



# Financing Energy Efficiency Projects

## What to Know Before You Sign

Neil Zabler, President  
Catalyst Financial Group, Inc.  
In Support of EPA's ENERGY STAR® Program  
2019

# Learning Objectives

In this session we will discuss the PROS and CONS of ***eight different financing options*** that commonly used in conjunction with Energy Services Performance Contracts, and how they help ***overcome common management and financial hurdles***:

- Loans, Capital Leases, Operating Leases, Tax Exempt Lease Purchase Agreements, Power Purchase Agreements, Energy Performance Contracts, Energy Service Agreements and PACE

In addition, we will discuss:

- EPA ENERGY STAR<sup>®</sup>'s financing tools and resources
- How to demonstrate/calculate the ***“cost of delay”*** using **EPA ENERGY STAR's Cash Flow Opportunity Calculator**

Today's Presenter:  
Neil Zabler



# What is ENERGY STAR?

- A government-backed, voluntary program that helps businesses and individuals protect the environment through superior energy performance by providing energy-efficient solutions for homes, businesses, and institutions
- The national symbol for environmental protection through energy efficiency, recognized by more than 90% of all U.S. households

# Savings Opportunities in Buildings

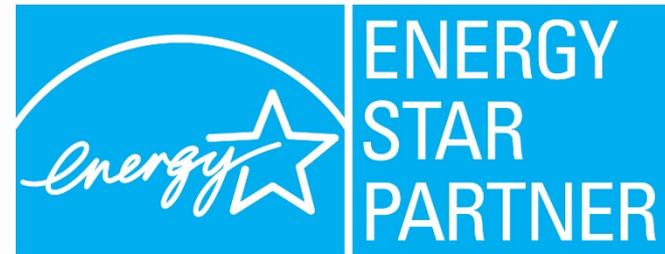
- Commercial buildings and industrial facilities generate about 50 percent of U.S. carbon dioxide emissions
- 30 percent of energy consumed in commercial and industrial buildings is wasted
- Reductions of 10 percent in energy use can be possible with little or no cost
- Reductions up to 40 percent in energy use is possible if deep improvements are made

# Savings Opportunities in Buildings

- Align with a trusted brand to communicate your energy management accomplishments
- ENERGY STAR partners gain access to a rich variety of promotional materials and the ability to co-brand with ENERGY STAR

## Partners commit to:

- Measure/track/benchmark building energy use
- Implement a plan to improve energy performance
- Educate and communicate with others about energy efficiency



More information at <http://www.energystar.gov/join>

The image is a composite. The top half shows a city skyline with various buildings under a cloudy, grey sky. A semi-transparent green horizontal band is overlaid across the middle of the image. The bottom half shows a rooftop area covered in graffiti. On the left, a brick wall features a large, colorful graffiti piece with a blue and purple background, red and orange floral patterns, and a central figure. Text on the wall includes 'DOZ = BEL DOZ & BEL DOZ BEL', 'ROLDY', 'WATCH', and 'DRUNK VIEW'. A metal staircase leads up from the foreground. In the background, other rooftops and buildings are visible, some with graffiti, including a prominent skull design on a brick wall. The overall scene suggests an urban environment with a focus on street art and graffiti culture.

# FIRST THINGS FIRST

# Before Deciding on Financing Options

Choosing best financing alternatives for energy efficiency/renewable energy projects requires strategic planning and self-evaluation.

- 1) First thing - get an energy assessment from qualified service provider
  - Different technologies lend themselves to alternative financing solutions
- 2) Define short and long-term business goals
  - Own or lease space?
  - Growing, reorganizing, or static?
- 3) Understand your financial profile
  - How would traditional lenders score you?
  - Limitations on debt or conflicting covenants?
- 4) Explore possible incentives
  - Utility, Local, State and/or Federal



# FINANCING ALTERNATIVES

FOR ENERGY EFFICIENCY PROJECTS



# A Word About “OFF BALANCE SHEET” Financing

“Off-balance sheet financing means a company does not include a liability on its balance sheet. It is an accounting term and impacts a company’s level of debt and liability.”\*

By avoiding additional debt, benefits include:

- Improved financial ratios
  - Profitability (ROI), Liquidity (Current Ratio), Leverage (Debt to Equity ratio), Efficiency (Inventory to Net Working Capital)
- Lower borrowing costs
- May avoid breaking lender covenants (contractual agreement)

**ALERT: Financial Accounting Standards Board (FASB) changed the rules by creating special asset and liability categories for operating leases.**

\*[www.investopedia.com](http://www.investopedia.com)

# CASH

Owner writes a check

## PROs

- Fast

## CONs

- Funds not available for other income generating projects
- Maintenance responsibilities\*
- Project management risk\*

\* May be contracted to 3rd party

# LOAN

Owner borrows funds for the project

## PROs

- Lowest borrowing cost short of paying cash
- ITC goes to the owner (borrower)

## CONS

- Competes against other capital projects
- Reduces credit lines
- Often has restrictive covenants
- May require large down payment
- Internal politics of approval can be lengthy

\* May be contracted to 3rd party

# CAPITAL LEASE

This is a "lease to own" structure in which asset title typically transfers at end of lease term. It has the economic characteristics of asset ownership for tax and financial reporting purposes.

## PROs

- Access to new credit lines
- Structuring flexibility (step, skip, etc.)
- 100% financing
- Depreciation and interest is tax deductible
- Secured by asset being financed
- Lessee owns asset at the end of term
- Investment Tax Credit (ITC) goes to the lessee (building owner)

## CONs

- Because secured only by asset financed, financing cost may be slightly higher than a loan
- Owner responsible for project management\*
- Owner responsible for ongoing maintenance costs\*
- Politics of internal approval can be lengthy

\* May be contracted to 3rd party

# OPERATING LEASE/TAX LEASE

This is a long term equipment rental agreement. Asset ownership stays with the Lessor ("lender"). Lessee ("borrower") can purchase the asset at the end of the lease term at it's then fair market value, renew the lease, or return the asset.

## PROs

- Access to new credit lines
- Structuring flexibility (step, skip, etc.)
- 100% financing
- Lease payments are tax deductible
- Secured by asset being financed

## CONS

- No longer "off balance sheet"
- ITC cannot be used by lessee (borrower)
- Owner may be responsible for project management\*
- Owner responsible for ongoing maintenance costs\*

\* May be contracted to 3rd party 13

# TAX EXEMPT LEASE PURCHASE

A tax-exempt lease or lease-purchase agreement is an installment purchase, conditional sale or lease with an option to purchase for nominal value. It may also be referred to as a municipal lease. Only can be issued by a State or political subdivision (i.e., cities, towns, school districts, special purpose districts, etc.) and some not-for-profit organizations.

## PROs

- Tax Exempt interest rates (lower than commercial rates)
- Structuring flexibility (step, skip, etc.)
- Usually does not require referendum for approval
- Payments may be subject to Annual Appropriation of Funds
- True Interest Cost (TIC) usually lower than Bond for small-medium projects
- Lessee owns asset at the end of term

## CONs

- Politics of approval can be lengthy
- ITC will be forfeited when host doesn't pay taxes

# ENERGY PERFORMANCE CONTRACT

A service providing customers with a comprehensive set of energy efficiency, renewable energy and distributed generation measures often accompanied with guarantees that the savings produced by a project will be sufficient to finance the full cost of the project.

## PROs

- Turnkey service
- Comprehensive Measures
- Project financing (usually a separate agreement)
- Project savings guarantee
- ESCO can help provide monitoring and verification

## CONs

- Careful review of contracts to insure host is only receiving services they want and need

# ENERGY SERVICES AGREEMENT

Equipment owned and operated by the energy-efficiency company and not the host. Equipment financing costs are bundled into the fee for service.

## PROs

- No upfront costs to host
- Project is managed and maintained by energy services company
- May be considered “off balance sheet”

## CONs

- Careful review of contracts to insure host is only receiving services they want and need

# PACE

Property Assessed Clean Energy (PACE) is a financing mechanism that enables low-cost, long-term funding for energy and water efficiency and renewable energy projects. PACE financing is repaid as an assessment on the property's regular tax bill, and is processed the same way as other local public benefit assessments (sidewalks, sewers) have been for decades.

## PROs

- Voluntary program
- Up to 100% of a project's hard and soft costs
- Financing terms up to 20 years allowing deep retrofits
- Can be combined with incentive programs
- May stay with building upon sale.
- Filed with the local municipality as a lien on the property
- May be considered "off balance sheet"

## CONs

- Requires state and local enabling legislation (36 states and DC approved)
- May require first mortgagee approval
- Property assessments paid once or twice a year
- Total loan amount is generally determined by the "tax capacity" of a property
- Interest rate may be higher than alternatives

# POWER PURCHASE AGREEMENT

A power purchase agreement (PPA) is a legal contract between an electricity generator (provider) and a power purchaser (buyer). Typically includes both electric and hot water. Typically used for renewable energy projects.

## PROs

- Minimal, if any, up-front capital costs
- Potential to monetize tax incentives
- Typically a known, long-term energy price
- No/limited operations and maintenance responsibilities
- Minimal risk

## CONs

- Contract term limitations
- Transaction costs
- Time to approve project
- Politics to approval can be lengthy
- ITC cannot be used by host/buyer
- Challenges with contract terms and conditions (e.g., take or pay language)

Note: Solar PPAs can be sophisticated and negotiated agreements

# IMPORTANT NOTE:

Lists of PROs and CONs show the most common ones and is not intended to be all inclusive

# A Word about Lease Classifications

<u>Who?</u>	<u>Why?</u>	<u>What's it Called?</u>	
<b>FASB*</b>	Financial Reporting	Type A Lease (Old Capital Lease)	Type B Lease (Old Operating Lease)
<b>IRS</b>	Paying taxes	Non-Tax Lease	Tax Lease
<b>Legal</b>	Perfecting Ownership	Lease intended as a security	True Lease



# HURDLES BLOCKING EE INSTALLATIONS

# Operational Hurdles

- **Limited Staff** – current staff is fully occupied on existing projects and can't focus on a new project
- **Limited Expertise** – current staff is unaware of current technological developments and has neither the product knowledge nor technical expertise needed
- **Too Risky** – unsure if the project will perform as promised and unwilling to commit to the unknown
- **Other Priorities** – in a strong economy, the focus is on income producing projects
- **Not our Core Business**– too busy to spend time looking into something that is not our core business focus

# Financial Hurdles

- **Too Expensive** – we can get cheaper equipment however the savings will be less
- **Can't Take on New Debt** – we are not in a position to enter new loans due to existing bank covenants
- **Creditworthiness** – our market is soft and our financial performance is subpar.
- **Return too Low** – In a strong economy, the focus is on income producing projects
- **Capital Budget Constraints** – we just have to wait until the funds are in the capital budget (maybe next year)
- **Payback too Long** – this project doesn't meet our return on investment thresholds (typically 3-5 years)



# USE FINANCING TO ADDRESS HURDLES



# Overcoming Hurdles with Financing

	Cash	Loan	Capital Lease	Operating/ Tax Lease	PPA	EPC	ESA	PACE
<b>Operational</b>	Limited staff				X	X	X	
	Limited expertise				X	X	X	
	Don't have time				X	X	X	
	Too risky				X	X	X	
	Other priorities				X		X	
	Not our core business				X	X	X	
<b>Financial</b>	Too expensive*	X	X	X	X	X	X	X
	Can't take on new debt				x	X	X	X
	Creditworthiness							X
	Return too low					X	X	X
	Capital budget constraints				X	X	X	X
	Payback too long					X	X	X

- Considering the cost of delay, any financing provides cash flow improvements versus delaying or not doing the project
- Use ENERGY STAR's Cash Flow Opportunity Calculator to determine the actual Cost of Delay on projects.





# ENERGY STAR's FINANCIAL TOOLS



# ENERGY STAR 's Financial Tools



The simple choice for energy efficiency.

ENERGY EFFICIENT  
products

ENERGY SAVINGS  
at home

ENERGY EFFICIENT  
new homes

ENERGY STRATEGIES FOR  
buildings & plants

ABOUT ENERGY STAR

PARTNER RESOURCES



Home » Buildings & Plants » Owners and managers » Existing buildings » Find financing » Calculate returns on energy efficiency investments

## Buildings & Plants

[about us](#) | [reference](#) | [help desk](#) | [portfolio manager login](#)

Owners and managers

Service providers

Program administrators

Tenants

Tools and Resources

Training

Existing buildings



Learn the benefits



Get started



Use Portfolio Manager



Save energy



## Calculate returns on energy efficiency investments

EPA's ENERGY STAR program offers financial calculators to help guide your financial decisions about energy efficiency and meet your energy performance goals.

### Cash Flow Opportunity Calculator

Anyone can use the Cash Flow Opportunity (CFO) Calculator. It was developed to

#### TIP!

When calculating the return on energy efficiency investments, consider the value of increased occupant comfort in energy-efficient buildings in addition to the financial

<https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/find-financing/calculate-returns-energy-efficiency>

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# Financial Value Tools

- Building Upgrade Value Calculator – Commercial Real Estate



**ENERGY STAR®**  
**Building Upgrade Value Calculator®**  
For Commercial Properties Version 2.0

[Instructions](#)  
[Definitions](#)  
[Get Started!](#)

EPA's Building Upgrade Value Calculator (BUVC) allows commercial real estate owners and managers to analyze the financial value of capital investments in energy efficiency upgrades at their buildings. This tool calculates the financial impacts of the proposed improvements from two perspectives: (1) the financial benefits to ownership from owner-financed improvements; and (2) the financial benefits to each individual tenant, accounting for expense reimbursement approaches under most common office and industrial lease structures. In exploring the financial impacts (both costs and benefits) of having tenants help fund efficiency projects, this tool can be used to drive conversations between landlords and tenants that move beyond the "split incentive" typically assumed to exist in commercial lease arrangements.

As an upgrade to the original BUVC, which calculated financial results at the whole-building level, Version 2.0 of the BUVC also allows users to explore the financial impacts of having tenants help fund capital investments (in scenarios where the owner can recover certain expenses from tenants). The tool's results are presented in two ways: printable reports (for the owner and for each selected tenant, if applicable) that summarize the financial results and qualitative benefits; and letters (in Microsoft Word format) that you can customize and use to make a compelling business case to fund the investment - and/or to help a property manager engage in productive conversation with tenants.

At this time, the BUVC is set up to compute the impact on tenant expense reimbursements for the most common office and industrial lease structures. Retail leases are not covered by this tool, but may be covered in a future version.

Questions and comments about this calculator should be directed to the ENERGY STAR Help portal at <http://www.energystar.gov/buildingshelp>.

*Release date: July 26, 2016*

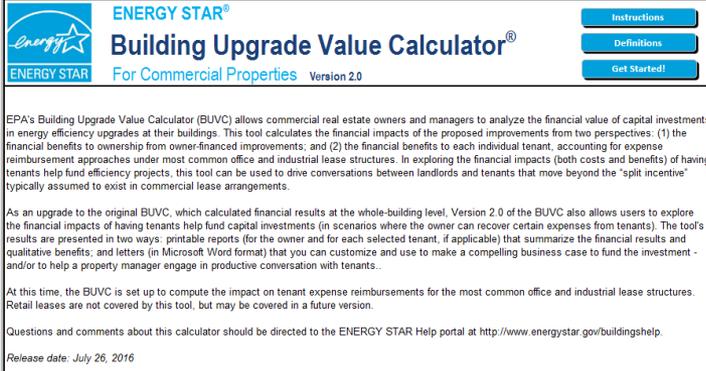
# The *Building Upgrade Value Calculator*

- Builds upon the first version of the BUVC, launched in 2006
  - Allows commercial office building operators to quantify and communicate the financial benefits of energy efficiency investments to building owners and CFOs
  - Included in BOMA Energy Efficiency Program (BEEP) Course 5, *Building the Business Case*
- New BUVC evaluates costs and benefits of efficiency investments to both owner *and each tenant*
  - Quantifies owner savings, tenant savings, and expected changes in expense reimbursements under most common commercial lease structures
  - Directly addresses “split incentive” barrier (who pays/who benefits) of efficiency investment in commercial real estate
  - Opens dialogue between the landlord and their tenants for sharing operating expense savings resulting from capital investment in base building systems

Tool is available for download at: <https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/find-financing/calculate-returns-energy-efficiency>

# Financial Value Tools

- Building Upgrade Value Calculator – Commercial Real Estate
- Cash Flow Opportunity Calculator – All Sectors



**ENERGY STAR®**  
**Building Upgrade Value Calculator®**  
For Commercial Properties Version 2.0

[Instructions](#)  
[Definitions](#)  
[Get Started!](#)

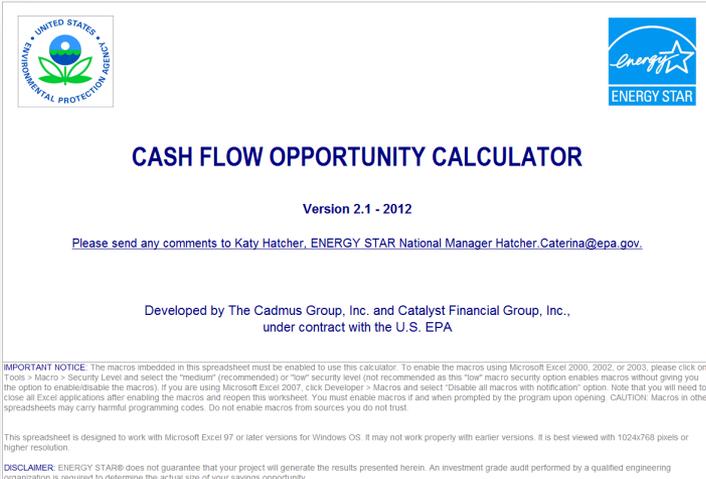
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Release date: July 26, 2016





## CASH FLOW OPPORTUNITY CALCULATOR

Version 2.1 - 2012

Please send any comments to [Katy Hatcher, ENERGY STAR National Manager Hatcher.Caterina@epa.gov](mailto:Katy.Hatcher@epa.gov).

Developed by **The Cadmus Group, Inc. and Catalyst Financial Group, Inc.**,  
under contract with the **U.S. EPA**

**IMPORTANT NOTICE:** The macros imbedded in this spreadsheet must be enabled to use this calculator. To enable the macros using Microsoft Excel 2000, 2002, or 2003, please click on Tools > Macro > Security Level and select the "medium" (recommended) or "low" security level (not recommended as this "low" macro security option enables macros without giving you the option to enable/disable the macros). If you are using Microsoft Excel 2007, click Developer > Macros and select "Disable all macros with notification" option. Note that you will need to close all Excel applications after enabling the macros, and reopen this worksheet. You must enable macros if and when prompted by the program upon opening. CAUTION: Macros in other spreadsheets may carry harmful programming codes. Do not enable macros from sources you do not trust.

This spreadsheet is designed to work with Microsoft Excel 97 or later versions for Windows OS. It may not work properly with earlier versions. It is best viewed with 1024x768 pixels or higher resolution.

**DISCLAIMER:** ENERGY STAR® does not guarantee that your project will generate the results presented herein. An investment grade audit performed by a qualified engineering organization is required to determine the actual size of your savings opportunity.

“We are paying for energy efficiency projects *whether or not* we do the projects!”

# Quantifying the COST OF DELAY



# What Does The CFO Calculator Do?

Addresses three critical questions about installing energy efficiency projects:

1. How much new energy efficiency equipment can be purchased from the anticipated savings?
2. Should this equipment purchase be financed now or is it better to wait and use cash from a future budget? (avoid paying interest)
3. Is money being lost by waiting for a lower interest rate?

# Energy Efficiency: A Cash Flow Opportunity

ENERGY STAR®

## Cash Flow Opportunity Calculator

Know when to finance energy efficiency projects



Please send any comments to Katy Hatcher, ENERGY STAR Public Sector National Manager at [Hatcher.Caterina@epa.gov](mailto:Hatcher.Caterina@epa.gov).

Developed by The Cadmus Group LLC and Catalyst Financial Group, Inc.



CFO Calculator Version 2.2 - 2018

**Intro** / Instructions / Data Entry / Investment Values / Cash Flow / Interest Rates / Summary



# "Data Entry" Tab

User Generated Categories  
Using Benchmark Results from ENERGY STAR  
Green Building Categories (LEED-EB O&M)  
Water Wastewater Treatment Plants  
By Efficiency Project Type (Building Upgrades & Tune-up)  
Manufacturing Plants

User Generated Categories	SF	types	\$/SF	Savings target (%)	savings
Enter Category Name Here	0	\$0		0.00	
Enter Category Name Here	0	\$0		0.00	
Total energy costs (\$) - all fuel types					
Total SF			\$/SF	Weighted savings target (%)	Total potential annual savings (\$)

ENERGY STAR® does not guarantee that your project will generate the results presented herein. An investment grade audit performed by a qualified engineering organization is required to determine the actual size of your savings opportunity.

# "Data Entry" Tab

**ENERGY STAR®**  
Cash Flow Opportunity Calculator

**HEBy Efficiency Project Type (Building Upgrades & Tune-up) - DATA ENTRY TABLE**

Select type of analysis: By Efficiency Project Type (Building Upgrades & Tune-up) ▼

Values: Sample Values ▼

**Changing the options in these menus will delete user entered values!**

By Efficiency Project Type (Building Upgrades & Tune-up)	Annual energy costs (\$) - all fuel types	Savings target (%)	Potential annual savings
Indoor Lighting	\$300,000	15.00	\$45,000
Outdoor Lighting	\$1,700,000	25.00	\$425,000
Plug Loads	\$300,000	10.00	\$30,000
Air Distribution Systems	\$200,000	10.00	\$20,000
Heating and Cooling	\$1,000,000	20.00	\$200,000
	<b>Total energy costs (\$) - all fuel types</b>	<b>Weighted savings target (%)</b>	<b>Total potential annual savings (\$)</b>
	\$3,500,000	20.57%	<b>\$720,000</b>

Categories: EPA ENERGY STAR Building Upgrade Manual, 2007 - [www.energystar.gov](http://www.energystar.gov)

ENERGY STAR® does not guarantee that your project will generate the results presented herein. An investment grade audit performed by a qualified engineering organization is required to determine the actual size of your savings opportunity.

This tab "translates" project savings (i.e., kWh, therms, etc.) into dollars saved

# "Investment Values" Tab

ENERGY STAR®  
Cash Flow Opportunity Calculator
HELP SAMPLE VALUES
INVESTMENT OPPORTUNITY

**Potential Annual Savings = Cash Flow Opportunity**

	Indoor Lighting	Outdoor Lighting	Plug Loads	Air Distribution Systems	Heating and Cooling	Totals
Annual energy costs	\$300,000	\$1,700,000	\$300,000	\$200,000	\$1,000,000	<b>\$2,500,000</b>
Potential annual savings	\$45,000	\$425,000	\$30,000	\$20,000	\$200,000	<b>\$720,000</b>

**What Can \$720,000.00 of Annual Savings Buy?**

Assuming an interest rate of  %

Assuming a term of  Year(s)

Savings used to pay energy/retrofit investments  %

Additional funds such as rebates, etc. (if available)

Taken from operating funds, these savings could finance energy/retrofit projects equal to

\$5,310,400

without increasing today's capital and operating budgets.  
(Note: Savings calculated on a monthly basis).

Reset

NOTE: If the project cost is greater than the above savings will cover and additional capital contributions are unavailable, see how adjusting the term, percentage of savings used, and/or interest rate affects the total before reducing the project size, which may also affect savings.

Contribution that your operating budget can make towards energy improvements

Simple Payback  Year(s)

Month(s)

Consider blending short- and long-term projects to maximize use of the savings.



# “Cash Flow” Tab

**ENERGY STAR®**  
Cash Flow Opportunity Calculator

HELP SAMPLE VALUES

**COST OF DELAY and CASH FLOW ANALYSIS**

Funds available from projected savings	5,191,200	\$
Simple payback	7	years
	3	month(s)
Interest rate	5.00	%
Financing term	10	years
Year(s) postponed	1	years
Project cost increase due to postponement	3.00	%
Estimated energy cost change in year 2	2.00	%
Annual change in energy costs after year 2	2.50	%
Estimated energy savings in year 1	75.00	%

Cumulative Cash Flow Impact Comparison

These cash flow calculations are on a pretax basis.  
For purposes of this calculation, all cash flows are being discounted at the interest rate indicated in cell G7 - financing paid monthly in arrears.

**Net Present Value of Option A  
(Fast Track Financing)**

\$1,403,314

**Net Present Value of Option B  
(Waiting for Cash)**

\$881,218

Fast Track Financing generates \$522,097 or 59% more cash than waiting!

Year	Option A (Fast Track Financing)				Option B (Waiting for Cash)			
	Savings	Project Cost including financing	Annual Cash Flow	Cumulative Cash Flow	Savings	Project Cost	Annual Cash Flow	Cumulative Cash Flow
1	\$540,000	(\$660,729)	(\$120,729)	(\$120,729)	\$0	\$0	\$0	\$0
2	\$734,400	(\$660,729)	\$73,671	(\$47,058)	\$550,800	(\$5,449,936)	(\$4,899,136)	(\$4,899,136)
3	\$752,760	(\$660,729)	\$92,031	\$44,974	\$752,760	\$0	\$752,760	(\$4,146,376)
4	\$771,579	(\$660,729)	\$110,850	\$155,824	\$771,579	\$0	\$771,579	(\$3,374,797)
5	\$790,868	(\$660,729)	\$130,140	\$285,964	\$790,868	\$0	\$790,868	(\$2,583,929)
6	\$810,640	(\$660,729)	\$149,911	\$435,875	\$810,640	\$0	\$810,640	(\$1,773,288)
7	\$830,906	(\$660,729)	\$170,177	\$606,053	\$830,906	\$0	\$830,906	(\$942,382)
8	\$851,679	(\$660,729)	\$190,950	\$797,003	\$851,679	\$0	\$851,679	(\$90,703)
9	\$872,971	(\$660,729)	\$212,242	\$1,009,245	\$872,971	\$0	\$872,971	\$782,268
10	\$894,795	(\$660,729)	\$234,066	\$1,243,311	\$894,795	\$0	\$894,795	\$1,677,063
11	\$917,165	\$0	\$917,165	\$2,160,476	\$917,165	\$0	\$917,165	\$2,594,228



# Cost of Delay in this Example

- If delayed **ONE** year
  - \$522,097
  - 10% of project cost
- If delayed **TWO** years
  - \$948,861
  - 18% of the project cost

# "Interest Rate" Tab

			Month	Lower Interest rate savings balance at beginning of month	Amount lost in monthly utility bills	Lower Interest rate savings balance at end of month
Interest rate of higher financing	5.00	%				
Expected lower interest rate	4.00	%				
Cost of the equipment	\$5,191,200		1	\$247,200	\$60,000	\$187,200
Simple payback	7	year(s)	2	\$187,200	\$60,000	\$127,200
	3	month(s)	3	\$127,200	\$60,000	\$67,200
Potential annual savings	\$720,000		4	\$67,200	\$60,000	\$7,200
Term of financing	10	year(s)	5	\$7,200	\$60,000	(\$52,800)
Lower interest rate savings*	\$247,200		6	(\$52,800)	\$60,000	(\$112,800)
Amount lost in utility bills	\$60,000	/month	7	(\$112,800)	\$60,000	(\$172,800)
Break-Even Point	4.1	month(s)	8	(\$172,800)	\$60,000	(\$232,800)
			9	(\$232,800)	\$60,000	(\$292,800)
			10	(\$292,800)	\$60,000	(\$352,800)
			11	(\$352,800)	\$60,000	(\$412,800)
			12	(\$412,800)	\$60,000	(\$472,800)

\*Lower interest rate savings number is calculated by taking the NPV of the difference between the two monthly payments (immediate versus lower financing rates), discounted at the lower interest rate.



# Summary Tab - Reports

ENERGY STAR®

## Cash Flow Opportunity Calculator

Know when to finance energy efficiency projects

Version 2.2 - 2018

### SUMMARY OF FINANCIAL CALCULATIONS: By Efficiency Project Type (Building Upgrades & Tune-up)

Name:

Selected Scenario: By Efficiency Project Type (Building Upgrades & Tune-up)

The CFO Calculator tabs are designed to work independently and together as a whole. Results on this summary page are brought from different worksheets. If you have modified some of the values carried over from previous tabs, the results presented in this report may not be consistent.

This information has been generated by an MS Excel® spreadsheet developed by ENERGY STAR® called the Cash Flow Opportunity Calculator. The purpose of the calculator is to help address three critical questions about installing energy efficiency projects:

1. How much new energy efficiency equipment can be purchased from the anticipated savings?
2. Should this equipment purchase be financed now or is it better to wait and use cash from a future budget?
3. Is money being lost by waiting for a lower interest rate?

#### 1. How much energy efficiency equipment can be purchased?

This section reflects the cost per square foot by building category, as follows:

	Annual energy costs (\$) - all fuel types	Savings target (%)	Potential annual savings
Indoor Lighting	\$300,000	15.0	\$45,000
Outdoor Lighting	\$1,700,000	25.0	\$425,000
Plug Loads	\$300,000	10.0	\$30,000
Air Distribution Systems	\$200,000	10.0	\$20,000
Heating and Cooling	\$1,000,000	20.0	\$200,000
	<b>Total energy costs (\$) - all fuel types</b>	<b>Weighted savings target (%)</b>	<b>Total potential annual savings (\$)</b>
<b>Total</b>	\$3,500,000.00	20.57%	\$720,000

Redirecting funds from the existing utility budget by the "Savings Target" number, will free up about \$720,000.00 per year, which then can be used to finance the energy efficiency projects.

Intro | Instructions | Data Entry | Investment Values | Cash Flow | Interest Rates | **Summary**

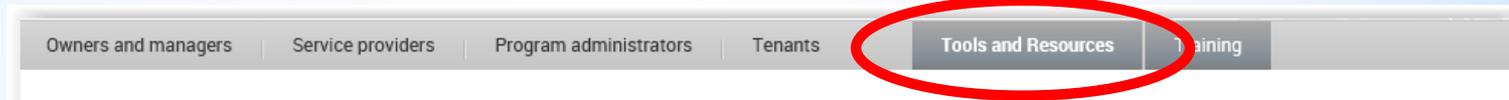


# Cash Flow Opportunity Calculator

The screenshot displays the Energy Star website interface. At the top, there is a navigation bar with the Energy Star logo on the left, the text "The simple choice for energy efficiency.", and a search bar on the right. Below the logo, there are four main menu items: "ENERGY EFFICIENT products", "ENERGY SAVINGS at home", "ENERGY EFFICIENT new homes", and "ENERGY STRATEGIES FOR buildings & plants". The "ENERGY STRATEGIES FOR buildings & plants" link is circled in red with an arrow pointing to it. Below the main menu, there is a secondary navigation bar with "Home" and "Buildings & Plants" links. To the right of these links are "about us", "press room", "help desk", and "portfolio manager login". Below this is a horizontal menu with "Owners and managers", "Service providers", "Program administrators", "Tenants", "Tools and Resources" (circled in red with an arrow), and "Training". The main content area features a large blue banner on the left with the text "Environmental protection and financial value" and "ENERGY STAR is the simple choice for saving energy in buildings and plants", with a "LEARN MORE" button. To the right of this banner is a large image of a modern building interior. Further right is a video thumbnail showing a woman holding a sign that says "#1: Watch our 'Top 5 Reasons to Certify' video" and "Customers".

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

# Cash Flow Opportunity Calculator



## Tools and Resources

Search Library

Sort by

Owners and managers | Service providers | Program administrators | Tenants | **Tools and Resources** | Training

## Tools and Resources

### SEARCH RESULTS

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### A Look Inside the Cash Flow Opportunity Calculator: Calculations and Methodology

Last Updated: 7-1-2018

The Cash Flow Opportunity Calculator helps inform strategic decisions about financing energy efficiency projects. This document provides an explanation of the calculations and methodology at work behind the calculator.

Topic: [Energy management guidance](#), [Financial](#)

Resource type: [Research and reports](#), [Financial value of energy efficiency](#)

[Learn More >](#)

#### Browse tools and resources by:

##### Topic

- Energy management guidance (4)
- [ENERGY STAR Building Upgrade Manual \(1\)](#)

(clear filter) Financial

##### Resource type

- Research and reports (1)
  - [Financial value of energy efficiency \(1\)](#)
- Success stories (1)

##### Market sector

- [Federal agencies \(2\)](#)
- [Healthcare \(1\)](#)

#### Browse tools and resources by:

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- [Commercial building design \(8\)](#)
- [Energy management guidance \(150\)](#)
- [Financial \(15\)](#)**
- [Portfolio Management \(6\)](#)
- [Products & purchasing \(3\)](#)

### Cash Flow Opportunity Calculator

Last Updated: 3-7-2018

The Cash Flow Opportunity Calculator helps inform strategic decisions about financing energy efficiency projects. Using the tool, you will be able to estimate how much new equipment you can finance using anticipated savings, as well whether you should finance now or wait for a lower interest rate. Use the CFO Calculator to get answers to critical questions, such as:

Topic: [Energy management guidance](#), [Financial](#)

[Learn More >](#)

- Under Tools and Resources page, click [Financial](#) on the right hand side
- On the resulting page, scroll for CFO Calculator and A Look Inside document

# Cash Flow Opportunity Calculator

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## Cash Flow Opportunity Calculator

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The Cash Flow Opportunity Calculator helps inform strategic decisions about financing energy efficiency projects. Using the tool, you will be able to estimate how much new equipment you can finance using anticipated savings, as well whether you should finance now or wait for a lower interest rate. Use the CFO Calculator to get answers to critical questions, such as:

- How much new energy efficiency equipment can be purchased from the anticipated savings?
- Should this equipment purchase be financed now, or is it better to wait and use cash from a future budget?
- Is money being lost by waiting for a lower interest rate?

[Download the Cash Flow Opportunity Calculator as an Excel file here.](#) (797KB)

Topic: Energy management guidance, Financial

Energy Efficient Products | Energy Savings At Home | Energy Efficient New Homes | Energy Strategies for Buildings & Plants | ENERGY STAR Home

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[https://www.energystar.gov/sites/default/files/buildings/tools/cfo\\_calculator.xls](https://www.energystar.gov/sites/default/files/buildings/tools/cfo_calculator.xls)

A low-angle, upward-looking photograph of several modern skyscrapers with glass facades. The buildings are set against a bright blue sky with scattered white clouds. The perspective creates a sense of height and scale. A semi-transparent green horizontal band is overlaid across the middle of the image, containing the title text in white.

# FINDING MONEY FOR YOUR PROJECT

# Where to Start?

- State Energy Office
  - NASEO.org
    - National Association of State Energy Officials
- DSIREUSA.org
  - Database of State Incentives for Renewables & Efficiency

# Additional Resources

- Green banking: <https://www.epa.gov/statelocalenergy/clean-energy-finance-green-banking-strategies-local-governments>
- On-bill programs: <https://www.epa.gov/statelocalenergy/clean-energy-finance-bill-programs-local-governments>
- Getting to Yes for Energy Efficiency: [https://energy.maryland.gov/business/Documents/YesforEnergyEfficiencyGuide\\_000.pdf](https://energy.maryland.gov/business/Documents/YesforEnergyEfficiencyGuide_000.pdf)
- Financial ratios: <https://www.bdc.ca/en/articles-tools/money-finance/manage-finances/pages/financial-ratios-4-ways-assess-business.aspx>
- Property Assessed Clean Energy Programs: <https://pacenation.us/>
- New Lease Standards: <https://frv.kpmg.us/content/dam/frv/en/pdfs/2018/executive-summary-lessees.pdf>

# Questions?

Email: [buildings@energystar.gov](mailto:buildings@energystar.gov)

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

**Katy Hatcher, US EPA**  
**National Manager, Public Sector**  
[hatcher.caterina@epa.gov](mailto:hatcher.caterina@epa.gov)  
**(202) 343-9676**

## Consultants to EPA

**Neil Zobler, President**  
**Catalyst Financial Group, Inc.**  
[nzobler@catalyst-financial.com](mailto:nzobler@catalyst-financial.com)  
**203-790-4177**

**Kudret Utebay, LEED AP**  
**The Cadmus Group LLC**  
[kudret.utebay@cadmusgroup.com](mailto:kudret.utebay@cadmusgroup.com)  
**(703) 247-6138**