Asset Score/Quick Building Assessment Tool

Quick Start Guide

March 2025

U.S. DEPARTMENT *of* **ENERGY**

Table of Contents

1.0   Overview

This guide provides users with step-by-step instructions for using Building Energy Asset Score (Asset Score or AS) and Quick Building Assessment Tool (QBAT) to quickly identify energy-saving opportunities and estimate associated energy and cost savings for a building. It also provides guidance on the workflow that can be used to identify energy savings for individual measures using Asset Score.

1.1   What is Asset Score and QBAT?

Asset Score is a web-based tool that helps users evaluate a building's energy efficiency and identify potential improvements. It uses whole building energy modeling through EnergyPlus and OpenStudio to estimate a buildings existing energy use and potential for energy savings through energy efficiency measures identified by the tool.
As part of Asset Score, QBAT provides a simplified way to generate an Asset Score model using five easily identifiable building characteristics. It infers additional building characteristics by leveraging commercial building survey data, industry expertise, and established building energy standards.

The recommendation engine analyzes existing building's simulation results to generate a list of energy efficiency retrofit opportunities and the associated health and safety benefits. These insights support needs assessment applicants in strengthening their applications with data-driven building improvement strategies.

2.0 Getting Started

To begin using Asset Score and QBAT, follow these steps:

2.1 Initial Setup: User Registration

To get started, users must first create an account on the Asset Score/Audit Template website.

- To create an account, visit https://buildingenergyscore.energy.gov.

- Click the "**Register**" button (Figure 1) and fill in the required information, including your email address, which will be used for verification purposes.

- Check your email inbox for a verification link, follow the instructions to verify your email address, and log in using your credentials.

Figure 1. Registration Screen

2.2 Creating a new building in QBAT

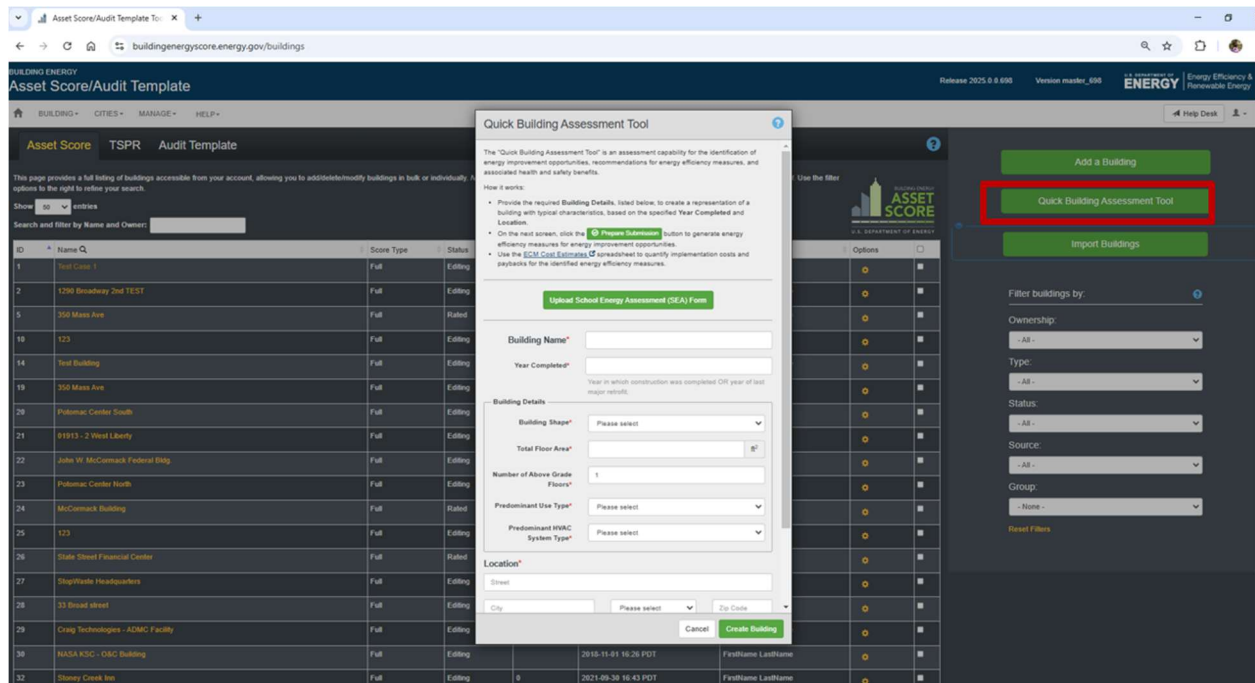Make sure you are in the Asset Score tab to access QBAT and follow the steps below to create a new building.

Figure 2: Quick Building Assessment Tool (QBAT)

a)   Access QBAT

- Use "**Quick Building Assessment Tool**" button on the right-hand side.
- A modal box will appear. Enter all required information and review the fields in the dialogue box. Click the green "Create Building" button to generate a building model.
- Your building will be generated with the option to immediately assign energy measures and start a simulation. As a best practice, we recommend clicking "Cancel" to review the pre-populated building data before proceeding.

b)   Review and Analyze the Prepopulated Information

Navigate through different icons at the top to review and update the information as necessary.


- **Building Shape**
  - Verify the shape of the building. Confirm it aligns with your building.

- **Use Types**
  - For multifamily buildings, consider specifying "Multifamily Common Area" as a *Use Type*. This distinction allows users to separate tenant spaces from common areas within their multifamily buildings.
    - **NOTE**: To add another *Use Type*, you will need to navigate back to the Building Shape page and create a new Block(s).
    -
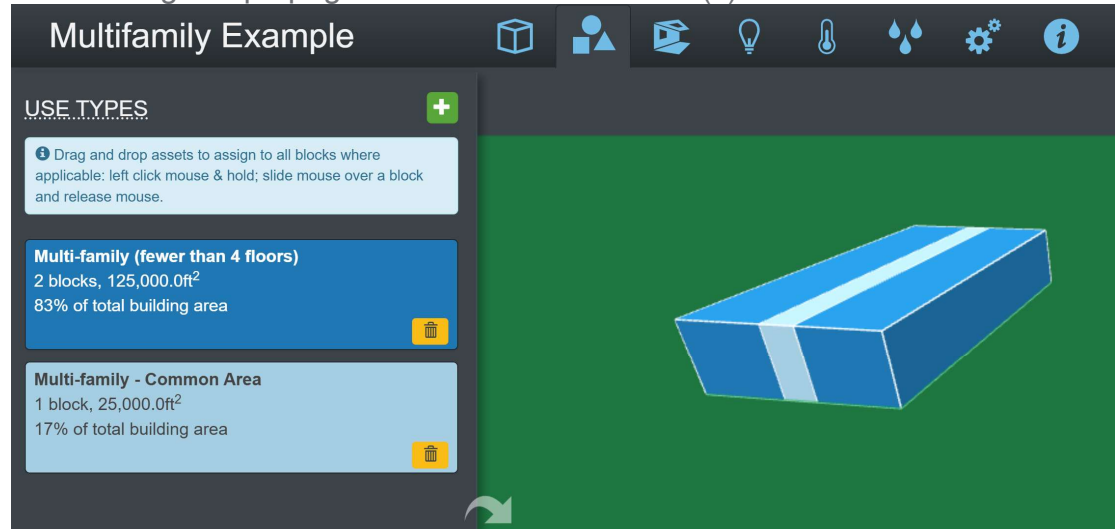
- **Envelope Details**
  - Check roof, wall, window, floor assemblies. Clock on blocks to view their respective Window-to-Wall Ratio (WWR) and ensure the default WWR matches your building.

- **Lighting**
  - Review the mix of lighting types, such as LEDs and compact fluorescents, and make updates as needed.

- **Heating and Cooling**
  - Review plants and HVAC equipment. Ensure the pieces of equipment generated through the QBAT process line up with your building's heating and cooling configuration.

- **Water Heaters**
  - Assess the service water heating system.

- **Operations**
  - Add elevators or residential occupancy and appliance information.

2.3   Quick Recommendations Using QBAT

Once the review is complete, click "**Prepare Submission**" on the top-right corner to access the measure selection modal. Navigate through different measure screens to select the measures applicable for the project (Figure 3). Once selected, go ahead and "**Submit Building**". You will soon get an email when the building is scored, and the report is ready.
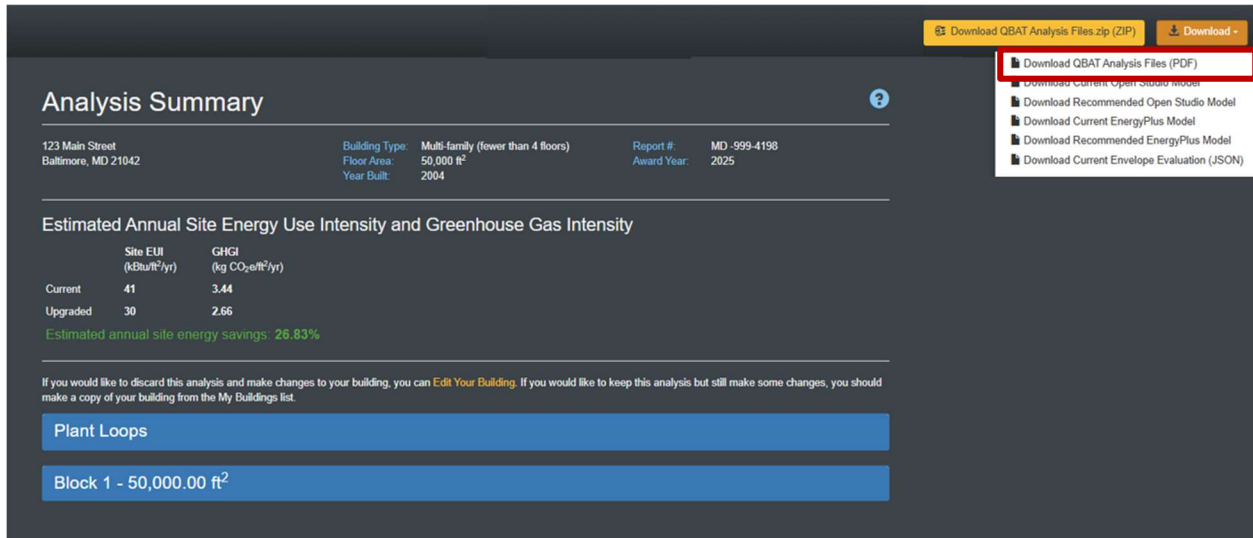

Figure 3: QBAT Measure Selection Window

2.4   Estimating measure savings

To generate a report, go to the My Buildings screen and either use the "**Options**" menu to download the report or enter the building record and select "**Download QBAT Analysis Files**

(PDF)" from the Download dropdown menu (Figure 4). There are additional file formats to download and view details about the building.

Figure 4: Generating a report using Download button

The report provides information about the current and upgraded building's annual site energy savings based on the selected measures. It further provides a detailed breakdown of site Energy Use Intensity (EUI) by fuel type for both scenarios (Figure 5).

Additional information in the report includes:

- Energy Savings for the selected upgrade opportunities or measures
- Health and Safety Impact for each of the measures.
- Condition of Building Systems and Envelope
- End Use energy consumption
- Building Characteristics
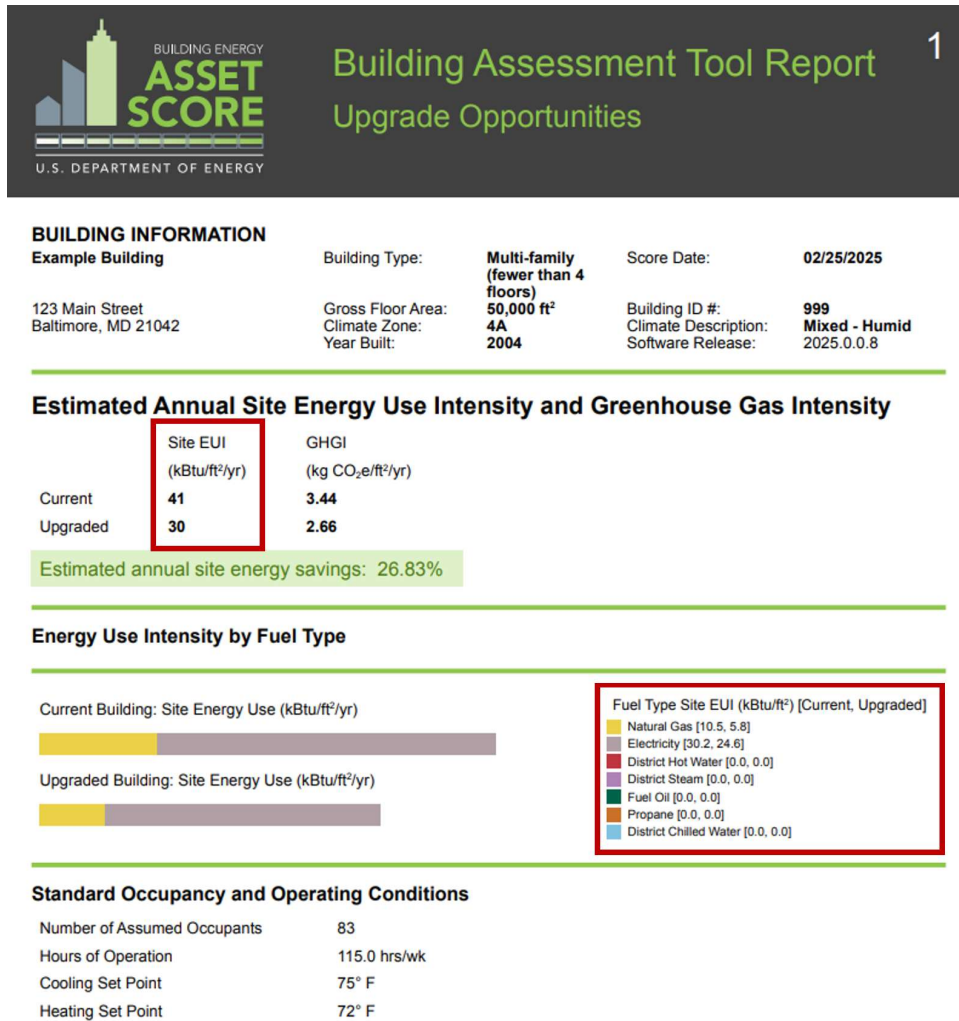
Figure 5: Report to compare energy savings for current and upgraded building

2.5 Analyzing measure-specific savings in detail using Asset Score

Asset Score interface allows a user to modify the building characteristics inferred through QBAT and create more detailed energy models. This capability is useful for those who want greater control over model inputs or wish to assess the energy impacts of QBAT recommendations with higher accuracy. Users can specify detailed parameters, such as upgraded HVAC efficiency or window performance, rather than relying on default assumptions. If you already have an Asset Score or QBAT building record, you can skip to Step b.

a. Create a new building

To develop a detailed building model from scratch in Asset Score:

- Navigate to the **My Buildings** page.
- Click "**Add a Building**" to start a new record (Figure 6).

- Enter building details, including location, size, systems, and envelope specifications.

b.   Duplicate a building

To duplicate a building in Asset Score:

- Navigate to the existing building record and select the project using checkbox.
- Click the "**Options**" menu and select "**Duplicate building**" to duplicate (Figure 6). This creates a new record in the buildings list that retains the original details while allowing modifications.
- Repeat the steps to navigate the screens and update system and envelope details to reflect the upgrade opportunities (refer to **Section 2** above).
- Skip measure selection in the QBAT window and generate a report to assess the energy savings for current building based on the modified information. You can further compare these results with the report generated from the original QBAT building (Figure 7).

Figure 6: Create or duplicate a building in Asset Score

BUILDING INFORMATION

Example Building

123 Main Street
Baltimore, MD 21042

Building Type:	**Multi-family (fewer than 4 floors)**
Gross Floor Area:	**50,000 ft²**
Climate Zone:	**4A**
Year Built:	**2004**

Estimated Annual Site Energy Use Intensity and

	Site EUI (kBtu/ft²/yr)	GHGI (kg CO₂e/ft²/yr)
Current	**41**	**3.46**
Upgraded	**41**	**3.46**

Estimated annual site energy savings: 0.00%

Fuel Type Site EUI (kBtu/ft²) [Current, Upgraded]
- Natural Gas [10.5, 10.5]
- Electricity [30.4, 30.4]
- District Hot Water [0.0, 0.0]
- District Steam [0.0, 0.0]
- Fuel Oil [0.0, 0.0]
- Propane [0.0, 0.0]
- District Chilled Water [0.0, 0.0]

BUILDING INFORMATION

Example Building - Custom EEMs

123 Main Street
Baltimore, MD 21042

Building Type:	**Multi-family (fewer than 4 floors)**
Gross Floor Area:	**50,000 ft²**
Climate Zone:	**4A**
Year Built:	**2004**

Estimated Annual Site Energy Use Intensity and

	Site EUI (kBtu/ft²/yr)	GHGI (kg CO₂e/ft²/yr)
Current	**37**	**3.38**
Upgraded	**37**	**3.38**

Estimated annual site energy savings: 0.00%

Fuel Type Site EUI (kBtu/ft²) [Current, Upgraded]
- Natural Gas [3.4, 3.4]
- Electricity [33.4, 33.4]
- District Hot Water [0.0, 0.0]
- District Steam [0.0, 0.0]
- Fuel Oil [0.0, 0.0]
- Propane [0.0, 0.0]
- District Chilled Water [0.0, 0.0]

Figure 7: Report with current building performance (left), Report with energy savings for the modified building for an individual measure (right)

3.0   Getting Help

If you need assistance while using Asset Score and QBAT, several resources are available to guide you:

a) Interactive Help Icons

Throughout the interface, you'll find "**?**" icons. Clicking these icons will take you directly to relevant sections of the online Asset Score and QBAT User Guide, providing detailed instructions for the specific feature or content you're viewing.

b) Help Desk Search

Select "**Help Desk**" button from the top menu bar to open the Support window. Use the "**Got questions?**" search bar to quickly find articles, guides, and resources related to your query. Alternatively, you can also visit – Asset Score User Guide to access the detailed user guide.

c) Contact Support

For personalized or project-specific support, click "**Contact us**" to submit a support request. This action generates a ticket sent to the Help Desk, where our team will review your issue and provide a direct response.
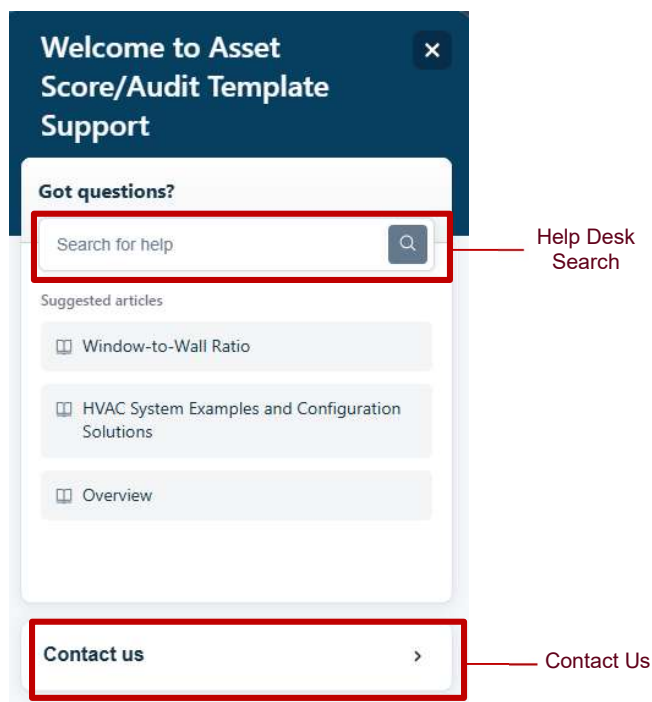

Figure 8: Help Desk and Contact Us