

# DOE Commercial Building Energy Asset Rating Program

## Call for Pilot Participants

Want to have early access to the free energy asset rating tool? Want to receive energy efficiency recommendations tailored to your building? Want to be one of the first to receive an energy asset rating? The U.S. Department of Energy (DOE) is now recruiting for the commercial building energy asset rating pilot program. The pilot will begin in spring 2012, and we are looking for commercial building owners, managers, or operators wanting to assist. Your feedback is important to our success. Participants will receive an energy asset rating and list of cost-effective energy recommendations for each building they enter. Technical support will be provided throughout the process.

### Who Can Participate?

Commercial building owners, facility managers, building engineers, energy auditors, and energy consultants all are invited to participate. State governments, municipalities, and utilities also are welcome to discuss potential involvement.

### What Are the Qualifiers for Participation?

The rollout of the program has been organized in a phased approach, focusing first on building types that are simplest to understand and about which we have more information to establish a rating system. Phase I, which will be included in the initial rollout, includes buildings in these categories:

- Building types: office, education, retail, and unrefrigerated warehouse
- Ownership type: both owner-occupied and leased buildings
- Vintage: any
- Climate zone: any

### How Do I Get Involved?

Information webinars were provided for interested parties on March 12 and 15, 2012. The recorded webinar is posted on CBEA's website ([http://www1.eere.energy.gov/buildings/alliances/webinar\\_archives.html](http://www1.eere.energy.gov/buildings/alliances/webinar_archives.html)). The presentation PDF is posted on (<http://www.commercialbuildings.energy.gov/assetrating.html>). If interested in participating, please contact us at [asset.rating@ee.doe.gov](mailto:asset.rating@ee.doe.gov).

## Levels of Participation

To become an energy asset rating associate, you will need to enter your building information into the energy asset rating tool.

To become an energy asset rating partner, in addition to entering your building information into the energy asset rating tool, you will need to provide (1) ENERGY STAR rating and 12 months utility information OR (2) existing energy audit report and energy model.

Activity	Metrics	Participant Actions	Estimated Time	Partner Level (3 options)			Associate Level
1	Data collection	Collect and enter building data to energy asset rating tool  Complete questionnaire about data collection and tool experience	6–12 hours	x	x	x	x
2	Data accuracy	Provide in-depth energy audit report and existing energy model for comparison	3–6 hours	x		x	
3	Rating relevance	Provide utility data and ENERGY STAR rating for comparison.	3–6 hours		x	x	
Total				9–24 hours			6–12 hours

## Pilot Project Descriptions

### Activity 1: Data Collection Assessment

**Objective: Test the data collection, resources, and input time; collect feedback via a questionnaire**

Any Phase I building types (office, school, retail, unrefrigerated warehouse) are acceptable. The selection criteria are based on a variety of building operation scenarios and vintages:

- Scenario 1: owner-occupied building
- Scenario 2: leased building
- Vintage: less than 10 years old, 10–50 years old, more than 50 years old.

The participants' responsibility is to collect and enter building-specific data into the energy asset rating tool using the provided data collection and input sheets. The estimated time to gather data is 6–14 hours depending on the complexity of the building systems. The estimated time to complete the feedback questionnaire is less than 2 hours.

The participants will be provided with data collection and input sheet, which maps the data entries of the energy asset rating tool, for the site walkthrough. The participants will also receive tool user's guide, as well as real-time help from Pacific Northwest National Laboratory (PNNL).

Activity	Participant Responsibilities	Selection Criteria	Estimated Time Input/Building
1	Collect and enter building data	None	5–10 hours
	Complete questionnaire		1–2 hours

## Activity 2: Energy Asset Rating Tool and Detailed Energy Model Results

**Objective: Test the accuracy of data collection and energy asset rating model; test the relevance of energy efficiency measure recommendations**

This test will compare the energy asset rating tool outputs with the results of a conventional audit and modeling method. The energy asset rating tool outputs include predicted energy use and recommended energy efficiency measures (EEMs). The pilot participants should already have a full-scale energy model and an audit report from professional consultants or plan to perform a full energy audit and modeling during the pilot test period. The participants are responsible for providing an existing energy model, an energy audit report, and building data if the latter are not included in the existing model and report. The estimated time to provide the required information for data analysis is 4–8 hours.

Activity	Participant Responsibilities	Selection Criteria	Estimated Time Input/Building
2	Provide energy audit report for comparison Provide existing energy model	Audit report from previous audit	1–2 hours
	Provide other building information as necessary for data analysis	Energy model from previous audit or design	2–4 hours

## Activity 3: Application of Energy Asset Rating and ENERGY STAR

**Objective: Test the relevance of the energy asset rating**

This test will compare the energy asset rating with the ENERGY STAR rating to demonstrate how the information provided by the two rating systems can help building stakeholders gain insight into the as-built efficiency and the in-operation performance of their building. The pilot participants must provide a complete 12 months of energy bills, in the required format, and other operations data required to obtain an ENERGY STAR score. Participants with previous experience in using Portfolio Manager are preferred. PNNL will work with the participants to disaggregate building performance information using the two rating systems. The estimated time input for the participants is 4–8 hours.

Activity	Participant Responsibilities	Selection Criteria	Estimated Time Input/Building
3	Provide utility bills and ENERGY STAR score	ENERGY STAR Portfolio Manager user experience is preferred	2–4 hours
	Provide other information as necessary to examine building performance		1–2 hours

## Participant Expectations

Through voluntary partnerships, the Department of Energy (DOE) will work with commercial building owners, local and state governments, non-profits, utilities, and other private companies to pilot the commercial building energy asset rating system nationwide. This agreement outlines the responsibilities of DOE and the pilot participant.

DOE will oversee and maintain the commercial building energy asset rating program, including monitoring partnerships, analyzing data, developing training and outreach materials, and making updates to the energy asset rating tool. DOE will provide the following support to pilot participants:

- Provide access to standard outreach and educational materials for pilot participants, including user's guide, data collection sheets, and on-line training.
- Host training webinars to assist participants with implementation and encourage information exchange.

- Provide participants with access to the energy asset rating tool.
- Serve as a technical aid in resolving issues (e.g., software questions) that may arise during implementation.
- Carry out evaluation efforts to measure effectiveness of the commercial building energy asset rating and promote ongoing improvement of the program. Communicate findings to participants to assist in more effective program delivery.
- Implement upgrades to the energy asset rating tool and other program features as needed, with appropriate notice and participant communication.

Pilot participant will collect required building data and enter into the energy asset rating tool. Participants are expected to meet the following program requirements:

- Collect and enter building specific data into the energy asset rating tool using the provided data collection and input sheet.
- Partner level participants will provide:
  - an existing energy model, an energy audit report, and building data if the latter are not included in the existing model and report, and/or;
  - 12 months of energy bills in the required format, ENERGY STAR rating (if existing), and other operations data required to obtain an ENERGY STAR score.
- Designate a primary point of contact for delivery of required documents to DOE.
- Complete the required data collection within 6 weeks after having received access to the energy asset rating tool.
- Provide feedback on implementation of commercial building energy asset rating via the provided questionnaire and/or a phone interview within 4 weeks of receiving an energy asset rating report.

The information collected during the pilot project remains confidential. The information may be used by DOE for the purpose of internal reporting or statistical analysis, and to improve the effectiveness of the energy asset rating program. In all cases, the data will be used anonymously.

The energy asset rating tool is currently only available to score office buildings, schools, retail buildings, and unrefrigerated warehouses. Other building types including mixed-use buildings cannot be rated using this tool at its current stage. DOE expects to make updates to the tool over time to support mixed use buildings and additional building types. If questions arise concerning the application and/or use of the energy asset rating tool, please contact [asset.rating@ee.doe.gov](mailto:asset.rating@ee.doe.gov) for clarification and assistance.

Pilot participants are also encouraged to explain that they are working in partnership with the U.S. DOE. DOE will work with its participants to draft acceptable language where needed. Participants are also welcome to use information directly from the DOE web site [www.commercialbuildings.energy.gov/assetrating.html](http://www.commercialbuildings.energy.gov/assetrating.html) to help explain the score or program to other stakeholders

## Energy asset rating Facts

### What is the DOE commercial building energy asset rating system?

DOE is establishing a national standard for a voluntary commercial building energy asset rating program. DOE's goal in undertaking a national building energy asset rating program is to facilitate cost-effective investment and energy efficiency in commercial buildings by providing a tool that allows building owners to benchmark their buildings against peers. The tool also allows other market players to understand the relative efficiency of different buildings in a way that is distinct from their operations and occupancy.

## **What is the energy asset rating tool?**

The energy asset rating tool is a free web-based application that can help building owners evaluate the modeled energy efficiency of their buildings. It is a centralized modeling tool that takes into account the building envelope, the mechanical and electrical systems, and other major energy-using equipment that are physically built into the building. The tool aims to reduce the implementation cost and increase the standardization because building owners do not need to hire an expert energy modeler. The energy asset rating tool aims to provide value in the first step of building assessment by identifying some possible energy efficiency upgrade opportunities.

## **What building types will be covered by the energy asset rating scheme?**

The rollout of the program has been organized in a phased approach, focusing first on building types that are simplest to understand and about which we have more information to establish a rating system. Phase I, which will be included in the pilot, includes buildings in these categories: office, educational, retail, and unrefrigerated warehouse. Phase II includes mixed-use types of buildings that incorporate Phase I uses, lodging, food service, food sales, public safety, and religious worship. Phase III buildings are either those with more complex systems or those for which we currently have a limited body of information, such as data centers, laboratories, refrigerated warehouse, health-care facilities, public assembly, and so on. DOE is also rolling out a residential asset rating system, and it remains to be determined whether multi-family residential buildings will be included in that system or in the commercial one. Both new construction and existing space will be supported by the commercial building energy asset rating system.

## **What building components will be included in the rating?**

The rating will include the as-built physical characteristics of the building and its overall energy efficiency, independent of occupancy and operational choices. The physical characteristics will include the building envelope, the mechanical and electrical systems, and other major energy-using equipment. Installed features such as daylighting controls and occupancy sensors, variable-frequency drives, and variable air volume terminal units will be included in the energy asset rating for a building. However, the degree to which a control system is operated to save energy will not affect a building's energy asset rating.

## **How is the energy asset rating program different from ENERGY STAR Portfolio Manager?**

Although both ENERGY STAR Portfolio Manager and the DOE energy asset rating program provide building energy efficiency ratings, the focuses are different. Portfolio Manager reflects the overall efficacy resulting from the system efficiency and operations. The purpose of an energy asset rating is to specifically focus on the building's infrastructure piece so that building stakeholders can consider the as-built efficiency and operational practices separately. The energy asset rating takes into account only the physical assets of the building and enables building owners and operators separate out the operational aspects. This allows the comparison of building assets on an equal footing by eliminating the wide variation due to differences in operation and maintenance, plug loads, and occupant behavior. Building stakeholders can then determine whether a building is performing well because it is a high-efficiency shell and equipment or because it is well managed. The energy asset rating tool provides more granular information, enabling building owners to target more detailed audit/evaluation activities toward those that will produce the greatest savings.