

# TARGET FINDER: SET GOALS FOR ENERGY SAVINGS

ACHIEVE DESIGNED TO EARN  
THE ENERGY STAR®



## DESIGNING ENERGY-EFFICIENT BUILDINGS

Generating the energy to power America's commercial and industrial buildings causes almost half of our nation's greenhouse gas emissions. You can help the U.S. Environmental Protection Agency (EPA) by designing buildings to use less fossil fuel energy—the first step in committing to energy and cost savings over the life of your building.

## SET YOUR ENERGY TARGET

Architects, engineers, and building owners who want to set energy targets to achieve Designed to Earn the ENERGY STAR and meet government and industry goals can use Target Finder. It provides easy to understand energy use targets based on actual building energy consumption data<sup>1</sup> for more than a dozen building types in the United States. EPA's ENERGY STAR energy performance scale assigns a score between 1 and 100 for the corresponding energy use intensity for the specified project.

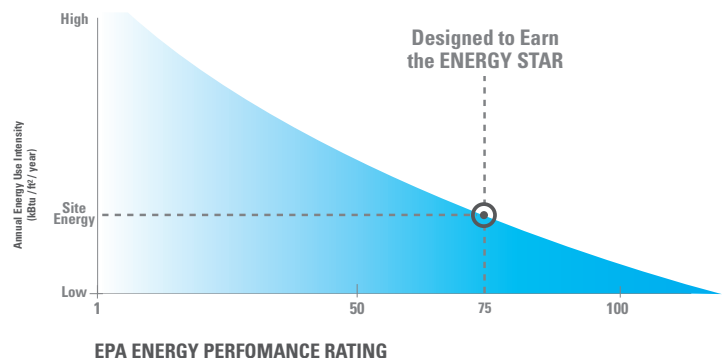
## RATE YOUR DESIGN

You can use Target Finder throughout the design process to rate estimated energy use for design alternatives and trade-offs. The EPA score is an "apples-to-apples" comparison of your project's estimated energy use to that of similar U.S. building types. The tool adjusts for primary drivers of energy

such as building size, climate, operating hours, number of occupants, and computers. It also provides a rating for projects using Building Information Modeling through a Web-based energy analysis service.

## RECEIVE EPA RECOGNITION

Architects use Target Finder to receive Designed to Earn the ENERGY STAR certification for projects and to participate in the ENERGY STAR Challenge. EPA recognizes these architecture firms and design projects in publications, on the ENERGY STAR website, and at events.



The EPA energy performance rating uses a 1-100 scale and makes it easy to set energy targets and evaluate energy use intent. Lower energy use yields a higher performance rating. A 75 or higher design score achieves the ENERGY STAR.

<sup>1</sup>U.S. Department of Energy Energy Information Agency's 2003 Commercial Buildings Energy Consumption Survey (CBECS), a national sample survey that collects information on the stock of U.S. commercial buildings, their energy-related building characteristics, and their energy consumption and expenditures.



DESIGNED  
TO EARN THE  
ENERGY STAR

Designed to Earn the ENERGY STAR is the U.S. Environmental Protection Agency's designation for energy-efficient design projects that reduce greenhouse gas emissions.

# SET ENERGY USE TARGETS AND RATE YOUR DESIGN

Use Target Finder throughout the design process from pre-design to establish design target; and on through design development to determine if energy efficiency goals are being achieved on the project.

## Pre-Design: Set Energy Use Goal

Complete all required fields, indicated by a red asterisk (\*), and Target Finder will calculate the energy use target for the project.

### 1. FACILITY INFORMATION

Enter the ZIP code where the project will be built. Target Finder selects the appropriate climate data and determines the energy fuel mix (electricity, NG, etc.) typical of the specified location. The tool can be used only for projects in U.S. cities, states, and territories.

Target Finder

Facility Information

\*Zip Code 20005

Facility Name Capital Towers

City Washington State District of Columbia

### 2. FACILITY CHARACTERISTICS

Select the applicable space type<sup>2</sup> from the drop down menu. Provide requested attribute information for the design project.

2. Facility Characteristics

\*Select Space Type(s) for this project.

Space Types [ ]

--- Primary Space Types ---

Office

K-12 School

### 3. TARGET RATING

Choose "Target Rating" *or* "Energy Reduction Target," and the tool provides the total annual energy use for the selected target. An EPA score of 75 or higher achieves ENERGY STAR.

Select "View Results" to see Target Energy Performance Results

The Target

Target Rating 90

Energy Reduction Target Select

## Schematic and Design Development

As the design develops, enter results from energy analysis calculations.

### 4. DESIGN ENERGY

Enter your project's estimated results for the energy sources, annual energy usage, and costs. Target Finder will provide an ENERGY STAR score for the design project's estimated energy.

Select "View Results" to see Target Energy Performance Results.

4. Estimated Design Energy

Use results from energy analysis and enter total estimated energy for the design. Select "View Results" to compare Estimated Energy Use to your Target.

Energy Source	Units	Estimated Total Annual Energy Use <sup>2</sup>
Electricity - Grid	kBtu	2000000
	kBtu	
Natural Gas	\$/kWh	

<sup>2</sup>Performance ratings are available for about 60 percent of the commercial building square footage across the United States. If your building is a space type other than those listed in Target Finder, you can compare its energy use with the national median source and site energy use for many additional spaces using the [2003 CBECS National Median Source Energy Use and Performance Comparisons](#).

# TARGET FINDER RESULTS SCREEN

Target Finder displays the annual source<sup>3</sup> and site energy results for the Design, Target, and Median Building, which provide a reference for comparing energy design strategies and alternatives for achieving your energy use goal.

## HELP BUTTON

The HELP section includes space type definitions, default values, and information about using the tool.

## APPLY FOR DESIGNED TO EARN THE ENERGY STAR

Design projects that score 75 or higher are eligible for Designed to Earn the ENERGY STAR certification. Click on the APPLY button and complete the Statement of Energy Design Intent.


## THE DESIGN RATING





In the example, the office building design score is 92, and the project achieves an estimated 48% reduction in energy use compared to the median building. Use this comparison to determine which design strategies will best achieve your goal for energy efficiency.

## EDIT BUTTON

Use the EDIT button located at the top of each table to change your entries. (Note: Using the "Back" button on your browser may delete your data.)

Note: An incomplete energy use profile could result in a high but inaccurate rating. Total annual estimated energy use should include plug, process, and all non-regulated loads; equipment loads specified on drawings; and all energy sources.<sup>4</sup>


TARGET FINDER

[Return to ENERGY STAR Web site](#) > Target Energy Performance Results

### Results

The design **achieved** a rating of 75 or higher:

**APPLY** for "Designed to Earn the ENERGY STAR"

NOTE: Values are 69% Electricity - Grid Purchase and 31% Natural Gas. The Target & Median Building energy use for this facility are calculated based on fuel mix of input estimated energy use.

**View Statement of Energy Design Intent**

Results for Estimated Energy Use			
Energy	Design	Target	Median Building
<a href="#">Energy Performance Rating (1-100)</a>	92	90	50
<a href="#">Energy Reduction (%)</a>	48	45	0
<a href="#">Source Energy Use Intensity (kBtu/Sq. Ft./yr)</a>	152	163	294
<a href="#">Site Energy Use Intensity (kBtu/Sq. Ft./yr)</a>	58	62	112
<a href="#">Total Annual Source Energy (kBtu)</a>	7,622,300	8,151,154	14,709,499
<a href="#">Total Annual Site Energy (kBtu)</a>	2,900,000	3,101,209	5,596,414
<a href="#">Total Annual Energy Cost (\$)</a>	\$ 92,564	\$ 98,986	\$ 178,630
Pollution Emissions			
<a href="#">CO2-eq Emissions (metric tons/year)</a>	331	354	639
<a href="#">CO2-eq Emissions Reduction (%)</a>	48%	45%	0%

### Facility Information

**Capital Towers**  
Washington, DC 20005  
United States

Facility Characteristics <span style="float: right;"><a href="#">Edit</a></span>	
Space Type	Gross Floor Area (Sq. Ft.)
Office	50,000
<b>Total Gross Floor Area</b>	50,000

Estimated Design Energy <span style="float: right;"><a href="#">Edit</a></span>			
Energy Source	Units	Estimated Total Annual Energy Use	Energy Rate (\$/Unit)
Electricity - Grid Purchase	kBtu	2,000,000	\$ 0.040/kBtu
Natural Gas	kBtu	900,000	\$ 0.014/kBtu

\* The Median Building is equivalent to an EPA Energy Performance Rating of 50.

Source: Data adapted from DOE-EIA. See EPA [Technical Description](#).

<sup>3</sup>Source energy represents the total amount of raw fuel that is required to operate the building. It incorporates all transmission, delivery, and production losses, thereby enabling a complete assessment of energy efficiency in a building.

<sup>4</sup>The EPA energy performance rating used in Target Finder is derived from fuel consumption data of existing commercial buildings, which include the total energy use associated with the building. Therefore, design energy use should include all fuel sources and total estimated energy use for the building design. Gaps in energy analysis should be addressed in order for the rating to be a useful indicator of the design's energy intent.


# ENERGY STAR

## COMMERCIAL BUILDING DESIGN

### STATEMENT OF ENERGY DESIGN INTENT

The Statement of Energy Design Intent (SEDI) summarizes all inputs and results data from Target Finder. The SEDI can be included in Contract Documents and Requests for Proposal to help ensure that your intended energy goal for the design project is clearly articulated to the owner and design team. Use the SEDI to apply for Designed to Earn the ENERGY STAR.

OMB No.2060-0347



**STATEMENT OF ENERGY DESIGN INTENT**  
 March 6, 2012

**FACILITY INFORMATION & CHARACTERISTICS**

Facility Name: <b>Capital Towers</b>	Location: <b>Washington, DC 20005 United States</b>	<b>Design Energy (kBtu)<sup>1</sup></b>
Space Type: <b>Office</b>	Total Floor Area: <b>50,000 sq. ft.</b>	Electricity - Grid Purchase 2,000,000
	Total Gross Floor Area: <b>50,000 Sq. Ft.</b>	Natural Gas 900,000

RESULTS FOR ESTIMATED ENERGY USE	DESIGN	MEDIAN BUILDING	ESTIMATED SAVINGS
EPA Energy Performance Rating (1-100) <sup>1</sup>	92	50	42
Percent Energy Reduction (%) <sup>2</sup>	48	0	N/A
Site Energy Use Intensity (kBtu/sf/yr)	58	112	54
Source Energy Use Intensity (kBtu/sf/yr)	152	294	
Total Annual Site Energy Use (kBtu/yr)	2,900,000	5,596,414	2,696,414
Total Annual Source Energy Use (kBtu/yr)	7,622,300	14,709,499	7,087,199
Total Annual Energy Costs (\$)	\$ 92,564	\$ 178,630	\$ 86,066
<b>Pollution Emissions (metric tons/yr)<sup>3</sup></b>			
CO <sub>2</sub> -eq	331	639	

### ENERGY COSTS SAVINGS

The SEDI shows an annual savings of \$86,066 compared to the median building. The anticipated cost savings could be used to invest in more aggressive energy efficiency measures.

## RESOURCES

### COMMERCIAL BUILDING DESIGN ON THE WEB

Find links to A/E projects and firms that are using Target Finder and participating in the ENERGY STAR Challenge, while designing buildings that achieve the superior energy efficiency criteria set by EPA.

### DESIGNED TO EARN THE ENERGY STAR GUIDE

Use the online Designed to Earn the ENERGY STAR Guide as a start-to-finish framework for architects and owners to show commitment to energy-efficient building design.

### WEB TRAINING

Attend no-cost online presentations about Target Finder and earn AIA/CES credits.

### CONTACT ENERGY STAR

[www.energystar.gov/commercialbuildingdesign](http://www.energystar.gov/commercialbuildingdesign)

Hotline: 1.888.STAR.YES (1.888.782.7937)

E-mail: [spp@energystar.gov](mailto:spp@energystar.gov)

Karen P. Butler

U.S. EPA—ENERGY STAR

Commercial Building Design

ENERGY STAR is a U.S. Environmental Protection Agency program helping businesses and individuals fight global warming through superior energy efficiency.



LEARN MORE AT  
[energystar.gov](http://energystar.gov)