models Featuring Utility Benchmarking

Property owners describe unique, replicable approaches to overcoming common energy- and water-efficiency barriers, so other organizations can apply these strategies and achieve similar savings. Each Implementation Model offers real-life resources that can be downloaded and used by other organizations to help implement similar strategies.

- [Use of Energy Performance Contract Allows Continuous Provision of Quality Affordable Housing \(Rockford Housing Authority\)](#)
- [Learning Laboratory \(Aeon\)](#)
- [Replicable and Scalable Near-Zero Net Energy Retrofits for Low-Income Housing \(LINC Housing\)](#)



# Utility Benchmarking Step-by-Step



STEP 1: PREPARE YOUR APPROACH

Creating your action plan

In order to benchmark the energy and water performance of your organization's properties for the first time, your organization will need to do some preparation, including cataloging its portfolio of properties, determining how best to collect and input utility data, and making decisions about whether to meet minimum standards or seek deeper insight into the portfolio. Housing providers have found it beneficial to document this information centrally, update it regularly, and refer back to it frequently. By keeping information organized, the initial and successive years of utility benchmarking will be as easy as following a recipe.

HUD's [Multifamily Utility Benchmarking Plan Template](#) is a spreadsheet-based tool designed to help your organization gather necessary information and document decisions. HUD does not require that your organization use this template, but keep in mind that any utility benchmarking plan should give your organization a single document to refer back to in the future, ensure consistency and continuity, and help build capacity in your organization for the future.

Additional guidance on developing a utility benchmarking plan can be found in [Designing a Benchmarking Plan](#) from the U.S. Department of Energy (DOE), though this resource is geared towards the commercial buildings sector. Whether your organization chooses to use these existing resources or develop a utility benchmarking plan from scratch, the following items should be considered and addressed.

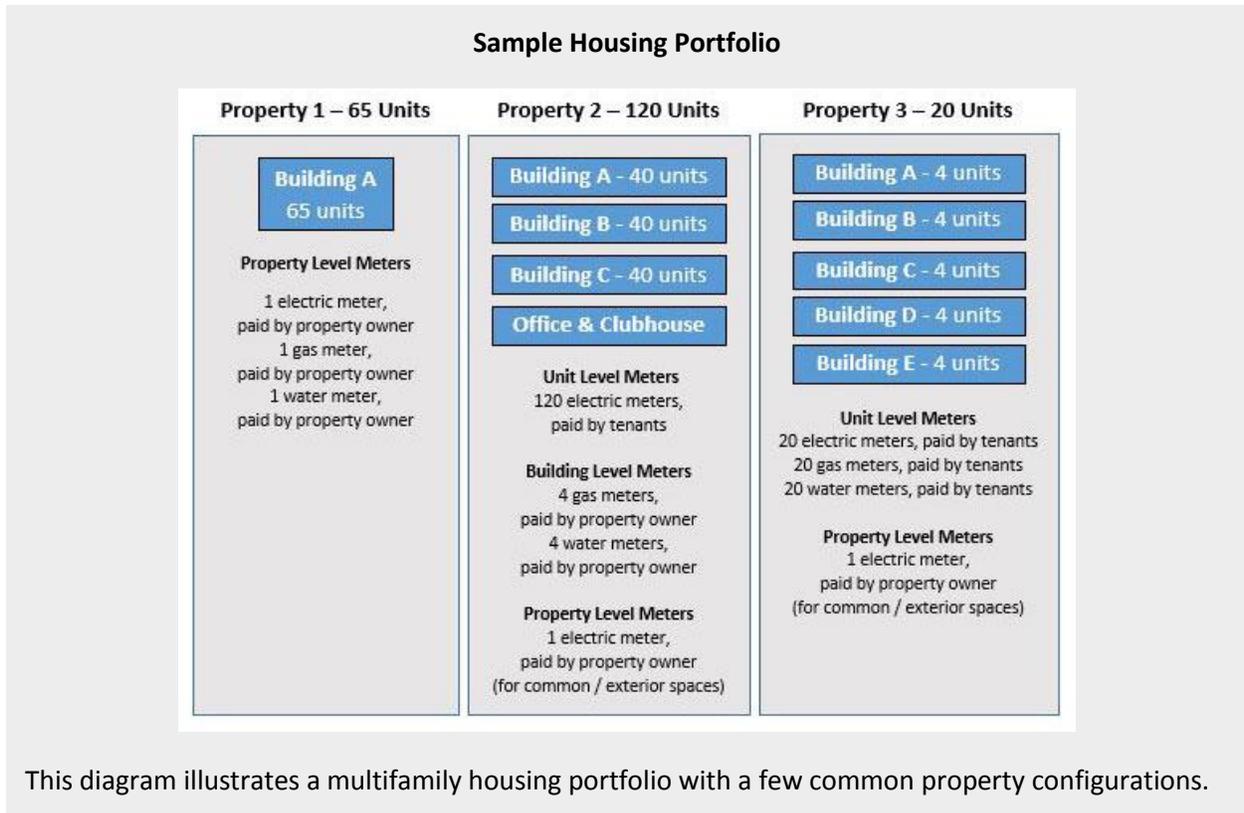
## Catalog the Portfolio

Every housing provider has a unique portfolio. Cataloging the number and type of properties in a portfolio and their associated utility meters is one of the most important steps in the utility benchmarking process.

A portfolio consists of one or more properties (which may also be known as developments or projects in some organizations). A single property may consist of one building or multiple buildings that were developed and are managed together as a single asset.

A property is served by multiple utility meters, with different types of meters for electricity, natural gas, water, and other utility types. Utility meters may track consumption in a single housing unit, part or all of a single building, or an entire multi-building property. The energy and water bills associated with utility meters may be paid by the property owner or the tenant.

It is important to note that while the vast majority of utilities used in multifamily properties are tracked with meters and paid for on a consumption basis, unmetered utilities and alternative-fee utilities do exist. Regardless, organizations should still document their utility data in these cases in order to gain a clear picture of their property's performance. Please refer to the [FAQs](#) for further guidance on this topic if it applies to your organization.



All HUD-related multifamily utility benchmarking initiatives direct housing providers to conduct utility benchmarking at the property level rather than the building level. This is consistent with the real estate practice of asset management, which typically requires financial accounting at the property level. Similarly, most reporting to HUD is done at the property level, and HUD provides most of its assistance at the property level. Utility benchmarking at the property level is also required for ENERGY STAR® Certification.

Your organization may wish to also be able to benchmark individual buildings within a property, though. This approach provides more detailed information about energy and water performance, which allows greater precision when targeting subsequent energy- and water-efficiency improvements. Further, some local laws require utility benchmarking at the building level.

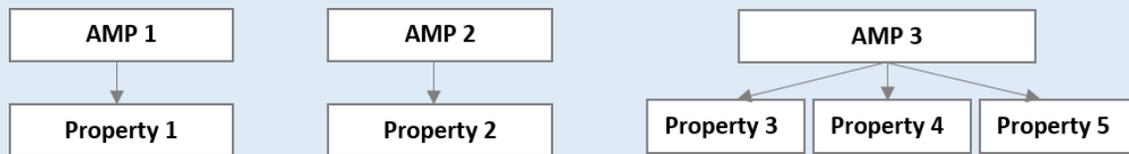
If your organization chooses to conduct utility benchmarking at both the property and building levels, ENERGY STAR Portfolio Manager® allows for the set-up of "Child Building" entries, which can be used for individual buildings and then associated with a "Parent Property," allowing for calculations of energy and water performance at both levels. For guidance on this approach, review the EPA's guide "[How to Benchmark a Campus in Portfolio Manager.](#)"



### Note for Public Housing Authorities (PHAs)

The term "Asset Management Property (AMP)" was created by HUD to identify individual public housing properties when PHAs were establishing new asset management practices in the early 2000s. However, some PHAs assigned AMP IDs to small groups of properties, rather than to individual properties, at that time. While most reporting by PHAs to HUD is done at the AMP level, utility benchmarking must still be performed at the property level for scientific accuracy and cross-program consistency. When entering property data into Portfolio Manager, PHAs will tag their individual properties with the associated AMP ID so that relevant utility data and performance metrics can be easily rolled up to the AMP level and cross-referenced in the PHA's and HUD's existing databases. [Instructions for including HUD and USDA Property ID tags](#) within Portfolio Manager are provided later in this toolkit.

#### Sample Housing Authority Portfolio



Housing providers can use HUD's [Multifamily Utility Benchmarking Plan Template](#) to catalog their portfolios. For each property, the spreadsheet outlines the property name, ID number, street addresses, zip code, gross floor area, number of buildings, number of housing units, and number of bedrooms. It also includes what type of HUD program each property is part of, how many of the housing units are supported by HUD programs, and additional characteristics that will be used to determine which of [HUD's proposed utility benchmarking requirements](#) may be applicable to the property.

At this early stage, it will also be important to identify other utility benchmarking requirements or incentives each property may be subject to, such as [local utility benchmarking laws](#), in order to develop a unified approach to benchmarking your organization's portfolio.

A completed utility benchmarking plan should include a comprehensive list of all utility meters that service each property, including all owner-paid and tenant-paid meters. It will be helpful to track the utility account number, meter number, and/or the address associated with the utility account for easy reference.

### Research Your Utility Providers

In addition to cataloging its portfolio, your organization will need to learn about the utility providers that provide service to the portfolio, including:

1. Whether they are able to provide aggregated, whole-property utility data across all meters at an individual property;
2. Their procedures for property owners requesting tenant-paid utility data; and
3. Whether they have capability of automatically transferring utility consumption and cost data to ENERGY STAR Portfolio Manager.



EPA maintains a [map of utility providers](#) that offer aggregated, whole-property utility data (#1 above) and automatic data transfer (#3 above.) HUD is compiling information incrementally in its [Multifamily Utility Data Collection Database](#), with a focus on procedures for requesting tenant-paid utility data (#2 above.) More detailed information is provided under [Step 2: Collect Utility Data](#).

### Establish a Utility Benchmarking Lead

Your organization will need to identify a lead person or team who will be responsible for utility benchmarking. This person or team will need to manage the utility benchmarking process, have or develop a basic familiarity with the utility data that needs to be gathered, get it into Portfolio Manager, and share the results. Depending on the size and nature of your organization, there may be additional internal or external personnel who will assist with utility benchmarking efforts, including accounting and facilities personnel, utility provider account representatives, and/or third-party utility management service providers.

Ensuring the support of top organizational management in the utility benchmarking effort is also beneficial, to provide the necessary staff or funding and foster greater participation from all involved. While utility benchmarking is part of best asset management practices, it can be accomplished by a housing provider, internally or externally, in a variety of ways:

- **In-House Staff** – Utility benchmarking can be integrated into standard operating procedures and completed by in-house staff. Those who manage properties will be most ready to compile the property and utility data needed for utility benchmarking and will be most ready to utilize the insight gained from utility benchmarking. However, as utility benchmarking may be a new practice, these staff will likely need some training. By using this toolkit, including the links to free training on Portfolio Manager, staff should be ready for success. Housing providers of any size can use in-house staff to conduct utility benchmarking, but it is often an attractive option for smaller housing providers with simple portfolios and for larger housing providers with high capacity. Medium-sized housing providers should assess whether they have an appropriate match of portfolio complexity and staff capacity.
- **Additional Help** – If there are not sufficient resources to complete utility benchmarking in-house, additional help can be obtained by hiring interns or consultants. Housing providers may choose to bring on temporary support to clear the hurdles of first-time utility benchmarking or contract for on-going services.
- **Utility Management Service Providers** – Another option is to work with a company that specializes in utility management services of one type or another. These companies range in the combination of services that they offer to housing providers – from paying utility bills to collecting utility data to offering enhanced software to advising on performance improvements. Companies that focus on utility benchmarking as their core business tend to be most familiar with the federal and local utility benchmarking requirements that housing providers need to meet.

### Choose an Approach to Collecting Tenant-Paid Utility Data

In order to benchmark whole-property energy and water performance, it is best to track all utility data for a property, including all owner-paid utility data and any tenant-paid utility data associated with the property. Unlike most local laws and requirements for ENERGY STAR Certification, HUD's utility benchmarking initiatives allow for the use of a sample of tenant-paid utility data to generate an estimate of whole-property utility data. Different properties will have different configurations of owner-paid and tenant-paid utility meters, and different methods for obtaining and tracking the utility data may be appropriate.



**Step 2: Collect Utility Data** provides more detail about the four following methods for gathering whole-property utility data:

- **Method A: Properties with Only Owner-Paid Utility Bills**  
The property owner pays for 100% of the property's utility bills and uses these bills as the source for whole-property utility data.
- **Method B: Aggregated, Whole-Property Utility Data**  
Regardless of the split of owner-paid and tenant-paid utility bills, the property owner requests aggregated, whole-property utility data from the utility provider(s).
- **Method C: Collection of 100% of Tenant-Paid Utility Data**  
The property owner collects 100% of the individual tenant-paid utility data from the utility provider(s) or tenants.
- **Method D: Collection of a Sample of Tenant-Paid Utility Data\***  
The property owner collects a sample of individual tenant-paid utility data from the utility provider(s) or tenants, which is then used to produce an estimate of whole-property utility data.  
*\*Note: Method D is not an accepted approach by most local laws or for use when applying for ENERGY STAR Certification.*

Consider each of these approaches to determine the one that is best for each utility type in each of your organization's properties. Once an approach is determined, your organization can develop a plan for how each property's utility data will be tracked and entered into Portfolio Manager.

Aggregating multiple meters by type and payer, either internally or as offered by the utility provider, is an acceptable data entry method for multifamily properties. For example, if there are 60 tenant-paid electric meters and one owner-paid electric meter at a property, they can be entered as two "meters" in Portfolio Manager: one for the owner-paid electric meter and one for the aggregate of all tenant-paid electric meters. HUD strongly recommends maintaining a separation of the utility data by payer (owner-paid vs. tenant-paid) so that the utility data can be easily referenced by the housing provider when establishing utility allowances to cover tenant-paid utility costs, when requesting utility subsidies to cover owner-paid utility costs, and when planning future retrofits. The [Multifamily Utility Benchmarking Plan Template](#) can help your organization document the planned approach for all properties.

### Determine a Plan for Entering Data in Portfolio Manager

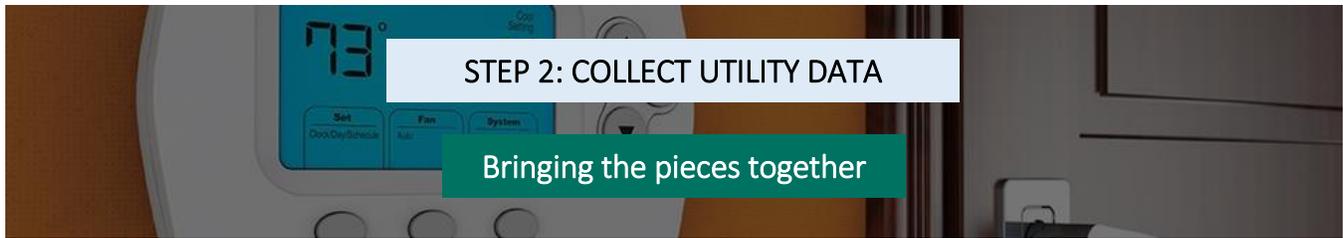
There are three options for submitting your organization's property and utility data into Portfolio Manager, which are described further in [Step 4: Enter the Data](#).

- **Manual Entry:** Manually entering property and utility data into Portfolio Manager may be the easiest approach for housing providers with simple portfolios.
- **Spreadsheet Upload:** Uploading tabular property and utility data into Portfolio Manager is an attractive option for housing providers with complex portfolios. Note that the Portfolio Manager spreadsheet upload templates must be used for a successful import. Those who choose to use HUD's [Multifamily Utility Benchmarking Plan Template](#) can use the built-in feature to automatically populate Portfolio Manager spreadsheet upload templates using data from the plan.



- **Web Services:** Utility management service providers or utility providers themselves are often able to automatically transfer property and utility data into Portfolio Manager on behalf of housing providers.

Review [Step 4: Enter the Data](#) to identify the approach or combination of approaches that are best for your organization.



All housing providers receive and process utility bills, but most focus solely on the amount due without also taking note of the amount consumed, keeping track of long-term trends, or comparing these to efficiency norms. Through the practice of utility benchmarking, housing providers can establish a comprehensive understanding of the energy and water use of their properties and, ultimately, take control of the performance of their properties.

Getting started can be as simple as regularly recording both the utility consumption and cost information found on a property owner's monthly utility bills. But collecting all of the utility data in properties with a mix of owner-paid and tenant-paid accounts can present greater challenges.

### Useful Utility Data Collection Terms

**Whole-Property Data** – Utility data representing the total consumption and cost of all energy and water used at the multifamily property. This includes all owner-paid utility data and any tenant-paid utility data associated with the property, including tenant-paid utility data for spaces sublet to third-party entities.

**Aggregated Data** – Utility data from multiple meters that have been summed up into figures representing the consumption and cost of each utility type (electricity, natural gas, water, etc.) for each type of payer (property owner, tenants) at a property on a monthly basis.

**Sampled Data** – Utility data collected from a sample of tenant-paid accounts in a property and used to create an estimate of whole-property utility data.

### Collecting Whole-Property Utility Data

While utility data collection is straightforward in multifamily properties with only owner-paid utility accounts, most properties involve some combination of owner-paid and tenant-paid utility accounts. The information associated with tenant-paid utility accounts is critical to creating a complete picture of how an entire property is performing in terms of energy and water consumption and costs. For this reason, most housing providers need to collect some additional utility data beyond what they can find on their own utility bills in order to undertake utility benchmarking.

#### Note

HUD data indicate that 36% of the properties in the Office of Multifamily Housing's assisted housing stock, and 46% of the properties in the Office of Public Housing's public housing stock, are serviced by owner-paid utility accounts only and so do not need to collect any tenant-paid utility data.



There are four methods to collect whole-property utility data for utility benchmarking:

- **Method A: Properties with Only Owner-Paid Utility Bills**

The property owner pays for 100% of the property’s utility bills and uses these bills as the source for whole-property utility data.

- **Method B: Aggregated, Whole-Property Utility Data**

Regardless of the split of owner-paid and tenant-paid utility bills, the property owner requests aggregated, whole property utility data from the utility provider(s). Some utility providers will supply property owners with aggregated utility data upon request, which can reflect the total consumption across accounts associated with a property. This service is increasingly available due to a combination of state/local laws (such as [California Law AB-802](#)) and stakeholder advocacy.

Whenever possible, Method B should be used for properties with a mix of owner and tenant-paid accounts, because it is the most convenient approach with the least likelihood for error.

- **Method C: Collection of 100% of Tenant-Paid Utility Data**

The property owner collects 100% of the individual tenant-paid utility data from the utility provider(s) or tenants. Using tenant-paid utility data release forms (see some [examples](#)), property owners can retrieve the necessary utility data from their utility providers. Sometimes, it is also possible for property owners/managers to collect the utility data directly from tenants themselves, though this is usually less convenient. Once collected, the total tenant-paid utility data can be used alongside utility data from the owner-paid bills to reflect whole-property utility data.

- **Method D: Collection of a Sample of Tenant-Paid Utility Data\***

The property owner collects a sample of individual tenant-paid utility data from the utility provider(s) or tenants, using the same techniques described in Method C above. Once collected, the sampled tenant-paid utility data can be used to produce an estimate of all tenant-paid utility data for the property, then used alongside the owner-paid utility data to reflect an estimate of whole-property utility data.

The best practice in utility benchmarking is to collect 100% of the actual utility data associated with a property, since this produces the most accurate results and provides the greatest insights. However, HUD recognizes the challenges that often arise when collecting tenant-paid utility data and therefore, for certain programs, accepts utility benchmarking based on a combination of complete owner-paid utility data and sampled tenant-paid utility data.

### Related Resource

[HUD’s Multifamily Utility Data Collection Database](#), which HUD is expanding on an on-going basis, is intended as a single repository that housing providers can use to look up the applicable procedures for requesting utility data (tenant-paid or aggregated, whole-property utility data) from each of their utility providers.

EPA maintains a [map](#) and [list](#) of those utility providers across the country that offer property owners aggregated, whole-property utility data and automatic data transfer.

### Key Requirement

When sampled tenant-paid utility data is used to estimate whole-property data, the “Estimation” box must be checked when submitting the data in ENERGY STAR Portfolio Manager.



*\*Note: Method D is not an accepted approach by most local laws or for use when applying for ENERGY STAR Certification.*

### Aggregated, Whole-Property Data (Method B)

A growing number of utility providers – including all utility providers in California – offer aggregated whole-property utility data, as well as automatic data transfer. You can check if your utility providers offer these services by referencing EPA’s aforementioned [map](#) and [list](#). Since Method B is the most convenient and accurate option for utility data collection in properties with a mix of owner and tenant-paid accounts, it should be used whenever possible.

Some utility providers may still be hesitant to provide aggregated tenant-paid utility data to property owners due to privacy concerns, as well as technological and procedural barriers. However, utility data sharing rules and regulations vary by state and continue to develop rapidly. If your utility provider does not offer these services today, you should request of them that they do so and check in regularly for progress.

It is important to provide clear direction to utility providers about how a property’s utility data should be aggregated.

#### Tips for Method B

- HUD recommends maintaining data for owner-paid and tenant-paid utility accounts separately when possible, even when tenant-paid utility accounts are aggregated, due to the unique accounting needs of affordable housing properties. With data separated by payer, housing providers can more easily reference the utility data when establishing utility allowances to cover tenant-paid utility costs, when requesting utility subsidies to cover owner-paid utility costs, and when planning future retrofits.
- In order to keep owner-paid utility data separate from tenant-paid utility data, a property owner can request aggregated data only for tenant-paid accounts, and track their owner-paid accounts separately. If a utility provider cannot aggregate tenant-paid accounts separately from owner-paid accounts, the property owner may choose to reference their owner-paid utility bills and subtract their owner-paid amounts from the total in order to determine the breakdown.
- Some housing providers, as mentioned earlier, will elect to conduct their utility benchmarking on the building level rather than at the property level. When requesting aggregated data for a property comprised of multiple buildings, be sure to specify whether your request is for aggregated utility data for each building, or simply for the property as a whole.

### Obtaining Individual Tenant-Paid Utility Data (Methods C and D)

For housing providers using Method C or D, it is necessary to obtain individual tenant-paid utility data. While it is possible to collect bills directly from tenants, it is usually easier to collect this data from utility providers.

The first step is to gather signed tenant-paid utility data release forms. The HUD [Multifamily Utility Data Collection Database](#) provides information on many utility providers’ preferred tenant-paid utility data release form (see some [examples](#) below) and preferred method of receiving a data request. It is necessary to contact the tenants in each housing unit for which utility data is being collected (either all units or a selected sample), explain the purpose and importance of this information collection, and ask them to sign the release form.



### Tips for Methods C and D

- Property managers may institutionalize this process by including utility data release forms as part of the lease for new tenants and gathering updated release forms each year during the tenant income verification process.
- Rather than requesting meter numbers from tenants, a property manager may wish to record all meter numbers directly from the meter banks within the property.
- The [Multifamily Utility Benchmarking Plan Template](#) includes space to catalog all utility meter numbers and account numbers for each housing unit. Use the built-in feature to automatically populate the [Tenant-Paid Utility Data Sampling Calculator](#) when it's time to calculate your sample size and document monthly utility data.

Once release forms have been collected, the utility data request can be sent to the utility provider. It should include information about the property owner, including the name of the property owner, the relationship to the property in question, the street address for the property, and the name of the property manager or other point of contact. The request should note the fact that signed tenant-paid utility data release forms have been obtained and delivered to the utility provider. Finally, it should include details about the requested information:

- The list of account numbers for which utility data is requested;
- A request for monthly utility consumption and cost data;
- A request for 36 months' of historical data, to start, or as much as is available and permitted by the utility data release form;
- A request for future utility data to be provided on an on-going basis, as permitted by the utility data release form;
- A request for delivery of utility data through web services to your organization's Portfolio Manager account, when available. Otherwise, a request for delivery of utility data in electronic format (.XLS or .CSV preferred, .PDF acceptable); and
- A request for utility data reports to clearly cite:
  - The account number and meter number(s);
  - The meter read start and end dates;
  - The total monthly consumption with unit of measure; and
  - The total monthly cost, with notes regarding delivery and supplier rates and fees.

Once received from the utility provider, it is important to check to ensure that the utility data is complete and formatted correctly.



### Example Release Forms

The following are examples of release forms that have been used to facilitate the collection of tenant-paid utility data in certain areas. Note that the specific language of any release form your organization may develop should be reviewed and approved by the relevant utility provider before your organization begins the process of collecting tenant information and signatures.

[Energy Impact Illinois Multifamily Building Owner Utility Bill Release](#) - If tenant units are separately metered, each tenant (or the building owner for vacant units) must complete the multi-family building tenant release form.

[SCE Customer Information Standardized Request Form](#) - Customers of this western utility provider can use this form to give authorization to a designated entity to receive service account information or act on their behalf to perform a variety of specific acts and functions, including “EPA benchmarking” and “requesting and receiving billing records, billing history, and all meter usage data used for bill calculations for [their] service account(s).”

[Centerpoint / EnergyScoreCards Minnesota Tenant Utility Information Authorization Form](#) - Authorizes the property owner and partner organizations to collect historical and current utility consumption and spending information for tenant-paid utility accounts.

[HUD Secretary Open Letter to Utility Providers and Sample Release of Tenant Utility Information Form](#) – An open letter asking utility providers to support and participate in efforts to facilitate access to utility usage data for owners of multifamily residential buildings in HUD’s portfolio, with a form designed as a standardized format to document a tenant’s consent for the utility provider to release information to the housing provider and HUD.

### Sampling Protocols for Tenant-Paid Utility Data (Method D)

The first step in sampling tenant-paid utility data is to identify how many units are necessary to sample in order to appropriately estimate utility consumption and cost for all of the units in the property. For use in its programs, HUD references two sampling protocols, summarized in the table below.

Housing providers should refer to the program requirements applicable to their specific properties to determine whether the use of a sampling protocol is permitted and which one. *When more than one set of program requirements related to sampling protocols apply to an individual property, the most stringent program requirements should be met.* Housing providers are also encouraged to use larger samples or complete data when possible to improve the insights they can gain from utility benchmarking.

### Related Resources

Most housing providers supported by HUD’s affordable housing programs already collect some individual tenant-paid utility data for the purposes of calculating utility allowances. Indeed, housing providers that are supported by the Office of Multifamily Housing’s assisted housing programs are required by [HUD Notice H-2015-04](#) to collect a sample of tenant-paid utility data at least once every three years when updating their utility allowance calculations. *This same data can be used for utility benchmarking.* Moreover, HUD’s [Tenant-Paid Utility Data Sampling Calculator](#) can calculate your utility allowance schedules for you, based on the data inputted for utility benchmarking!



The “Minimum Sample Size Required” table below provides the number of units that must be sampled according to the Tier 1 and Tier 2 sampling protocols, as compared to Tier 3, which requires complete tenant-paid utility data. While this table is useful as a quick reference, housing providers should carefully read through the full details of each sampling protocol to understand how variations in building type and unit type mix within each property can affect the minimum sample size requirements. Note that Tier 2 is almost always more stringent than Tier 1, but due to nuanced differences, stringency is reversed in rare cases.

The [Tenant-Paid Utility Data Sampling Calculator](#) applies the Tier 1 and Tier 2 sampling protocols to a property to help housing providers create a sample set. Users can either enter information directly about their properties, buildings, housing units, and utility meters, or they can import the information automatically from their [Multifamily Utility Benchmarking Plan Template](#).

Once complete, the calculator will use this information to determine the number of housing units of each type that should be included in the sample for each property, and users can make their selection of housing units. Within the tool, users can track the monthly utility data for each housing unit in the sample and calculate the estimated, aggregate tenant-paid utility consumption and cost for the property. The tool will also calculate the appropriate utility allowance schedule for each property, using the same data.

### Key Requirement

It is important to avoid selecting any housing units for a sample that were vacant for more than two months in the 12 month period being benchmarked. See [Step 4: Enter the Data](#) for additional information.



**Summary of Sampling Protocols**

	<b>Tier 1 Data Sampling</b>	<b>Tier 2 Data Sampling</b>	<b>Tier 3 Complete Data</b>
<b>Originally Developed for</b>	Better Buildings Challenge Annual Data Displays	Assisted Housing Utility Allowance Calculations	N/A
<b>Best Used for</b>	Gaining basic insight into building performance  Creating an annual data display as a Better Buildings Challenge Partner	Gaining additional confidence about utility consumption and costs in order to make basic financial estimates  Complying with HUD’s utility allowance schedule development requirements within Assisted Housing	Gaining the highest confidence about utility consumption and costs in order to make specific financial decisions  Applying for Energy Star Certification  Complying with most local utility benchmarking laws
<b>Full Details Provided at</b>	<a href="#">Appendix C of the Better Buildings Challenge Data Manual</a>	<a href="#">Part VI of HUD Notice H-2015-04</a>	N/A

<b>Total Unit Count in Property</b>	<b>Quick Reference Minimum Sample Size Required</b> (Please use links above for full details.)		
<b>General Instructions</b>	For Total Housing Unit Count in the Property (A), select at least the corresponding number of housing units below for the sample. Divide the total sample size proportionally across housing unit types in the property (0-BR, 1-BR, 2-BR, etc.), and round up to the nearest whole number.	For Total Affordable Housing Unit Count of Each Housing Unit Type (0-BR, 1-BR, 2-BR, etc.) in the Property (A), select at least the corresponding number of affordable housing units below for the sample.	For Total Housing Unit Count in the Property (A), select all housing units for the sample.
<b>Example – Property Details</b>	For a property with 55 housing units, of which 25 are affordable 1-bedroom units, 10 are market-rate 1-bedroom units, 5 are affordable 2-bedroom units, and 15 are market-rate 2 bedroom units.		



<b>Example – Resultant Sample</b>	The sample set should include a total of 7 housing units, comprised of 4 x 1-bedroom units and 3 x 2-bedroom units.	The sample set should include a total of 25 housing units, comprised of 20 affordable 1-bedroom units and 5 affordable 2-bedroom units.	The sample set should include all 55 housing units.
<b>Reference Housing Unit Count (A)</b>	<b>Tier 1 Minimum Sample Size</b>	<b>Tier 2 Minimum Sample Size</b>	<b>Tier 3 Minimum Sample Size</b>
1-4	1	All	All
5-9	2	All	All
10-19	3	All	All
20	4	All	All
21-29	4	20	All
30-49	5	20	All
50-61	6	20	All
62-71	6	21	All
72-74	6	22	All
75-83	7	22	All
84-99	7	23	All
100-120	8	24	All
121-149	8	25	All
150-191	9	26	All
192-200	9	27	All
201-259	10	27	All
260-388	10	28	All
>388	10	29	All



### STEP 3: USE BENCHMARKING SOFTWARE

#### Employing an existing framework

Housing providers involved in HUD’s utility benchmarking initiatives should report utility data through ENERGY STAR Portfolio Manager, a free, web-based utility benchmarking tool provided by the U.S. Environmental Protection Agency. Portfolio Manager can be used to benchmark the performance of properties and/or buildings.

The following documents provide guidance on how to [set up an account in Portfolio Manager](#), add properties and energy/water data, and view results. Housing providers should take advantage of these free training materials (guidance documents, recorded trainings, and live trainings) available through the EPA to become proficient in using Portfolio Manager.

#### Portfolio Manager general information and FAQs:

- [Portfolio Manager Overview](#)
- [ENERGY STAR Training resources](#)
- [ENERGY STAR FAQs](#)

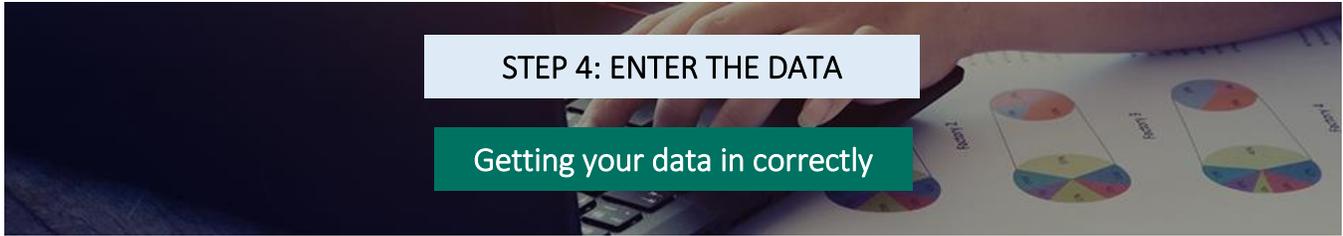
#### Setting up your Portfolio Manager account and collecting/inputting information:

- [Portfolio Manager Quick Start Guide](#) (PDF)
- [How to get utility data into Portfolio Manager](#) (PDF)
- [How to set up a property in Portfolio Manager](#) (Video)
- [How to set up energy and water meters](#) (Video)
- [How to use spreadsheet upload templates](#) (Video)
- [How to benchmark a campus](#) (PDF)
- [Portfolio Manager Data Collection Worksheet](#) (HTML)

#### Tip

Start by benchmarking one property. Whether your organization has five or 5,000 properties, by starting with one, your organization becomes familiar with the utility benchmarking process and gains the necessary experience to benchmark the entire portfolio and properly maintain the effort over time.

As mentioned in [Step 1: Prepare Your Approach](#), housing providers may choose to work with third-party utility management service providers, which vary in the combination of services that they offer to housing providers – from paying utility bills to collecting utility data to offering enhanced software to advising on performance improvements. Typically, those that offer enhanced software will have the ability to exchange data with Portfolio Manager and provide personal assistance to help their clients meet their federal and local utility benchmarking requirements. EPA maintains a [list of service providers](#) that exchange data with Portfolio Manager via web services.



The [Portfolio Manager Quick Start Guide](#) referenced in [Step 3: Use Benchmarking Software](#) describes these basic steps in benchmarking a property:

1. Add a Property,
2. Enter Energy and Water Utility Data, and
3. View Results and Progress.

The other training materials previously referenced provide additional detail about completing these steps in Portfolio Manager. The following text, however, provides targeted information for the multifamily buildings sector – particularly those housing providers seeking to comply with HUD's recommendations and requirements. Housing providers with special circumstances and/or complex portfolios should consult this toolkit's [FAQs](#) for troubleshooting help.

## Data Entry Options

There are three options for submitting your organization's property and utility data into Portfolio Manager. Additional information can be found in EPA's guidance document, "[How to Get Utility Data into Portfolio Manager.](#)"

1. **Manual entry:** Manual entry is the most basic way to submit your organization's property and utility data into Portfolio Manager. To add one property at a time or update the data for one property at a time, the relevant data can simply be keyed into Portfolio Manager, following the step-by-step guidance within the software.

Once a property is created in Portfolio Manager, the Add Meter Wizard provides guidance on how to enter energy and water meters. Users first enter basic information about meter types, and then go on to add actual monthly consumption and cost values. Manually entering property and utility data into Portfolio Manager may be the easiest approach for housing providers with simple portfolios.

2. **Spreadsheet upload:** Uploading tabular property and utility data into Portfolio Manager is an attractive option for housing providers with complex portfolios and those are already using Excel or other software to track utility data. To enter properties for the first time, Portfolio Manager's [Add New Properties spreadsheet](#) can be used to create multiple new property records within a Portfolio Manager account.

### Related Resource

HUD's [Multifamily Utility Benchmarking Plan Template](#) is designed to help housing providers organize, record, and maintain the necessary property and utility data in one place. This can help simplify the data entry process, whether you choose to do so manually or transfer the collected data into Portfolio Manager's spreadsheet templates for upload – a task that can be automated using the plan's built-in auto-populate feature.



Once the properties are created within the account, customized spreadsheet templates can be downloaded that allow you to add property data, set up meters, and add monthly utility data. These templates can then be populated and uploaded right back into Portfolio Manager. Note that using Portfolio Manager's templates without reformatting is necessary for a successful import.

Those who choose to use the [Multifamily Utility Benchmarking Plan Template](#) can streamline the process of setting up their Portfolio Manager accounts by using the plan's built-in, auto-populate feature. The Multifamily Utility Benchmarking Plan Template is designed to help users catalog all permanent and semi-permanent information about their portfolios in one place – everything needed for utility benchmarking aside from the actual monthly utility data itself. The built-in feature can automatically populate Portfolio Manager's Add New Properties spreadsheet with data from the plan on behalf of the user. After uploading this initial spreadsheet into your Portfolio Manager account, simply download your custom spreadsheet templates (Update Use Details for Existing Properties spreadsheet and Add Meters to Existing Properties spreadsheet) from Portfolio Manager, place these files in the same folder as your Multifamily Utility Benchmarking Plan Template, and use the plan's built-in feature again. The plan will automatically populate these custom spreadsheet templates for you, too. After uploading these custom spreadsheet templates to your Portfolio Manager account, your portfolio will be fully set up in your Portfolio Manager account. You can then proceed to add monthly utility data using Portfolio Manager's Add Bills to Existing Meters spreadsheet.

- 3. Web services:** Utility management service providers or utility providers themselves are often able to automatically transfer property and utility data into Portfolio Manager on behalf of housing providers on an instantaneous or on-going basis. As previously mentioned, EPA maintains a [map](#) and [list](#) of those utility providers across the country that offer property owners aggregated whole-property utility data and automatic data transfer, as well as a [list of service providers](#) that exchange data with Portfolio Manager via web services. HUD's [Multifamily Utility Data Collection Database](#) also provides additional guidance, resources, and contact information to help housing providers collect this utility data.

### Multifamily Property Data

The [Portfolio Manager Quick Start Guide](#) provides guidance on how to add a property in Portfolio Manager and enter use details, such as Gross Floor Area or Number of Units, for each type of use. Most multifamily properties can be entered as a single use type in Portfolio Manager. Portfolio Manager does offer the option for users to enter multiple use types (e.g., for a property that is part multifamily housing and part retail), but this is not necessary or recommended for most multifamily properties.

- **Property data required in Portfolio Manager for all properties:**
  - Property Name
  - Property Address
  - Total Gross Floor Area
  - Year Built/Planned for Construction Completion
  - Occupancy
  - Number of Buildings
- **Property data required to calculate an ENERGY STAR 1-100 Score (if applicable) for multifamily properties:**
  - Gross Floor Area



- Total Number of Residential Living Units
- Number of Residential Living Units in a Low-rise Setting (1-4 stories)
- Number of Residential Living Units in a Mid-rise Setting (5-9 stories)
- Number of Residential Living Units in a High-rise Setting (10 or more stories)
- Number of Bedrooms
  
- **Property data required to calculate an EPA 1-100 Water Score (if applicable) for multifamily properties:**
  - Property Address
  - Gross Floor Area
  - Total Number of Residential Living Units
  - Total Number of Bedrooms
  - [Irrigated Area](#)
  
- **Optional property data that may help your organization manage and compare properties**
  - Resident Population Type
  - Number of Laundry Hookups in All Units
  - Number of Laundry Hookups in Common Area(s)
  - Percent That Can Be Heated
  - Percent That Can Be Cooled
  
- **All Public Housing Authorities and HUD-assisted properties should indicate "Yes" for the data field "Government Subsidized Housing"**

All of this property data can be collected and maintained in the [Multifamily Utility Benchmarking Plan Template](#) described in [Step 1: Prepare Your Approach](#). And, as mentioned above, the Multifamily Utility Benchmarking Plan includes a built-in feature that will automatically populate Portfolio Manager's Add New Properties spreadsheet, used for easy upload, on behalf of the user.

### Entering Multiple Utility Meters

A multifamily property that is metered at the unit level likely has a large number of utility meters. It is possible to track each of these meters individually in Portfolio Manager if a housing provider chooses to do so. However, it is also acceptable to enter utility data in Portfolio Manager by first *aggregating* the utility data from multiple meters of the same utility type (electricity, natural gas, water, etc.). Either way, HUD recommends maintaining a separation of the utility data by payer (owner-paid vs. tenant-paid) so that the utility data can be easily referenced by the housing provider when establishing utility allowances to cover tenant-paid utility costs, when requesting utility subsidies to cover owner-paid utility costs, and when planning future retrofits.

A utility provider may be able to perform the aggregation of tenant-paid utility data (see Method B in [Step 2: Collect Utility Data](#)), or a housing provider may collect 100% of the tenant-paid utility bills (see Method C in [Step 2: Collect Utility Data](#)) and then aggregate the utility data. The housing provider should then enter this *aggregated* utility data into Portfolio Manager as two Portfolio Manager "meters" of each utility type. For example, if there are 60 tenant-paid electric meters and one owner-paid electric meter at a property, they can be entered as two "meters" in Portfolio Manager: one for the owner-paid electric meter and one for the aggregate of all tenant-paid electric meters.



### Entering Sampled Utility Data

In some cases, a sample of tenant-paid bills may be collected when a housing provider does not have access to 100% of a property's tenant-paid utility data. [Step 2: Collect Utility Data](#) provides guidance on how to select a sample of units and collect utility data. Once the sampled utility data is collected, it can be used to *estimate* tenant-paid utility data for the whole property.

For each housing unit type (0-bedroom, 1-bedroom, 2-bedroom, etc.) included in the sample, the average utility consumption and cost for each utility type will need to be computed based on the sampled utility data and then multiplied by the total number of housing units of that type in the property. The estimated total utility consumption and cost for each housing unit type and each utility type in the property will then need to be added together to obtain the estimated total tenant-paid utility consumption and cost for each utility type for the property. Any owner-paid utility data for the property (e.g., common areas, leasing office, exterior lighting, etc.) should be maintained and entered separately into Portfolio Manager.

For all Portfolio Manager "meters" that reflect estimated utility data, it is important to check the box in Portfolio Manager marked "Estimation."

#### Example: Using Sample Data to Calculate Estimated Total Tenant-Paid Electricity Consumption for a Property

Housing Unit Type	One-bedroom	Two-bedroom
<b>Number of Housing Units in Property</b>	150	50
<b>Number of Housing Units Sampled</b>	18	6
<b>Total Electricity Consumption for Sample Set</b>	171,000 kWh	84,000 kWh
<b>Average Electricity Consumption Per Unit</b>	$171,000 \div 18 = 9,500$ kWh/unit	$84,000 \div 6 = 14,000$ kWh/unit
<b>Estimated Total Electricity Consumption for All Housing Units by Type</b>	$9,500 * 150 = 1,425,000$ kWh	$14,000 * 50 = 700,000$ kWh
<b>Estimated Total Tenant-Paid Electricity Consumption for Property</b>	$1,425,000 + 700,000 = 2,125,000$ kWh	

### Accounting for Vacancies in Multifamily Utility Benchmarking

There will always be vacancies in multifamily properties. Vacancies may be short-term (such as when housing units turn over to new tenants) or longer-term (such as when housing units are renovated.) The goal of utility benchmarking is to track the performance of a property under normal operations. Since short-term vacancies fall in the realm of normal operations for multifamily properties, no adjustments should be made to the utility data to account for these. While longer-term vacancies do not fall in the realm of normal operations, HUD similarly recommends that *no adjustments be made* to the utility data to account for these. Instead, housing providers should maintain accurate information regarding the occupancy rates of their properties in Portfolio



Manager at all times. In this way, it will always be possible to understand how occupancy rate affects the apparent property performance.

Note that Portfolio Manager asks for occupancy level when property data is entered for all properties. [Occupancy level calculations](#) should reflect the average percentage of a property's gross floor area that is occupied and operational during the 12-month period being benchmarked. For example, if the property was 50% occupied for the first half of the year, then 100% occupied for the second half of the year, the occupancy level would be 75% for the year. While [occupancy level does not affect energy or water metrics](#) or the 1-100 ENERGY STAR or Water Scores, it is used for eligibility for ENERGY STAR Certification (a minimum occupancy level of 75% is required for multifamily properties) and is needed to accurately understand and compare performance.

Those housing providers who are using sampled utility data should take special care to ensure that their sample set is an accurate reflection of the property, however. In properties experiencing normal, short-term vacancies, the housing provider should avoid selecting housing units for the sample set that have been vacant for more than a cumulative 60 days in the past 12 months. In properties experiencing abnormal, long-term vacancies (e.g. due to renovation), the housing provider should seek to select housing units for the sample set that reflect the average occupancy level for the property during the past 12 months.

### Tagging HUD and USDA Properties in Portfolio Manager

When entering property data into Portfolio Manager, housing providers should tag their individual properties with their HUD and USDA property IDs for easy reference by the housing provider and government employees.

In Portfolio Manager, in the "Details" tab for the property, locate the "Unique Identifiers (IDs)" section. Click on the "Edit" button, and navigate down to the "Standard IDs" section.

- For HUD Assisted and/or Insured Housing properties: Select "HUD Property REMS ID" and enter the property's REMS ID.
- For HUD Public Housing properties: Select "HUD Property AMP ID" and enter the property's AMP ID. If there are multiple properties that use the same AMP ID, this same ID should be entered for each property.
- For USDA Rural Housing properties: Select "USDA Property AMAS ID" and enter the property's AMAS ID.



ENERGY STAR Portfolio Manager makes it easy to both [share](#) and [report](#) your organization's utility benchmarking results internally and with other entities.

Those housing providers who are required to share their utility benchmarking results with HUD, should do so by following the instructions below:

1. Ensure that you've entered *complete and accurate* data into Portfolio Manager for all of your properties for the 12-month reporting period cited in your program requirements;
2. Verify that all properties have been appropriately tagged with their HUD and/or USDA Property ID and that any and all estimated data used in accordance with the aforementioned guidance has been marked "Estimation";
3. Run Portfolio Manager's [Data Quality Checker](#), which will help identify missing, incorrect, or anomalous data. Correct or provide an explanation for flagged data;
4. Click on the link below to pull HUD's reporting template into your Portfolio Manager account;
5. Log into your Portfolio Manager account, click the Reporting tab, and locate HUD's reporting template in the list;
6. Click "Respond to Data Request" and read the instructions;
7. Select the properties to include in the report;
8. Click "Generate Response Preview." Review and correct any final Data Quality Alerts, then click "Generate Updated Response";
9. Click "Send Response." E-Sign your report, and click "Send Data"; and
10. Finally, retain documentation for the future, including:
  - A copy of the Portfolio Manager confirmation email;
  - A copy of the report submission in .XLS format;
  - A copy of all working documents used to collect and track raw data for input;
  - A copy of all tenant-paid utility data release forms and correspondence; and
  - A copy of correspondence with and reports from utility providers.

Coming Soon: 2017 HUD Utility Benchmarking Reporting Template



## STEP 6: MAKE INFORMED DECISIONS

### Putting your effort and results to work

Congratulations! After your first year of utility benchmarking, your organization is better able to understand the energy and water performance of its portfolio. With each successive year, your insight will continue to grow. There are real, actionable ways to use the information gained from utility benchmarking to benefit your organization:

- **Identify Anomalies:** Review your organization's utility data on a regular basis to look for errors and anomalies within the data. Portfolio Manager has a built-in tool that can help identify these. From the Summary Tab of each property, a simple verification can be run, which helps spot gaps in property use and utility data and identify anomalies in property use data. This can help your organization identify possible typos, missing data, inaccurate meter readings, inaccurate units of measure, and other common problems. Once it is confirmed that the utility data is entered correctly, your organization can investigate atypical energy or water consumption or costs and identify likely causes. Such investigations may indicate billing errors or malfunctioning equipment, which can be easily addressed and result in significant cost savings.
- **Improve Poor Performers:** Review your utility benchmarking reports to look for properties that are performing exceptionally poorly. Investigate the reason for the high energy or water consumption, and identify measures that can be taken to improve performance. Facility operators may be able to identify operations and maintenance measures that can generate savings with limited up-front cost. In other cases, a building audit followed by capital investment may be warranted to improve performance.
- **Recognize and Document Best Practices from Top Performers:** Review your utility benchmarking reports to look for properties that are performing exceptionally well. Investigate these properties to identify best practices that can be applied across your organization's portfolio. If a property has an ENERGY STAR score of 75 or above, consider whether to apply for [ENERGY STAR Certification](#).
- **Set Portfolio-Wide Savings Goals:** Look at your organization's portfolio as a whole. It is typically possible to achieve at least a 20% reduction in energy and water use across a portfolio in a cost-effective manner. What would that mean for your organization's overall utility costs? What is the average ENERGY STAR 1-100 Score and EPA 1-100 Water Score for your organization's properties? What would be the resulting energy and/or water consumption and cost savings if your organization were to bring up all under-performing properties to a score of 50 or better? To 75?

To improve the performance of your portfolio, a good strategy is to start with low- and no-cost energy- and water-efficiency measures, and then leverage the utility cost savings from these to fund more expensive energy- and water-efficiency measures. These additional resources may be helpful as your organization assesses opportunities to generate utility cost savings.

- [No-and Low-Cost Energy Saving Tips for Multifamily Housing Common Areas](#): Need an easy win? These tips from successful ENERGY STAR partners will help your organization start saving energy in common areas and vacant units with little-to-no upfront investment.



- **[No- and Low-Cost Checklist for Saving Energy and Water in Multifamily Housing](#)**: For those who are ready to dive in, this checklist provides a more in-depth review of the no- and low-cost energy and water savings opportunities to look for across your organization's multifamily properties.
- **[Save Energy](#)**: Visit this comprehensive section on saving energy in existing buildings, which details best practices for saving energy, engaging occupants, and calculating potential energy savings. Consider the full range of ENERGY STAR and WaterSense qualified products, as well as the ENERGY STAR Service and Product Provider partners who can help to identify, plan, and implement energy-efficiency improvements.



FAQS

Frequently Asked Questions

### What should I do if I have a utility meter that serves multiple properties?

In rare cases, a housing provider may have a single utility meter that serves multiple properties in their portfolio. This may occur when a district heating or cooling system serves a large campus, as one example. In this case, the housing provider should set up separate Portfolio Manager “meters” for each property and assign a portion of the total utility consumption and cost to each. Use the relative square footage of the two or more properties to apportion out the utility consumption and cost appropriately. Be sure to click the “Estimated” box when entering the utility data into Portfolio Manager and make a note about this step in your Utility Benchmarking Plan for future reference.

### What should I do if I have a utility meter that serves multiple buildings within a property?

If your organization has decided to benchmark at the property level only, each utility meter will be associated with its corresponding property, and there will be no need to identify which building(s) within the property that utility meter serves.

However, some organizations choose to benchmark at the property level and the building level, to meet HUD’s requirements while also meeting local laws or pursuing a deeper level of insight. This is accomplished in Portfolio Manager by setting up “Child Building” entries, which represent buildings, underneath a “Parent Property” entry, which represents a property. For guidance on this approach, review the EPA’s guide [“How to Benchmark a Campus in Portfolio Manager.”](#)

If you are using this approach and you have a utility meter that serves multiple buildings, set up separate Portfolio Manager “meters” for each building and assign a portion of the total utility consumption and cost to each. Use the relative square footage of the two or more buildings to apportion out the utility consumption and cost appropriately. Be sure to click the “Estimated” box when entering the utility data into Portfolio Manager and make a note about this step in your Utility Benchmarking Plan for future reference.

### What should I do if my property uses utilities that are not metered or that are not paid for on a consumption basis?

For guidance on how to enter consumption and costs for utility types that are not metered but are purchased in specific quantities (e.g., fuel oil), see the [Portfolio Manager FAQ on Fuel Deliveries](#).

In rare cases, certain utility types used by a housing provider may be unquantifiable. This is most likely to occur when a housing provider uses unmetered well water for free or uses unmetered municipal water for a flat-fee. In these cases only, a housing provider should enter estimated consumption data for the purposes of HUD reporting requirements, based on a rule-of-thumb that an average tenant uses 121 gallons of water per day – the average shown in EPA’s research. For example, if a property has 200 tenants and the billing period is 30 days, a housing provider should enter  $121 \text{ gallons/tenant/day} \times 200 \text{ tenants} \times 30 \text{ days} = 726,000 \text{ gallons}$ . Be sure to click the “Estimated” box when entering the utility consumption into Portfolio Manager. You should still enter



accurate utility cost information, however, and make a note about this step in your Utility Benchmarking Plan for future reference.

### What should I do if I use on-site or community-based renewable energy technology?

See the Portfolio Manager FAQs on Entering Onsite Green Power:

- [Part 1: Create Meters](#)
- [Part 2: Enter Data](#)
- [Part 3: Net Metering](#)

### What should I do if I purchase off-site renewable energy technology?

See the Portfolio Manager [FAQ on Entering Offsite Green Power](#).

### What should I do if I have a combined water / sewer bill?

If you have water and sewer costs on the same utility bill, or if they are on separate bills but both reference the same consumption value, do the following:

1. Set up a Portfolio Manager water meter;
2. Include the water consumption in the Usage column; and
3. Enter the combined water and sewer cost in the Cost column.

In some cases, sewer bills may have no consumption values, with only a cost value provided. In other cases, they may have consumption values that differ from water consumption - usually because the utility provider charges based on a percentage of total water use, assuming that not all of the water used is discharged into the sewer (some goes to irrigation, evaporation in a cooling tower, etc.). In these cases, do the following:

1. Set up a separate Portfolio Manager water meter for the sewer costs;
2. Enter zero in the Usage column, since the value on the sewer bill does not represent actual water consumption that should be added to the property's total; and
3. Enter the sewer cost in the Cost column.

### How and why should I track utility cost information in Portfolio Manager if only utility consumption information is needed to assess energy/water performance?

Tracking your utility costs is key to understanding the amount of money spent to operate your properties, as well as the potential to save and reinvest money elsewhere. Additionally, because HUD covers the utility costs for both owner-paid and tenant-paid utility accounts, tracking this information alongside your utility consumption information should make it easier to complete other financial accounting and program reporting tasks. In the future, HUD hopes to integrate the utility benchmarking process with other such tasks through the creation of integrated software and databases, offering a fully streamlined process and sophisticated management tools for our housing provider partners. Tracking utility costs alongside utility consumption now will allow for a simple shift later.

When entering utility cost information into Portfolio Manager, it is recommended that housing providers enter the total cost on the utility bill, inclusive of all taxes and fees, since the total cost is the appropriate metric for



use when housing providers calculate utility allowances and utility subsidies.

### What should I do if there are gaps or overlaps in time in my utility data?

The [ENERGY STAR FAQ on Meter Gaps and Overlaps](#) provides some guidance on how to handle gaps in time in utility data. Tenant-paid utility bills at multifamily housing properties may be more likely to have gaps and overlaps than owner-paid utility bills, mostly due to tenant turnover.

- If gaps are due to a vacancy between tenants, zeroes can be entered for those periods of time.
- If gaps or overlaps are due to an anomaly in the utility provider billing schedule, it is acceptable to adjust the dates when entering the data to eliminate gaps and overlaps.

### How do I create a sample of tenant-paid utility data if only a portion of a property's housing units receive HUD support (e.g., a 100-unit property has 40 market-rate housing units and 60 HUD-assisted housing units)?

If a property is subject to HUD utility benchmarking requirements, the entire property should be benchmarked. Samples should be pulled from all housing units in the property, regardless of support status.



# Policies and Programs



## HUD strongly encourages utility benchmarking and requires it in some programs

HUD recognizes that utility benchmarking is important for all housing providers because it allows them to:

- Track properties' energy and water performance;
- Detect malfunctioning equipment and billing errors;
- Prioritize operational and capital improvements;
- Verify the return on those investments; and
- Plan for future budget needs.

HUD has issued Notices of Proposed Information Collection that, if enacted, would require the collection of utility benchmarking information from housing providers supported by the Office of Multifamily Housing's assisted and insured housing programs and the Office of Public Housing's public housing program, with certain exceptions. Requirements have already been established for utility benchmarking in insured housing and for participants of certain voluntary programs, like the [Green MIP Reduction](#) and the [Better Buildings Challenge](#).

Housing providers should read this section, refer to their program guidance, and check back periodically to stay current on the details of HUD's utility benchmarking requirements as they apply to various programs.

### Related Resource

#### **Former OMB Director and HUD Secretary, Shaun Donovan, Announces HUD's Utility Benchmarking Initiatives**

At Greenbuild 2016, Director Donovan highlighted the Administration's efforts to make the places we live and work both more energy efficient and more resilient for all Americans. Through HUD's focus on high-performance buildings, including our utility benchmarking initiatives, homes across the country are becoming more efficient, durable, and healthy.

[Read his full remarks.](#)



**Summary of Utility Benchmarking Requirements in HUD’s Housing Programs**

	<b>Public Housing</b>	<b>Housing Choice Vouchers</b>	<b>Assisted Housing</b>	<b>Insured Housing</b>
<b>Requirement Status</b>	Proposed requirement published October 4, 2016 (details below reflect proposal)	Encouraged	Proposed requirement published October 4, 2016 (details below reflect proposal)	Required*
<b>Covered Sub-Programs</b>	N/A	N/A	<ul style="list-style-type: none"> <li>• Section 202 Project Rental Assistance</li> <li>• Contracts (PRAC)</li> <li>• Section 811 Project Rental Assistance (PRA) Contracts</li> <li>• Section 202/162 Project Assistance Contracts</li> <li>• Section 202 Senior Preservation Rental Assistance Contracts (SPRAC)</li> <li>• Section 8 Housing Assistance Payment Contracts (HAP)</li> </ul>	<ul style="list-style-type: none"> <li>• Section 223(a)7</li> <li>• Section 223(f)</li> <li>• Section 221(d)(4)</li> <li>• Section 220</li> <li>• Section 231</li> <li>• Section 241(a)</li> </ul>
<b>Special Exemptions</b>	Small public housing authorities with fewer than 250 housing units	N/A	Small assisted housing properties with fewer than 20 housing units	Small insured housing properties with fewer than 20 housing units
<b>Reporting Frequency</b>	Once every 3 years	N/A	Once every 3 years	Once at loan signing and at certain events thereafter (See policy details)



<b>Sampling Permitted</b>	Yes; Tier 1	N/A	Yes; Tier 1	Yes; Tier 1
<b>More Information</b>	<a href="#">Federal Register Notice: Utility Benchmarking in Public Housing</a>	N/A	<a href="#">Federal Register Notice: Utility Benchmarking in Assisted Housing</a>	<a href="#">FHA Multifamily Mortgage Insurance Programs MAP Guide 2016</a>

\* As of November 1, 2017, applications for multifamily insured mortgages are required to provide verified utility consumption data in compliance with the Multifamily Accelerated Processing (MAP) Guide 2016 if [Green MIP Reduction](#) or underwriting utility savings is to be recognized.

**Summary of Utility Benchmarking Requirements in HUD’s Voluntary Programs**

	<b>Green MIP Reduction</b>	<b>Better Buildings Challenge</b>
<b>Requirement Status</b>	Required	Required
<b>Reporting Frequency</b>	Annually	Annually
<b>Sampling Permitted**</b>	To be determined	Yes; Tier 1
<b>More Information</b>	<a href="#">Green MIP Reduction Overview</a>	<a href="#">Better Buildings Challenge</a>

\*\*Sampling protocols can be found in [Step 2: Collecting Utility Data, under Method D](#) of this Multifamily Utility Benchmarking Toolkit.



## FINANCIAL ASSISTANCE FOR UTILITY BENCHMARKING

### Federal, state and local utility benchmarking assistance

#### Take advantage of Federal, state and local utility benchmarking assistance

Several HUD programs offer financial and/or technical assistance to support utility benchmarking efforts. While the goal of obtaining financial assistance, in particular, for utility benchmarking should not be the primary motivation for applying to these programs, housing providers should be aware that these opportunities from HUD do exist. The agency is exploring ways to make additional financial and technical assistance available.

#### Affordable Housing Summer Fellowship Program:

A pilot program that offers on-site technical assistance to jumpstart utility benchmarking

##### What is it?

In partnership with the Environmental Defense Fund, HUD is placing 12 graduate student fellows on site with affordable housing providers across the country for 10 weeks in Summer 2017. Applications for this opportunity have closed, but HUD hopes to offer the program again in the future.

##### More information

- [Affordable Housing Summer Fellowship flyer](#)

##### What is the financial/technical assistance?

In partnership with their host organizations, the fellows' mission will be to develop utility benchmarking plans, conduct first-time utility benchmarking, and train staff to upkeep the practice after their departure.

#### The Better Buildings Challenge (BBC):

A voluntary program that offers both financial and technical assistance for utility benchmarking and more

##### What is it?

The Better Buildings Challenge is a voluntary leadership initiative that asks property owners and managers to make a public commitment to energy and/or water efficiency. All BBC Partners are eligible to receive on-site or off-site technical assistance with utility benchmarking. BBC Partners that own or manage assisted housing are also eligible for a Management Add-On Fee incentive.

##### More information

- Better Buildings Challenge program flyer (coming soon)
- Management Add-On Fee incentive flyer (coming soon)
- [Better Buildings Challenge Multifamily Sector program website](#)

##### What is the financial/technical assistance?

BBC Partners may request technical assistance from their BBC Account Managers to gain support in overcoming obstacles towards their energy



and/or water efficiency pledges, including utility benchmarking. HUD establishes a scope of work for the direct technical assistance project in cooperation with the BBC Partner and then hires contractors to provide on-site or off-site support.

Further, owners/managers of assisted housing that are members of the BBC may request up to \$4 per unit per month in the form of a Management Add-On Fee to support the efforts associated with participating in the Better Buildings Challenge. This includes the practice of utility benchmarking.

To access this financial assistance, BBC Partners should request the Management Add-On Fee incentive from their local HUD Field Office. The Management Add-On Fee is paid to the owner/manager through the property's operating account. The cumulative amount received may not exceed \$5,000 per year per property.

### Green Mortgage Insurance Premium (MIP) Reduction:

A voluntary program that can pay for utility benchmarking and more

#### What is it?

Mortgage insurance encourages lenders to make loans to private sponsors or owners of rental housing by insuring the lender against losses incurred when borrowers default on their mortgages. If a housing provider owns and/or operates HUD-insured multifamily rental property, the owner must pay a mortgage insurance premium, at a rate of 0.45% to 0.70% of the unpaid balance of the mortgage loan amount, along with the property's mortgage.

#### What is the financial/technical assistance?

In early 2016, HUD allowed for a reduced multifamily insurance premium for green housing to encourage owners to adopt higher standards for construction, rehabilitation, repairs, maintenance, and property operations. The lower rate incentivizes owners to implement measures that result in housing with greater energy and water performance, reduced operating costs, and improved indoor air quality and resident comfort.

Through this voluntary program, multifamily property owners may receive a 0.25% reduction in the MIP for properties that are committed to industry-recognized green building standards and achieve and maintain an ENERGY STAR® score of 75 or higher as evidenced by a report from ENERGY STAR Portfolio Manager®. A housing provider may use the savings generated to cover costs associated with achieving these standards, which can include the utility benchmarking efforts necessary to obtain an EUI, WUI, ENERGY STAR 1-100 Score, and EPA 1-100 Water Score from Portfolio Manager.

#### More information

- Green MIP Reduction program flyer (Coming Soon)
- [Final Notice, "Changes in Certain Multifamily Mortgage Insurance Premiums and Regulatory Waiver for the 542\(c\) Risk-Sharing Program"](#)



## Public Housing Energy Performance Contract (EPC) Program: A method to finance green retrofits that can include utility benchmarking

### What is it?

An Energy Performance Contract (EPC) is an innovative financing method, available to Public Housing Authorities, that uses utility cost savings from reduced consumption to repay the cost of energy- and water-efficiency retrofits.

### What is the financial/technical assistance?

Public Housing Authorities planning an EPC can include the costs of utility benchmarking for participating properties in their EPC cashflow, thereby funding it through the project.

#### More information

- Check out the [Green Retrofit Opportunities](#) section below

## Other National Programs

Targeting owners of multifamily properties that invest in smart, strategic energy and/or water saving improvements, Fannie Mae and Freddie Mac provide green mortgage financing in addition to integrating sustainability considerations into underwriting, asset management, and securitization processes.

For Fannie Mae Multifamily Green Financing programs, access the “[Go Green Flowchart](#)” to assess the financing products for each individual owner’s needs. Such financing programs include:

- *Green Rewards*: Rewards renovations, retrofits, and repairs.
- *Green Building Certification Pricing Break*: Recognizes owner’s initiative to certify to LEED, ENERGY STAR, etc.
- *Green Preservation Plus*: Preserves quality affordable properties.

Rewarding borrowers who improve their properties to save energy, or who already have green-certified properties and are looking for new financing, Freddie Mac Multifamily Green Advantage<sup>SM</sup> suite of offerings include:

- *Green Assessment and Green Assessment Plus*: Reimburses up to \$3,500 of the cost of the Green Assessment report (a property analysis demonstrating how properties can save energy and/or water through targeted improvements.)
- *Green Up<sup>SM</sup>* and *Green Up Plus<sup>SM</sup>*: Rewards renovations, retrofits, and repairs through better pricing and more available funding.
- *Green Certified*: Rewards properties that are already green certified with discounted loan pricing.

#### More information

- [Fannie Mae Multifamily Green Financing Website](#)
- [Freddie Mac Multifamily Green Advantage<sup>SM</sup> Website & their Product Snapshot](#)



## State and Local Programs

Numerous state and local government programs encourage utility benchmarking, energy- and water-efficiency retrofits, and renewable energy use in residential, commercial, and public buildings through loans, grants, and rebates.

Of particular note, housing providers with properties in Connecticut and Rhode Island may be eligible to receive free utility benchmarking services through a third-party utility management service provider, as offered by the [Connecticut Green Bank](#) and [Rhode Island Infrastructure Bank](#), respectively.

### More information

- More information about various state and local incentives offered, as well as legislation related to energy conservation, is available on the [DSIRE website](#).



After beginning to practice utility benchmarking, you'll gain a great deal of insight into your portfolio and be able to immediately take action on low and no-cost fixes, like billing errors and malfunctioning equipment. You'll also be able to identify the properties that have the greatest potential for improvement through cost-effective green retrofits. In this section, learn more about HUD's programs that support green retrofits.

### Better Buildings Challenge (BBC)

The Better Buildings Challenge (BBC) is a voluntary leadership initiative that asks property owners and managers to make a commitment to improving the energy and water efficiency of their portfolios by 20% over 10 years and to share their annual progress and lessons learned with the public.

Owners and managers of housing portfolios that include at least 2 properties, at least 1 of which is a multifamily building of 4 or more units, are eligible to join the Better Buildings Challenge Multifamily Sector. HUD provides support to BBC Partners in overcoming obstacles on their journeys through technical assistance and highlights their good work in events and publications.

Current BBC Multifamily Sector Partners include a diverse range of organizations. No preexisting relationship with HUD is required to join the BBC. However, organizations that are part of HUD's assisted and public housing programs may be eligible for certain incentives through those programs when joining the BBC.

Each BBC Partner commits to:

- Conduct an energy/water efficiency assessment of their building portfolio and pledge an organization-wide energy/water savings goal of at least 20% within 10 years;
- Publish two short case studies, showcasing an energy/water efficiency project and an organization-wide implementation model; and
- Report results annually by sharing energy/water performance data that demonstrates success.

#### More information

- Better Buildings Challenge program flyer (coming soon)
- [Better Buildings Challenge Multifamily Sector program website](#)



## Renew300 Program

The Renew300 program aims to help affordable housing providers save money through the installation of on-site or community-based renewable energy technology. It encourages housing providers to make public commitments toward the federal renewable energy target of 300 megawatts of on-site or community-scale renewable energy capacity.

All federally supported affordable housing providers are eligible to join the Renew300 program, including those involved in HUD's public and assisted housing programs, USDA's rural housing programs, and the Low-Income Housing Tax Credit program. HUD provides support to Renew300 Partners in overcoming obstacles on their journeys through technical assistance and highlights their good work in events and publications.

### More information

- Renew300 program flyer (coming soon)
- [Renew300 program website](#)

## Public Housing Energy Performance Contract Program

An Energy Performance Contract is an innovative financing method, available to Public Housing Authorities, that uses utility cost savings from reduced consumption to repay the cost of energy- and water-efficiency retrofits.

PHAs interested in pursuing an EPC typically work with an Energy Services Company (ESCO) to conduct an investment-grade energy audit (IGEA), identify a mix of energy- and water-conservation measures (ECMs) that are cost effective over a maximum of 20 years, prepare an EPC cashflow and associated documents, and apply to HUD for approval. Meanwhile, the PHA also secures a third-party loan for construction. After completing construction, the PHA receives EPC Incentives from HUD, which are sized in relation to the utility cost savings achieved and allow the PHA to repay its loan. The ESCo typically guarantees a certain amount of savings, thereby reducing risk to the PHA and its lender.

### More information

- Public Housing Energy Performance Contract program flyer (coming soon)
- [Public Housing Energy Performance Contract program website](#)

## Assisted Housing Energy and Water Conservation Pay for Success (PFS) Program

The Fixing America's Surface Transportation Act authorizes HUD to establish a demonstration program under which HUD may execute budget-neutral, performance-based agreements that result in a reduction in energy or water costs. The legislation authorizes HUD to implement this pilot in up to 20,000 housing units in multifamily properties participating in the section 8 project-based rental assistance; section 202 supportive housing for the elderly program; and the section 811 supportive housing for persons with disabilities program. HUD is authorized to establish a competitive process for selecting one or more qualified intermediaries who will, per agreements with HUD, be responsible for initiating and managing an energy- and water-efficiency retrofit program.

Intermediaries selected for this program will be responsible for creating and executing their own plan for implementation. This plan will include:



- Recruiting investors to provide capital and paying them debt service using success payments provided by the government;
- Engaging and coordinating the retrofit service providers; and
- Retaining a third-party measurement and verification provider to verify outcomes.

### Property-Assessed Clean Energy (PACE)

PACE is an innovative mechanism for financing energy-efficiency, water-efficiency, and renewable energy improvements on private property, allowing a property owner to implement improvements without a large up-front cash payment. Multifamily property owners may access funds for energy- and/or water-efficiency improvements through their local government. The local government adds the loan payments to the owners' property taxes, and the loan payments are based on an increase in basis.

#### More information

- PACE flyer (coming soon)

Property owners that voluntarily choose to participate in a PACE program repay their improvement costs over a set time period—typically 10 to 20 years—through property assessments, which are secured by the property itself and paid as an addition to the owners' property tax bills. A PACE assessment is a debt of property, meaning the debt is tied to the property as opposed to the property owner(s), so the repayment obligation may transfer with property ownership, depending upon state legislation.

Many local governments may have PACE programs in place or underway, which any owner of multifamily housing may explore and consider. Assisted housing providers that wish to participate must be located in areas where the local government has submitted a PACE plan to HUD and had it approved.