ENERGY AND WATER USAGE ANALYSIS

HUD Energy and Water Efficiency Benchmarking Program

Report Generation Date:
August 2024

for

HUD REM ID
800000000

Portfolio Manager ID
20000002

Prepared by:

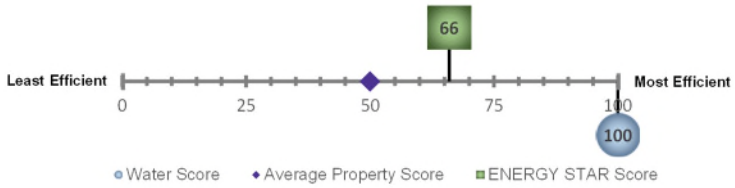
leidos

High Towers

101 Middle St
Middleton, AL 99734

Property Information	
Gross Floor Area (sq ft):	140,723
Building Type:	Low-Rise
Number of Buildings:	2
Number of HUD Assisted Units:	156
Number of Units:	157
Year Built:	1976
Occupancy %:	100%

Annual Energy and Water Usage & Cost		
Electricity	854,320 kWh	$170,671
Natural Gas	7,233 MMBtu	$80,580
Water	36,376 Gallons	$22,547
Total Utility Cost		**$273,798**



Think of your energy score as a grading scale for your property's energy performance

By allowing you to track usage and implementation of improvements over time, benchmarking can give you a sense of how your building is performing on energy and water usage compared to similar properties. It is the first step to making strategic investment decisions in your building or across your portfolio.

HOW TO READ THIS REPORT

- The **cover page** provides you an overview of your property information and energy characteristics, the same information we collected to produce an energy and water score in Portfolio Manager.
- **Page 3** gives you more detail on Portfolio Manager and what your scores mean.
- **Pages 4 – 7** evaluate your property's energy consumption and performance to similar multifamily properties, including an aspirational comparison for potential goal setting.
- **Page 7** explores your property's utility costs.
- **Page 8** presents a comparison of the performance of buildings within your property.
- **Pages 9 – 13** showcase possible recommendations for how to improve energy efficiency in your property.
- **Pages 13 – 18** outline next steps and tools to create a plan to become more energy efficient.
- **Pages 18 – 23** provide resources that may help you fund property upgrades.

Pages 1-13 are unique to this property, while pages 14-23 provide information that is relevant to all multifamily properties

Energy and Water Usage Analysis

The ENERGY STAR Portfolio Manager is an industry-standard system used by about half a million buildings across the US.

U.S. EPA PORTFOLIO MANAGER ACCOUNT

Benchmarking Overview

Your property was benchmarked using the U.S. Environmental Protection Agency's (EPA's), ENERGY STAR® Portfolio Manager® tool. Portfolio Manager is an energy management tool that allows you to track and assess energy and water consumption across your entire portfolio of buildings in a secure online environment.

The ENERGY STAR score rates a building's energy performance relative to similar buildings nationwide. It then compares the actual energy data you entered to the estimate to determine where your property ranks relative to its peers. All calculations account for the impact of weather variations and key property use details.

Expressed as a number on a simple 1-100 scale, the score rates performance on a percentile basis: a building with a score of 50 performs better than 50% of its peers. Higher scores mean better energy efficiency, resulting in less energy use and fewer greenhouse gas emissions.

ENERGY STAR Certification

Apply for ENERGY STAR Certification

The benefits of ENERGY STAR certification are vast. There's no cost to become certified, but there is typically a cost associated with having a licensed professional verify property information and conduct site visits. ENERGY STAR's Licensed Professional Finder allows you to identify professionals that have completed ENERGY STAR verifications in your area and even filter for those who provide the service at no cost. ENERGY STAR certified buildings save energy, have lower utility bill costs which save money, and help protect the environment by generating 35% fewer greenhouse gas emissions than typical buildings. Numerous studies demonstrate certified buildings are worth more and have higher occupancy rates.

To be eligible for ENERGY STAR certification, a building must earn an ENERGY STAR score of 75 or higher on EPA's 1 – 100 scale, indicating that it performs better than at least 75 percent of similar buildings nationwide. For more information on becoming certified, visit energystar.gov.

Ongoing Support

By participating in the Benchmarking Program Leidos will continue to offer the following support for your HUD-assisted properties.

- Assist in entering the next 12 months of energy and water data into the ENERGY STAR Portfolio Manager to generate the properties annual performance score through 2027.
- Provide support in meeting state and local benchmarking ordinances and building performance standards using Portfolio Manager.
- Offer training sessions to empower you to independently update your property's performance score annually.

By continuing to share your property's data through the ENERGY STAR Portfolio Manager, you will have access to real time updates on the property's energy efficiency and see how close it is to achieve ENERGY STAR certification. Additionally, entering this information into Portfolio Manager makes it easier for you to participate /your property to be eligible for] federal, state, and local benefits.

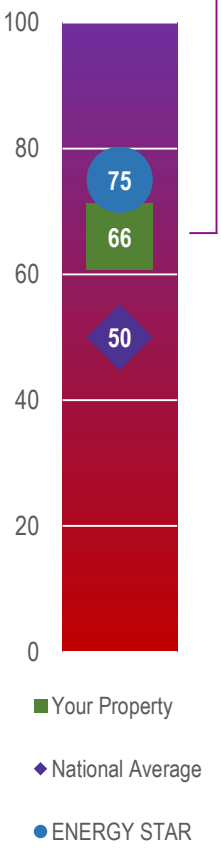
Energy and Water Usage Analysis

Although this score is above average, there are still measures this owner can take to achieve ENERGY STAR certification.

A property's score may decrease over time as key components of its energy usage (e.g., water heater, air conditioning) age or the building stock data with the tools are updated. To that end, this report provides strategies for a property to both maintain ***and*** improve its score over time.

ANNUAL ENERGY & WATER RESULTS

Your property received an ENERGY STAR benchmark score of 66. Using the U.S. EPA's building type guidelines, this score is above average when compared to other multifamily buildings in the United States.



66

Bedford Towers received an ENERGY STAR benchmark score of 66. Using the U.S. EPA's building type guidelines, this score is above average when compared to other multifamily buildings in the United States.

Based on the information you enter about your property, such as its size, location, number of occupants, etc., the score's algorithm estimates how much energy the property would use if it were the best performing, worst performing, and every level in between. It then compares the actual energy data entered to the estimate to determine where your property ranks relative to its peers.

The table below provides useful information regarding your benchmarked property in comparison to average properties with similar square footage and goals for your property based on a 30% energy savings. These figures can also be found in your ENERGY STAR Portfolio Manager under the Goals tab. For clear understanding of your property's energy performance, it is important to better understand the following definitions:

- **Site Energy Use** represents the annual energy consumed directly on-site, including the energy for the grid and on-site renewable sources, excluding any excess renewable energy sold back to the utility.
- **Site Energy Use Intensity (EUI)** is determined by dividing Site Energy by the property's square footage, helping to track energy usage trends over time for individual properties.
- **Source Energy Use** refers to the total amount of raw fuel required to operate your property, including the energy consumed on-site and losses during generation, transmission, and distribution.
- **Source Energy Use Intensity (EUI)** is calculated by dividing Source Energy by the property's gross floor area, providing a comprehensive measure of the building's energy performance. This metric is crucial for assessing the full energy impact of your property and comparing energy performance across a portfolio.

Site Energy Use Intensity (or "site EUI") is the ratio of energy used in your property compared to the building's square footage. A more energy efficient building will have a lower value in this category.

Site EUI is one of the most important indicators for your property's performance. Most building performance standards track this data point along with property's greenhouse gas emissions (GHG) as measurements.

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Energy and Water Usage Analysis

This column shows what you should be striving for long-term.

Analysis Period: June 2021 – June 2022

Energy Benchmarks	Your Property	Average Property*	Aspirational Property*
ENERGY STAR Score	66	50	96
Site Energy Use Intensity (kBtu/ft^2)	112.5	125.6	78.7
Source Energy Use Intensity (kBtu/ft^2)	72.6	81.0	50.8
Total Building Energy Cost	$251,929	$281,356	$176,350
Total Building Energy Cost ($/ft^2)	$1.79	$2.00	$1.25
Estimated Energy Cost per Unit	$1,605	$1,792	$1,123
Total GHG Emissions (Metric Tons CO_2)	598.3	668.2	418.8
EPA Water Score	100	50	100

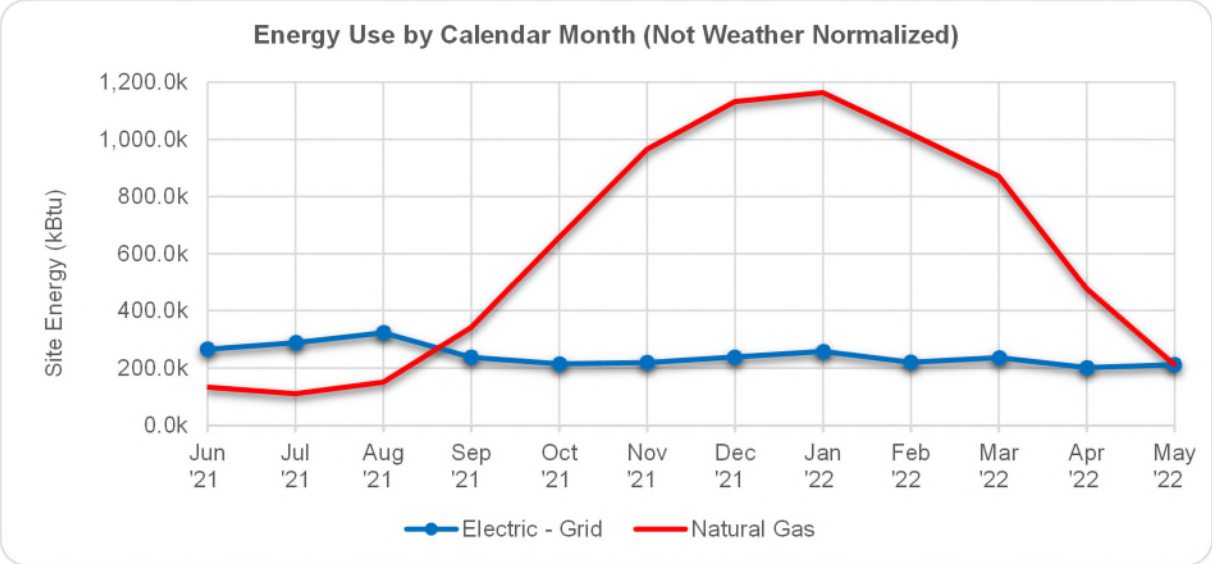
*Average Property scores and benchmarks are taken from Portfolio Manager Statement of Energy Performance based on the median performance for buildings of similar size, region, and building age. Aspirational Property scores and benchmarks for energy and cost are based on a 30% performance improvement relative to Your Property.
**https://www.energystar.gov/buildings/benchmark/understand-metrics/what-water-use-intensity-wui

The overall goal of decarbonizing our housing stock is to lower greenhouse gas emissions. Tracking your property's GHG emissions can also assist you in seeking out financing opportunities such as those offered by the recipients of EPA's Greenhouse Gas Reduction Fund.

This is a snapshot of what you could view on a quarterly basis on Portfolio Manager. In addition to tracking your property's progress, it will also display any fluctuations in its energy systems (i.e., demonstrate if its system is not functioning properly)

ANNUAL ENERGY USE

You may view the following chart in your Portfolio Manager account at any time. It shows the monthly energy usage for your whole property. Evaluating utility bill patterns can help you identify months where energy use is higher and investigate energy bills further to pinpoint a cause and identify countermeasures, like installing energy efficiency upgrades.

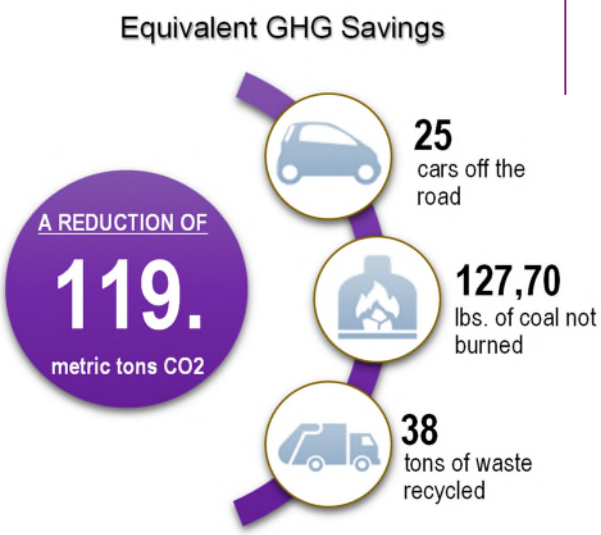


Even if you cannot afford to undertake major work at this time, checking this information in PM can help you catch when a system may not be functioning properly.

This graphic demonstrates the impact potential energy efficiency improvements could have in reducing greenhouse gas emissions.

CARBON EMISSIONS

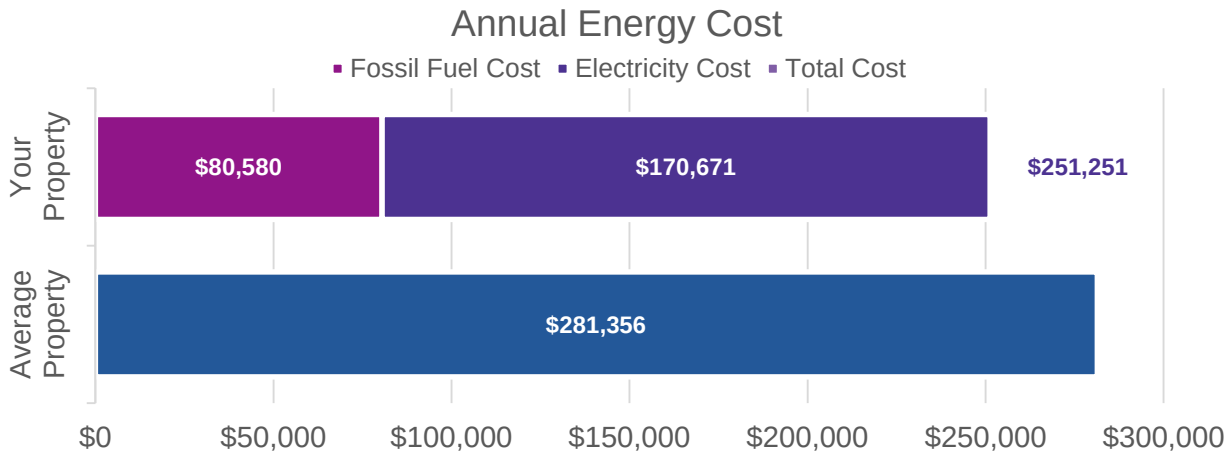
The energy consumption for Bedford Towers creates carbon emissions of 598.3 metric tons of CO_2, compared to the national average of 668.2 metric tons of CO_2. Your property's GHG emissions are currently lower than average when compared to a building of similar square feet, type, and usage. Even so, if you could reduce energy consumption by 30%, the savings would be equivalent to removing 25 cars from the road, 127,705 lbs. of coal not burned, and 38 tons of waste recycled.



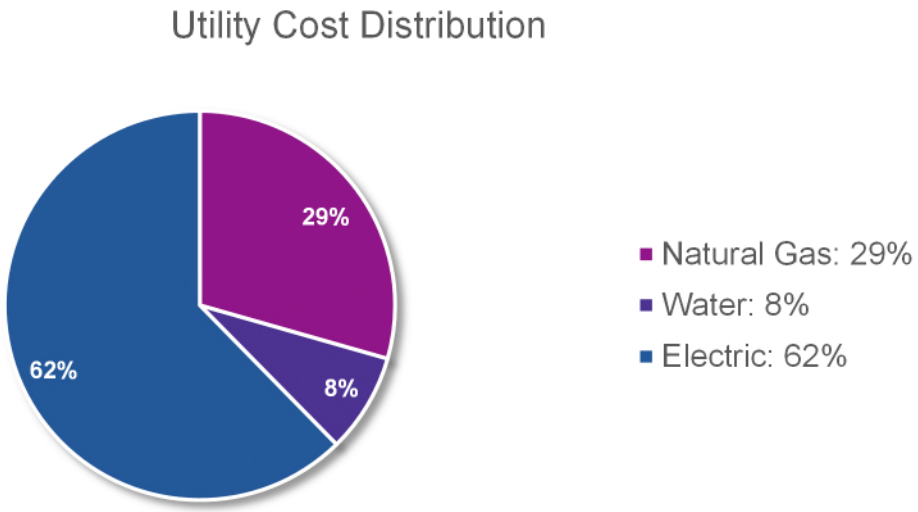
ENERGY & WATER COST DATA

The annual energy cost for Bedford Towers is $251,929, which includes $80,580 for fossil fuel and $170,671 for electricity. Fossil fuel is defined as other energy sources besides electric, including natural gas, propane, oil, and more that could be used for space heating, cooking, or water heating. The property spends $1.79 per square foot for energy. The estimated average annual energy cost for a building of similar square feet, type, and usage is $281,356. Therefore, your property's energy costs are lower than average when compared to similar buildings nationwide.

Electricity and natural gas are the most used energy sources in multifamily properties, but they aren't the only sources. Properties across the U.S. also use heating oil, propane, geothermal energy, solar energy, and wood.



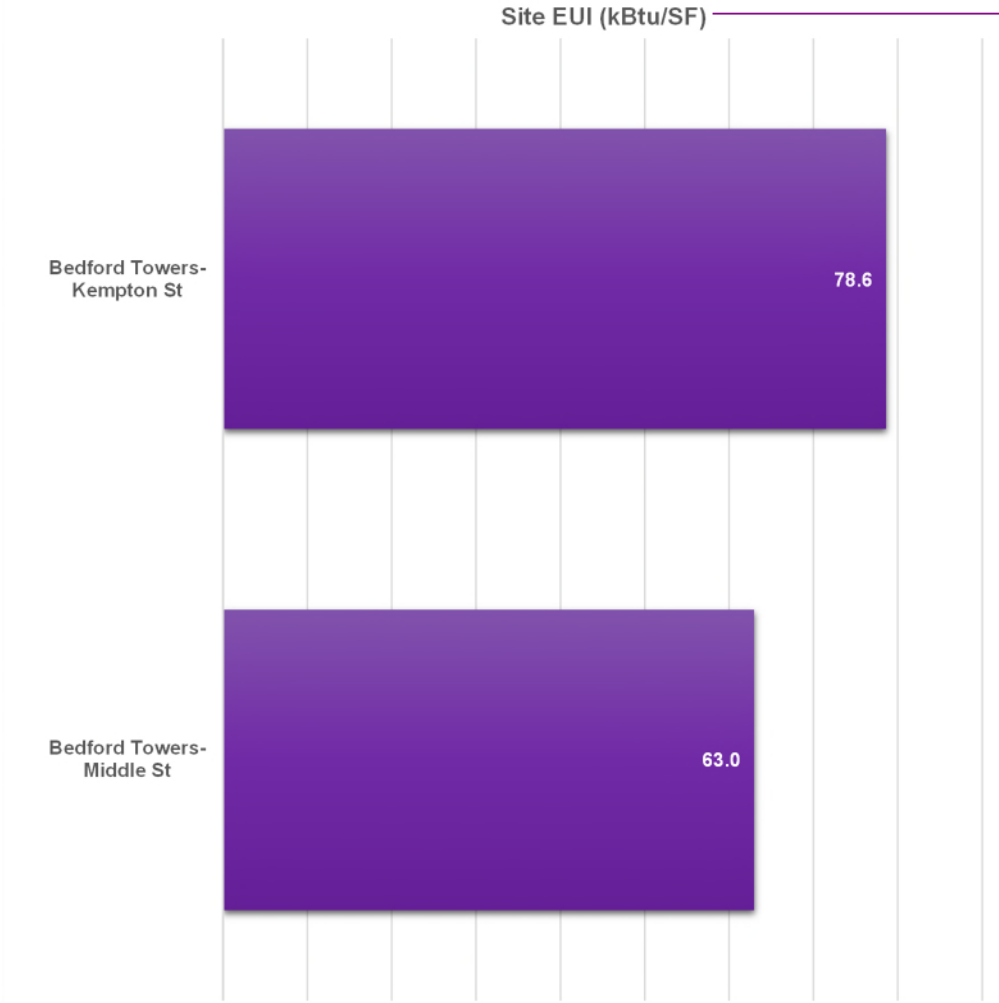
Electricity costs make up 62% of your property's total annual energy cost. Fossil fuel costs make up 29% of your property's total annual energy cost. The chart below presents the distribution of utility costs between electric, fossil fuel, and water.



COMPARISON OF BUILDINGS WITHIN YOUR PROPERTY

Your property comprises multiple buildings for which utility data was made available for benchmarking. The chart below presents a comparison of energy use intensity (EUI) across all buildings within the property. EUI is a metric used to assess a building's total annual energy consumption per square foot of floor area. This chart may be used to prioritize implementation of energy efficiency measures in the most energy intensive buildings. The buildings at this property are rank

ordered by EUI in the chart below, with the worst performing buildings at the bottom. Bars represented in purple are below the average EUI and the red are above the average EUI for a building of similar square footage and usage.



This chart is especially important for those with properties comprised of multiple buildings. It can help identify which buildings would require more maintenance or improvements and decide when to prioritize them.

RECOMMENDED ENERGY EFFICIENCY IMPROVEMENTS

Improving energy efficiency in HUD-assisted housing is important for several reasons, including reducing operations costs for owners as well as utility costs attributed to residents, promoting resiliency amid increasing climate hazards, adhering to emerging state and local laws, and ensuring the long-term durability of the nation's affordable housing stock.

Below are some common energy efficiency measures that can be implemented in multifamily housing. The utility bill savings are estimated as the average savings per energy usage cost (i.e., heating, cooling, lighting costs, etc.). For example, if 20% of the electric bill is energy used for lighting, upgrading to energy efficient lighting is estimated to save between 50 - 70% of your lighting portion of the bill. For a monthly electric bill of $1,000, and $200 is lighting, the expected savings is between $100 - $140, monthly.

It is important to have a plan in place when a key system or appliance requires replacing so that these are not replaced in-kind, but rather that the opportunity for a new more efficient system or appliance is considered. While some of these upgrades typically occur as part of a larger rehabilitation effort or as a result of a specific form of assistance (such as weatherization assistance through your state or utility provider), many of these upgrades can be undertaken as part of your day-to-day asset management. For example, the replacement of appliances could occur when units become vacant or when individual appliances need to be replaced to avoid the disruption to residents that would occur if all appliances in a building are replaced at the same time. While the upfront cost may appear to be higher, with current incentives available and the lower operating costs, these systems may be the better, cost-saving option.

Educating residents about energy and water saving practices, such as turning off lights and appliances when not in use and turning the water off while brushing teeth, can also significantly reduce energy and water consumption. Programs that encourage residents to adopt energy-efficient habits can be beneficial. For more low- to no- cost energy savings tips click here and for more water savings tips click here.

The prices below reflect market rates, not accounting for federal and state resources / incentives.

Energy Efficiency Upgrade	Utility Bill Savings	Upfront Investment
Energy-Efficient Lighting	50% - 70% of lighting costs[1]	$3.99/bulb
Energy-Efficient Appliances	~10%/updated appliance [3]	$488/refrigerator $399/dishwasher
HVAC System Upgrades	20% - 50% [1]	**Unit replacement:** $25 to $60/sq. ft., **Ductwork:** $12 to $25/ linear foot, **Labor:** $75 to $150/hour [4]
Smart Thermostats	10% - 15% [1]	$47 per unit
Solar Panels	$3 - $5 per 200W generated [6]	$250 - $699 per 200W generated [6]
Water Conservation	16 gallons per person [7]	A few dollars per unit

*Estimated upfront investments are based on a national average

Below are descriptions of the energy efficiency measure and best practices around performing the upgrade:

If you haven't replaced the light bulbs in your property with energy efficient ones, it's time to take this step as ENERGY Star certified light bulbs can use up to 90% less energy than standard bulbs.

1. **Energy-Efficient Lighting:** Replacing older lights, like incandescent, fluorescent, metal halide, or sodium vapor bulbs with LED can significantly and relatively easily reduce energy consumption and lower electricity bills. LED bulbs have a longer useful life than other bulbs which reduces maintenance in changing bulbs. Note, in some instances the fixture (lighting infrastructure in the celling that holds and operates the bulb) may also need to be updated which will add more cost. Caution must be taken in older buildings if asbestos is used for insulation above the ceiling. Installing occupancy sensors or timers can also help ensure that lights are not left on when they're not needed will further reduce electricity use and extend the life of the bulb. Before proceeding with the upgrade, consult an expert who can determine the correct retrofit plan and whether the solution includes changing fixtures and adding sensors or timers. It will save you money in the long run and avoid unforeseen complications. After the consultation you can gauge whether current maintenance staff can proceed with the upgrade or if the project is best left to professionals.

2. **Energy-Efficient Appliances:** Upgrading old, inefficient appliances (such as refrigerators, freezers, dishwashers and clothes washers) with ENERGY STAR-rated appliances can lead to substantial energy savings. ENERGY STAR offers a product and rebate finder tool. Appliances can be expensive you will want to consider if changing them all at once or a systematic approach over time is best. Always ask if there are discounts for buying multiple appliances at a time.

ENERGY Star certified heat pumps serve as both home heating devices ***and*** cooling devices.

3. **HVAC System Upgrades:** Replacing or retrofitting heating, ventilation, and air conditioning (HVAC) systems with more efficient models can reduce energy consumption. HVAC systems can vary greatly from building to building. There are two types: decentralized, meaning individual HVAC units for each apartment, or centralized, which controls the temperature of the whole building with large units in a central location either in the basement or mechanical room or rooftop. Regardless of HVAC design, regular maintenance of HVAC systems (tune-ups and filter changes) is also essential to ensure they operate efficiently. Replacement is a good option if your current system is older than 15 years or energy bills are higher than usual. HVAC systems are complex and a major equipment expense. It is best to consult an industry expert to see what system upgrade makes sense for your property.

4. **Smart Thermostats:** Installing programmable or smart thermostats can help regulate indoor temperatures and reduce energy usage by adjusting settings based on occupancy and time of day. There are many types of smart thermostats, and they may be installed by a maintenance team, experiment with one thermostat before buying multiple (if needed) as smart thermostats vary in compatibly with HVAC systems. Googling, “smart thermostat compatibility checker” will ensure your HVAC system is compatible with the top brands.

5. **Solar Panels:** Installing solar panels on rooftops or ground can generate renewable energy and reduce electricity costs. There are residential and commercial grade solar panels. Adding just a few panels could be handled as a maintenance project, but hiring a professional is a more common approach. HUD-assisted housing may also qualify for federal or state incentives to help offset the initial installation costs. Research the full range of incentives to help create a plan.

6. **Water Conservation:** Implementing water-saving fixtures, such as low-flow toilets, faucet aerators and showerheads, can reduce water and energy consumption. Fixing leaky faucets and pipes is also crucial. Many utilities offer rebates making the products low or no-cost. These projects can easily be completed by a maintenance team and systematically installed throughout the units.

For example, 48E is a federal tax credit that will cover up to 30% of the cost for renewable energy projects — including solar systems. Additionally, HUD-assisted owners are eligible for an 20% for covered housing. More information on this program can be found on page 19.

ENERGY STAR certified systems include heat pump and solar hot water heaters.

7. **Hot Water Systems:** Replacing older hot water heaters with high-efficient or tankless systems can assist in reducing energy costs. Additionally, some low-cost measures including insulating hot water pipes and the hot water heater itself can minimize heat loss, ensuring that less energy is needed to maintain desired water temperatures. Implementing a timer or smart thermostat for the hot water heater can also optimize energy usage by heating water only when needed.

8. **Energy Performance Contracts:** Consider utilizing energy performance contracts with third-party companies that specialize in energy efficiency improvements. They can finance, design, and implement energy-saving measures in exchange for a portion of the cost savings.

LOW-COST ENERGY EFFICIENCY BEST PRACTICES

9. **Exterior Maintenance:** Properly maintaining the building's exterior can also enhance energy efficiency. This may include repairing or replacing siding, roofing, and insulation. Have the maintenance crew check exterior waterspouts to ensure there are no leaks. Look for cracks in the exterior walls which may leak air. Clear leaves or debris from exterior HVAC equipment and ducts to optimize performance.

10. **Community Gardens and Landscaping:** Implementing community gardens and landscaping can help cool the environment, reduce heat island effects, and enhance the aesthetics of the housing complex.

It's important for HUD-assisted housing providers to assess the specific needs and opportunities of their properties to create a tailored energy efficiency plan. Additionally, funding sources and available incentives can vary, so exploring federal, state, and local programs that support energy efficiency in affordable housing is advisable.

NEXT STEPS

Free Tools

In addition to benchmarking, there are several other tools to evaluate your building and property's performance and help you understand the biggest areas of opportunity to increase energy efficiency and decrease utility bills. While all the tools below are free, they require a varying level of expertise and capacity to use them. These tools- ENERGY STAR Portfolio Manager, BETTER, and Asset Score complement each other, as illustrated in the graphic below. You have taken the very important step of beginning to understand and measure your property's energy and water usage. The BETTER and Asset Score tools can provide you with even more information to help inform your future investments. The tool you use may depend on your current needs. For instance, if you are looking to implement low-cost implementations or quickly identify opportunities across your portfolio, you'd likely opt for the BETTER tool, while you'd choose Asset Score if you're looking to perform a deeper analysis at the building level and are preparing for significant energy savings investment.

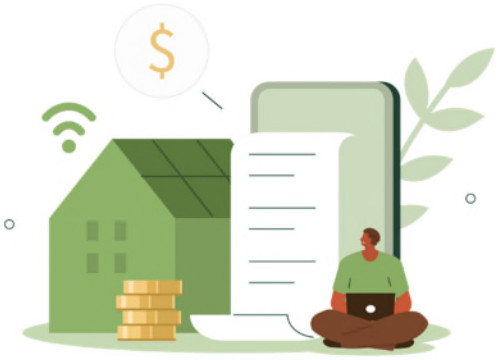
ENERGY STAR® Portfolio Manager®

BETTER Building Efficiency Targeting Tool for Energy Retrofits — U.S. Department of Energy

Building Energy Asset Score — U.S. Department of Energy

HIGH-LEVEL ANALYSIS	MID-LEVEL ANALYSIS	DEEP-LEVEL ANALYSIS
Rate actual operational energy performance against peers **Earn** the ENERGY STAR® plaque for superior operational energy performance	**Quantify** actual operational energy, cost, and emissions reduction potential **Identify** efficiency measures to improve operational energy performance **Target** buildings for detailed analysis of potential structural improvements using Asset Score	**Assess** physical and structural energy performance using whole-building simulation **Select** cost-effective physical and structural improvements for implementation

1. **Building Efficiency Targeting Tool for Energy Retrofits (BETTER)** is a free software toolkit created by the Department of Energy (DOE) that serves as a bridge between ENERGY STAR Portfolio Manager and Building Energy Asset Score. BETTER delivers actionable insights to improve energy and financial performance in buildings and portfolios without requiring site visits and complex modeling. The tool identifies immediate, cost saving operational measures and technology upgrades to reduce energy consumption while prioritizing facilities for more in-depth audits and analysis. With minimal data entry (building type, gross floor area, city and state location, and 12 consecutive months of energy consumption), and the ability to import data from ENERGY STAR® Portfolio Manager®, BETTER benchmarks a building's or portfolio's energy use against peers; quantifies energy, cost, and greenhouse gas (GHG) reduction potential; recommends energy efficiency measures (technological and operational) for individual buildings or portfolios, targeting specific energy savings levels; and identifies the buildings in a portfolio that can most easily achieve net zero energy.



Source: DOE's website

ASHRAE is a commonly used standard during energy audits, which are detailed on page 17.

Use BETTER to do the following:

- To replace an entry-level, or Level 1, audit (i.e., an analysis of utility bills and a building walkthrough) or to streamline an investment-grade, or Level 2, audit by providing auditors with insights into what equipment may be underperforming and to validate audit findings.

- For screening or preliminary, portfolio-wide analysis to identify which buildings are good candidates for operations and maintenance (O&M) tune-ups due to mid-range energy performance; which buildings are already high performers and for which technology and O&M best-practices can be shared across the portfolio; and which buildings may require audits and/or retrofits due to high energy savings potential.

- To uncover and implement simple no-/low-cost operational measures (e.g., adjust cooling and heating setpoints) to immediately cut energy costs portfolio-wide. "*Doing individual analysis and assessment of the*

monthly and annual energy data for 62 schools is much too time-consuming. We can use BETTER to point to the 10-12 buildings that might have temperature setpoint/scheduling issues so they can be fixed." Bryan Conrad, Existing Building Commissioning Professional, Energy Education Coordinator, Energy Management, Office of Facilities Services, Prince William County Schools, April 2020.

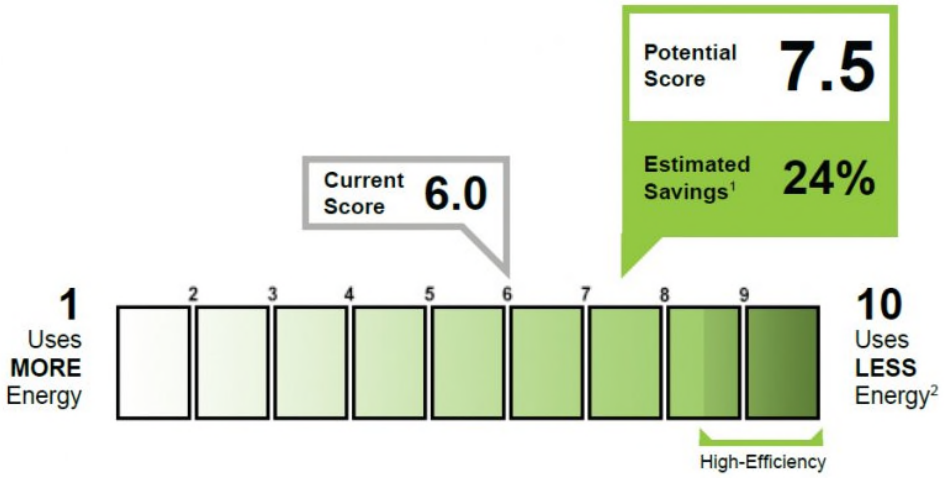
To learn more about how BETTER is being used, please click on the hyperlinks below:

- Portfolio Case Study
- Building Case Study
- Nonprofit Case Study

Or watch this on-line training, "Using BETTER to Implement a "Quick Wins" Building Energy Performance Improvement Strategy," which provides step-wise guidance on how to implement approximately 20 no-/low-cost O&M measures recommended by BETTER, such as reducing lighting load by correcting over-lit conditions; decreasing outdoor air infiltration by operating a building at a slightly positive pressure; or optimizing cooling setpoints by resetting chiller cooling temperature.

2. **Building Energy Asset Score (Asset Score)** is a free national standardized tool created by DOE for assessing the physical and structural energy efficiency of multifamily residential buildings. Asset Score generates a simple energy efficiency rating that enables comparison among buildings and identifies opportunities to invest in energy efficiency upgrades. This tool uses more comprehensive building asset data, comparable to an ASHRAE level 2, to generate an Asset Score. While ENERGY STAR Portfolio Manager assesses how efficiently a property is operated and maintained (using actual usage data), Asset Score uses modeled usage data to assess how efficiently the property should be performing. The tools can be combined to tell an asset manager more information about the property; For instance, a property with a high ENERGY STAR score and a low Asset Score may indicate a need for capital improvements, while a property with a low ENERGY STAR score and a high Asset Score may signal a need for retuning or retro-commissioning.

   Sample Energy Asset Score from energy.gov:



Other Resources

ASHRAE (American Society of Heating, Refrigeration, and Air-Conditioning Engineers) audits for buildings are categorized into three different levels. Each level offers increasing detail and accuracy in assessing a building energy performance.

A level 1 audit is commonly referred to as a “walk through” audit. This audit looks to identify no- cost or low-cost energy efficiency opportunities through a high-level review of the building’s energy use, walk-through inspection, and conversations with building management. The outcome of a level 1 audit includes the identification of high-level energy inefficiencies, a rough estimate of potential energy savings, and a condensed report summarizing the findings and recommendations. Level 1 audits are generally the least expensive and best for owners looking for quick, low-cost building improvements.

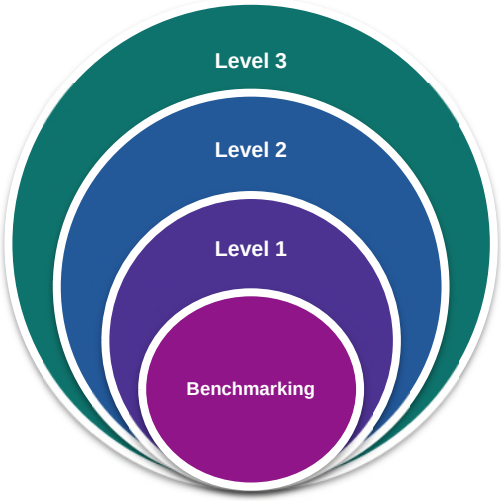
An ASHRAE level 2 audit provides a more detailed examination of the building’s energy consumption. It includes a detailed review of the building’s utility bills, a more in-depth on-site inspection of the building and equipment which may include data collection, and interviewing facility managers to understand operations and identify potential risks. The report for a level 2 audit provides a prioritized list of energy efficiency measures and a financial analysis of costs, making it more suitable for building owners seeking a deeper understanding of their energy use.

A level 3 audit involves a comprehensive analysis to support major capital investments in energy efficiency. This includes extensive data collection and monitoring, detailed energy modeling, and an analysis of the building's energy systems and usage patterns. The final highly detailed report from this audit is an in-depth analysis of energy-saving measures and a detailed financial review, including return on investment. This level is the most expensive option due to the extensive review making it best suited for owners planning significant investments in energy efficiency updates.

When considering an audit, building owners need to clearly define their objectives and goals, whether they are looking for quick fixes, moderate improvements, or planning for major investments. They should consider their budget, the current state of the building's energy system, and the timeline for both the audit and implementing the recommendations. It is important to use qualified professionals with multifamily building experience.

Before starting any energy efficiency project, check with your utility provider for funding and incentives. There are also opportunities available through local, state, and federal governments, some of which are highlighted in pages 18 – 23 of this report.

FINANCIAL RESOURCES TO FUND ENERGY EFFICIENCY & RENEWABLE ENERGY IMPROVEMENTS



The Inflation Reduction Act, Bipartisan Infrastructure Law, and other recent legislation provide billions of dollars for investments in energy-efficiency improvements, energy generation and battery storage, and resiliency upgrades. Many funding opportunities are already available, and properties with HUD rental assistance often meet program eligibility requirements considering that they serve low-income households.

We recommend you use the following resources to search all the incentives available to help you plan for and lower the cost associated with energy efficiency upgrades. Get started today!

- HUD's Funding Navigator Tool
- Database of State Incentives for Renewables and Efficiency

Additional funding opportunities are offered below:

Home Efficiency Rebates (DOE)

State energy offices will offer Multifamily projects of $2,000–$8,000 per unit or $200,000–$400,000 per building. Eligible upgrades include heating and cooling systems, insulation, and water heating systems. New York and Wisconsin are the first states to launch their rebate programs, with several other states expected to follow. Upgrades are eligible for rebates and credits provided they were implemented or purchased after August 2022.

Home Electrification and Appliance Rebates (DOE)

State energy offices will offer rebates up to $14,000 (total across all appliances) or 100% of project costs per unit, whichever is less (based on household income), for:

- Electric heat pump water heaters
- Electric heat pumps for space heating and cooling
- Electric stoves
- Electric heat pump clothes dryers
- Electric load service centers
- Insulation
- Air sealing
- Ventilation
- Electric wiring

New York and Wisconsin are the first states to launch their rebate programs, with several other states expected to follow. Upgrades are eligible for rebates and credits provided they were implemented or purchased after August 2022.

45L – Energy Efficient Home Tax Credit (Treasury)

Builders can get a $2,500–$5,000 tax credit per newly constructed or renovated single-family home meeting ENERGY STAR® Home Program or DOE Zero Energy Ready Home (ZERH) standards. Plus, tax credits of $1,000–$5,000 per newly constructed multifamily homes meeting those standards and wage and apprenticeship requirements. Tax credits are available now.

25C – Energy Efficient Home Improvement Tax Credit (Treasury)

Taxpayers, including renters, can get a credit up to 30% of the cost for insulation, air sealing, heat pumps, and heating and cooling equipment. The maximum combined credit per tax year is $3,200. This includes up to $2,000 for heat pumps and heat pump water heaters, and up to $1,200 for windows and doors, home energy audits, electric wiring upgrades, upgraded appliances, and more. Tax credits are available now.

Weatherization Assistance Program (DOE)

Formula grants to all 50 states, Washington, D.C., Native American Tribes, and U.S. Territories to reduce energy costs for low-income households by improving the health, safety, and energy efficiency of homes. To find out if you are eligible to apply for WAP assistance, reach out to your state weatherization administrator.

Energy Efficiency and Conservation Block Grants (DOE)

Funding for states, local governments, and Tribes to improve efficiency and reduce emissions. Eligible projects include energy audits and building upgrades, building efficiency and electrification campaigns, and adopting green building performance standards.

179D – Energy Efficient Commercial Buildings Tax Deduction (Treasury)

Buildings 4+ stories (new construction and rehabilitation) are eligible for a tax deduction of $1.00/sq. ft. to over $5.00/sq. ft., if energy targets and wage apprenticeship standards are met. Eligible upgrades include interior lighting; building envelope sealing; or heating, cooling, ventilation, and hot water systems. Tax deductions are available now.

48E – Investment Tax Credit 48e – Low-Income Communities Bonus Credit (Treasury)

Provides businesses, nonprofits, and other entities a tax credit up to 30% of the cost of a renewable energy project, including fuel cells, solar, geothermal, small wind, energy storage, biogas, microgrid controllers, and combined heat and power properties. Savings can be combined with the Low-Income Communities Bonus Credit (§48e) that provides an extra 20% of project costs for solar and wind energy projects in low-income communities. If the domestic content bonus and energy community bonus also apply, it's possible for 70% of project costs to be repaid. Tax credits are available now.

Elective/Direct Pay (Treasury)

The Inflation Reduction Act Direct Pay Tax Provision (§6417) expanded eligibility for renewable energy tax credits, including 48, 48E, and 11 other clean energy–related tax credits. Tribes, housing authorities, local government, and nonprofits are now eligible to monetize the credits through direct payment of renewable energy tax credits.

The Better Building Challenge includes “management add-on fees” – financial incentives for multifamily property owners and managers to benchmark and implement energy efficiency measures.

Better Climate Challenge and Better Buildings Initiative (DOE, HUD)

Through the Better Climate Challenge, organizations can partner with DOE to reduce portfolio-wide GHG emissions (scope 1 & 2) by at least 50% within 10 years. DOE will provide technical assistance and opportunities to learn and share actionable best practices for carbon reduction. Hundreds of organizations have served as partners in the effort to decarbonize the multifamily sector. Organizations can find resources, case studies, and webinars as well as details about upcoming working groups.

Title 17 Clean Energy Financing Loans (DOE)

Title 17’s State Energy Financing Institution (SEFI) lending authority can be used to augment state-administered clean energy programs, offering loan guarantees to support projects such as high-quality new construction and building renovations with renewable energy, storage, and/or grid interactivity. Projects that expand access to community solar are also eligible.

Greenhouse Gas Reduction Fund: Solar for All (EPA)

The Greenhouse Gas Reduction Fund’s competitive funding opportunity will provide up to 60 awards to new or established solar programs, which then provide grants and incentives for residential rooftop and residential community solar that benefit low-income households. Grant amounts range from
small-sized ($25 million–$100 million) to large-sized ($250 million–$400 million) programs.

The Greenhouse Gas Reduction Fund will also mobilize private capital to deliver lower energy costs and economic revitalization to communities. The Clean Communities Investment Accelerator and the National Clean Investment Fund could be funding sources for installing clean technology projects. These funds will be available in the future.

Utility Bill Saving Sources:

1. https://www.energy.gov/energysaver/why-energy-efficiency-upgrades#:~:text=Typically%2C%2043%25%20of%20a%20home,from%2020%25%20to%2050%25.
2. https://www.greenattic.com/blogs/insulation-cost-compare-4-types-of-materials-rvalue
3. https://www.energystar.gov/sites/default/files/tools/ENERGY%20STAR%20Appliances%20Brochure_508.pdf
4. https://www.bobvila.com/articles/hvac-unit-replacement-cost/
5. https://www.energystar.gov/sites/default/files/tools/Small_Business_Manufacturers_0.pdf
6. https://www.marketwatch.com/guides/solar/solar-panels-for-apartments/
7. https://www.epa.gov/watersense/statistics-and-facts