

Financial Analysis for Commercial Real Estate: Building Upgrade Value Calculator for Office Buildings

I. Background and Purpose

The Building Upgrade Value Calculator, developed by the U.S. EPA, is a product of the partnership between ENERGY STAR, BOMA International, and the BOMA Foundation. This calculator was developed as part of BOMA's Energy Efficiency Program (BEEP), a series of courses designed to help commercial real estate practitioners improve their buildings' energy efficiency performance. The calculator tool was developed to help property professionals assess the financial value of investments in a property's energy performance and is part of the [BEEP Seminar 5, Valuing Energy Enhancement Projects & Financial Returns](#).

II. What Does the Calculator Do?

The Building Upgrade Value Calculator estimates the financial impact of proposed investments in energy efficiency in office properties. The calculations are based on data input by the user, representing scenarios and conditions present at their properties. Required inputs are limited to general characteristics of the building, plus information on the proposed investments in energy efficiency upgrades.

- The calculator's analysis includes the following information:
- Net investment
- Reduction in operating expense
- Energy savings
- Return on investment (ROI)
- Internal rate of return (IRR)
- Net present value (NPV)
- Net operating income (NOI)
- Impact on asset value

In addition to the above outputs, the calculator also estimates the impact the proposed changes will have on a property's ENERGY STAR rating.

The tool provides two ways to use its calculations: users can save and print a summary of their results, or generate a letter that highlights the financial value for use as part of a capital investment proposal.

III. Instructions for Downloading the Building Upgrade Value Calculator

This tool requires a download of two files: one Microsoft Excel file and one Word file. Please note the software requirements for these files:

- Microsoft Office 2003/Office XP
- Windows 2000 or higher

- This tool is not available for users with Macintosh computers running Microsoft Office software.

STEP 1: Download the Microsoft Excel tool

Select the software version you wish to download.

- [Download Building Upgrade Value Calculator](#) (342KB)
- OR
- [Download Building Upgrade Value Calculator for Microsoft Office XP](#) (371KB)

STEP 2: Check Macro Security

Open the tool and, if prompted, choose to "Enable Macros" to use the tool. Choosing "Disable Macros" will open the file, but navigation and calculation functions will not be available.

You may also manually enable macros by doing the following:

1. Click the Microsoft Office Button in the upper left hand corner of the screen, and then click Excel Options.
2. Click Trust Center, click Trust Center Settings, and then click Macro Settings.
3. Click either of the following options:
 - *Disable all macros with notification.* This is the default setting. Click this option if you want macros to be disabled, but you want to get security alerts if there are macros present. This way, you can choose when to enable those macros on a case by case basis – and do so for the Building Upgrade Value Calculator.
 - *Enable all macros (not recommended, potentially dangerous code can run).* Click this option to allow all macros to run. While this option is not recommended by Microsoft, the code in the Building Upgrade Value Calculator is not malicious and can be trusted. You can also choose this setting and change it back after using the calculator.

STEP 3: Download the template file

[Download the Calculator Template file](#) which is required to generate a customized letter populated with the inputs and results of the calculations conducted in the Microsoft Excel tool, downloaded in Step 1.

NOTE: This file MUST be saved in the same directory as the Excel tool downloaded in Step 1 in order to generate the customized letter.