

GSA NATIONAL OFFICE OF LEASING: SME 2 YOU TRAINING SERIES



**INTRODUCTION TO ENERGY STAR[®]
IN FEDERAL REAL ESTATE LEASE
PROCUREMENT**
MARCH 19, 2013

Complying with the Energy Independence and Security Act's requirement for Energy Star buildings for spaces leased by the Federal Government

Lessons

1. ENERGY STAR[®] Concepts
2. Federal ENERGY STAR[®] Leasing Requirements
3. Cost-Effective Energy-Efficiency Improvements
4. ENERGY STAR[®] Tools and Resources

Lesson 1

ENERGY STAR® Concepts



Lesson 1 Learning Objectives

Identify basic ENERGY STAR[®] concepts and terminology

Recognize how buildings earn the ENERGY STAR[®] Label

Identify the characteristics of the “Designed to Earn the ENERGY STAR[®]” certification

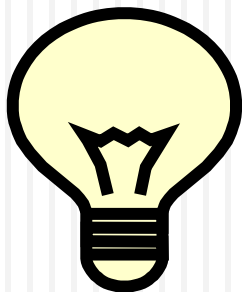
ENERGY STAR Program

ENERGY STAR[®] is a joint program of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE).

Developed 20 years ago by the EPA, it is a recognized labeling program to identify energy-efficient products and buildings.

ENERGY STAR[®] Products

- Over 18,000 products in 60 product categories are ENERGY STAR[®] labeled
- ENERGY STAR[®] -qualified products use 30-75 percent less energy than other products



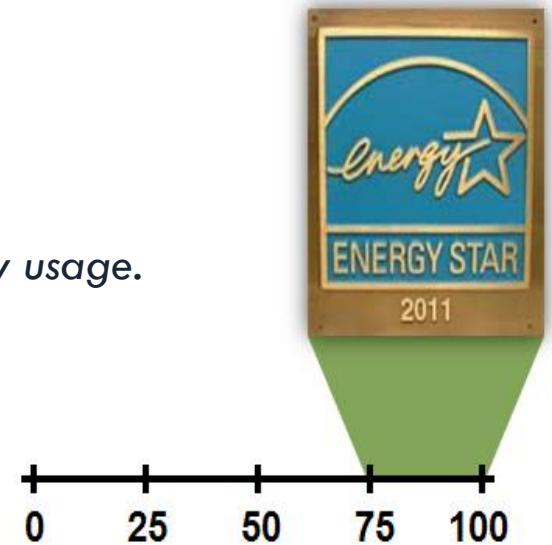
ENERGY STAR[®] Buildings

- Over 1.2 million new homes have the ENERGY STAR[®] Label
- Over 21,000 commercial and industrial buildings, representing approximately 3 billion square feet, have the ENERGY STAR[®] Label

ENERGY STAR[®] Label for Buildings

The ENERGY STAR[®] Label identifies the level of the building's energy performance.

The EPA analyzes a building's past twelve months of energy usage.



Buildings achieving a score of **75+ (on a 100-point scale)** are eligible for the label. This represents the top 25 percent of buildings measured.

ENERGY STAR® Commercial Building Types



Bank/Financial Institutions



Courthouses



Data Centers



Dormitories



Hospitals



Hotels



Houses of Worship



K-12 Schools



Medical Offices



Office Buildings



Retail Stores



Supermarkets



Warehouses



Multi-Family



Senior Care

21,000 Buildings in the U.S. are ENERGY STAR® Labeled, with only 7,000 Energy Star Office Buildings

Benchmarking

Benchmarking through ENERGY STAR[®] allows for comparison of a building against a national sample of similar buildings. Buildings within the **fifteen building type categories** can be benchmarked.

The Commercial Buildings Energy Consumption Survey (**CBECS**) serves as the national database against which buildings are compared. The current system was established in 2003 and will be updated in 2014.



ENERGY STAR[®] Portfolio Manager

EPA's ENERGY STAR[®] Portfolio Manager

- Free Online Benchmarking Application – use of tool to track building performance is mandatory when seeking ENERGY STAR[®]
- Using monthly utility data, Portfolio Manager generates a score from 1 to 100, with considerations made to building type and climate.

A score of 75...

- Eligible for the ENERGY STAR[®] label.
- Building operators can continue to use the Portfolio Manager tool to track changes in energy and water use, as well as CO₂ emissions, to achieve greater cost savings and environmental performance over time.

Benchmarking in Portfolio Manager: Required Information

- Building Identifiers
 - ▣ Name, street address, and zip code
- Space Data
 - ▣ Space type, total floor area, age, occupancy
 - ▣ Office: square footage, hours of operation, personnel, number of computers, percentage of gross floor area that is air-conditioned/heated
- Energy Use
 - ▣ Building-specific invoice information from all purchased energy
 - ▣ At least 12 consecutive months to start, to be updated with monthly usage data

Documents Required to Achieve ENERGY STAR[®] Label

Three key documents are needed to achieve the ENERGY STAR[®] :

ENERGY STAR[®] Data Checklist

A summary of a building's physical information, operating statistics, and total energy consumption. This information must be validated by a professional engineer or registered architect putting their seal onto the data.

Letter of Agreement

This letter summarizes the requirements of the ENERGY STAR[®] label and the building's qualifications therefore and commits the building owner/manager to those provisions.

Statement of Energy Performance

This document is a computer printout of the results from the Portfolio Manager tool of a building's energy performance information.

ALL OF THE ABOVE DOCUMENTS ARE AVAILABLE THROUGH PORTFOLIO MANAGER

Key Documents Needed to Achieve ENERGY STAR® Label for Buildings

Statement of Energy Performance (SEP)

Data Checklist

Application Letter / Letter of Agreement

STATEMENT OF ENERGY PERFORMANCE
Office Sample Facility

Building ID: 2733534
For 12-month Period Ending: September 30, 2011
Date SEP becomes indelible: January 25, 2012
Date SEP Generated: October 06, 2011

Facility: Office Sample Facility
1234 Main Street
Arlington, VA 22201

Facility Owner: 1234 Eric Way
Mount Airy, MD 21771
240000050

Primary Contact for this Facility: Neilson Nashner
2014 Washington Blvd
Fairfax, VA 22031
703-651-1234
enr_neilsonnashner@epa.gov

Year Built: 2000
Gross Floor Area (GFA): 222,452

Energy Performance Rating¹ (1-100): 100

Site Energy Use Summary²
Electricity + Grid Purchase (kBtu) 9,430,827
Natural Gas (kBtu) 1,794,460
Total Energy (kBtu) 11,195,273

Energy Intensity³
Site (kBtu/sq ft) 8
Source (kBtu/sq ft) 19

Emissions (based on site energy used)
Greenhouse Gas Emissions (MTCO₂e/year) 186

Electric Distribution Utility
Virginia Electric & Power Co. (Common Resources Inc.)

National Median Comparison
National Median Site EUI 34
National Median Source EUI 281
% Difference from National Median Source EUI -47%
Building Type Office

Meets Industry Standards⁴ for Indoor Environmental Conditions:
Ventilation for Acceptable Indoor Air Quality Yes
Adequate Thermal Environmental Conditions Yes
Adequate Illumination Yes

Professional Engineer Stamp
Signature: _____
Based on the conditions observed at the time of my visit to the building, I certify that the information contained within this statement is accurate and in accordance with the Licensed Professional Guide.

Professional Engineer
License Number: 5000001
State: VA
Date Exp: 06/30/2011
337 CM Sample Lane
Arlington, VA 22201
556-556-1234

EPA Form 9000-10 Tracking Number: SEP201110000001072479

ENERGY STAR® Data Checklist for Commercial Buildings

In order for a building to qualify for the ENERGY STAR, a Professional Engineer (PE) or a Registered Architect (RA) must validate the accuracy of the data underlying the building's energy performance rating. This checklist is designed to provide an at-a-glance summary of a property's physical and operating characteristics, as well as its total energy consumption, to assist the PE or RA in double-checking the information that the building owner or contractor has entered into Portfolio Manager.

Please complete and sign this checklist and include it with the stamped, signed Statement of Energy Performance.
NOTE: You must check each box to indicate that each value is correct. OR include a note.

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES
Building Name	Office Sample Facility	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?	<input type="checkbox"/>
Type	Office	Is this an accurate description of the space in question?	<input type="checkbox"/>
Location	1234 Main Street, Arlington, VA 22201	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.	<input type="checkbox"/>
Annual Occupancy Rate	95 %	Was the property maintained an average occupancy of 50% or higher across the 12 month period being assessed?	<input type="checkbox"/>
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building.	<input type="checkbox"/>
Data Center (Data Center)			
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES
Gross Floor Area	780 Sq. Ft.	Is this the total gross floor area measured between the principal exterior surfaces of the enclosing fire walls, including all supporting functions for the Data Center? This should include the entire Data Center for stand alone facilities, which may have raised floor computing spaces, server racks aisles, strorage silos, control console areas, battery rooms, mechanical rooms for cooling equipment, administrative office areas, elevator shafts, stairways, break rooms and restrooms. When a Data Center is located within a larger building, the total gross floor area should include the computing space as well as any mechanical rooms or office spaces that support the data center.	<input type="checkbox"/>
IT Energy Configuration	Uninterruptible Power Supply (UPS) supports only IT equipment. (Preferred)	Does the UPS meter support only IT equipment within the Data Center?	<input type="checkbox"/>
UPS System Redundancy	N(Optional)	Is this the level of redundancy of the Uninterruptible Power Supply (UPS)? If there is no UPS system, is this the redundancy for the PDU Meters that support the IT Load?	<input type="checkbox"/>
Cooling Equipment		Is this the level of redundancy for the mechanical	<input type="checkbox"/>

Sample_LOA[1].pdf - Adobe Reader

To whom it may concern:

I hereby nominate, on behalf of the building's owner, the following building for award of the ENERGY STAR:

Office Sample Facility
1234 Main Street
Arlington, VA 22201

I have provided a copy of the *Licensed Professionals Guide to the ENERGY STAR Label for Commercial Buildings* (available at http://www.energystar.gov/business/evaluate_performance/pm_lp_guide.pdf) to our Licensed Professional for reference. As documented by the attached Statement of Energy Performance, the aforementioned building meets the conditions necessary to qualify as ENERGY STAR:

- **Energy performance** in the top 25 percent of similar existing buildings, as indicated by a minimum rating of 75 out of 100 determined through EPA's Portfolio Manager.
- **Thermal comfort** in accordance with the provisions in American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Standard 55, Thermal Environmental Conditions for Human Occupancy.
- **Indoor air quality** in accordance with the provisions of ASHRAE Standard 62, Ventilation for Acceptable Indoor Air Quality.
- **Illuminance levels** in accordance with the Illuminating Engineering Society of North

Statement of Energy Performance (SEP)

- Communicates info about energy performance
- Validated by a licensed Professional Engineer or Registered Architect
- Does not represent an official ENERGY STAR® Score

STATEMENT OF ENERGY PERFORMANCE
Office Sample Facility

OMB No. 2080-0347

Building ID: 2733334
For 12-month Period Ending: September 30, 2011
Date SEP becomes indelible: January 28, 2012

Date SEP Generated: October 06, 2011

Facility
Office Sample Facility
1234 Main Street
Arlington, VA 22201

Facility Owner
ERIC
1234 Eric Way
Mount Airy, MD 21771
2400000550

Primary Contact for this Facility
Nathan Neffler
3434 Washington Blvd
Fairfax, VA 22031
565-555-1234
nec_vrosstehky@gern.com

Year Built: 2000
Gross Floor Area (GFA): 222,452

Energy Performance Rating¹ (1-100): 100

Site Energy Use Summary²

Electricity - Grid Purchase (kBtu)	9,400,927
Natural Gas (kBtu)	1,794,486
Total Energy (kBtu)	11,195,373

Energy Intensity³

Site (kBtu/ft ² -yr)	6
Source (kBtu/ft ² -yr)	19

Emissions (based on site energy use)

Greenhouse Gas Emissions (MTCO ₂ e/year)	186
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Electric Distribution Utility
Virginia Electric & Power Co (Dominion Resources Inc)

National Median Comparison

National Median Site EUI	56
National Median Source EUI	281
% Difference from National Median Source EUI	-47%
Building Type	Office

Meets Industry Standards⁴ for Indoor Environmental Conditions:

Ventilation for Acceptable Indoor Air Quality	Yes
Adequate Thermal Environmental Conditions	Yes
Adequate Illumination	Yes

Professional Engineer Stamp

Signature: _____
Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate and in accordance with the Licensed Professional Code.

Professional Engineer
License Number: 5000001
State: VA
John Doe
333 OB Sample Lane
Arlington, VA 22201
555-555-1234

Notes:
1. The Rating for the ENERGY STAR must be submitted to EPA within 6 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating of Green (3-50) Source Energy, A rating of 70 is the minimum to be eligible for the ENERGY STAR.
3. All data reported energy consumption, energy use, and emissions must be in accordance with the ENERGY STAR.
4. Based on existing ASHRAE Standard 55 for thermal comfort, and ASHRAE Lighting Handbook for lighting quality.

The government estimates the average time needed to fill out this form is 8 hours (17.66 hrs) for the time for entering energy data. Licensed Professional Engineer (P.E.) Nathan Neffler (SEP) and Eric Neffler (SEP) are responsible for creating the form and for the data. Comments (including OMB control numbers) to the Director, EPA Office of Strategic Energy, U.S. EPA, 1200 Pennsylvania Ave., Washington, D.C. 20460.

EPA Form 9003-18

Tracking Number: SEP20111000001072479

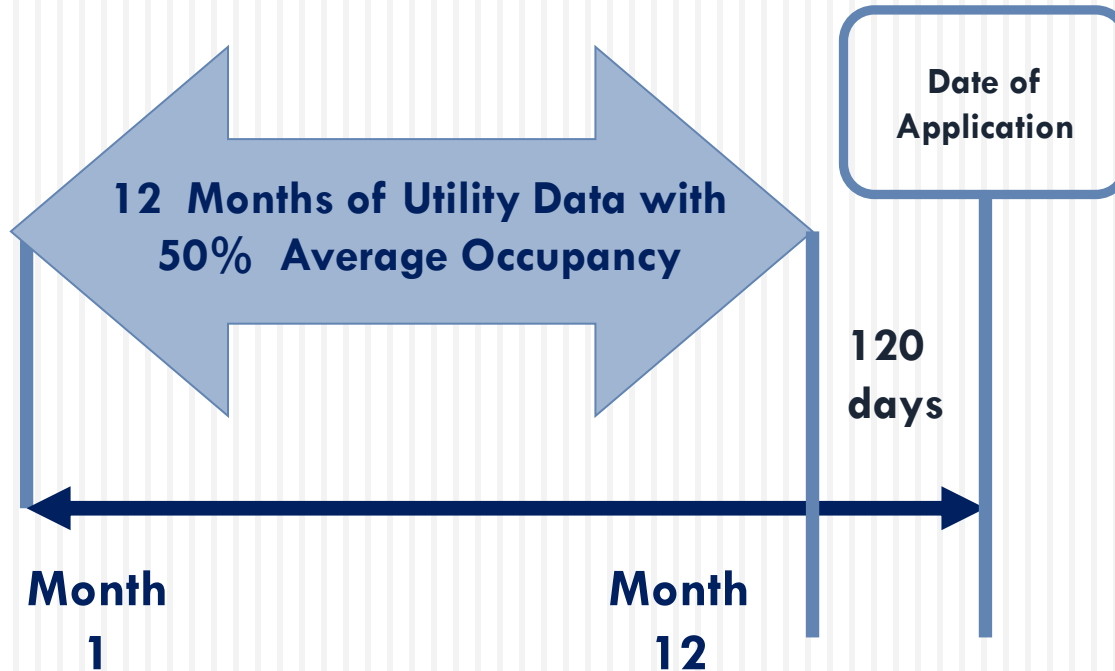
ENERGY STAR[®] Label Application Steps



- Obtain Energy Performance Score of 75-100 from Portfolio Manager
- Have data verified by Professional Engineer or Registered Architect
- Submit three documents
 - ▣ Statement of Energy Performance (SEP)
 - ▣ Data Checklist
 - ▣ Letter of Agreement

ENERGY STAR® Utility Data and Occupancy Requirements

ENERGY STAR® Application Timeline



- 12 months of utility data with 50% average occupancy
- Application within 120 days of last month of utility data utilized
- Renewing label annually is not required for GSA leases

Target Finder Tool

EPA's Target Finder is a tool that provides an estimated ENERGY STAR[®] score for a planned or existing building.

Design projects that earn a score of 75 or higher are eligible for the “Designed to Earn the ENERGY STAR[®]” certification.

Target Finder normalizes for factors that affect energy use intensity such as climate, building size, and occupancy level.

The screenshot shows the EPA Target Finder web application. At the top, there is a navigation bar with the EPA logo, the text 'TARGET FINDER', and links for 'PRINT', 'FREQUENTLY ASKED QUESTIONS', 'CONTACT US', and 'HELP'. Below the navigation bar, there is a 'Return to ENERGY STAR Web site - Target Finder' link. The main heading is 'Target Finder' with a 'REQUIRED' indicator. The instructions state: 'Select a target rating and/or compare your Design Energy to the target.' The form is divided into four sections: 1. Facility Information (with fields for Zip Code, City, Facility Name, and State), 2. Facility Characteristics (with a dropdown for Space Types), 3. The Target (with radio buttons for Target Rating and Energy Reduction Target, and 'Select' buttons), and 4. Estimated Design Energy (with a table for energy sources). The table has columns for Energy Source, Units, Estimated Total Annual Energy Use², and Energy Rate (\$/Unit). The first row shows 'Electricity' with units 'MBtu' and a rate of '\$ /MBtu'. The second row shows '[Select Energy Source]' with units and a rate of '\$ /'. At the bottom, there are footnotes: ¹'Target Rating' uses the EPA energy performance rating of 1-100. 75 or higher denotes ENERGY STAR. An 'Energy Reduction Target' is the percent reduction from the average energy consumption of a similar building, or an equivalent EPA rating of 50. Selecting a 50% (or higher) reduction target is acceptable for setting Architecture 2030 and AIA Sustainable Practice goals. ²Annual Energy Use - the fuel mix percentage is determined from DOE-EIA. The Electric % is typical of the area designated by zip code. Natural gas is used as 2nd energy source. The defaults for percentage of energy use by fuel type will be displayed at top of Results page.

“Designed to Earn the ENERGY STAR[®]”

- Certification given to a to-be-built building or building under construction designed by an architect to achieve high energy performance
 - Building must earn a score of 75 or higher in Target Finder
 - Architects and owners can set energy targets and receive an ENERGY STAR[®] estimate during the design process

energystar.gov/targetfinder

Summary

- ENERGY STAR[®] is an EPA and DOE program that identifies energy-efficient products and buildings
- ENERGY STAR[®] Portfolio Manager is a free, online tool used to benchmark buildings and portfolios
- Buildings earn the ENERGY STAR[®] Label by scoring 75+ in Portfolio Manager
- Building owners must submit a Statement of Energy Performance, a Data Checklist, and a Letter of Agreement to apply for the ENERGY STAR[®] Label
- Target Finder is a free, online tool that assigns an estimated ENERGY STAR[®] score to buildings in design or under construction
- Buildings in design or under construction can achieve the “Designed to Earn the ENERGY STAR[®]” certification by scoring 75+ in Target Finder

Lesson 2

Federal ENERGY STAR® Leasing Requirements



Lesson 2 Learning Objectives

Recognize the origins of ENERGY STAR[®] requirements for federal leasing

Identify key ENERGY STAR[®] requirements related to federal leasing

Origins of ENERGY STAR[®] Requirement for Leasing

The ENERGY STAR[®] requirement addresses Section 435 of the Energy Independence and Security Act (EISA) of 2007, Public Law 110-140.

Effective December 19, 2010, all federal agencies must lease from buildings that have earned the ENERGY STAR[®] in the most recent year.

Key Points about ENERGY STAR[®] and Federal Leasing

- EISA is a federal law
- ENERGY STAR[®] requirement supports GSA sustainability goals
- ENERGY STAR[®] RLP paragraphs are a key part of mandatory green language required for compliance with Guiding Principles

Proof of ENERGY STAR® Label

Dear William Pollard:

Congratulations! You have earned EPA's ENERGY STAR for PA0144ZZ - US CUSTOMHOUSE, Second & Chestnut Streets, Philadelphia, PA 19106 for label year 2011.

EPA is happy to help you celebrate earning the ENERGY STAR for your building. Further details will be provided in materials you will receive in the mail in the next several weeks, but below are a few highlights to get you started:

Your facility will automatically be included as part of our online registry of buildings that have earned the ENERGY STAR (energy.gov/BuildingCert). In addition, we will send you a congratulatory letter and a certificate for your building as part of our online registry (learn how to manage your profile, add new buildings, and more) and others to highlight our nation's leaders in energy efficiency. The date that displays on the building registry and on your certification decal is currently set to match the period ending date on your Statement of Energy Performance. EPA will be modifying this policy starting on January 4, 2012. From that time forward, the date on your certification decal and the date on the registry will be based on the date that your application was approved by EPA.

Your ENERGY STAR certification logo will be mailed to you within 6 weeks of approval. If you have questions about when you should expect to receive these materials, please contact EPA at building@energy.gov.

The ENERGY STAR certification mark (logo) files are available for download at energy.gov/BuildingCert. You may use the ENERGY STAR certification logo in literature, on the web, and in advertisements for your ENERGY STAR labeled building.

Celebrate your ENERGY STAR building with a press release and other promotional activities. Find samples and ideas at energy.gov/BuildingDecals.

Once again, congratulations! As you continue to maintain a high level of performance, we look forward to receiving your application for the ENERGY STAR again next year!

Sincerely,
Jean Lupinacci, Director, Commercial & Industrial Branch, ENERGY STAR

**Congratulations
Email/Letter from
EPA**

OR



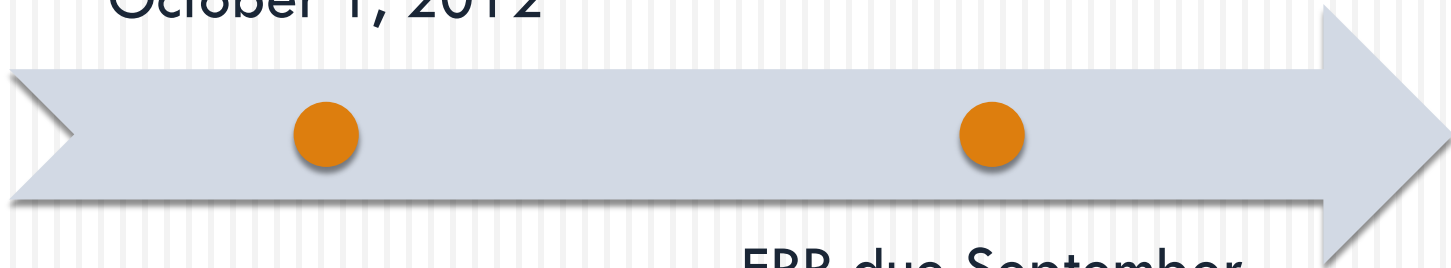
**Certificate of
building
earning
Energy Star
label**

- ❑ Building owner must indicate whether offered building has earned ENERGY STAR® label (and exact date label was granted)
- ❑ Offeror must provide proof of ENERGY STAR® label by due date of Final Proposal Revision (FPR)
- ❑ EPA Certificate of Achievement or Notification Email required

ENERGY STAR[®] Leasing Requirement: Time Frame

Buildings must have earned the ENERGY STAR[®] label within 12 months prior to the due date of the FPR. Note that this is the exact date of the notice of award from the EPA, not the year on the label itself.

Label awarded on
October 1, 2012



FPR due September
30, 2013: last date
of eligibility

Exceptions to ENERGY STAR[®] Requirement

No ENERGY STAR[®] space is available in the delineated area that meets the agency's functional needs, including location.

The agency is remaining in a building they currently occupy.

The lease will be in a building of historic, architectural, or cultural significance (verified or eligible for listing on the National Register of Historic Places).

The size of the lease is 10,000 rentable square feet or less.

In Lieu of ENERGY STAR[®] ...

Under the four exceptions, in lieu of ENERGY STAR[®], the Lessor must make Cost-Effective Energy Efficiency Improvements.

Insufficient Occupancy Issues

- The RLP allows up to 18 months to achieve the ENERGY STAR[®] Label for buildings with 50% average occupancy or less.
- The Offeror must show specified evidence of the capability to achieve the ENERGY STAR[®] Label.
- If the Offeror uses Target Finder, they must provide a Statement of Energy Design Intent (SEDI) reflecting a score of 75 or higher or obtain the “Designed to Earn the ENERGY STAR[®]” certification.

Summary of ENERGY STAR[®] and Leasing

Every new lease in existing or new space must be in an ENERGY STAR[®]-Labeled building unless it meets one of the four exceptions.

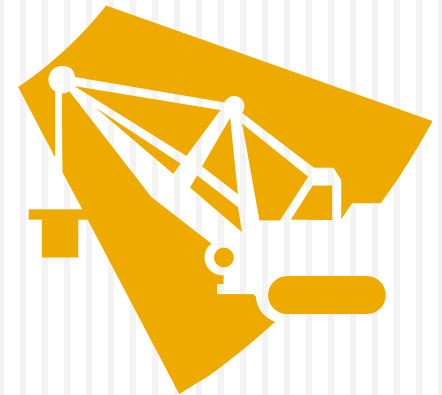
For buildings to earn an ENERGY STAR[®] Label, a score of 75+ is required within 12 months prior to the FPR.

If a building meets one of the four exceptions, Cost-Effective Energy Efficiency and conservation improvements are required.

ENERGY STAR[®] Requirement: New Construction

The ENERGY STAR[®] Label is required for New Lease Construction projects greater than 10,000 sf. The label must be obtained within 18 months of occupancy.

The “Designed to Earn the ENERGY STAR[®]” certification is required prior to issuance of a building permit. Projects 10,000 sf or less require ENERGY STAR[®] or Cost-Effective Improvements.



When ENERGY STAR Is Not Required

ENERGY STAR[®] is not required for certain leases:

1. Short-term extensions (generally 6-18 months)
2. Expansions “within the scope of the lease” (refers to the materiality of the expansion to the original space)
3. Evaluated or unevaluated renewal options

Cost-Effective Energy Efficiency Improvements are encouraged (though not required).

Summary

- The ENERGY STAR[®] requirement addresses EISA.
- All federal leases must be in ENERGY STAR[®] space unless one of four exceptions applies.
- If an exception applies, the Offeror must commit to making Cost-Effective Energy Efficiency Improvements.
- The ENERGY STAR[®] Label is required for New Lease Construction projects greater than 10,000 sf.
- The ENERGY STAR[®] Label is not required for three leasing situations.

Lesson 3

Cost-Effective Energy Efficiency Improvements

Lesson 3 Learning Objectives

Recognize when Cost-Effective Energy Efficiency Improvements are required

Define Cost-Effective Energy Efficiency Improvements

Identify example improvements

Exceptions to ENERGY STAR[®] Requirement

No ENERGY STAR[®] space is available in the delineated area that meets the agency's functional needs, including location.

The agency is remaining in a building they currently occupy.

The lease will be in a building of historic, architectural, or cultural significance (verified or eligible for listing on the National Register of Historic Places).

The size of the lease is 10,000 rentable square feet or less.

In Lieu of ENERGY STAR[®] ...

Under the four exceptions, in lieu of ENERGY STAR[®], the Lessor must make Cost-Effective Energy Efficiency Improvements.

Cost-Effective Energy Efficiency Improvements

A building owner must indicate whether the offered building has earned the ENERGY STAR[®] Label (and the date the label was granted). If no label is earned within 12 months prior to FPR, the owner must commit to **Cost-Effective Energy Efficiency Improvements**.

The owner must also indicate in writing (typically on the offer Form 1364) which energy efficiency improvements they are willing to make. The energy efficiency and conservation improvements must be **cost-effective over the firm term** of the lease.

Offeror's Required Commitment to Making Improvements

“If one or more of the statutory exceptions applies, and the offered space is not in a building that has earned the ENERGY STAR[®] Label within one year prior to the due date for final proposal revisions, Offerors are required to include in their lease proposal an agreement to renovate the building for ALL energy efficiency and conservation improvements that it has determined would be cost effective over the firm term of the lease, if any, prior to acceptance of the space (or no later than one year after the Lease Award Date of a succeeding or superseding lease).”

Definition of “Cost Effective”

“The term ‘**cost effective**’ means an improvement that will result in substantial operational cost savings to the landlord by reducing electricity or fossil fuel consumption, water, or other utility costs. (An improvement must pay for itself, including interest costs, in expected energy savings during the firm term of the lease.)”

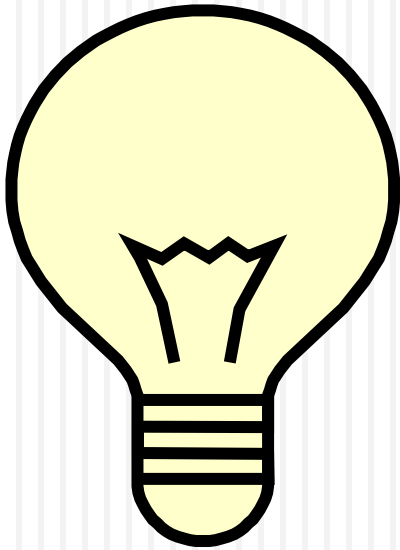
“If no improvements are proposed, **the Offeror must demonstrate to the Government using the ENERGY STAR[®] Online Tools** why no energy efficiency and conservation improvements are cost effective. If such explanation is unreasonable, the offer may be considered technically nonresponsive.”

Examples of Improvements

- HVAC systems
- Lighting
- Building envelope
- Chilled and hot water, steam distribution
- Renewable energy systems
- Water and sewer conservation systems
- Electrical peak shaving/load shifting
- Changes in metering
- Process improvements

The length of the firm term
of the lease will
significantly impact what
will be cost-effective

First Example of Lighting Improvement: Compact Fluorescent Lamps (CFLs)



- Install CFLs and eliminate incandescent bulbs
 - ▣ Simple, low-cost (\$10-20 each)
 - ▣ 30-60% energy savings
 - ▣ Required by Government
 - ▣ Incandescent bulbs being phased out

Lighting Improvement: Merchandise Mart in Chicago

- Common area light retrofit
 - Project cost: \$80,300
 - Energy reduction: 887,700 kwh/year
 - Return on Investment (ROI): 1 year
- Exit lights retrofit
 - Project cost: \$23,200
 - Energy reduction: 98,110 kwh/year
 - ROI: 2.5 years

Second Example of Lighting Improvement: Occupancy Sensors

- Install occupancy sensors in restrooms, conference rooms, hallways, offices
 - ▣ Cost: \$200-800 each

- Merchandise Mart restrooms
 - ▣ Project cost: \$15,400
 - ▣ Energy reduction: 423,430 kwh/year
 - ▣ ROI: 0.5 year



Example of HVAC Improvement: Variable Frequency Drives (VFDs)



- Install control in motors, mechanical equipment, pumps
 - ▣ Cost: \$800-1,000 each

- Merchandise Mart
 - ▣ Project cost: \$207,900
 - ▣ Energy reduction: 553,340 kwh/year
 - ▣ ROI: less than 4 years

Examples of Building Envelope Improvements

- Window re-caulking
 - ▣ Reduces air leaks to ensure a tight envelope
 - ▣ Cost: \$100/window
- Roof insulation
 - ▣ Install higher R-value (higher R-value=better insulation)
 - ▣ Reduces energy loss through roof
- Window replacement
 - ▣ Reduces air and water leaks
 - ▣ Install high-efficiency or ENERGY STAR windows

Summary

- In lieu of an ENERGY STAR[®] label, an Offeror must commit to making Cost-Effective Energy Efficiency Improvements.
- “Cost Effective” means that the improvement must pay for itself in energy savings through the firm term of the lease.
- Examples of improvements include improvements to lighting, HVAC, and the building envelope.

Lesson 4

ENERGY STAR® Tools and Resources



Lesson 4 Learning Objectives

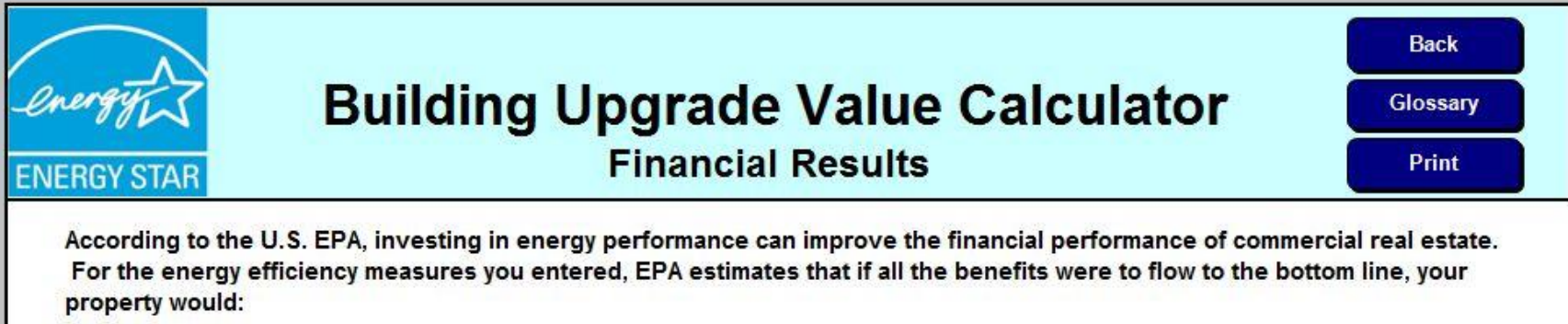
Identify tools and resources with information about ENERGY STAR[®], pursuing the ENERGY STAR[®] label, and ENERGY STAR[®] buildings

ENERGY STAR[®] Training Resources

- Live webinars
- Self-guided modules
- Recorded presentations

www.energystar.gov
www.energystar.gov/benchmark
www.energystar.gov/eslabel
www.energystar.gov/financiaevaluation
www.energystar.gov/buildingstraining
www.gsa.gov/leasing
www.eere.energy.gov/femp
1-877-337-3463 FEMP Help Desk

ENERGY STAR[®] Building Upgrade Value Calculator



Building Upgrade Value Calculator
Financial Results

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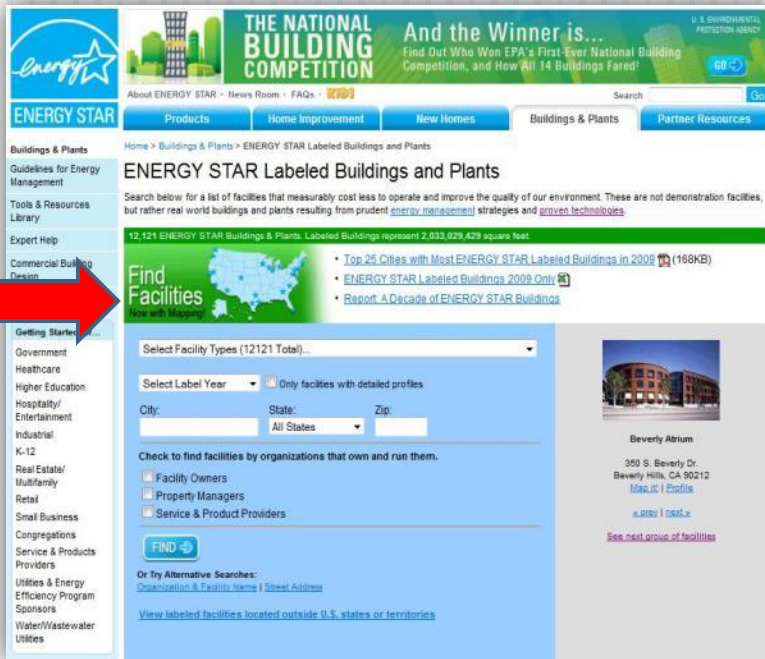
According to the U.S. EPA, investing in energy performance can improve the financial performance of commercial real estate. For the energy efficiency measures you entered, EPA estimates that if all the benefits were to flow to the bottom line, your property would:

- Helps real estate and operations professionals assess the financial value of energy efficiency investments
- Includes net investment, reduction in operating expenses, energy savings, return on investment (ROI), internal rate of return (IRR), net present value (NPV), and impact on asset value

Location of the Building Upgrade Value Calculator on EnergyStar.gov

The screenshot shows the Energy Star website interface. At the top, there is a navigation bar with the Energy Star logo and the U.S. Environmental Protection Agency name. Below this is a search bar and a menu with categories: PRODUCTS, HOME IMPROVEMENT, NEW HOMES, BUILDINGS & PLANTS (highlighted), and PARTNER RESOURCES. The main content area is titled "Financial Evaluation" and includes a sub-section for "Financial Value Calculator". A red arrow points to the "Tools & Resources Library" link in the left sidebar. Below this, the "Building Upgrade Value Calculator" is highlighted, with a description stating it is a product of the partnership between ENERGY STAR, BOMA International, and the BOMA Foundation. Other calculators like "Cash Flow Opportunity Calculator" are also visible. The bottom of the page shows a Windows taskbar with the Start button, several application icons, and a system tray displaying the time as 9:44 AM on 3/15/2013.

ENERGY STAR[®] Building Database



The screenshot shows the ENERGY STAR Building Database website. A red arrow points to the 'Find Facilities' section. The page displays search filters for facility types, label year, and location. A listing for 'Beverly Atrium' is visible, including its address and contact information.

ENERGY STAR[®] Building Database

Home > Buildings & Plants > ENERGY STAR Labeled Buildings and Plants

ENERGY STAR Labeled Buildings and Plants

Search below for a list of facilities that measurably cost less to operate and improve the quality of our environment. These are not demonstration facilities, but rather real world buildings and plants resulting from prudent [energy management](#) strategies and [proven technologies](#).

12,121 ENERGY STAR Buildings & Plants. Labeled Buildings represent 2,033,029,429 square feet.

Find Facilities

Select Facility Types (12121 Total)...

Select Label Year Only facilities with detailed profiles

City: State: Zip:

Check to find facilities by organizations that own and run them.

Facility Owners
 Property Managers
 Service & Product Providers

FIND

Or try Alternative Searches:
[Organization & Facility Name](#) | [Street Address](#)

[View labeled facilities located outside U.S. states or territories](#)

Beverly Atrium
350 S. Beverly Dr.
Beverly Hills, CA 90212
[Map It](#) | [EcoTite](#)
[e-PCV](#) | [e-PCV 2](#)
[See next group of facilities](#)

ENERGY STAR's[®] labeled Buildings database identifies ENERGY STAR[®] -Labeled buildings. The site is updated regularly to reflect newly labeled buildings and facilities.

Over 21,000 buildings are listed and searchable by facility type, label year, location (city, state, zip), owner, street address, and building name.

Find ENERGY STAR®-Labeled Buildings on CoStar



The screenshot shows the top portion of the CoStar Group website. At the top left is the CoStar Group logo, followed by the tagline "# 1 Commercial Real Estate Information Company". Below this is a navigation bar with five tabs: "Find Properties", "Market Properties", "Analyze Properties", "Products", and "Headlines". To the right of the navigation bar are links for "Email Page" and "Print Page", and social media icons for Twitter, Facebook, LinkedIn, and RSS. Below the navigation bar is a large image showing hands holding a document. To the right of the image is a "Next Steps" section with two links: "800-204-5960" and "Email Us". Below the image is a dropdown menu with "About" and "Research" options. To the right of the dropdown menu is a headline: "CoStar Group Promotes Energy Efficient, Sustainable Green Buildings by Adding EPA's ENERGY STAR® Rating to Commercial Properties in its Database".

The CoStar® subscription database is a major provider of commercial real estate information, with over 2 million properties. The database identifies ENERGY STAR® and LEED® buildings, including their space availability and pricing.

www.costar.com

Summary

- ENERGY STAR[®] has training resources available on its website.
- The ENERGY STAR[®] Building Upgrade Value Calculator helps real estate professionals assess the financial value of energy efficiency improvements.
- Real estate professionals, including Leasing Specialists, can locate ENERGY STAR[®] -labeled buildings through the ENERGY STAR[®] database and CoStar.